



UNIVERSITY PROGRAM MANAGEMENT INFORMATION SYSTEM

FY 2003

**Prepared by:
The Office of Education/N**

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IMPORTANT NOTICE

This report is compiled primarily from information obtained from two internal NASA sources:

1. "CASE Report on Support of Colleges and Universities" (NASA Form 1356).
2. "Individual Procurement Action Report" (NASA Form 507).

Therefore, other sources should be used for completing Forms 507 and 1356.

Information in this publication is reviewed and revised for accuracy. Should any differences exist between publications, the latest edition should take precedence over earlier ones.

NASA's UNIVERSITY PROGRAM

ACTIVE PROJECTS

FISCAL YEAR 2003

Gary Gans, Project Manager

**National Aeronautics and Space Administration
Office of Education/N
Washington, DC 20546-0001**

FOREWORD

As basic policy, NASA believes that colleges and universities should be encouraged to participate in the nation's space and aeronautics program to the maximum extent practicable. Indeed, universities are considered as partners with government and industry in the nation's aerospace program. NASA's objective is to have them bring their scientific, engineering, and social research competence to bear on aerospace problems and on the broader social, economic, and international implications of NASA's technical and scientific programs. It is expected that, in so doing, universities will strengthen both their research and their educational capabilities to contribute more effectively to the national well being.

This annual report is one means of documenting the NASA-university relationship, frequently denoted, collectively, as NASA's University Program. This report is consistent with agency accounting records, as the data is obtained from NASA's Financial and Contractual Status (FACS) System, operated by the Financial Management Division and the Procurement Office. However, in accordance with interagency agreements, the orientation differs from that required for financial or procurement purposes. Any apparent discrepancies between this report and other NASA procurement or financial reports stem from the selection criteria for the data.*

This report was prepared by the Office of Education/N.

* Agreements which meet active criteria definition and have deobligations may result in agreements having negative obligations in the body of this publication.

**FIFTY EDUCATIONAL INSTITUTIONS
LISTED ACCORDING TO TOTAL OBLIGATIONS – FY 2003**

TOTALS*		OBLIGATIONS	PERCENT
		1,249,019,887	100.00
1	Johns Hopkins University	186,950,953	14.97
2	Stanford University.....	87,267,231	6.99
3	University of Colorado – Boulder	43,306,382	3.47
4	Baylor College of Medicine	33,271,626	2.66
5	University of California – Berkeley.....	31,897,335	2.55
6	University of Maryland – College Park.....	28,671,918	2.30
7	Utah State University	24,484,689	1.96
8	California Institute of Technology	24,161,345	1.93
9	University of Alabama – Huntsville	22,145,830	1.77
10	Massachusetts Institute of Technology	21,624,327	1.73
11	New Mexico State University – Las Cruces.....	18,076,979	1.45
12	University of Arizona.....	17,878,148	1.43
13	University of Maryland – Baltimore County	17,422,848	1.39
14	Oklahoma State University	17,110,687	1.37
15	Pennsylvania State Univ. – Univ. Park	16,913,602	1.35
16	Boston University.....	15,353,739	1.23
17	University of California – Los Angeles	13,276,942	1.06
18	Hampton University	12,541,078	1.00
19	University of Alaska – Fairbanks	12,524,202	1.00
20	Georgia Institute of Technology.....	11,957,468	0.96
21	Columbia University	11,676,845	0.93
22	Texas A&M University – College Station.....	11,339,150	0.91
23	University of Hawaii – Honolulu	11,047,731	0.88
24	Wheeling Jesuit University.....	10,927,600	0.87
25	San Jose State University.....	10,638,444	0.85
26	University of California – San Diego.....	10,614,761	0.85
27	University of Texas – Austin	9,759,461	0.78
28	Harvard University	9,660,606	0.77
29	University of Michigan – Ann Arbor	9,469,464	0.76
30	University of New Hampshire – Durham.....	9,384,150	0.75
31	University of Wisconsin – Madison.....	9,063,771	0.73
32	Carnegie-Mellon University.....	9,022,606	0.72
33	University of Alabama – Birmingham.....	8,795,708	0.70
34	University of Florida	8,697,081	0.70
35	George Mason University	8,446,739	0.68
36	Ohio State University	8,442,200	0.68
37	University of Washington	8,178,913	0.65
38	College of Charleston	7,986,725	0.64
39	West Virginia University.....	7,909,202	0.63
40	Brown University	7,785,321	0.62
41	Princeton University.....	7,670,244	0.61
42	The University of Central Florida	6,965,265	0.56
43	Cornell University.....	6,796,370	0.54
44	University of Illinois at Urbana-Champaign	6,704,767	0.54
45	Montana State University.....	6,667,684	0.53
46	Loma Linda University	6,498,555	0.52
47	Purdue University.....	6,450,541	0.52
48	University of Miami.....	6,234,237	0.50
49	Mississippi State University	6,184,341	0.50
50	Oregon State University.....	6,015,377	0.48
	Other Colleges & Universities.....	337,148,699	26.99

* Excludes awards to California Institute of Technology for operation of the Jet Propulsion Laboratory.
Totals include de-obligations for this chart.

** Includes both foreign and domestic universities and colleges.

**STATES AND U.S. TERRITORIES BY OBLIGATIONS
FISCAL YEAR 2003 (October 1, 2002 through September 30, 2003)**

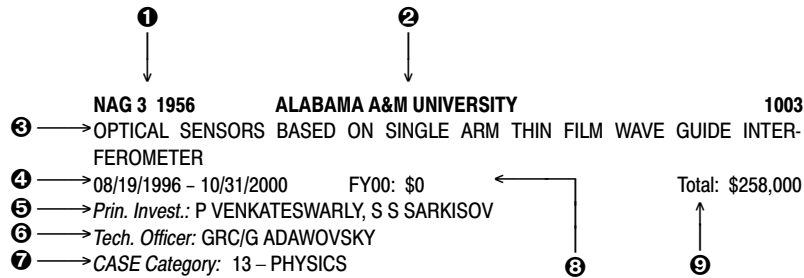
	STATE	FY03-OBLIGATIONS (WHOLE DOLLARS)	PERCENT
TOTALS*		1,248,864,965	100.00
1	Maryland	244,747,239	19.60
2	California	217,240,645	17.40
3	Texas	73,473,321	5.88
4	Massachusetts	57,691,024	4.62
5	Colorado	54,782,293	4.39
6	Alabama	41,390,500	3.31
7	Virginia	39,073,441	3.13
8	New York	34,428,002	2.76
9	Florida	31,937,908	2.56
10	Pennsylvania	31,888,754	2.55
11	Ohio	27,390,856	2.19
12	Utah	26,806,412	2.15
13	New Mexico	22,816,792	1.83
14	Arizona	22,679,167	1.82
15	West Virginia	21,003,527	1.68
16	Georgia	20,635,548	1.65
17	Oklahoma	20,115,559	1.61
18	New Jersey	14,764,562	1.18
19	Mississippi	14,319,629	1.15
20	Michigan	14,248,346	1.14
21	Illinois	13,834,935	1.11
22	Louisiana	12,667,887	1.01
23	South Carolina	12,525,958	1.00
24	Alaska	12,524,202	1.00
25	New Hampshire	11,663,222	0.93
26	Missouri	11,661,106	0.93
27	Hawaii	11,047,731	0.88
28	Wisconsin	10,470,606	0.84
29	Washington	9,317,830	0.75
30	Rhode Island	9,082,755	0.73
31	Iowa	9,032,433	0.72
32	Indiana	8,846,023	0.71
33	Tennessee	8,670,627	0.69
34	Oregon	8,458,350	0.68
35	Montana	7,916,943	0.63
36	North Carolina	7,841,437	0.63
37	District of Columbia	7,500,834	0.60
38	Minnesota	6,232,945	0.50
39	Kentucky	5,628,514	0.45
40	North Dakota	4,843,187	0.39
41	Puerto Rico	4,465,846	0.36
42	Connecticut	4,145,878	0.33
43	Idaho	3,339,823	0.27
44	Nevada	3,303,397	0.26
45	Nebraska	2,706,772	0.22
46	Kansas	2,644,868	0.21
47	Arkansas	1,674,630	0.13
48	Delaware	1,202,385	0.10
49	South Dakota	1,186,693	0.10
50	Wyoming	1,102,742	0.09
51	Vermont	1,022,856	0.08
52	Maine	847,017	0.07

* Starting in FY 1993, Active Actions with de-obligations will be reported in this chart.

USER'S GUIDE

The University Program Report provides current information and related statistics for each grant/contract/cooperative agreement active during the report period. The following guidance is provided as an aid to the reader in readily locating material of interest and in optimizing the use of this document.

I. Typical Citation



KEY

1. Agreement number*
2. Institution name
3. Brief work description
4. Approximate period of performance
5. Principal investigator(s) at the educational institution
6. NASA Technical Officer(s) and organizational location
7. CASE Field of Science and Engineering code and name
8. Amount (if any) actually provided during the indicated fiscal year
9. Total amount actually provided during the indicated period of performance

* Uniquely identifies project. Prefixes denote type of instrument as follows:

Grants: NAG, NAGW, NGF, NGT, NGL, NGR, NSG

Cooperative Agreements: NCC, NCCW

Contracts: DEN, NAS, NASR, NASW, NSR

Space Act Agreements: NCA

II. NASA Installations

NASA installations are included in the citation as abbreviations (item 7). The following listing of installations will be useful to those desiring further information on specific projects.

For additional information please visit the NASA Education website at: <http://education.nasa.gov/>.

Mr. Gary Gans Code N NASA Headquarters Office of Education Washington, DC 20546 Phone: 202-358-1110	HQ	Ms. Linda Rodgers University Programs Administrator Mail Stop 180-109 NASA Jet Propulsion Laboratory Pasadena, CA 91109-8099 Phone: 818-354-3274 Fax: 818-393-4977 Email: linda.rodgers@jpl.nasa.gov	JSC
Dr. Katie Blanding Mail Code: N NASA Headquarters Washington, DC 20546 Phone: 202-358-0402 Fax: 202-358-3048 Email: kblandin@hq.nasa.gov	HQ	Dr. Donn G. Sickorez Mail Stop AH2 Lyndon B. Johnson Space Center Houston, TX 77058 Phone: (281) 483-4724 FAX: (281) 483-9192 Email: donn.g.sickorez1@jsc.nasa.gov	JSC
Brenda Collins University Affairs Specialist NASA Ames Research Center Mail Stop is 204-14 Moffett Field, CA 94035 Phone: 650-604-3540 Fax: 650-604-0978 Email: bcollins@mail.arc.nasa.gov	ARC	Mr. Gregg Buckingham Mail Stop XA-D1 John F. Kennedy Space Center Kennedy Space Center, FL 32899 Phone: 321-867-8777 FAX: 321-867-2097 Email: gregg.buckingham-1@ksc.nasa.gov	KSC
Dr. Kajal K. Gupta NASA Dryden Flight Research Center P.O. Box 273, Mail Stop D2701 Edwards, CA 93523-0273 Phone: (661) 276-3710 FAX: (661) 276-3744 Email: kajal.gupta@dfrc.nasa.gov	DFRC	Mr. Roger A. Hathaway Mail Stop 400 Langley Research Center Hampton, VA 23681-2199 Phone: (757) 864-3312 FAX: (757) 864-8835 Email: r.a.hathaway@larc.nasa.gov	LARC
Dr. Francis J. Montegani Mail Stop 49-5 NASA Glenn Research Center Cleveland, OH 44135 Phone: (216) 433-2956 FAX: (216) 433-3687 Email: fjm@grc.nasa.gov	GRC	Dr. Shelia Nash-Stevenson George C. Marshall Space Flight Center Mail Stop CD60 MSFC, AL 35812 Phone: (256) 544 - 3453 FAX: (256) 544 - 8899 Email: shelia.nash-stevenson@msfc.nasa.gov	MSFC
Dr. Richard Fahey (Acting) University Affairs Officer Code 160 NASA Goddard Space Flight Center Greenbelt, MD 20771-0001 Phone: 301-286-9877 Fax: 301-286-1610 Email: fahey@stars.gsfc.nasa.gov	GSFC	Dr. Ramona E. Pelletier Travis John C. Stennis Space Center Code FA00 Stennis Space Center, MS 39529 Phone: (228) 688-3832 Fax: (228) 688-7499 Email: Ramona.Travis@ssc.nasa.gov	SSC

A full listing of the suffix letters and information on NASA's organizational structure may be found in the NASA Headquarters Telephone Directory. The directory is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

III. CASE

The National Science Foundation (NSF) operates a government-wide system originally designed by the Committee on Academic Science and Engineering (CASE) of the Federal Council for Science and Technology. Participating agencies report annually to NSF, which in turn issues the statistical report, Federal Science and Engineering Support to Universities, Colleges and Nonprofit Institutions.

Since its inception, this survey system has been the sole source of data on Federal funding to individual institutions for Science and Engineering (S&E) activities.

IV. Cross-Index

The cross-indexed Appendix provides rapid access to all projects in a particular area of endeavor, and is also easily used to determine the institutions and principal investigators conducting NASA projects.

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ALABAMA

NAG 2 1130 **ALABAMA A&M UNIV**
IRON-ION INDUCED LOW DOSE MUTAGENESIS
06/11/1997 - 06/30/2002 FY03: \$0 Total: \$359,883
Prin. Invest.: P G KALE
Tech. Officer: ARC/A CARDENAS, ARC/P X CALLAHAN
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 2 1175 **ALABAMA A&M UNIV**
NEURAL NETWORK ANALYSIS OF LEAF MULTISPECTRAL REFLECTANCE
FOR DETECTION & DISCRIMINATION OF
02/03/1998 - 04/30/2002 FY03: -\$1 Total: \$299,751
Prin. Invest.: C A BEYL
Tech. Officer: ARC/M H KLISS, ARC/G S LEE
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG 2 1527 **ALABAMA A&M UNIV**
GENETIC EFFECTS IF NEUTRON RADIATION IN DROSOPHILA
10/11/2001 - 09/30/2003 FY03: \$0 Total: \$100,492
Prin. Invest.: V HATZIMMANIKATIS
Tech. Officer: ARC/J HINES, ARC/P FUNG
CASE Category: 43 – CHEMICAL ENGR

NAG 5 9885 **ALABAMA A&M UNIV**
STUDENT REFLECTION GPS EXPERIMENT
08/24/2000 - 02/14/2002 FY03: \$0 Total: \$100,000
Prin. Invest.: A MANU
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10202 **ALABAMA A&M UNIV**
SPACE SCIENCE EDUCATION & THE SUN-EARTH CONNECTION
12/22/2000 - 12/31/2003 FY03: \$225,000 Total: \$675,000
Prin. Invest.: A TAN
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10721 **ALABAMA A&M UNIV**
CENTER FOR HYDROLOGY, SOIL CLIMATOLOGY, AND REMOTE SENSING
(HSCARS): CONTINUATION OF A GROUP 2 MINOR
04/20/2001 - 04/14/2006 FY03: \$1,199,979 Total: \$2,959,129
Prin. Invest.: T COLEMAN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11752 **ALABAMA A&M UNIV**
THE 16TH NATIONAL CONFERENCE OF THE BLACK PHYSICS STUDENTS
(NCBPS) NATIONAL SOCIETY OF BLACK PH
02/20/2002 - 02/28/2003 FY03: \$0 Total: \$85,000
Prin. Invest.: R B LAL
Tech. Officer: GSFC/D MENCHAN
CASE Category: 13 – PHYSICS

NAG 5 12028 **ALABAMA A&M UNIV**
CHARACTERIZING ELECTRO-OPTICAL PROPERTIES
04/24/2002 - 04/30/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: M EDWARDS
Tech. Officer: GSFC/H A ABDELDAYEM
CASE Category: 13 – PHYSICS

NAG 5 12524 **ALABAMA A&M UNIV**
R&D REQUIRED TO PROVIDE ESSENTIAL INPUTS TO SUPPORT DEVELOPMENT
OF GUIDANCE & PRACTICES FOR CE
09/19/2002 - 09/14/2003 FY03: \$0 Total: \$30,785
Prin. Invest.: E E MOYERS
Tech. Officer: GSFC/K MCGILL
CASE Category: 22 – COMPUTER SCIENCE

NAG 8 1541 **ALABAMA A&M UNIV**
CYTOGENETIC INVESTIGATIONS INTO RADIOSENSITIVITY
07/17/1998 - 07/16/2004 FY03: \$0 Total: \$264,490
Prin. Invest.: D KALE
Tech. Officer: MSFC/R C RICHMOND
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1614 **ALABAMA A&M UNIV**
RESEARCH ENTITLED: INVESTIGATION OF STRUCTURAL PROPERTIES OF
COMPOSITE SMART MATERIALS .
09/09/1999 - 12/31/2002 FY03: \$0 Total: \$296,480
Prin. Invest.: A SHARMA
Tech. Officer: MSFC/G MYERS
CASE Category: 46 – MECHANICAL ENGR

NAG 8 1620 **ALABAMA A&M UNIV**
FASAT REACTION SPATIAL-TEMPORAL LIGHT MODULATORS FOR OPTICAL
RECOGNITION AND IMAGE PROCESSING.
08/25/1999 - 08/30/2003 FY03: \$0 Total: \$286,287
Prin. Invest.: N KUKHATAREV, T KUHTEREVA
Tech. Officer: MSFC/B G PENN
CASE Category: 13 – PHYSICS

NAG 8 1623 **ALABAMA A&M UNIV**
INNOVATIVE EXPLORATION OF SEMIORGANIC NONLINEAR OPTICAL MATERIALS
FOR OPTICAL PROCESSING APPLIC.
09/24/1999 - 09/23/2003 FY03: \$0 Total: \$200,000
Prin. Invest.: M D AGGARWAL
Tech. Officer: MSFC/B PENN
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1642 **ALABAMA A&M UNIV**
HIGH SCHOOL/HIGH-TECH CAREER DEVELOPMENT PROGRAM IN MATHEMATICS,
SCIENCE ENGINEERING, ADN TECH.
09/30/1999 - 09/29/2002 FY03: \$0 Total: \$195,360
Prin. Invest.: B CADY
Tech. Officer: MSFC/W LOVE
CASE Category: 21 – MATHEMATICS

NAG 8 1804 **ALABAMA A&M UNIV**
RESEARCH, "NUMERICAL PREDUCATION OF DRAG OF AJAX TYPE VEHICLES
05/17/2001 - 05/15/2004 FY03: \$0 Total: \$135,000
Prin. Invest.: Z T DENG
Tech. Officer: MSFC/A CHOW
CASE Category: 46 – MECHANICAL ENGR

NAG 8 1808 **ALABAMA A&M UNIV**
RESEARCH, "WEAKLY IONIZED GAS CHARACTERISTICS AND EFFECT ON THE
SHOCK WAVE STRUCTURE.
05/02/2001 - 04/15/2004 FY03: \$0 Total: \$145,000
Prin. Invest.: K X HO
Tech. Officer: MSFC/A CHOW
CASE Category: 46 – MECHANICAL ENGR

ALABAMA

NASA'S UNIVERSITY PROGRAM

NAG 8 1861 **ALABAMA A&M UNIV**
 DIRECTIONALLY SENSITIVE SILICON RADIATION SENSOR
 05/20/2002 - 05/19/2003 FY03: \$0 Total: \$99,691
Prin. Invest.: K B COOK
Tech. Officer: MSFC/W T POWERS
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1880 **ALABAMA A&M UNIV**
 SPLICNG TECHN LGY FOR OPTICAL FIBER CABLES BASEDON OPTICAL
 BEAM SELF TRAPPING IN PHOTO CURABLE POLYMR
 10/01/2002 - 09/30/2005 FY03: \$50,000 Total: \$50,000
Prin. Invest.: M CURLEY
Tech. Officer: MSFC/K V JACKSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1891 **ALABAMA A&M UNIV**
 12OSE0397 INFRASTRUCTURE FOR THE RESEARCH INVOLV- ING NOVEL
 SOLID-STATE BASED PIEZOELECTRICTRANSFMR
 11/12/2002 - 11/07/2005 FY03: \$50,000 Total: \$50,000
Prin. Invest.: M A ALIM
Tech. Officer: MSFC/J CLARK
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1917 **ALABAMA A&M UNIV**
 4200003577 INDIVIDUALS WITH DISABILITIES(I AM SET) THIS GRANT RE-
 PLACES NAG8-1895 CAGE CODE TO BE CHN
 04/15/2003 - 03/20/2004 FY03: \$75,000 Total: \$75,000
Prin. Invest.: B CADY
Tech. Officer: MSFC/W LOVE
CASE Category: 79 – SOCIAL SCIENCE, OTHER

NAG 8 1933 **ALABAMA A&M UNIV**
 4200020458 ADVANCED SPACE PROPULSION MATERIALS RESEARCH
 07/18/2003 - 09/30/2005 FY03: \$447,000 Total: \$447,000
Prin. Invest.: D ILA
Tech. Officer: MSFC/W T POWERS
CASE Category: 13 – PHYSICS

NAG 9 1095 **ALABAMA A&M UNIV**
 MICROBIAL VIABILITY AND BIOCID E EFFICIENCY STUDIES FOR THE INTER
 SPACE STATION
 03/31/1999 - 03/31/2004 FY03: \$0 Total: \$281,916
Prin. Invest.: M TADROS
Tech. Officer: JSC/D PIERSON, JSC/L AREMNDARIZ
CASE Category: 13 – PHYSICS

NAG10 324 **ALABAMA A&M UNIV**
 STUDENT PREPARATION AND PARTICIPATION IN INTERNSHI PS FOR
 APPLIED STATISTICIANS
 09/03/2002 - 08/27/2003 FY03: \$0 Total: \$119,357
Prin. Invest.: E TEMPLE
Tech. Officer: KSC/G BUCKINGHAM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 332 **ALABAMA A&M UNIV**
 OPTICAL STUDIES IN POLYMER OPTICAL FIBERS: DYE-DOP ED POLYMER
 OPTICAL FIBERS AND FABRICATION AND CHA
 12/19/2002 - 12/18/2005 FY03: \$99,901 Total: \$99,901
Prin. Invest.: M DOKHANIAN
Tech. Officer: KSC/P HUANG
CASE Category: 13 – PHYSICS

NAG10 333 **ALABAMA A&M UNIV**
 DEVELOPMENT OF A ROBUST FEM PROGRAM FOR ROCKET ACO USTICS
 PROBLEMS
 01/17/2003 - 01/15/2004 FY03: \$0 Total: \$0
Prin. Invest.: A MOBASHER
Tech. Officer: KSC/B T VU
CASE Category: 46 – MECHANICAL ENGR

NAG10 342 **ALABAMA A&M UNIV**
 DEVELOPMENT OF A ROBUST FEM PROGRAM FOR ROCKET ACO USTICS
 PROBLEMS
 08/25/2003 - 01/15/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: A A MOBASHER
Tech. Officer: KSC/B T VU
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 736 **ALABAMA A&M UNIV**
 ALL OPTICAL MICRO MOTORS BASED ON MOVING GRATING IN PHOTO
 SENSITIVE MEDIA
 09/30/1999 - 09/30/2002 FY03: \$0 Total: \$187,128
Prin. Invest.: D CURLEY
Tech. Officer: GRC/G ADAMOVSKY
CASE Category: 13 – PHYSICS

NCC 8 211 **ALABAMA A&M UNIV**
 STUDEN LAUNCH INITIATIVE
 03/23/2001 - 12/31/2002 FY03: \$0 Total: \$49,997
Prin. Invest.: R B LAL, G SHARMA, M MANMOHAN
Tech. Officer: MSFC/JR PRUITT
CASE Category: 41 – AERONAUTICAL ENGR

NCC 8 250 **ALABAMA A&M UNIV**
 RESEARCH AND DEVOPMENT, NSSTC
 02/08/2002 - 02/07/2007 FY03: \$482,000 Total: \$482,000
Prin. Invest.: D W HUSTON
Tech. Officer: MSFC/S COLEMAN, MSFC/R BLOCKER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52902 **ALABAMA A&M UNIV**
 FABRICATION & OPTICAL AND ELECTRICAL CHARACTERIZA- TION OF THE
 DIFFRACTIVE HOLOGRAPHIC OPTICAL ELEMN
 05/25/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J C WANG
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 13 – PHYSICS

NGT 8 52918 **ALABAMA A&M UNIV**
 URBAN SPRAWL AND THE DEVELOPMENT OF A LEAPFROG INDEX
 05/08/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: W MCALLISTER
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 8 52942 **ALABAMA A&M UNIV**
 4200019896 DEVELOPMENT OF HIGH PERFORMANCE NANO- COMPOSITE
 PYROELECTRICE UNCOOLED INFRAREDSENSORS
 07/08/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R LAL
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 79 – SOCIAL SCIENCE, OTHER

NAG 8 1936 **ALABAMA STATE UNIV**
 PRECOLLEGE ACHIEVEMENTS OF EXCELLENCE IN MATH, SCIENCE, TECHNOLOGY (PACE/SET) (REPLACES NAG 8 1887)
 09/11/2003 - 12/20/2005 FY03: \$100,000 Total: \$100,000
Prin. Invest.: S SLATTERY
Tech. Officer: MSFC/W LOVE, MSFC/E ORDONEZ
CASE Category: 21 – MATHEMATICS

NAG 3 2597 **AUBURN UNIV**
 DAMPING AND CONTROL OF MULTI-DIRECTION COMPOSITE FLYWHEELS
 04/27/2001 - 11/05/2003 FY03: \$58,785 Total: \$209,033
Prin. Invest.: D GOWAYED
Tech. Officer: GRC/J TRUDELL
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2639 **AUBURN UNIV**
 A STUDY OF THE EFFECTS OF GAMMA AND CHARGED PARTICLE RADIATION ON SILICON CARBIDE DIODES AND METAL-
 06/22/2001 - 03/31/2003 FY03: \$0 Total: \$150,350
Prin. Invest.: J R WILLIAMS
Tech. Officer: GRC/G E SCHWARZE
CASE Category: 13 – PHYSICS

NAG 3 2682 **AUBURN UNIV**
 TRANSIENT LIQUID PHASE BONDING OF TIAL ALLOYS TRANSIENT LIQUID PHASE BONDING OF TIAL ALLOYS
 01/04/2002 - 02/23/2004 FY03: \$49,976 Total: \$99,976
Prin. Invest.: W F GALE
Tech. Officer: GRC/S L DRAPER
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 8081 **AUBURN UNIV**
 MAGNETIC RECONNECTION AND PARTICLE PRECIPITATION A CROSS THE MAGNETOPAUSE
 01/21/1999 - 05/31/2003 FY03: \$0 Total: \$169,914
Prin. Invest.: D LIN
Tech. Officer: GSFC/D EVANS
CASE Category: 11 – ASTRONOMY

NAG 5 11121 **AUBURN UNIV**
 RADIATION EFFECTS IN SIGE HBT BICMOS TECHNOLOGY
 07/13/2001 - 01/31/2003 FY03: \$0 Total: \$65,000
Prin. Invest.: J D CRESSLER
Tech. Officer: GSFC/R REED
CASE Category: 13 – PHYSICS

NAG 5 12316 **AUBURN UNIV**
 SINGLE-EVENT EFFECTS MODELING IN SIGE HBTS; NEW GR ANT
 07/02/2002 - 08/31/2003 FY03: \$0 Total: \$38,332
Prin. Invest.: G NIU
Tech. Officer: GSFC/R REED
CASE Category: 13 – PHYSICS

NAG 5 12899 **AUBURN UNIV**
 GLOBAL HYBRID SIMULATION OF MAGNETIC RECONNECTION AT THE MAGNETOPAUSE
 03/04/2003 - 03/14/2006 FY03: \$76,685 Total: \$76,685
Prin. Invest.: Y LIN
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 3 511 **AUBURN UNIV**
 CENTER FOR THE COMMERCIAL DEVELOPMENT OF SPACE: SPACE POWER & ADVANCED ELECTRONICS
 11/01/1996 - 05/31/2003 FY03: \$0 Total: \$4,620,501
Prin. Invest.: D W BRANDHORST, JR., M F ROSE
Tech. Officer: GRC/J E DUDENHOEFER, GRC/R J SOVIE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 3 864 **AUBURN UNIV**
 COUPLED RADIATION/THERMOPHORESUS EFFECTS IN SOOTIN G MICRO-GRAVITY FLAMES
 02/20/2001 - 12/20/2004 FY03: \$58,714 Total: \$160,918
Prin. Invest.: D W MACKOWSKI
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 46 – MECHANICAL ENGR

NCC 5 333 **AUBURN UNIV**
 SOIL ORGANIC MATTER FLUXES IN AMAZONIAN FORESTS: NATURAL VS INTENSIVELY MANAGED SYSTEMS
 06/17/1998 - 12/31/2002 FY03: \$16 Total: \$225,498
Prin. Invest.: K MCNABB
Tech. Officer: GSFC/D DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 8 151 **AUBURN UNIV**
 GLOBAL CHANGE R/S EDUCATION & OUTREACH RELATED TO THE EARTH'S SURFACE RESOURCES AND HYDROLOGIC CYCLE
 06/30/1998 - 03/31/2003 FY03: \$0 Total: \$483,343
Prin. Invest.: U HATCH
Tech. Officer: MSFC/J R ARNOLD
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 8 237 **AUBURN UNIV**
 PROMOTE COMMERCIALY FUNDED RESCH & DEV IN THE FIELD OF SPACE POWER AND ADV ELECTRONICS
 01/09/2002 - 10/31/2003 FY03: \$1,000,000 Total: \$2,000,000
Prin. Invest.: H BRANDHORST, JR
Tech. Officer: MSFC/S LAMBING
CASE Category: 49 – ENGINEERING, OTHER

NCC 8 240 **AUBURN UNIV**
 PROMOTE COMMERCIALY FUNDED RESEARCH AND TECH DEV. IN THE FIELD OF SOLIDIFICATION DESIGN
 01/08/2002 - 10/31/2003 FY03: \$1,750,000 Total: \$3,500,000
Prin. Invest.: R A OVERFELT
Tech. Officer: MSFC/J SAMS
CASE Category: 49 – ENGINEERING, OTHER

NCC 8 247 **AUBURN UNIV**
 RESEARCH AND DEVELOPMENT, NSSTC
 02/06/2002 - 02/05/2007 FY03: \$223,000 Total: \$453,200
Prin. Invest.: C MORIARTY
Tech. Officer: MSFC/S COLEMAN, MSFC/J SIMONDS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 1 02015 **AUBURN UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 06/20/2002 - 06/30/2005 FY03: \$34,000 Total: \$48,000
Prin. Invest.: M E BAGINSKI, D L FAIRCLOTH
Tech. Officer: LARC/M DESHPANDE
CASE Category: 45 – ELECTRICAL ENGR

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NGT 8 52904 **AUBURN UNIV**
 CLOSED LOOP ROBUST CONTROL ALLOCATION FOR AEROSPACE VEHICLE
 RELIABLE STABILITY AND PERFORMANCE
 05/25/2001 - 06/30/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: A S HODEL
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 45 – ELECTRICAL ENGR

NGT 8 52945 **AUBURN UNIV**
 4200012985 ADAPTIVE RECONFIGURABLE CONTROL DESIGN FOR RLVS
 07/16/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: A SCOTTEDWARD
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 11870 **BIRMINGHAM SOUTHERN COLLEGE**
 INVESTIGATIONS OF COMPRESSIONAL SOLUTIONS FOR THE IO CURRENT
 WING
 04/04/2002 - 03/31/2005 FY03: \$22,508 Total: \$45,975
Prin. Invest.: D PONTIUS
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12251 **JACKSONVILLE STATE UNIV**
 VON BRAUN SCHOLARS PROGRAM
 05/30/2002 - 05/31/2004 FY03: \$0 Total: \$1,843,000
Prin. Invest.: T HUDDLESTON
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1330 **JACKSONVILLE STATE UNIV**
 DECODING EMG SIGNALS TO REDUCE LATENCY IN VE APPLI CATIONS
 03/29/2002 - 03/31/2005 FY03: \$34,336 Total: \$53,971
Prin. Invest.: M AGUILAR
Tech. Officer: ARC/Y BARNIV
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 11986 **LAWSON STATE COMM COLLEGE**
 INFUSING TECHNOLOGY, ENGINEERING, MATHEMATICS, AND SCIENCE IN
 THE DUAL ENROLLMENT/ACCELERATED STUDEN
 04/26/2002 - 04/30/2005 FY03: \$0 Total: \$98,110
Prin. Invest.: B CRAWFORD
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1871 **LAWSON STATE COMM COLLEGE**
 GIRLS LEADING OTHERS BY EXAMPLE (GLOBE) PROJECT
 06/06/2002 - 06/05/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: B CRAWFORD
Tech. Officer: MSFC/W J LOVE
CASE Category: 76 – SOCIOLOGY

NAG 8 1653 **OAKWOOD COLLEGE**
 MINORITY STUDENT DEVELOPMENT PROGRAM IN SCIENCE & ENGINEER-
 ING
 02/03/2000 - 08/15/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: E GWEBU
Tech. Officer: MSFC/W LOVE
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1734 **OAKWOOD COLLEGE**
 DEVELOPMENT OF ULTRA-LIGHT NORMAL INCIDENCE MIRROR ELECTOR-
 CHEMICAL ASPECTS
 08/18/2000 - 08/17/2003 FY03: \$5,388 Total: \$220,418
Prin. Invest.: A VOLKOV
Tech. Officer: MSFC/W BRANTLEY
CASE Category: 12 – CHEMISTRY

NAG 8 1868 **OAKWOOD COLLEGE**
 EVALUATION OF NUMERICAL TECHNIQUES FOR MGD PROPUL- SION
 SIMULATION
 08/19/2002 - 08/18/2003 FY03: \$0 Total: \$49,668
Prin. Invest.: A OSEI
Tech. Officer: MSFC/W LOVE, MSFC/E ORDONEZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1888 **OAKWOOD COLLEGE**
 ENHANCING MATHEMATICS AND SCIENCE EDUCATION THUR RESEARCH
 (EMSER)
 09/27/2002 - 09/26/2006 FY03: \$379,583 Total: \$730,412
Prin. Invest.: A OSEI
Tech. Officer: MSFC/W LOVE
CASE Category: 21 – MATHEMATICS

NAG 8 1892 **OAKWOOD COLLEGE**
 MINORITY EXPLORER PROGRAM (MEP) EDUCATION GRANT
 12/26/2002 - 12/26/2003 FY03: \$250,000 Total: \$250,000
Prin. Invest.: T MCDONALD
Tech. Officer: MSFC/W J LOVE
CASE Category: 46 – MECHANICAL ENGR

NAG 8 1903 **OAKWOOD COLLEGE**
 4200005881 FUNDING FOR MISE PROGRAM
 04/17/2003 - 04/16/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: E GWEBU
Tech. Officer: MSFC/W LOVE
CASE Category: 79 – SOCIAL SCIENCE, OTHER

NCC 1 02033 **OAKWOOD COLLEGE**
 2002 PRE SERVICE TEACHER INST (PSTI)
 06/14/2002 - 03/31/2003 FY03: \$0 Total: \$46,850
Prin. Invest.: F BLISS
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1866 **STILLMAN COLLEGE**
 PROJECT MI FUTURO
 07/11/2002 - 07/10/2005 FY03: \$99,818 Total: \$199,636
Prin. Invest.: H PRADO, M D GREEN
Tech. Officer: MSFC/E S ORDONEZ
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 2 6049 **TUSKEGEE UNIV**
 NASA'S SLSTP ACADEMIC PARTNER ALLIANCE (NSAPA)
 04/16/2001 - 06/30/2003 FY03: \$180,000 Total: \$540,691
Prin. Invest.: W A HILL, C E MORRIS
Tech. Officer: ARC/P X CALLAHAN, ARC/K A SOUZA
CASE Category: 59 – LIFE SCIENCE, OTHER

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NAG 3 2432	TUSKEGEE UNIV	NAG 8 1911	TUSKEGEE UNIV
POLYIMIDE BASED NANOCOMPOSITES FOR AFFORDABLE SPACE TRANSPORT		ELECTRICAL ISSUES IN NUCLEAR ELECTRIC PROPULSION SYSTEM	
06/23/2000 - 10/31/2003	FY03: \$0	02/25/2003 - 02/27/2006	FY03: \$99,204
Total: \$300,000		Total: \$99,204	
<i>Prin. Invest.:</i> D DEAN		<i>Prin. Invest.:</i> B ONI	
<i>Tech. Officer:</i> GRC/S CAMPBELL		<i>Tech. Officer:</i> MSFC/W LOVE	
<i>CASE Category:</i> 49 – ENGINEERING, OTHER		<i>CASE Category:</i> 45 – ELECTRICAL ENGR	
NAG 3 2654	TUSKEGEE UNIV	NAG 9 1408	TUSKEGEE UNIV
SURVIVABILITY OF AFFORDABLE HIGH TEMPERATURE POLYMER MATRIX COMPOSITES FOR PROPULSION ENGINE COMPONENTS		2002 NASA/TUSKEGEE UNIV INTERNSHIP PROGRAM	
01/31/2002 - 12/11/2004	FY03: \$100,000	07/16/2002 - 07/15/2003	FY03: \$0
Total: \$200,000		Total: \$25,000	
<i>Prin. Invest.:</i> D HAGUE		<i>Prin. Invest.:</i> D MORTLEY	
<i>Tech. Officer:</i> GRC/M A MEADOR		<i>Tech. Officer:</i> JSC/L M ARMENDARIZ	
<i>CASE Category:</i> 49 – ENGINEERING, OTHER		<i>CASE Category:</i> 55 – AGRICULTURE	
NAG 3 2667	TUSKEGEE UNIV	NAG 9 1494	TUSKEGEE UNIV
A NONLINEAR MODEL FOR FUEL ATOMIZATION IN SPRAY COMBUSTION		NASA/TUSKEGEE UNIV INTERNSHIP PROGRAM	
12/11/2001 - 12/31/2004	FY03: \$84,450	05/09/2003 - 05/11/2006	FY03: \$25,000
Total: \$171,728		Total: \$25,000	
<i>Prin. Invest.:</i> D A IBRAHIM		<i>Prin. Invest.:</i> W A HILL	
<i>Tech. Officer:</i> GRC/N LIU		<i>Tech. Officer:</i> JSC/L A ARMENDARIZ	
<i>CASE Category:</i> 41 – AERONAUTICAL ENGR		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 3 2860	TUSKEGEE UNIV	NAG10 253	TUSKEGEE UNIV
PHOTOVOLTAIC SYSTEM FOR EXPERIMENTAL SOLAR ENERGY SUFFICIENT HOUSE		EVAL OF FIRE EXTINGUISHING HALON COMPOUNDS	
03/28/2003 - 12/29/2003	FY03: \$47,000	02/01/1999 - 12/31/2002	FY03: \$0
Total: \$47,000		Total: \$302,507	
<i>Prin. Invest.:</i> A U CHUKU		<i>Prin. Invest.:</i> N VAHDAT	
<i>Tech. Officer:</i> GRC/E OVERTON		<i>Tech. Officer:</i> KSC/M COLLINS	
<i>CASE Category:</i> 45 – ELECTRICAL ENGR		<i>CASE Category:</i> 43 – CHEMICAL ENGR	
NAG 4 201	TUSKEGEE UNIV	NAG10 281	TUSKEGEE UNIV
DURABILITY ASSESSMENT OF AIRFRAME COMPOSITE REPAIR PATCHES		NASA SPACEFLIGHT AND LIFE SCIENCES TRAINING PROGRAM	
02/15/2000 - 09/30/2002	FY03: \$0	04/25/2000 - 06/18/2003	FY03: \$313,308
Total: \$120,000		Total: \$1,199,642	
<i>Prin. Invest.:</i> H A AGLAN		<i>Prin. Invest.:</i> D HILL	
<i>Tech. Officer:</i> DFRC/M W KEHOE		<i>Tech. Officer:</i> KSC/S POTTER	
<i>CASE Category:</i> 41 – AERONAUTICAL ENGR		<i>CASE Category:</i> 59 – LIFE SCIENCE, OTHER	
NAG 4 203	TUSKEGEE UNIV	NAG10 298	TUSKEGEE UNIV
EFFECTS OF SELF-INSTRUCTIONAL METHODS AND ABOVE REAL TIME TRAINING (ARTT) FOR MANEUVERING TASKS ON		STARSAT 12000 TESTING TACTICS AND STRATEGIES	
03/03/2000 - 02/28/2003	FY03: \$0	04/27/2001 - 08/31/2002	FY03: \$0
Total: \$52,447		Total: \$100,000	
<i>Prin. Invest.:</i> D ALI		<i>Prin. Invest.:</i> H J FINDLAY	
<i>Tech. Officer:</i> DFRC/K NORLIN		<i>Tech. Officer:</i> KSC/C D BLACK	
<i>CASE Category:</i> 41 – AERONAUTICAL ENGR		<i>CASE Category:</i> 79 – SOCIAL SCIENCE, OTHER	
NAG 4 226	TUSKEGEE UNIV	NAG13 03009	TUSKEGEE UNIV
DEVELOPMENT AND ASSESSMENT OF A NOVEL TRAINING PACKAGE FOR BASIC MANEUVERING TASKS ON A FLIGHT SIMULATOR		TURBULENCE MODELING	
03/25/2002 - 03/21/2005	FY03: \$99,289	03/25/2003 - 03/20/2006	FY03: \$99,726
Total: \$198,620		Total: \$99,726	
<i>Prin. Invest.:</i> S F ALI		<i>Prin. Invest.:</i> A MAZHER	
<i>Tech. Officer:</i> DFRC/K GUPTA		<i>Tech. Officer:</i> SSC/W W ST.CYR	
<i>CASE Category:</i> 41 – AERONAUTICAL ENGR		<i>CASE Category:</i> 41 – AERONAUTICAL ENGR	
NAG 5 10535	TUSKEGEE UNIV	NCC 8 234	TUSKEGEE UNIV
SOY RESEARCH PILOT STUDY		PROVIDE FUNDING FOR YEAR 4 OF COOP AGREEMENT NCC5-346	
03/08/2001 - 09/14/2002	FY03: \$0	09/05/2001 - 07/31/2004	FY03: \$0
Total: \$20,000		Total: \$886,142	
<i>Prin. Invest.:</i> R D PACE		<i>Prin. Invest.:</i> N O EGREFOR	
<i>Tech. Officer:</i> GSFC/M MATHEWS		<i>Tech. Officer:</i> MSFC/C TERRELL, MSFC/W LOVE	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER	
NAG 5 10535	TUSKEGEE UNIV	NCC 9 51	TUSKEGEE UNIV
SOY RESEARCH PILOT STUDY		CENTER FOR FOOD & ENVIRONMENTAL SYSTEMS ... (CFESH)	
03/08/2001 - 09/14/2002	FY03: \$0	07/31/1997 - 06/30/2003	FY03: \$0
Total: \$20,000		Total: \$6,225,000	
<i>Prin. Invest.:</i> R D PACE		<i>Prin. Invest.:</i> W A HILL	
<i>Tech. Officer:</i> GSFC/M MATHEWS		<i>Tech. Officer:</i> JSC/D BARTA	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 62 – PSYCHOLOGY SOCIAL ASPECTS	

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NCC 9 158 **TUSKEGEE UNIV**
 CENTER FOR FOOD & ENVIROMENTAL SYSTEMS FOR HUMAN E XPLORA-
 TION OF SPACE
 06/16/2003 - 06/15/2007 FY03: \$1,200,000 Total: \$1,200,000
Prin. Invest.: W A HILL
Tech. Officer: JSC/D J BARTA
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 5 4853 **UNIV OF ALABAMA - BIRMINGHAM**
 FORMATION OF THE HYDROCARBONS OF CARBONACEOUS CHON
 07/23/1997 - 09/30/2002 FY03: \$0 Total: \$130,412
Prin. Invest.: D WADOWIAK
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8819 **UNIV OF ALABAMA - BIRMINGHAM**
 THE IR EMITTING AROMATIC COMPONENT OF THE INTERSTE LLAR AND
 CIRCUMSTELLAR MEDIUMS
 09/07/1999 - 07/31/2003 FY03: \$0 Total: \$115,460
Prin. Invest.: T WADOWIAK
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 9424 **UNIV OF ALABAMA - BIRMINGHAM**
 TOF MS IN SITU PLANETARY SCIENCE AND EXO BIOLOGY ON EUROPA
 04/17/2000 - 04/30/2004 FY03: \$0 Total: \$368,912
Prin. Invest.: T WADOWIAK
Tech. Officer: GSFC/M LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11146 **UNIV OF ALABAMA - BIRMINGHAM**
 STRUCTURE-BASED DRUG DESIGN AND EVALUATION OF NATURAL COM-
 POUNDS AGAINST CHAGAS'DISEASE
 08/09/2001 - 09/30/2003 FY03: \$0 Total: \$997,800
Prin. Invest.: L J DELUCAS
Tech. Officer: GSFC/L P CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11267 **UNIV OF ALABAMA - BIRMINGHAM**
 DEVELOPMENT OF HIGH AFFINITY SENSORS FOR BIOLOGICA L PATHO-
 GENES
 09/26/2001 - 11/30/2002 FY03: \$0 Total: \$309,000
Prin. Invest.: L DELUCAS
Tech. Officer: GSFC/E PAYLOR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13171 **UNIV OF ALABAMA - BIRMINGHAM**
 STRUCTURE-BASED DRUG DESIGN AND EVALUATION OF NATU RAL COM-
 POUNDS AGAINST CHAGAS' DISEASE.
 03/27/2003 - 02/29/2004 FY03: \$1,750,000 Total: \$1,750,000
Prin. Invest.: L J DELUCAS
Tech. Officer: GSFC/L CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1678 **UNIV OF ALABAMA - BIRMINGHAM**
 RESEARCH "CONTROLLED SYNTESIS OF NANOPARTICLES USING BLOCK
 COPOLYMERS: NANOREACTORS IN MIRCOGRAVI
 04/11/2000 - 10/10/2003 FY03: \$110,000 Total: \$374,500
Prin. Invest.: J W MAYS
Tech. Officer: MSFC/P M DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 8 02062 **UNIV OF ALABAMA - BIRMINGHAM**
 "IMPROVED REAL FLUIDS MODEL FOR THE FDNS 550 CDF"
 05/13/2002 - 05/13/2004 FY03: \$140,000 Total: \$280,000
Prin. Invest.: G CHENG
Tech. Officer: MSFC/K TUCKER
CASE Category: 22 – COMPUTER SCIENCE

NAS 8 40189 **UNIV OF ALABAMA - BIRMINGHAM**
 PROTEIN CRYSTAL GROWTH IN MICROGRAVITY
 04/01/1994 - 12/31/2002 FY03: \$125,512 Total: \$23,414,648
Prin. Invest.: L J DELUCAS
Tech. Officer: MSFC/D K COLLINS
CASE Category: 59 – LIFE SCIENCE, OTHER

NAS 8 99059 **UNIV OF ALABAMA - BIRMINGHAM**
 R/S COUPLED GROWTH IN HYPERMONOTECTICS
 01/22/1999 - 06/22/2004 FY03: \$210,000 Total: \$1,600,323
Prin. Invest.: J B ANDREWS
Tech. Officer: MSFC/R KING
CASE Category: 13 – PHYSICS

NCC 8 126 **UNIV OF ALABAMA - BIRMINGHAM**
 FOR RES."CONTINUATION OF SUPPORT FOR COMMERCIAL SPACE CTR,
 CTR FOR MACROMOLECULAR CRYSTALLOGRAPHY"
 01/27/1997 - 09/30/2002 FY03: \$0 Total: \$37,538,945
Prin. Invest.: L J DELUCAS
Tech. Officer: MSFC/S LIDE, MSFC/S LAMBIHG
CASE Category: 41 – AERONAUTICAL ENGNR

NCC 8 204 **UNIV OF ALABAMA - BIRMINGHAM**
 STRUCTURAL FLUCTUATIONS & THERMOPHYSICAL PROPOER- TIES OF
 MOLTEN II - IV COMPOUNDS
 07/14/2000 - 11/30/2003 FY03: \$27,032 Total: \$105,001
Prin. Invest.: R SCRIPA
Tech. Officer: MSFC/C HUA SU
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 8 246 **UNIV OF ALABAMA - BIRMINGHAM**
 PROMOTE COMMERCIALY FUNDED RESEARCH AND TECHN LGY DEVEL-
 OPMENT IN THE FIELD OF BIOPHYSICAL AND ENG
 01/29/2002 - 10/31/2003 FY03: \$6,369,164 Total: \$12,474,516
Prin. Invest.: L DELUCAS
Tech. Officer: MSFC/J WEST
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 8 248 **UNIV OF ALABAMA - BIRMINGHAM**
 RESEARCH AND DEVELOPEMNT, NSSTC
 02/08/2002 - 02/07/2007 FY03: \$0 Total: \$4,500
Prin. Invest.: J F LORDEN
Tech. Officer: MSFC/S COLEMAN, MSFC/B HARPER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 8 0266 **UNIV OF ALABAMA - BIRMINGHAM**
 4200011551 THERMAL PROPERTIES OF HIGH TEMPS SEMI- CONDUCTOR
 MELTS (REPLACES NCC8266 WRONG IN SAP)
 09/29/2003 - 06/19/2006 FY03: \$40,000 Total: \$40,000
Prin. Invest.: H BAN
Tech. Officer: MSFC/C HUA SUA
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 50409 **UNIV OF ALABAMA - BIRMINGHAM**
 THE EFFECTS OF MICROGRAVITY ON FIBROBLAST MIGRATION AND THY-
 SURFACE EXPRESSION. STUDENT: THOM
 07/29/2002 - 07/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: J HAGOOD
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 9 69 **UNIV OF ALABAMA - BIRMINGHAM**
 EFFECTS OF MODELED MICROGRAVITY ON INTEGRIN-MEDICATED OSTEO-
 BLASTOGENESIS
 08/14/2003 - 05/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: V MEYERS
Tech. Officer: JSC/S GONDA
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 1 2204 **UNIV OF ALABAMA - HUNTSVILLE**
 OZONE TRENDS IN SAGE, HALOE, TOMS, UMKEHR, AND LIDAR MEASURE-
 MENTS (NRA-98-OES-04)
 06/11/1999 - 06/30/2002 FY03: \$0 Total: \$275,066
Prin. Invest.: M J NEWCHURCH
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01008 **UNIV OF ALABAMA - HUNTSVILLE**
 NUMERICAL STUDY OF BLAST WAVES GENERATED DURING LAUNCH
 VEHICLE TAKE-OFF & SUPPRESSION BY WATER ADD
 02/06/2001 - 01/31/2004 FY03: \$50,000 Total: \$144,637
Prin. Invest.: K FRENDE
Tech. Officer: LARC/B A SINGER, LARC/R J SILCOX
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02073 **UNIV OF ALABAMA - HUNTSVILLE**
 INCREASED AVIATION SAFETY THRU IMPROVED COMPOSITE MATERIALS C
 EARMARK #11
 04/03/2002 - 04/02/2005 FY03: \$0 Total: \$950,000
Prin. Invest.: F C WESLING
Tech. Officer: LARC/C M BELCASTRO
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 03012 **UNIV OF ALABAMA - HUNTSVILLE**
 3RD GENERATION SPACE TRANSPORTATION SYSTEMS ENGINEERING
 RESEARCH & DEVELOPMENT
 01/13/2003 - 01/12/2004 FY03: \$302,188 Total: \$302,188
Prin. Invest.: A M WILHITE
Tech. Officer: LARC/V J BILARDO
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 5273 **UNIV OF ALABAMA - HUNTSVILLE**
 PHASE 1 OF THOR PROJECT PHAS 1 OF THOR PROJECT
 04/17/2000 - 04/13/2006 FY03: \$0 Total: \$281,000
Prin. Invest.: J DIMMOCK
Tech. Officer: GSFC/D L PIERCE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5409 **UNIV OF ALABAMA - HUNTSVILLE**
 CONTINUED DEVELOPMENT OF SCINTILLATING FIBER DETECTORS FOR
 GAMMA-RAY ASTRONOMY. ONE YEAR GRANT.
 04/04/2003 - 04/30/2004 FY03: \$6,000 Total: \$6,000
Prin. Invest.: W PACIESAS
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 7269 **UNIV OF ALABAMA - HUNTSVILLE**
 DERIVATION OF TROPOSPHERIC OZONE CLIMATOLOGY AND TRENDS
 FROM TOMS DATA
 05/07/1998 - 05/14/2002 FY03: -\$26 Total: \$259,220
Prin. Invest.: M NEWCHURCH
Tech. Officer: GSFC/S CHANDRA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7270 **UNIV OF ALABAMA - HUNTSVILLE**
 VALIDATION AND INTERCOMPARISON OF TOMS AEROSOL PROFILES
 USING SATELLITE AND GROUND BASED MEASUREMENTS
 04/22/1998 - 09/30/2003 FY03: \$0 Total: \$227,500
Prin. Invest.: S A CHRISTOPHER
Tech. Officer: GSFC/J R HERMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7927 **UNIV OF ALABAMA - HUNTSVILLE**
 RELATIVISTIC ASTROPHYSICS IN BLACK HOLE AND LOW-MASS NEUTRON
 STAR X-RAY BINARIES - LTSA98
 01/12/1999 - 01/14/2004 FY03: \$34,224 Total: \$164,351
Prin. Invest.: S ZHANG
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7972 **UNIV OF ALABAMA - HUNTSVILLE**
 TESTING THE PHYSICAL MECHANISMS OF GAMMA-RAY BURSTS WITH
 MULTI-INSTRUMENT TIME-RESOLVED
 12/22/1998 - 12/31/2003 FY03: \$99,978 Total: \$463,152
Prin. Invest.: M S BRIGGS
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8011 **UNIV OF ALABAMA - HUNTSVILLE**
 GROUND-LEVEL SOLAR COSMIC RAY DATA FROM SOLAR CYCLE 19
 01/13/1999 - 03/31/2002 FY03: -\$1,029 Total: \$55,971
Prin. Invest.: M SHEA
Tech. Officer: GSFC/J H BREDEKAMP
CASE Category: 11 – ASTRONOMY

NAG 5 8034 **UNIV OF ALABAMA - HUNTSVILLE**
 UAH ANALYSIS OF TIDE/PSEUDO DATA FOR ISTP SOLAR MAXIMUM EXTENDED
 MISSION
 01/19/1999 - 04/30/2002 FY03: -\$1 Total: \$307,861
Prin. Invest.: H COMFORT
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 11 – ASTRONOMY

NAG 5 8210 **UNIV OF ALABAMA - HUNTSVILLE**
 TOWARDS AN UNDERSTANDING OF THE LUMINOUS SOFT EXCESS
 EMISSION FROM CLUSTERS OF GALAXIES (ADP9)
 02/25/1999 - 02/28/2003 FY03: \$0 Total: \$118,486
Prin. Invest.: R LIEU
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8523 **UNIV OF ALABAMA - HUNTSVILLE**
 MULTI-WAVELENGTH EXAMINATION OF GALACTIC SUPERLUMINOUS JET
 SOURCES (LTSA98)
 05/27/1999 - 05/31/2004 FY03: \$84,830 Total: \$394,270
Prin. Invest.: S ZHANG
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

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NAG 5 9183 **UNIV OF ALABAMA - HUNTSVILLE**
 DIAGNOSING THE SOFT EXCESS EMISSION OF A1795 CLUST ER OF GALAXIES - BEPPoSAX BROAD BAND IMAGING
 03/07/2000 - 03/14/2002 FY03: -\$289 Total: \$40,193
Prin. Invest.: R LIEU
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9200 **UNIV OF ALABAMA - HUNTSVILLE**
 INVESTIGATION OF THERMOSPHERIC & IONOSPHERIC CHANGES DURN- ING IONOSPHERIC STORMSWITH SATELLITE
 03/09/2000 - 03/14/2004 FY03: \$57,121 Total: \$300,191
Prin. Invest.: P RICHARDS
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9585 **UNIV OF ALABAMA - HUNTSVILLE**
 EARTH SCIENCE MARKUP LANGUAGE
 05/19/2000 - 05/14/2002 FY03: -\$14 Total: \$334,986
Prin. Invest.: D GRAVES
Tech. Officer: GSFC/J BEHNKE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 9598 **UNIV OF ALABAMA - HUNTSVILLE**
 PRODUCTION OF LOOP-TOP HARD X-RAY EMISSION
 05/15/2000 - 04/30/2003 FY03: \$0 Total: \$144,875
Prin. Invest.: J K MILLER
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 9923 **UNIV OF ALABAMA - HUNTSVILLE**
 THERMAL & NONTHERMAL EMISSION FROM THE INTRACLUST ER ME- DIUM OF A 2199
 09/05/2000 - 09/14/2002 FY03: -\$67 Total: \$7,533
Prin. Invest.: R LIEU
Tech. Officer: GSFC/P M ATKINS
CASE Category: 11 – ASTRONOMY

NAG 5 10009 **UNIV OF ALABAMA - HUNTSVILLE**
 PULSARS OLD AND CLOSE IN SPACE: HOT POLAR-CAPS OR MAGNETO- SPHERIC EMISSION
 09/25/2000 - 09/30/2001 FY03: -\$68 Total: \$8,532
Prin. Invest.: S N ZHANG
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10012 **UNIV OF ALABAMA - HUNTSVILLE**
 PROBING THE X-RAY EMISSION MECHANISMS OF RECYCLED- PULSARS: PSR J0034-0534
 09/25/2000 - 09/30/2002 FY03: -\$186 Total: \$6,414
Prin. Invest.: S N ZHANG
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10099 **UNIV OF ALABAMA - HUNTSVILLE**
 THE X-RAY PROPERTIES OF LOCAL GALAXIES: BRIDGING THE GAP TO HIGH-Z
 11/20/2000 - 11/30/2001 FY03: \$0 Total: \$18,547
Prin. Invest.: E A RICHARDS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10134 **UNIV OF ALABAMA - HUNTSVILLE**
 STUDY OF TEH EVOLUTION OF PRECIPITATION AND CLOUD STRUCTURES DURING THE LIFE CYCLE OF TROPICAL MEOSC
 12/15/2000 - 07/31/2003 FY03: \$0 Total: \$43,970
Prin. Invest.: Q HAN
Tech. Officer: GSFC/W B ROSSOW
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10407 **UNIV OF ALABAMA - HUNTSVILLE**
 ESML FOR EARTH SCIENCE DATA SET AND ANALYSIS.
 04/02/2001 - 04/30/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: D GRAVES
Tech. Officer: GSFC/K L MOE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 10743 **UNIV OF ALABAMA - HUNTSVILLE**
 ONLINE SEARCH AND METADATA VISUALIZATION TOOL
 04/12/2001 - 04/30/2004 FY03: \$121,925 Total: \$364,172
Prin. Invest.: G A GERMANY
Tech. Officer: GSFC/N LAL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10785 **UNIV OF ALABAMA - HUNTSVILLE**
 HISTORICAL EVIDENCE FOR MAJOR-SOLAR-TERRESTRIAL- OUTBURSTS FOR PAST 150 YEARS FROM THE ANALYSIS OF
 04/27/2001 - 09/30/2003 FY03: \$0 Total: \$57,698
Prin. Invest.: M A SHEA
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10943 **UNIV OF ALABAMA - HUNTSVILLE**
 CHANGES IN GEOMAGNETIC CUTOFF RIGIDITIES OVER A 400-YEAR INTER- VAL
 05/15/2001 - 12/31/2003 FY03: \$0 Total: \$57,016
Prin. Invest.: D F SMART
Tech. Officer: GSFC/J F SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10965 **UNIV OF ALABAMA - HUNTSVILLE**
 OZONE RETRIEVAL ERRORS ASSOCIATED WITH CLOUDS
 06/01/2001 - 05/31/2002 FY03: -\$111 Total: \$59,889
Prin. Invest.: M NEWCHURCH
Tech. Officer: GSFC/R MCPETERS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11096 **UNIV OF ALABAMA - HUNTSVILLE**
 CRITICAL ASSESSMENT OF TOMS-DERIVED TROPOSPHERIC OZONE: COM- PARISONS WITH OTHER MEASUREMENTS & MODEL
 07/11/2001 - 08/31/2004 FY03: \$114,258 Total: \$234,258
Prin. Invest.: M NEWCHURCH
Tech. Officer: GSFC/R MCPETERS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11100 **UNIV OF ALABAMA - HUNTSVILLE**
 VALIDATING AIRS OZONE OBSERVATIONS WITH TOMS, DOBS ON, BREWER, SAGE, MLS,HALOE AND OZONESONDE OBSERV
 07/10/2001 - 08/31/2004 FY03: \$94,554 Total: \$255,170
Prin. Invest.: M J NEWCHURCH
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11209 **UNIV OF ALABAMA - HUNTSVILLE**
 EARLY BATSE GRB AFTERGLOWS (ADP 2000)
 09/10/2001 - 08/31/2002 FY03: \$0 Total: \$10,000
Prin. Invest.: V C CONNAUGHTON
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11248 **UNIV OF ALABAMA - HUNTSVILLE**
 OPTIMAL AEROSOL PARAMETERIZATION FOR REMOTE SENSING RETRIEVALS
 08/16/2001 - 08/14/2004 FY03: \$115,000 Total: \$247,485
Prin. Invest.: M NEWCHURCH
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11484 **UNIV OF ALABAMA - HUNTSVILLE**
 CLUSTER SOFT EXCESS BY EUVE AND OTHER MISSIONS (AD P 2001)
 12/18/2001 - 12/31/2004 FY03: \$53,544 Total: \$105,359
Prin. Invest.: R LIEU
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11606 **UNIV OF ALABAMA - HUNTSVILLE**
 A HARD X-RAY ALL-SKY IMAGING SURVEY
 01/22/2002 - 01/31/2005 FY03: \$56,839 Total: \$113,102
Prin. Invest.: V C CONNAUGHTON
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11626 **UNIV OF ALABAMA - HUNTSVILLE**
 FOLLOW ON TO NAG5-8034 ANALYSIS OF TIDE/PSI DATA
 01/17/2002 - 01/31/2005 FY03: \$90,000 Total: \$180,000
Prin. Invest.: R COMFORT
Tech. Officer: GSFC/B GILES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11633 **UNIV OF ALABAMA - HUNTSVILLE**
 SCIENCE DATA SUBSETTING
 01/18/2002 - 01/31/2004 FY03: \$360,000 Total: \$849,000
Prin. Invest.: D GRAVES
Tech. Officer: GSFC/J BEHNKE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 11843 **UNIV OF ALABAMA - HUNTSVILLE**
 SOLAR FLARE ELECTRONS
 03/11/2002 - 03/31/2004 FY03: \$86,177 Total: \$169,039
Prin. Invest.: G EMSLIE
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11941 **UNIV OF ALABAMA - HUNTSVILLE**
 THE IMPACT OF DEFORESTATION ON CONVECTIVE AND OROGRAPHIC CLOUD FORMATION IN A COMPLEX TROP
 03/29/2002 - 03/31/2005 FY03: \$155,000 Total: \$325,000
Prin. Invest.: R M WELCH
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11995 **UNIV OF ALABAMA - HUNTSVILLE**
 INTEROPERABLE FRAMEWORK FOR DATA MINING AND ANALYSIS OF SPACE SCIENCE DATA.
 04/11/2002 - 04/30/2005 FY03: \$124,925 Total: \$249,881
Prin. Invest.: S J GRAVES
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12008 **UNIV OF ALABAMA - HUNTSVILLE**
 SOURCES OF CUSP ENERGETIC IONS AND THEIR IMPLICATIONS
 04/11/2002 - 04/14/2005 FY03: \$78,142 Total: \$153,203
Prin. Invest.: S CHANG
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12109 **UNIV OF ALABAMA - HUNTSVILLE**
 TERRESTRIAL PLASMASPHERE FEATURE TRACKING & VOLUME VISUALIZATION.
 04/11/2002 - 04/14/2005 FY03: \$81,447 Total: \$157,469
Prin. Invest.: T NEWMAN
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12368 **UNIV OF ALABAMA - HUNTSVILLE**
 INTERCHANGE TECHNOLOGY FOR ENABLING DATA-APPLICATION INTEROPERABILITY IN EARTH S
 07/10/2002 - 03/31/2003 FY03: \$0 Total: \$125,000
Prin. Invest.: D GRAVES
Tech. Officer: GSFC/K L MOE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12468 **UNIV OF ALABAMA - HUNTSVILLE**
 MAGNETIC CLOUD INDUCED MAGNETIC STORM INTENSITY AND TIMING: REAL TIME PREDICTION
 09/12/2002 - 09/30/2004 FY03: \$0 Total: \$52,000
Prin. Invest.: C WU
Tech. Officer: GSFC/R LEPPING
CASE Category: 13 – PHYSICS

NAG 5 12530 **UNIV OF ALABAMA - HUNTSVILLE**
 FUSE OBSERVATIONS OF WARM GAS IN CLUSTERS OF GALAXIES AND OF GALACTIC OVI EMISSION
 08/28/2002 - 08/31/2004 FY03: \$0 Total: \$75,000
Prin. Invest.: M BONAMENTE
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12563 **UNIV OF ALABAMA - HUNTSVILLE**
 PASSIVE MICROWAVE HURRICANE INTENSITY FORECASTS
 09/12/2002 - 09/14/2005 FY03: \$0 Total: \$77,278
Prin. Invest.: D CECIL
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12725 **UNIV OF ALABAMA - HUNTSVILLE**
 A SEMANTIC METRICS SUITE FOR OBJECT-ORIENTED DESIGN
 01/06/2003 - 12/31/2005 FY03: \$104,964 Total: \$104,964
Prin. Invest.: L ETZKORN
Tech. Officer: GSFC/J HOPKINS
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12794 **UNIV OF ALABAMA - HUNTSVILLE**
 STOCHASTIC PARTICLE ACCELERATION AND ATMOSPHERIC RESPONSE IN IMPULSIVE SOLAR FLARES
 01/29/2003 - 01/31/2005 FY03: \$73,532 Total: \$73,532
Prin. Invest.: J A MILLER
Tech. Officer: GSFC/T A KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

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NAG 5 12824 **UNIV OF ALABAMA - HUNTSVILLE**
 ION ACCELERATION AND SPECTRA IN IMPULSIVE SOLAR FLARES
 01/29/2003 - 01/31/2006 FY03: \$55,327 Total: \$55,327
Prin. Invest.: J A MILLER
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12843 **UNIV OF ALABAMA - HUNTSVILLE**
 NUMERICAL MAGNETOHYDRODYNAMIC (MHD) ANALYSIS OF CORONAL
 MASS EJECTIONS (CME) INITIATION & PROPAGA
 01/28/2003 - 01/31/2006 FY03: \$85,000 Total: \$85,000
Prin. Invest.: S WU
Tech. Officer: GSFC/T A KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12897 **UNIV OF ALABAMA - HUNTSVILLE**
 AURORAL POTENTIAL STRUCTURES IN THE UPWARD CURRENT REGION
 03/04/2003 - 03/14/2006 FY03: \$85,564 Total: \$85,564
Prin. Invest.: N SINGH
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12958 **UNIV OF ALABAMA - HUNTSVILLE**
 SPATIALLY RESOLVED SPECTROSCOPY OF COOLING CLUSTER OF GAL-
 AXIES
 03/10/2003 - 03/14/2004 FY03: \$13,300 Total: \$13,300
Prin. Invest.: R LIEU
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13095 **UNIV OF ALABAMA - HUNTSVILLE**
 SOFT X-RAY EMISSION FROM CLUSTERS OF GALAXIES IN THE XMM ERA
 03/17/2003 - 03/14/2008 FY03: \$114,000 Total: \$114,000
Prin. Invest.: R LIEU
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13202 **UNIV OF ALABAMA - HUNTSVILLE**
 SPECTRAL STUDIES OF GAMMA RAY BURSTS OBSERVED BY SPI ABOARD
 INTEGRAL
 04/01/2003 - 03/31/2004 FY03: \$18,000 Total: \$18,000
Prin. Invest.: R D PREECE
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 13263 **UNIV OF ALABAMA - HUNTSVILLE**
 THE DATA MINING OF 3-D NUMERICAL MODEL FORECAST OUTPUT AND
 ITS APPLICATION TO ATMOSPHERIC
 04/03/2003 - 04/14/2006 FY03: \$272,133 Total: \$272,133
Prin. Invest.: S J GRAVES
Tech. Officer: GSFC/R ATLAS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13489 **UNIV OF ALABAMA - HUNTSVILLE**
 MICROPHYSICS OF PLASMA OF PLASMA PROCESSES DISSIPATING
 INERTIAL ALFVEN WAVES
 05/01/2003 - 04/30/2006 FY03: \$107,796 Total: \$107,796
Prin. Invest.: N SINGH
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13570 **UNIV OF ALABAMA - HUNTSVILLE**
 A STUDY OF THE ADAF PHENOMENON IN NEARBY AGN
 08/26/2003 - 08/14/2004 FY03: \$8,635 Total: \$8,635
Prin. Invest.: W S PACIESAS
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13575 **UNIV OF ALABAMA - HUNTSVILLE**
 INTELLIGENT DATA TRANSCODING SERVICES FOR THE EARTH SCIENCE
 COMM
 08/20/2003 - 08/14/2004 FY03: \$150,000 Total: \$150,000
Prin. Invest.: R RAMACHANDRAN
Tech. Officer: GSFC/V L OXENHAM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13723 **UNIV OF ALABAMA - HUNTSVILLE**
 FUSE OBSERVATIONS OF QSOS BEHIND GALAXY CLUSTERS AND OF
 GALACTIC OVI EMISSION
 09/26/2003 - 09/30/2004 FY03: \$52,600 Total: \$52,600
Prin. Invest.: M BONAMENTE
Tech. Officer: GSFC/G SONNNEBORN
CASE Category: 13 – PHYSICS

NAG 8 1355 **UNIV OF ALABAMA - HUNTSVILLE**
 RESEARCH "INFRARED SIGNATURES FOR MAMMALIAN CELLS IN CUL-
 TURE"
 06/26/1997 - 11/30/2003 FY03: \$0 Total: \$437,984
Prin. Invest.: K CHITTUR
Tech. Officer: JSC/N PELLIS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1476 **UNIV OF ALABAMA - HUNTSVILLE**
 THERMOPHYSICAL PROPERTY MEASUREMENTS OF TE-BASED II-VI SEMI-
 CONDUCTOR COMPOUNDS
 03/26/1998 - 04/30/2003 FY03: \$0 Total: \$774,435
Prin. Invest.: M BANISH
Tech. Officer: MSFC/M CROUCH
CASE Category: 56 – MEDICAL

NAG 8 1548 **UNIV OF ALABAMA - HUNTSVILLE**
 STUDY OF INSPECTION OF CRITICAL SURFACES AND AEROSPACE SYS-
 TEMS
 09/24/1998 - 03/31/2003 FY03: \$0 Total: \$186,801
Prin. Invest.: G WORKMAN
Tech. Officer: MSFC/S RUSSELL
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1577 **UNIV OF ALABAMA - HUNTSVILLE**
 CONTROL OF TRANSPORT IN PROTEIN CRYSTAL USING RESTRICTIVE
 GEOMETRIES
 12/16/1998 - 08/31/2003 FY03: \$0 Total: \$251,450
Prin. Invest.: R J NAVMANN
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1786 **UNIV OF ALABAMA - HUNTSVILLE**
 2001 SUMMER FACULTY FELLOWSHIP PROGRAM
 04/25/2001 - 04/23/2003 FY03: \$0 Total: \$771,141
Prin. Invest.: G KARR, M FREEMAN
Tech. Officer: MSFC/J R PRUITT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1816 **UNIV OF ALABAMA - HUNTSVILLE**
 MACROMOLECULE NUCLEATION AND GROWTH RATE DISPERSION STUDIES.
 05/10/2001 - 06/30/2003 FY03: \$0 Total: \$287,526
Prin. Invest.: R JUDGE
Tech. Officer: MSFC/H K HIGGINBOTHAM
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1904 **UNIV OF ALABAMA - HUNTSVILLE**
 4200009958 8603 "2003 SUMMER FACULTY FELLOWSHIP PROGRAM"
 04/28/2003 - 04/27/2004 FY03: \$800,730 Total: \$800,730
Prin. Invest.: G KARR, M FREEMAN
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1924 **UNIV OF ALABAMA - HUNTSVILLE**
 4200002642 CRYSTAL STRUCTURE OF PYRUVATE DEHYDROGENASE COMPLEX FACILITATED BY MICROGRAVITY
 05/28/2003 - 03/31/2005 FY03: \$196,000 Total: \$196,000
Prin. Invest.: E CIZSAK
Tech. Officer: MSFC/B GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 1 98131 **UNIV OF ALABAMA - HUNTSVILLE**
 CLOUDS AND THE EARTH'S RADIANT ENERGY SYSTEM SCIENTIFIC INVESTIGATIONS
 11/01/1998 - 10/31/2003 FY03: \$235,472 Total: \$1,329,711
Prin. Invest.: R WELCH
Tech. Officer: LARC/B A WIELICKI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 2 00102 **UNIV OF ALABAMA - HUNTSVILLE**
 REFINEMENT AND TESTING OF AN XML BASED SENSOR MODEL LANGUAGE
 11/20/2000 - 11/19/2003 FY03: \$0 Total: \$477,787
Prin. Invest.: M BOTTS, A COOK
Tech. Officer: ARC/S LAU, ARC/R CARVALHO
CASE Category: 22 – COMPUTER SCIENCE

NAS 2 01003 **UNIV OF ALABAMA - HUNTSVILLE**
 AIST PROGRAM RESEARCH PROJECT ENTITLED: "EVE: AN ENVIRONMENT FOR ON-BOARD PROCESSING"
 12/18/2000 - 12/18/2003 FY03: \$502,773 Total: \$1,494,730
Prin. Invest.: S GRAVES
Tech. Officer: ARC/S LAU, ARC/R CARVALHO
CASE Category: 22 – COMPUTER SCIENCE

NAS 5 31718 **UNIV OF ALABAMA - HUNTSVILLE**
 EOS ASTER/HIRIS INVESTIGATION
 01/09/1992 - 12/14/2003 FY03: \$90,819 Total: \$1,995,240
Prin. Invest.: R WELCH
Tech. Officer: GSFC/T BRAKE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 8 98226 **UNIV OF ALABAMA - HUNTSVILLE**
 THE DESIGN AND DEVELOPMENT OF THE ORBITAL ARRAY OF WIDE ANGLE LENSES MISSION OPTICAL SYSTEM
 07/01/1998 - 12/31/2001 FY03: \$0 Total: \$845,000
Prin. Invest.: Y TAKAHASHI
Tech. Officer: MSFC/M WATSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 165 **UNIV OF ALABAMA - HUNTSVILLE**
 TO SUPPORT RESEARCH ACTIVITIES UNDER THE NASA EXPERIMENTAL STIMULATE COMPETITIVE RESEARCH (EPSCOR)
 11/02/1996 - 02/28/2002 FY03: -\$629 Total: \$2,269,369
Prin. Invest.: J C GREGORY
Tech. Officer: GSFC/L KEFFER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 391 **UNIV OF ALABAMA - HUNTSVILLE**
 NASA EPSCOR: PREPARATORY GRANT PROPOSAL
 05/13/1999 - 02/28/2002 FY03: -\$564 Total: \$449,436
Prin. Invest.: J GREGORY
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 580 **UNIV OF ALABAMA - HUNTSVILLE**
 ALABAMA NASA EPSCOR PROGRAM
 08/22/2001 - 07/31/2004 FY03: \$316,776 Total: \$633,590
Prin. Invest.: J C GREGORY
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 8 99 **UNIV OF ALABAMA - HUNTSVILLE**
 SELF-DIFFUSION IN LIQUID ELEMENTS
 05/24/1996 - 04/30/2003 FY03: \$0 Total: \$1,827,479
Prin. Invest.: F ROSENBERGER
Tech. Officer: MSFC/S SPEARMAN
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 8 180 **UNIV OF ALABAMA - HUNTSVILLE**
 INTERNATIONAL SPACE STATION MICROGRAVITY DATA AND INFORMATION SYSTEMS
 03/19/1999 - 02/28/2003 FY03: \$0 Total: \$509,520
Prin. Invest.: S J GRAVES
Tech. Officer: MSFC/C C LAPENTA
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 8 200 **UNIV OF ALABAMA - HUNTSVILLE**
 RESEARCH AND DEVELOPMENT
 08/10/2000 - 08/09/2004 FY03: \$13,673,535 Total: \$54,451,560
Prin. Invest.: L R GREENWOOD, B J SCHROER, T D SHURTZ
Tech. Officer: MSFC/S COLEMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 8 205 **UNIV OF ALABAMA - HUNTSVILLE**
 STRUCTURAL FLUCTUATIONS & THERMOPHYSICAL PROPERTIES OF MOLTEN II - IV COMPOUNDS
 09/08/2000 - 11/30/2003 FY03: \$0 Total: \$46,730
Prin. Invest.: S FETH
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 8 207 **UNIV OF ALABAMA - HUNTSVILLE**
 MECHANIZATIONS FOR THE CRYSTALLIZATION OF ZBLAN
 07/24/2000 - 11/30/2003 FY03: \$0 Total: \$95,689
Prin. Invest.: W KINKLER
Tech. Officer: MSFC/E ETHRIDGE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 8 213 **UNIV OF ALABAMA - HUNTSVILLE**
 STUDENT LAUNCH INITIATIVE
 03/23/2001 - 12/31/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: C R KARR
Tech. Officer: MSFC/J R PRUITT
CASE Category: 41 – AERONAUTICAL ENGR

ALABAMA

NASA'S UNIVERSITY PROGRAM

NCC 8 243 **UNIV OF ALABAMA - HUNTSVILLE**
 PROMOTE COMMERCIALY FUNDED RESEARCH AND TECH DEVELOP-
 MENT IN THE FIELD OF MATERIALS RESEARCH
 12/19/2001 - 10/31/2003 FY03: \$2,302,178 Total: \$4,834,180
Prin. Invest.: W GATHINGS
Tech. Officer: MSFC/J WEST
CASE Category: 49 – ENGINEERING, OTHER

NGT 2 52283 **UNIV OF ALABAMA - HUNTSVILLE**
 EMBRYO DEVELOPMENT & HATCHING BEHAVIOR IN BOBWHITE & COTUNIX
 QUAIL EXPOSED TO EARTH'S GRAVITY & HYP
 08/09/2001 - 08/31/2003 FY03: \$0 Total: \$42,870
Prin. Invest.: R F EATON
Tech. Officer: ARC/A E RONCA, ARC/E HOTTON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 5 30430 **UNIV OF ALABAMA - HUNTSVILLE**
 SHORTWAVE AEROSOL RADIATIVE FORCING FROM TERRA (STUDENT:
 JIANGLONG ZHANG)
 08/15/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: S CHRISTOPHER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30455 **UNIV OF ALABAMA - HUNTSVILLE**
 CLIMATIC INFLUENCE OF LAND USE ON THE MESOAMERICAN BIOLOGICAL
 CORRIDOR. STUDENT: RAY K. DEEPAK
 08/20/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R M WELCH
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40077 **UNIV OF ALABAMA - HUNTSVILLE**
 ALABAMA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/09/2001 - 01/31/2005 FY03: \$599,528 Total: \$2,035,830
Prin. Invest.: J C GREGORY
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52878 **UNIV OF ALABAMA - HUNTSVILLE**
 ION CYCLOTRON RESONANCE HEATING OF A PLASMA BY HELICON WAVES
 FOR THE GASDYNAMICMIRROR FUSION...
 08/31/1999 - 07/31/2004 FY03: \$24,000 Total: \$114,000
Prin. Invest.: C HAWK
Tech. Officer: MSFC/J DOWDY
CASE Category: 46 – MECHANICAL ENGR

NGT 8 52882 **UNIV OF ALABAMA - HUNTSVILLE**
 GRADUATE STUDENT RESEARCH PROGRAM "OPTIMIZATION OF A MAG-
 NETIC MIRROR FUSION REACTOR FOR SPACE PROPUL
 09/15/1999 - 08/14/2003 FY03: \$0 Total: \$90,000
Prin. Invest.: S WU
Tech. Officer: MSFC/J DOWDY
CASE Category: 41 – AERONAUTICAL ENGR

NGT 8 52886 **UNIV OF ALABAMA - HUNTSVILLE**
 DIFFRACTION LIMITED GRAZING INCIDENCE OPTICS
 05/17/2000 - 07/31/2004 FY03: \$28,000 Total: \$100,200
Prin. Invest.: W PACIESAS
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NGT 8 52891 **UNIV OF ALABAMA - HUNTSVILLE**
 INTERACTION OF EXPANDING PLASMA WITH A COMPRESSED MAGNETIC
 FIELD
 06/22/2000 - 07/31/2004 FY03: \$24,000 Total: \$92,000
Prin. Invest.: C HAWK
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NAG 2 1499 **UNIV OF ALABAMA - UNIV**
 CATECHOLAMINE REGULATION AND RESPONSE TO ENVIROMEN TAL
 CHANGE IN DROSOPHILA MELANOGASTER
 07/11/2001 - 06/30/2004 FY03: \$178,956 Total: \$461,250
Prin. Invest.: J M O'DONNELL
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 4346 **UNIV OF ALABAMA - UNIV**
 PROJECT NOVA
 05/01/1997 - 02/28/2002 FY03: \$218,245 Total: \$2,993,245
Prin. Invest.: M FREEMAN
Tech. Officer: HQ/D V GALLAWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8959 **UNIV OF ALABAMA - UNIV**
 NEARBY GALAXIES IN THE FAR-UV: TOWARD COMPARISON WITH HIGH-
 REDSHIFT GALAXIES -FUZE
 01/24/2000 - 01/31/2004 FY03: \$0 Total: \$29,600
Prin. Invest.: W C KEEL
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9388 **UNIV OF ALABAMA - UNIV**
 THE PROJECT NOVA CONSORTIUM
 04/10/2000 - 03/31/2004 FY03: \$0 Total: \$3,114,690
Prin. Invest.: L FREEMAN
Tech. Officer: GSFC/M PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10914 **UNIV OF ALABAMA - UNIV**
 INVESTIGATING THE INTERACTION-STARBURST CONNECTION (ADP 2000)
 05/18/2001 - 04/30/2004 FY03: \$0 Total: \$37,396
Prin. Invest.: J W SULENTIC
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11204 **UNIV OF ALABAMA - UNIV**
 SHOCKS IN GROUPS
 08/08/2001 - 08/14/2002 FY03: -\$69 Total: \$8,631
Prin. Invest.: J W SULENTIC
Tech. Officer: GSFC/RMUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13337 **UNIV OF ALABAMA - UNIV**
 THEORETICAL SPECTRAL LINE SHAPES AND COLLISION-IND UCED AB-
 SORPTION FOR PLANETARY ATMOSPHERIC MODEL
 04/10/2003 - 04/14/2005 FY03: \$74,298 Total: \$74,298
Prin. Invest.: R TIPPING
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13644 **UNIV OF ALABAMA - UNIV**
 PHYSICAL PAIRS: A WAY STATION ON THE ROAD OF POOR GROUPS
 COALLENENCE
 09/10/2003 - 09/14/2004 FY03: \$8,300 Total: \$8,300
Prin. Invest.: J W SULENTIC
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 8 1859 **UNIV OF ALABAMA - UNIV**
 2002 SUMMER FACULTY FELLOWSHIP PROGRAM
 05/23/2002 - 03/31/2004 FY03: \$0 Total: \$843,185
Prin. Invest.: M FREEMAN, G KARR
Tech. Officer: MSFC/S STEVENSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 305 **UNIV OF ALABAMA - UNIV**
 EVALUATION OF IONIC LIQUIDS FOR USE IN A PROPOSED LOW TEMPERA-
 TURE ELECTROLYSIS CELL FOR THE PROCESSI
 08/27/2001 - 08/31/2002 FY03: -\$5 Total: \$24,975
Prin. Invest.: R D ROGERS
Tech. Officer: KSC/D E LUECK
CASE Category: 12 – CHEMISTRY

NAS 8 00207 **UNIV OF ALABAMA - UNIV**
 PARTICLE ENGULFMENT AND PUSHING BY SOLIDIFYING INT ERFACES
 (PEP)
 10/03/2000 - 09/28/2004 FY03: \$184,000 Total: \$870,072
Prin. Invest.: D M STEFANESCU
Tech. Officer: MSFC/M PURVEY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 1326 **UNIV OF ALABAMA - UNIV**
 AN IMMUNIZED AIRCRAFT MANEUVER SELECTION SYSTEM
 03/22/2002 - 03/31/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: C KARR
Tech. Officer: ARC/K KRISHNAKUMAR, ARC/J KANESHIGE
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 964 **UNIV OF ALABAMA - UNIV**
 MAGNETICALLY-ASSISTED COMBUSTION EXPERIMENT (MACE)
 MAGNETICALLY-ASSISTED COMBUSTION EXPERIMENT (MACE)
 05/07/2002 - 05/06/2005 FY03: \$50,000 Total: \$86,000
Prin. Invest.: J BAKER
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 8 256 **UNIV OF ALABAMA - UNIV**
 RESEARCH & DEVELOPEMENT NSSTC
 02/15/2002 - 02/14/2007 FY03: \$231,572 Total: \$264,865
Prin. Invest.: R L WELLS
Tech. Officer: MSFC/S COLEMAN, MSFC/M HUIE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 8 273 **UNIV OF ALABAMA - UNIV**
 4200023416 TO DEVELOP A PASSIVE GAS REMOVAL DEVICE TO SIMPLIFY
 COOLANT FILL PROCEDURE
 07/31/2003 - 07/30/2005 FY03: \$90,000 Total: \$90,000
Prin. Invest.: S C RITCHIE
Tech. Officer: MSFC/J B HOLLADAY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 8 52927 **UNIV OF ALABAMA - UNIV**
 4200013031 COLLAPSAR JET STABILITY AND SHOCKS: AN INTERPRETATION
 OF GAMMA-RAY BURSTS PROFILES
 06/04/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P HARDEE
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9085 **UNIV OF NORTH ALABAMA**
 EARTH SYS SCIENCE ON-LINE COURSE: ON OPPURTUNITY IN GEOGRA-
 PHY EDUCATION
 02/17/2000 - 10/31/2003 FY03: \$0 Total: \$97,650
Prin. Invest.: W R STRONG
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 8 161 **UNIV OF SOUTH ALABAMA**
 REGIONAL/INTERNATIONAL CHANGE ASSESSMENT STRATEGIES, RE-
 SEARCH AND TECHNOLOGY
 01/19/1999 - 01/18/2004 FY03: \$0 Total: \$169,474
Prin. Invest.: M CARPENTER
Tech. Officer: MSFC/R ARNOLD
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 8 249 **UNIV OF SOUTH ALABAMA**
 RESEARCH AND DEVELOPMENT, NSSTC
 05/22/2002 - 05/21/2007 FY03: \$0 Total: \$34,875
Prin. Invest.: J E AYLING, R G GALBRAITH
Tech. Officer: MSFC/S COLEMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52896 **UNIV OF SOUTH ALABAMA**
 STRUCTURE DETERMINATION OF PP5, A SENSOR OF CELL CYCLE CON-
 TROL CHECKPOINTS AND A PROGNOSTIC INDICAT
 05/25/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: R HONKANEN
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

ALASKA

NAG 2 1534 **UNIV OF ALASKA - FAIRBANKS**
 UNDERSTANDING THE EFFECT OF LAND COVER CLASSIFICAT ION ON
 MODEL ESTIMATES OF REGIONAL CARBON CYCLING
 02/07/2002 - 08/31/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: A MCGUIRE
Tech. Officer: ARC/C S POTTER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5218 **UNIV OF ALASKA - FAIRBANKS**
 CODA: COUPLING OF DYNAMICS AND AURORA-A CO- INVESTIGATION
 PROPOSAL WITH AEROSPACE PI COLLINS
 01/15/1999 - 01/14/2003 FY03: \$0 Total: \$29,267
Prin. Invest.: COLLINS
Tech. Officer: GSFC/W JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5243 **UNIV OF ALASKA - FAIRBANKS**
 FIRST YEAR OF A TWO YEAR EFFORT NAG5-5243 PI DR. RICHARD COLLINS
 03/29/1999 - 12/31/2002 FY03: \$0 Total: \$38,624
Prin. Invest.: R COLLINS
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5316 **UNIV OF ALASKA - FAIRBANKS**
 MAPPING THE E-REGION VERTICAL AND ZONAL WINDS NEAR A STABLE
 AURORAL ARC USING A NEAR HORIZONTAL
 02/14/2001 - 02/11/2004 FY03: \$297,197 Total: \$768,111
Prin. Invest.: M CONDE
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5418 **UNIV OF ALASKA - FAIRBANKS**
 "CASCADES-THE CHANGING AURORA: IN SITU AND CAMERA ANALYSIS OF
 DYNAMIC ELECTRON PRECIPITATION
 04/04/2003 - 04/03/2006 FY03: \$7,142 Total: \$7,142
Prin. Invest.: H NIELSON
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 6338 **UNIV OF ALASKA - FAIRBANKS**
 VALIDATION OF MODIS SNOW & SEA ICE PRODUCTS IN THE SOUTHERN
 OCEAN
 10/02/1997 - 03/31/2003 FY03: \$0 Total: \$488,696
Prin. Invest.: S LI
Tech. Officer: GSFC/D O STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 7603 **UNIV OF ALASKA - FAIRBANKS**
 THE INFLUENCE OF PROPAGATING EDDIES ON THE ENVIRONMENT OF
 THE CONTINENTAL SHELF IN THE NORTHERN G
 07/21/1998 - 07/31/2003 FY03: \$0 Total: \$71,973
Prin. Invest.: S R OKKONEN
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7659 **UNIV OF ALASKA - FAIRBANKS**
 'SPACE GEODETIC CASE STUDIES OF RECENT VOLCANIC EVENTS IN
 ALASKA' SENH98-0028
 09/09/1998 - 08/31/2002 FY03: \$0 Total: \$240,000
Prin. Invest.: J T FREYMUELLER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7799 **UNIV OF ALASKA - FAIRBANKS**
 A STUDY OF THE INSTANTANEOUS DISTRIBUTION OF BIRKLAND CUR-
 RENTS USING POLAR UVI, SUPERDARN, IMP8
 12/17/1998 - 09/30/2002 FY03: \$0 Total: \$275,081
Prin. Invest.: W A BRISTOW
Tech. Officer: GSFC/L ZANETTI
CASE Category: 11 – ASTRONOMY

NAG 5 8614 **UNIV OF ALASKA - FAIRBANKS**
 APPLICATION OF SATELLITE SAR IMAGERY IN MAPPING THE ACTIVE LAYER
 OF ARCTIC PERMAFROST
 06/14/1999 - 06/30/2003 FY03: \$0 Total: \$208,631
Prin. Invest.: S LI
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8722 **UNIV OF ALASKA - FAIRBANKS**
 RUSSIAN-US PARTNERSHIP TO STUDY THE 23-KM-DIAMETER
 EL'GYGYTGYN IMPACT CRATER, NORTHEAST RUSSIA
 08/25/1999 - 08/14/2002 FY03: \$0 Total: \$70,000
Prin. Invest.: V SHARPTON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9315 **UNIV OF ALASKA - FAIRBANKS**
 MONITORING BOREAL LANDCOVER AND ECOSYSTEM DYNAMICS AT RE-
 GIONAL SCALES USING INTEGRATED SPACEBORNE
 03/28/2000 - 04/30/2004 FY03: \$0 Total: \$99,000
Prin. Invest.: C WILLIAMS
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9457 **UNIV OF ALASKA - FAIRBANKS**
 PLASMA PROCESSES AT THE EARTH'S MAGNETOSPHERIC BOUNDARY
 AND CUSPS
 04/24/2000 - 04/30/2003 FY03: \$0 Total: \$165,425
Prin. Invest.: A OTTO
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9513 **UNIV OF ALASKA - FAIRBANKS**
 PHOTOTROPHIC ORGANISMS AT HYDROTHERMAL VENTS
 04/25/2000 - 04/30/2003 FY03: \$80,000 Total: \$240,000
Prin. Invest.: G PLUMLEY
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10069 **UNIV OF ALASKA - FAIRBANKS**
 CEDAR/TIMED: THERMOSPHERIC VERTICAL WIND OBSERVATIONS FROM
 THREE SITES IN THE NORTHERN AURORAL ZON
 10/24/2000 - 08/31/2004 FY03: \$0 Total: \$246,300
Prin. Invest.: M CONDE
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11142 **UNIV OF ALASKA - FAIRBANKS**
 THE ROLE OF LAND-COVER CHANGE IN HIGH LATITUDE ECO SYSTEMS:
 IMPLICATIONS FOR CARBON BUDGETS IN NORTH
 07/31/2001 - 07/31/2004 FY03: \$107,543 Total: \$346,786
Prin. Invest.: D MCGUIRE
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11213 **UNIV OF ALASKA - FAIRBANKS**
 PERIGLACIAL GEOMORPHOLOGY ANALYSES ON UTOPIA PLANI TIA
 08/13/2001 - 08/31/2002 FY03: -\$52 Total: \$39,948
Prin. Invest.: K YOSHIKAWA
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11226 **UNIV OF ALASKA - FAIRBANKS**
 INTERNATIONAL SYMPOSIUM ON FAST GLACIER FLOW
 08/13/2001 - 08/31/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: C LINGLE
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11411 **UNIV OF ALASKA - FAIRBANKS**
 TIMED SOLAR EUV EXPERIMENT PHASE E CO-INVESTIGATOR - SCOTT
 BAILEY.
 12/13/2001 - 12/31/2005 FY03: \$0 Total: \$60,000
Prin. Invest.: S M BAILEY
Tech. Officer: GSFC/R A GOLDBERGB
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11822 **UNIV OF ALASKA - FAIRBANKS**
TOWARD IMPROVED PROCESS BASED PAN-ARCTIC PREDICTION OF
LAND SURFACE MOISTURE AND ENERGY FLUXES
03/01/2002 - 02/28/2005 FY03: \$75,000 Total: \$147,000
Prin. Invest.: L D HINZMAN
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12192 **UNIV OF ALASKA - FAIRBANKS**
LARGE SCALE CONSEQUENCES OF SMALL SCALE AURORAL STRUCTURES
05/16/2002 - 05/14/2005 FY03: \$152,552 Total: \$313,081
Prin. Invest.: D LUMMERZHEIM
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12411 **UNIV OF ALASKA - FAIRBANKS**
DETECTION OF CLIMATE CHANGE IN THE WESTERN ARCTIC: SEA ICE
TELECONNECTION AND PRODUCTIVITY
08/01/2002 - 08/14/2005 FY03: \$75,000 Total: \$150,000
Prin. Invest.: L MCNUTT
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12449 **UNIV OF ALASKA - FAIRBANKS**
THE MAGNITUDE AND VARIABILITY OF THE SOLAR SOFT X- RAY IRRADI-
ANCE
08/19/2002 - 08/14/2004 FY03: \$0 Total: \$65,399
Prin. Invest.: S M BAILEY
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13252 **UNIV OF ALASKA - FAIRBANKS**
SATELLITE VOLCANO ATLAS.
04/14/2003 - 04/14/2004 FY03: \$28,689 Total: \$28,689
Prin. Invest.: K DEAN
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 13408 **UNIV OF ALASKA - FAIRBANKS**
INTELLIGENT DATA SET IDENTIFICATION ASSIMILATION, COLLECTION, AND
TRANSFORMATION SYSTEM
04/21/2003 - 04/30/2006 FY03: \$175,000 Total: \$175,000
Prin. Invest.: K NANCE
Tech. Officer: GSFC/B KOBLER
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 13418 **UNIV OF ALASKA - FAIRBANKS**
CRYSTAL-FACE POLARIZATION DIVERSITY LIDAR RESEARCH
04/22/2003 - 04/30/2004 FY03: \$54,700 Total: \$54,700
Prin. Invest.: K SASSEN
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13536 **UNIV OF ALASKA - FAIRBANKS**
FIELD MEASUREMENT SUPPORT FROM THE FARS POLARIZATION DIVER-
SITY LIDAR AND 95 GHZ
05/13/2003 - 08/31/2003 FY03: \$54,745 Total: \$54,745
Prin. Invest.: K SASSEN
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13760 **UNIV OF ALASKA - FAIRBANKS**
CONTRIBUTION TO SEA LEVEL RISE OF CHANGES IN ICE VOLUMES AND
ICE FLOW DYNAMICS OF ALASKA GLACIERS
09/26/2003 - 09/30/2003 FY03: \$91,669 Total: \$91,669
Prin. Invest.: K ECHELMMEYER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAS 5 01074 **UNIV OF ALASKA - FAIRBANKS**
MAINTENANCE/MISSION SUPPORT AT POKER FLAT RESEARCH RANGE.
03/12/2001 - 03/11/2006 FY03: \$1,685,800 Total: \$4,810,988
Prin. Invest.: G W WALKER, R SHEFCHIK
Tech. Officer: GSFC/W F LAU
CASE Category: 49 – ENGINEERING, OTHER

NAS 5 98129 **UNIV OF ALASKA - FAIRBANKS**
OPERATION & MANAGEMENT OF ALASKA SAR FACILITY
03/30/1998 - 10/31/2003 FY03: \$8,405,400 Total: \$54,848,182
Prin. Invest.: N AVAILABLE
Tech. Officer: GSFC/P J ONDRUS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCA 5 112 **UNIV OF ALASKA - FAIRBANKS**
PROCESSING SYNTHETIC APERTURE RADAR DATA
04/27/1988 - 03/31/2003 FY03: \$915,567 Total: \$23,361,453
Prin. Invest.: J MILLER, W F WEEKS, G WELLER
Tech. Officer: GSFC/G H TROFFORD
CASE Category: 11 – ASTRONOMY

NGT 5 30381 **UNIV OF ALASKA - FAIRBANKS**
GLACIAL UNLOADING: FORCINGS, RESPONSES & PROCESSES
/CHRISTOPHER LARSEN
08/13/2001 - 08/31/2004 FY03: \$0 Total: \$45,984
Prin. Invest.: J FREYMUELLER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40100 **UNIV OF ALASKA - FAIRBANKS**
ALASKA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
02/28/2001 - 02/28/2005 FY03: \$318,250 Total: \$754,203
Prin. Invest.: J G HAWKINS
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50324 **UNIV OF ALASKA - FAIRBANKS**
TREES, FIRE & CLIMATE: EVALUATING POTENTIAL FEED BACKS BETWEEN
DISTURBANCE REGIME FOREST SUCCESSION
08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: S F CHAPIN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50423 **UNIV OF ALASKA - FAIRBANKS**
METHANE EFFLUX FROM THERMOKARST LAKES IN NE SIBERIA: PHYSICAL,
HYDROLOGICAL, & BIOGEOCHEMICAL
08/12/2002 - 12/31/2006 FY03: \$0 Total: \$23,978
Prin. Invest.: T CHAPIN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

ARIZONA

NAG 1 2233 **ARIZONA STATE UNIV**
 DETERM & USE OF SENSITIVITIES FOR REDESIGN/ANAL OF MISTUNED
 BLADED DISKS - NRA 98-LARC-8
 09/27/1999 - 07/31/2002 FY03: -\$1 Total: \$153,439
Prin. Invest.: M P MIGNOLET
Tech. Officer: LARC/P W GOODE
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 1 2241 **ARIZONA STATE UNIV**
 USING FORMAL APPROACH FOR REVERSE ENGR'G & DESIGN RECOVERY
 TO SUPPORT SOFTWARE REUSE--NRA-98-LARC-8
 09/27/1999 - 08/30/2002 FY03: -\$10,847 Total: \$181,339
Prin. Invest.: G C GANNOD
Tech. Officer: LARC/B L DI VITO
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 02010 **ARIZONA STATE UNIV**
 COUPLED NONLINEAR AERO-THERMO-ELASTIC ANALYSIS FOR AEROSPACE
 APPLICATIONS
 12/06/2001 - 01/15/2005 FY03: \$20,000 Total: \$65,857
Prin. Invest.: A CHATIPHADYAJ
Tech. Officer: LARC/W A SILVA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1461 **ARIZONA STATE UNIV**
 CONTINUAL PLANNING IN METRIC/TEMPORAL DOMAINS
 03/13/2001 - 02/29/2004 FY03: \$145,000 Total: \$420,928
Prin. Invest.: S KAMBHAMPPATI
Tech. Officer: ARC/R A MORRIS
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2591 **ARIZONA STATE UNIV**
 OPTIMIZATION OF ENGINEERED III-N MATERIAL FOR ELEC TRON EMISSIVE
 DEVICES
 04/16/2001 - 06/15/2004 FY03: \$20,000 Total: \$59,990
Prin. Invest.: N NEWMAN
Tech. Officer: GRC/I KRAINSKY
CASE Category: 13 – PHYSICS

NAG 5 3783 **ARIZONA STATE UNIV**
 DETERMINING THE COMPOSITION OF MARTIAN AND VENUSIA
 02/21/1997 - 06/30/2002 FY03: \$0 Total: \$361,350
Prin. Invest.: D FINK
Tech. Officer: GSFC/P G ROGERS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 3908 **ARIZONA STATE UNIV**
 STUDIES IN PLANETARY VOLCANOLOGY
 02/12/1997 - 02/28/2002 FY03: -\$5,061 Total: \$913,992
Prin. Invest.: D GREELEY
Tech. Officer: GSFC/P ROGERS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7540 **ARIZONA STATE UNIV**
 INVESTIGATION OF NEBULAR PROCESSES THROUGH OXYGEN ISOTOPIC
 ANALYSIS OF PRIMITIVE METEORITE MATERIAL
 06/18/1998 - 09/30/2002 FY03: -\$695 Total: \$120,405
Prin. Invest.: L LESHIN
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8158 **ARIZONA STATE UNIV**
 MICROBEAM INVESTIGATIONS OF PRESOLAR AND EARLY SOLAR SYSTEM
 MATERIALS
 02/04/1999 - 01/31/2003 FY03: \$0 Total: \$299,000
Prin. Invest.: D R HUSS
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8278 **ARIZONA STATE UNIV**
 MULTIWAVELENGTH SPECTRAL SYNTHESSES OF NOV ATMOSPHE RES (ADP
 98)
 02/24/1999 - 02/28/2002 FY03: -\$385 Total: \$98,606
Prin. Invest.: S G STARRFIELD
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8453 **ARIZONA STATE UNIV**
 ANALYSIS OF AEOLIAN FEATURES AND PROCESSES ON MARS
 04/14/1999 - 04/14/2003 FY03: \$0 Total: \$234,000
Prin. Invest.: R GREELEY
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8481 **ARIZONA STATE UNIV**
 FORMATION & EVOLUTION OF BINARY SYSTEMS CONTAINING COLLAPSED
 STARS (ATP 98)
 04/29/1999 - 04/30/2003 FY03: \$0 Total: \$29,420
Prin. Invest.: M POLITANO
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8721 **ARIZONA STATE UNIV**
 SMALL IMPACTS ON MARS: ATMOSPHERIC EFFECTS
 08/03/1999 - 08/14/2002 FY03: \$4 Total: \$70,504
Prin. Invest.: R GREELEY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8805 **ARIZONA STATE UNIV**
 PHASE-RESOLVED INVESTIGATION OF SUPERSOFT X-RAY BINARIES -
 FUSE
 02/01/2000 - 02/14/2002 FY03: \$0 Total: \$23,900
Prin. Invest.: A P COWLEY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 8897 **ARIZONA STATE UNIV**
 GEOLOGICAL STUDIES OF THE GALILEAN SATELLITES
 01/13/2000 - 01/14/2003 FY03: \$0 Total: \$176,600
Prin. Invest.: R GREELY
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 8898 **ARIZONA STATE UNIV**
 MECHANISMS, MANIFESTATION AND IMPLICATIONS OF CRYO MAGMATISM
 ON EUROPA
 01/13/2000 - 01/14/2003 FY03: \$0 Total: \$83,700
Prin. Invest.: S A FAGENTS
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 8948 **ARIZONA STATE UNIV**
 STUDIES OF MARTIAN AEOLIAN GEOLOGY
 01/19/2000 - 02/28/2003 FY03: \$0 Total: \$275,750
Prin. Invest.: R GREELEY
Tech. Officer: GSFC/J GRANT
CASE Category: 11 – ASTRONOMY

NAG 5 9070 **ARIZONA STATE UNIV**
 MONITORING THE HAZARDS OF SILICIC VOLCANOES WITH REMOTE SENSING
 02/27/2000 - 02/29/2004 FY03: \$0 Total: \$134,505
Prin. Invest.: J FINK
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9263 **ARIZONA STATE UNIV**
 MULTIDIMENSIONAL STUDIES OF THE CONSEQUENCES OF THERMO-NUCLEAR RUNAWAYS ON ACCRETING WHITEDWARFS
 03/13/2000 - 03/14/2004 FY03: \$0 Total: \$286,810
Prin. Invest.: S STARRFIELD
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9352 **ARIZONA STATE UNIV**
 COSMOCHEMISTRY & MINERALOGY OF PRIMITIVE METEORITE
 03/30/2000 - 03/31/2004 FY03: \$0 Total: \$296,000
Prin. Invest.: P R BUSECK
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9381 **ARIZONA STATE UNIV**
 HIGH PRESSURE MINERALS IN SHOCKED METEORITES: CONSTRAINTS ON SHOCK CONDITIONS AND DURATION
 04/03/2000 - 03/31/2004 FY03: \$0 Total: \$149,100
Prin. Invest.: T G SHARP
Tech. Officer: GSFC/D NAVA
CASE Category: 11 – ASTRONOMY

NAG 5 9395 **ARIZONA STATE UNIV**
 FUZE OBSERVATIONS OF GALACTIC AND LMC NOVAE IN OUT BURST - FUZE
 04/05/2000 - 04/14/2002 FY03: -\$182 Total: \$8,902
Prin. Invest.: S G STARRFIELD
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9430 **ARIZONA STATE UNIV**
 ENVIRONMENTS OF EARLY EVOLUTION AND THE SEARCH FOR AN EXTRATERRESTIAL FOSSIL RECORD
 04/13/2000 - 05/31/2004 FY03: \$0 Total: \$292,316
Prin. Invest.: P KNAUTH
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9451 **ARIZONA STATE UNIV**
 CHIRAL ANALYSES OF ORGANIC COMPOUNDS IN CARBONACEOUS METEORITES
 04/12/2000 - 04/14/2004 FY03: \$0 Total: \$323,620
Prin. Invest.: S PIZZARELLO
Tech. Officer: GSFC/M MEYER
CASE Category: 12 – CHEMISTRY

NAG 5 9507 **ARIZONA STATE UNIV**
 MICROBIAL PALEONTOLOGY, MINERALOGY & GEOCHEMISTRY OF MODERN & ANCIENT THERMAL SPRING DEPOSITS & THEI
 05/23/2000 - 04/30/2004 FY03: \$0 Total: \$357,965
Prin. Invest.: J FARMER
Tech. Officer: GSFC/M MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 9773 **ARIZONA STATE UNIV**
 GEOLOGY OF POTENTIAL LANDING SITES FOR MARTIAN SAMPLE RETURNS
 07/05/2000 - 06/30/2003 FY03: \$0 Total: \$126,500
Prin. Invest.: R GREELY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9838 **ARIZONA STATE UNIV**
 RADIATION SCIENCE PROGRAM TRANSMISSION ELECTRON MICROSCOPY (TEM) STUDY OF SOUTHERN AFRICAN FIRE-ATM
 11/20/2000 - 11/30/2003 FY03: \$110,000 Total: \$333,000
Prin. Invest.: P R BUSECK
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10077 **ARIZONA STATE UNIV**
 CHEMICAL CONSTRAINTS ON THE EARLY SOLAR NEBULA: IRACING MOLECULAR & ISOTOPIC ABUNDANCES FROM INTE
 11/15/2000 - 11/14/2001 FY03: \$0 Total: \$40,000
Prin. Invest.: S WYCKOFF
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10214 **ARIZONA STATE UNIV**
 THERMAL CONDUCTIVITY RELATIONSHIPS TO PHYSICAL PROPERTIES OF MARTIAN SURFICIAL MATERIALS: A TOOL FOR
 01/04/2001 - 08/14/2003 FY03: \$0 Total: \$110,900
Prin. Invest.: M A PRESLEY
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10268 **ARIZONA STATE UNIV**
 RECENT VOLCANIC AND FLUVIAL ACTIVITY ON MARS
 01/18/2001 - 04/30/2003 FY03: \$0 Total: \$241,400
Prin. Invest.: A S MCEWEN
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10310 **ARIZONA STATE UNIV**
 MAPPING MINERALOGY, ROCK ABUNDANCE, & THERMAL INERTIA USING MGS THERMAL EMISSION SPECTROMETER (TES)
 01/25/2001 - 01/31/2004 FY03: \$0 Total: \$450,000
Prin. Invest.: P R CHRISTIANSON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10449 **ARIZONA STATE UNIV**
 PRESOLAR GRAINS: PROBES OF PROCESS IN INTERSTELLAR SPACE, IN THE SOLAR NEBULA, & ON METEORITE PARENTS
 02/21/2001 - 10/31/2002 FY03: \$0 Total: \$33,000
Prin. Invest.: G HUSS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

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NASA'S UNIVERSITY PROGRAM

NAG 5 10460 **ARIZONA STATE UNIV**
 REGIONAL PLANETARY IMAGE FACILITY-ARIZONA STATE UNIV
 02/26/2001 - 02/28/2006 FY03: \$76,497 Total: \$219,197
Prin. Invest.: R GREELY
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 10523 **ARIZONA STATE UNIV**
 ISOTOPIC & PETROLOGIC INVESTIGATIONS OF EXTRATERRE STRIAL
 MATERIALS: CONSTRAINTS ON NEBULAR, ASTEROI
 03/06/2001 - 03/14/2004 FY03: \$160,000 Total: \$395,000
Prin. Invest.: L A LESHIN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10689 **ARIZONA STATE UNIV**
 THE EVOLUTIONARY DEVELOPMENT OF PHOTOSYNTHESIS & THE TRAN-
 SITION FROM AN ANAEROBIC TO AN AEROBIC
 04/06/2001 - 03/31/2004 FY03: \$96,000 Total: \$279,000
Prin. Invest.: R BLANKENSHIP
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10753 **ARIZONA STATE UNIV**
 CHEMICAL CONSTRAINTS ON THE EARLY SOLAR NEBULA
 04/11/2001 - 04/14/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: S WYCKOFF
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10899 **ARIZONA STATE UNIV**
 THIRD INTERNATIONAL SYMPOSIUM ON ENVIRONMENTAL HYDRAULICS
 05/04/2001 - 05/31/2002 FY03: \$0 Total: \$15,000
Prin. Invest.: D BOYER
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11199 **ARIZONA STATE UNIV**
 ORIGINS OF SMALL VOLCANIC CONES: ERUPTION MECHANISMS AND
 IMPLICATIONS FOR WATER ON MARS
 08/07/2001 - 08/14/2004 FY03: \$0 Total: \$49,926
Prin. Invest.: S FAGENTS
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11494 **ARIZONA STATE UNIV**
 THERMAL INFRARED LABORATORY MEASUREMENTS
 12/27/2001 - 12/31/2004 FY03: \$0 Total: \$97,000
Prin. Invest.: P R CHRISTENSEN
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11543 **ARIZONA STATE UNIV**
 MICROBEAM INVESTIGATIONS OF PRESOLAR & EARLY SOLAR SYSTEM
 MATERIALS
 01/04/2002 - 01/31/2005 FY03: \$166,394 Total: \$271,394
Prin. Invest.: G HUSS
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11552 **ARIZONA STATE UNIV**
 CHARACTERIZATION OF INDIVIDUAL AEROSOL PARTICLES ASSOCIATED
 WITH CLOUDS 017YSTAL-FACE)
 01/10/2002 - 01/14/2004 FY03: \$94,195 Total: \$190,195
Prin. Invest.: P BUSECK
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11566 **ARIZONA STATE UNIV**
 INJECTION OF SHORT-LIVED RADIOACTIVITIES INTO THE PREOLAR CLOUD
 02/08/2002 - 07/31/2003 FY03: -\$25,000 Total: \$0
Prin. Invest.: H VANHALA
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11655 **ARIZONA STATE UNIV**
 ANALYSIS OF EXTRATERRESTRIAL VOLCANISM FROM LAVA FLOW-SCALE
 TO EDIFICE-SCALE PROCESSES
 02/11/2002 - 02/14/2004 FY03: \$0 Total: \$54,700
Prin. Invest.: J FINK
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11770 **ARIZONA STATE UNIV**
 CHARACTERIZATION AND HISTORY OF THE PRESOLAR DUST THAT BE-
 CAME THE SOLAR SYSTEM
 02/25/2002 - 02/28/2005 FY03: \$25,000 Total: \$50,000
Prin. Invest.: G R HUSS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11787 **ARIZONA STATE UNIV**
 STUDIES IN PLANETARY VOLCANOLOGY
 02/22/2002 - 02/28/2003 FY03: \$0 Total: \$82,000
Prin. Invest.: R GREELEY
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11809 **ARIZONA STATE UNIV**
 CONTINUED INVESTIGATION OF NEBULAR PROCESSES THROUGH ISOTO-
 PIC ANALYSES OF PRIMITIVE METEORITE MATERIALS
 02/27/2002 - 03/31/2005 FY03: \$35,000 Total: \$70,000
Prin. Invest.: L A LESHIN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11899 **ARIZONA STATE UNIV**
 SECONDARY ION ISOTOPE RATIO DETERMINATION USING A SENSITIVE
 ELECTROMETER ARRAY DETECTOR
 03/27/2002 - 03/31/2005 FY03: \$329,399 Total: \$740,399
Prin. Invest.: P WILLIAMS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12141 **ARIZONA STATE UNIV**
 SEDIMENTARY MATERIALS IN WESTERN ARABIA AND INTRACRATER
 DEPOSITS SIMILAR TO WHITE ROCK: CLUES TO PAST
 05/08/2002 - 05/14/2005 FY03: \$51,500 Total: \$102,650
Prin. Invest.: M A PRESLEY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12142 ARIZONA STATE UNIV
ANALYSIS OF AEOLIAN FEATURES AND PROCESSES ON MARS
05/08/2002 - 05/14/2005 FY03: \$82,272 Total: \$209,544
Prin. Invest.: R GREELEY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12460 ARIZONA STATE UNIV
NEXT GENERATION FRONTIER STUDIES OF GALAXY FORMATI ON AND
EVOLUTION WITH NEXT GENERATION SPACE TELES
09/09/2002 - 09/14/2014 FY03: \$89,285 Total: \$143,643
Prin. Invest.: R A WINDHORST
Tech. Officer: GSFC/M GREENHOUSE
CASE Category: 11 – ASTRONOMY

NAG 5 12543 ARIZONA STATE UNIV
HYDROTHERMAL ECOSYSTEMS IN A SOLAR SYSTEM CONTEXT
09/05/2002 - 08/31/2005 FY03: \$0 Total: \$140,557
Prin. Invest.: E SHOCK
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12584 ARIZONA STATE UNIV
TIMING AND RACE CONDITION VERIFICATION OF REAL- TIME SYSTEMS
01/03/2003 - 12/31/2003 FY03: \$125,164 Total: \$125,164
Prin. Invest.: Y LEE
Tech. Officer: GSFC/M BENSON
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12944 ARIZONA STATE UNIV
SPACE WEATHER IN THE IO PLASMA TORUS: STUDY OF TIME VARIATIONS
IN THE PLASMA TORUS
03/03/2003 - 02/28/2006 FY03: \$69,122 Total: \$69,122
Prin. Invest.: F HERBERT
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12977 ARIZONA STATE UNIV
SHOCK VEIN CRYSTALLIZATION & PHASE TRANSFORMATION IN CHON-
DRITES: ESTIMATING SHOCK PRESSURE & PRESSUR
03/05/2003 - 03/31/2006 FY03: \$68,000 Total: \$68,000
Prin. Invest.: T G SHARP
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 11 – ASTRONOMY

NAG 5 13022 ARIZONA STATE UNIV
MICROMINERALOGY OF METEORITES
03/11/2003 - 03/31/2006 FY03: \$107,000 Total: \$107,000
Prin. Invest.: P BUSECK
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 11 – ASTRONOMY

NAG 5 13066 ARIZONA STATE UNIV
A WEB-BASED GALAXY PHOTOMETRY AND CLASSIFICATION TOOL SET
03/12/2003 - 03/14/2004 FY03: \$48,949 Total: \$48,949
Prin. Invest.: S ODEWAHN
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13153 ARIZONA STATE UNIV
STUDIES IN PLANETARY VOLCANOLOGY
03/27/2003 - 03/31/2006 FY03: \$112,000 Total: \$112,000
Prin. Invest.: R GREELEY
Tech. Officer: GSFC/S SUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13289 ARIZONA STATE UNIV
GLOBAL GEOLOGICAL MAP OF EUROPA
04/04/2003 - 03/31/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: R GREELEY
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13290 ARIZONA STATE UNIV
STUDIES OF MARTIAN AEOLIAN GEOLOGY
04/04/2003 - 03/31/2006 FY03: \$93,545 Total: \$93,545
Prin. Invest.: R GREELEY
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13441 ARIZONA STATE UNIV
EXPLORING THE RECORD OF EARLY LIFE ON LAND WITH AP PPLICATIONS
TO THE SEARCH FOR PAST LIFE ON MAR
04/29/2003 - 05/31/2004 FY03: \$80,000 Total: \$80,000
Prin. Invest.: P KNAUTH
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13447 ARIZONA STATE UNIV
THE ORIGIN AND EVOLUTION OF METERITE ORGANICS
04/26/2003 - 04/14/2006 FY03: \$120,000 Total: \$120,000
Prin. Invest.: S PIZZARELLO
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1331 ARIZONA STATE UNIV
GENISIS OF THE CRYSTALLIN HEMATITE DEPOSIT IN SINUS MERIDIANI
MARS
07/05/2001 - 06/30/2003 FY03: \$24,000 Total: \$68,000
Prin. Invest.: P R CHRISTENSON
Tech. Officer: JSC/R V MORRIS
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1359 ARIZONA STATE UNIV
A MICROFLUID BIO REPORTER FOR EXPLORATORY BIO ENGI NEERING
07/27/2001 - 09/30/2004 FY03: \$140,000 Total: \$317,000
Prin. Invest.: B C TOWE
Tech. Officer: JSC/D RISEN
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAS 5 31371 ARIZONA STATE UNIV
EOS INVESTIGATION "ADVANCED SPACEBORNE THERMAL EMISSION AND
REFLECTION"
12/23/1991 - 12/14/2003 FY03: \$112,819 Total: \$1,979,249
Prin. Invest.: P CHRISTENSEN
Tech. Officer: GSFC/H BLODGET
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 1 01051 ARIZONA STATE UNIV
PENETRATION OF HIGH INTENSITY RADIATED FIELDS (HIRF) INTO AIR-
CRAFT
05/29/2001 - 05/31/2004 FY03: \$0 Total: \$104,000
Prin. Invest.: C BALANIS
Tech. Officer: LARC/T X NGUYEN
CASE Category: 45 – ELECTRICAL ENGR

ARIZONA

NASA'S UNIVERSITY PROGRAM

NCC 2 1051 **ARIZONA STATE UNIV**
 EXPLORING THE LIVING UNIVERSE: ORIGIN, EVOLUTION AND DISTRIBUTION OF LIFE IN THE SOLAR SYSTEM
 09/22/1998 - 06/30/2004 FY03: \$1,273,543 Total: \$6,627,284
Prin. Invest.: J D FARMER
Tech. Officer: ARC/R A GRYMES, ARC/W W DOLCI
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 2 1109 **ARIZONA STATE UNIV**
 OPERATION OF THE PLANETARY AEOLIAN LABORATORY
 04/02/1999 - 05/31/2003 FY03: \$0 Total: \$382,853
Prin. Invest.: R GREELEY
Tech. Officer: ARC/S G EDDLEMON, ARC/B F SMITH
CASE Category: 32 – GEOLOGICAL SCIENCE

NCC 2 1225 **ARIZONA STATE UNIV**
 HEURISTIC CONTROL OF PLANNING & EXECUTION IN METRIC/TEMPORAL DOMAINS
 03/23/2001 - 02/28/2004 FY03: \$91,000 Total: \$169,191
Prin. Invest.: S KAMBHAMPATI
Tech. Officer: ARC/R MORRIS
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1232 **ARIZONA STATE UNIV**
 AGENT DEVELOPMENT & CONTROL VERIFICATION USING DUAL CHARACTERIZATION
 03/26/2001 - 02/28/2003 FY03: \$0 Total: \$175,000
Prin. Invest.: C BARAL
Tech. Officer: ARC/R MORRIS
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1405 **ARIZONA STATE UNIV**
 PLANETARY AEOLIAN LABORATORY (PAL)
 05/22/2003 - 05/31/2004 FY03: \$109,000 Total: \$109,000
Prin. Invest.: R GREELEY
Tech. Officer: ARC/J HARTMAN, ARC/S G EDDLEMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 5411 **ARIZONA STATE UNIV**
 ECOGENOMICS: MOLECULAR BIOLOGICAL ANALYSES OF HYPERHALINE BACTERIAL COMMUNITIES
 11/22/2000 - 11/30/2002 FY03: \$0 Total: \$120,080
Prin. Invest.: F G PICHEL
Tech. Officer: ARC/D J DESMARAIS, ARC/B M BEBOUT
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5532 **ARIZONA STATE UNIV**
 GENOMIC APPROACHES TO THE GEOMICROBIOLOGY OF INTER TIDAL EVAPORITES
 03/04/2003 - 02/28/2004 FY03: \$25,456 Total: \$25,456
Prin. Invest.: F GRACIA-PICHOL
Tech. Officer: ARC/D DESMARAIS, ARC/T HOLLIER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 3 1024 **ARIZONA STATE UNIV**
 HIGH VELOCITY IMPACT OF COMPOSITE STRUCTURES PROP. #03-0361
 01/15/2003 - 12/31/2005 FY03: \$67,776 Total: \$67,776
Prin. Invest.: A CHATTOPADHYAY
Tech. Officer: GRC/R GOLDBERG
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 02013 **ARIZONA STATE UNIV**
 GRADUATE STUDENT RESEARCHER PROGRAM (GSRP)
 06/05/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: A CHATTOPADHYAY, C R SWANN
Tech. Officer: LARC/D R AMBUR
CASE Category: 46 – MECHANICAL ENGR

NGT 2 52284 **ARIZONA STATE UNIV**
 THE PROTECTIVE ROLES OF THE ANTIOXIDANT ENZYMES SUPEROXIDE DISMUTASE & CATALASE IN THE GREEN PHOTOSYNTHESIS
 08/09/2001 - 08/31/2003 FY03: \$0 Total: \$46,000
Prin. Invest.: R E BLAKENSHIP
Tech. Officer: ARC/L ROTHSCCHILD, ARC/E P CONDON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 5 145 **ARIZONA STATE UNIV**
 CHARACTERIZATION OF MARTIAN VOLCANIC PROVINCES BASED ON QUANTITATIVE SLOPE DISTRIBUTION ANALYSES
 08/13/2003 - 08/14/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R GREELEY
Tech. Officer: GSFC/M S BURRELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 157 **ARIZONA STATE UNIV**
 CHARACTERIZATION OF MARTIAN VOLCANIC PROVINCES BASED ON QUANTITATIVE SLOPE DISTRIBUTION ANALYSES
 08/20/2003 - 08/14/2006 FY03: \$0 Total: \$0
Prin. Invest.: R GREELEY
Tech. Officer: GSFC/M S BURRELL
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 5 50276 **ARIZONA STATE UNIV**
 PARTITIONING OF HIGHLY SIDEROPHILE ELEMENTS AT ELEVATED PRESSURE & TEMPERATURE: CONSTRAINTS ON
 06/20/2000 - 06/30/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: T SHARP
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50452 **ARIZONA STATE UNIV**
 INVESTIGATION OF WEATHERING PRODUCTS OF MARTIAN METEORITE ANALOG MATERIALS ON EARTH AND APPLIED
 04/29/2003 - 05/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: L LESHIN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50455 **ARIZONA STATE UNIV**
 SILICA-COATED BASALTS: MARTIAN SURFACE MINERALOGY & THE "ANDESITE" PROBLEM (STUDENT: MICHAEL KRAFT)
 04/29/2003 - 05/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: T SHARP
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 9 62 **ARIZONA STATE UNIV**
 ASSESSMENT OF PALEOENVIRONMENT ON MARS
 05/29/2002 - 05/31/2005 FY03: \$24,000 Total: \$47,492
Prin. Invest.: P NILES
Tech. Officer: JSC/G MCKAY
CASE Category: 32 – GEOLOGICAL SCIENCE

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NAG 5 10254 DINE COLLEGE (FORMERLY NAVAJO COMM COLLEGE)
 INTERNET-BASED EDUCATION & RESEARCH WITH ROBOTIC TELESCOPES
 FOR NATIVEAMERICAN & HISPANIC
 01/10/2001 - 01/14/2004 FY03: \$198,000 Total: \$614,000
Prin. Invest.: S SEMKEN
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NAG13 03005 DINE COLLEGE (FORMERLY NAVAJO COMM COLLEGE)
 INVASIVE SPECIES PROPOSAL FOR EXPANDING THE POOL O F GIS
 (GEOGRAPHIC INFORMATION SYSTEM) PROFESSIONA
 04/18/2003 - 02/19/2004 FY03: \$75,000 Total: \$75,000
Prin. Invest.: D C ISELY
Tech. Officer: SSC/R E TRAVIS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 4 234 ESTRELLA MOUNTAIN COMM COLLEGE
 NASA PRECOLLEGE ACHIEVEMENT OF EXCELLENCE IN MATHE MATICS,
 SCIENCE, ENGINEERING, AND TECHNOLOGY (PAC
 09/25/2002 - 09/30/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: M A REYES
Tech. Officer: DFRM/M RODAN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12476 ESTRELLA MOUNTAIN COMM COLLEGE
 NASA ESTRELLA MOUNTAIN CENTER FOR SUCCESS IN MATH AND SCI-
 ENCE
 09/05/2002 - 07/31/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: M REYES
Tech. Officer: HQ/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11078 NORTHERN ARIZONA UNIV
 DYNAMICS, COMPOSITION, AND THERMAL STRUCTURE OF TITAN'S UPPER
 ATMOSPHERE
 08/06/2001 - 09/30/2002 FY03: \$0 Total: \$41,802
Prin. Invest.: R YELLE
Tech. Officer: GSFC/D J BOGAN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 11729 NORTHERN ARIZONA UNIV
 PROCESSING AND ANALYSIS OF COMETARY ICE MIXTURES
 02/14/2002 - 02/14/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: D CORNELISON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12510 NORTHERN ARIZONA UNIV
 CONTINUED INVESTIGATIONS OF MARTIAN IMPACT CRATER MORPHOLO-
 GIES AND MORPHOMETRIES
 09/05/2002 - 08/31/2004 FY03: \$45,000 Total: \$80,000
Prin. Invest.: N BARLOW
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12694 NORTHERN ARIZONA UNIV
 A PHOTOMETRIC SURVEY OF TRANS-NEPTUNIAN OBJECTS
 12/11/2002 - 12/14/2005 FY03: \$49,770 Total: \$49,770
Prin. Invest.: S C TEGLER
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 5429 NORTHERN ARIZONA UNIV
 AN UNSTEADY REYNOLDS-AVERAGED NAVIER-STOKES SIMULA TION OF
 THE FLOW AROUND AN UNCONFINED CUBOID AT H
 03/22/2001 - 06/14/2003 FY03: \$27,500 Total: \$81,143
Prin. Invest.: E P DUQUE
Tech. Officer: ARC/C TUNG, ARC/R STRAWN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 11550 PRESCOTT COLLEGE
 STATE AND LOCAL GOVERNMENT APPLICATIONS PROGRAM
 03/06/2002 - 02/28/2003 FY03: \$0 Total: \$350,479
Prin. Invest.: W ORR
Tech. Officer: GSFC/R VENEZIA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2317 UNIV OF ARIZONA
 TAILORING OF BONDED AND BOLTED LAP JOINTS AND PATC H REPAIR OF
 DAMAGED COMPOSITE PANELS
 06/28/2000 - 04/30/2003 FY03: -\$1 Total: \$283,449
Prin. Invest.: E MADENCI
Tech. Officer: LARC/D R AMBUR
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01124 UNIV OF ARIZONA
 SAGE II AND SAGE III SATELLITE VALIDATION AND SCIENCE STUDIES
 09/18/2001 - 03/31/2004 FY03: \$124,999 Total: \$343,676
Prin. Invest.: B M HERMAN
Tech. Officer: LARC/W P CHU
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02017 UNIV OF ARIZONA
 SATELLITE DATA STUDIES OF STRATOSPHERIC OZONE MY 1/3
 12/07/2001 - 12/06/2004 FY03: \$0 Total: \$190,000
Prin. Invest.: L L HOOD
Tech. Officer: LARC/G L MADDREA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 03045 UNIV OF ARIZONA
 DEVELOPMENT OF MICRO AIR VEHICLE TECHNOLOGY WITH AN IN-FLIGHT
 ADPATIVE-WING STRUCTURE
 04/15/2003 - 04/14/2004 FY03: \$40,000 Total: \$40,000
Prin. Invest.: S SHKARAYEV
Tech. Officer: LARC/M R WASZAK
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1369 UNIV OF ARIZONA
 EFFECT OF MICROGRAVITY ON THE DEVELOPMENT OF THE I MMUNE
 SYSTEM
 08/02/1999 - 07/31/2004 FY03: \$0 Total: \$587,490
Prin. Invest.: D DELUCA
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1446 UNIV OF ARIZONA
 CONSTRUCTION METHODS FOR VERY LARGE FORMAT FAR INF RARED
 ARRAYS
 09/28/2000 - 08/31/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: E T YOUNG
Tech. Officer: ARC/C R MCCREIGHT, ARC/R E MCMURRAY
CASE Category: 11 – ASTRONOMY

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NASA'S UNIVERSITY PROGRAM

NAG 2 6074 **UNIV OF ARIZONA**
 A SERIES OF ASTROBIOLOGY COURSES FOR TEACHERS
 08/13/2003 - 07/31/2006 FY03: \$43,001 Total: \$43,001
Prin. Invest.: T F SLATER
Tech. Officer: ARC/W DOLCI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2154 **UNIV OF ARIZONA**
 MODELING OF TRANSPORT PROCESSES IN A SOLID OXIDE ELECTROLYZED
 GENERATING OXYGEN ON MARS
 04/10/1998 - 01/31/2002 FY03: \$0 Total: \$343,750
Prin. Invest.: K R SRIDHAR
Tech. Officer: GRC/J S LING, GRC/B S SINGH
CASE Category: 13 – PHYSICS

NAG 3 2354 **UNIV OF ARIZONA**
 RESONANCE EFFECTS IN SINGLE-AND DOUBLE-DIFFUSIVE SYSTEMS
 UNDER GRAVITY MODULATION
 03/15/2000 - 11/30/2004 FY03: \$100,000 Total: \$340,000
Prin. Invest.: C F CHEN
Tech. Officer: GRC/C E NIEDERHAUS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2725 **UNIV OF ARIZONA**
 AN EXPERIMENTAL INVESTIGATION OF INCOMPRESSIBLE RICHTMYER-
 MESHKOV INSTABILITY
 03/07/2002 - 11/30/2005 FY03: \$96,255 Total: \$184,230
Prin. Invest.: D NIEDERHAUS
Tech. Officer: GRC/M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2921 **UNIV OF ARIZONA**
 ATOM OPTICS IN CONTROLLED AND MICROGRAVITY ENVIRONMENTS
 07/03/2003 - 04/30/2006 FY03: \$95,000 Total: \$95,000
Prin. Invest.: P MEYSTRE
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3640 **UNIV OF ARIZONA**
 UTILIZATION OF EOS DATA IN QUANTIFYING THE PROCESS HYDROLOGIC
 CYCLE IN ARID/SEMI-ARID REGIONS
 02/12/1997 - 03/31/2002 FY03: -\$470 Total: \$2,808,538
Prin. Invest.: S SOROOSHAIN
Tech. Officer: GSFC/E Y WOOD
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 3785 **UNIV OF ARIZONA**
 SUB-MILLIMETER SPECTROSCOPY OF ASTROPHYSICALLY-IMPACTING MOLECULES
 03/28/1997 - 11/30/2001 FY03: -\$4 Total: \$227,996
Prin. Invest.: L M ZIURY
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 11 – ASTRONOMY

NAG 5 3791 **UNIV OF ARIZONA**
 A STUDY OF DUST JET EVOLUTION IN COMET HALLEY
 03/07/1997 - 08/31/2002 FY03: -\$879 Total: \$232,755
Prin. Invest.: M M LARSON
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 3796 **UNIV OF ARIZONA**
 RELATIVE ABUNDANCES OF ¹³C, ¹⁸O, ¹⁵N AND ²H ON TRIPOLI MEASUREMENTS AND REFLECTANCE SPECTROSCOPY
 03/11/1997 - 03/14/2003 FY03: \$0 Total: \$421,245
Prin. Invest.: D H BROWN
Tech. Officer: GSFC/P ROGERS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 4214 **UNIV OF ARIZONA**
 INTERIORS AND ATMOSPHERES OF THE OUTER PLANETS
 03/24/1997 - 12/31/2002 FY03: \$0 Total: \$336,648
Prin. Invest.: D B HUBBARD
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 11 – ASTRONOMY

NAG 5 4832 **UNIV OF ARIZONA**
 COSMOGENIC ¹⁴C IN METEORITES AND LUNAR SAMPLES
 06/17/1997 - 05/31/2002 FY03: -\$170 Total: \$174,830
Prin. Invest.: D JULL
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 5336 **UNIV OF ARIZONA**
 FULL FUNDING FOR THE 1ST YEAR OF THE GRANT FOR \$10 K, PI: G. G. WILLIAMS
 GRANT TITLE: LOTIS (W/ PARK)
 05/31/2001 - 03/31/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: G WILLIAMS
Tech. Officer: WFF/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5422 **UNIV OF ARIZONA**
 PROMPT BRB COUNTERPART SEARCHES IN NIR AND OPTICAL BANDS
 09/02/2003 - 09/30/2005 FY03: \$10,000 Total: \$10,000
Prin. Invest.: G WILLIAMS
Tech. Officer: GSFC/B MERRITT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 6339 **UNIV OF ARIZONA**
 VALIDATION AND CORRECTION FOR THE MODIS SPATIAL RESPONSE
 10/02/1997 - 09/30/2002 FY03: -\$539 Total: \$592,755
Prin. Invest.: R SCHOWENGERDT
Tech. Officer: GSFC/D O STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 6543 **UNIV OF ARIZONA**
 IMPACT CRATERING AND THE EVOLUTION OF THE TERRESTRIAL PLANETS
 12/08/1997 - 09/30/2001 FY03: -\$25,860 Total: \$566,640
Prin. Invest.: H MELOSH
Tech. Officer: GSFC/P ROGERS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7089 **UNIV OF ARIZONA**
 STRUCTURE OF THE HELIOSPHERE INFERRED FROM VOYAGER UVS MEASUREMENTS
 02/23/1998 - 01/31/2003 FY03: \$0 Total: \$117,700
Prin. Invest.: B R SANDEL
Tech. Officer: GSFC/J LING
CASE Category: 11 – ASTRONOMY

NAG 5 7734 **UNIV OF ARIZONA**
 HEAVY ELEMENT ABUNDANCES: CLUES TO THE EVOLUTION OF STARS
 12/18/1998 - 10/31/2003 FY03: \$0 Total: \$450,131
Prin. Invest.: D GARNETT
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7793 **UNIV OF ARIZONA**
 THEORY AND MODELING OF ENERGETIC PARTICLE COMPOSIT ION SPEC-
 TRA AND ANISOTROPIES AND TIME VARIA
 12/10/1998 - 10/31/2001 FY03: \$0 Total: \$280,414
Prin. Invest.: J GIACALONE
Tech. Officer: GSFC/D C LING
CASE Category: 11 – ASTRONOMY

NAG 5 7923 **UNIV OF ARIZONA**
 HUBBLE SPACE TELESCOPE ASTRONOMY
 12/14/1998 - 09/30/2001 FY03: -\$870 Total: \$5,682,446
Prin. Invest.: R THOMPSON
Tech. Officer: GSFC/J JELETIC
CASE Category: 11 – ASTRONOMY

NAG 5 7966 **UNIV OF ARIZONA**
 STUDY OF SOLAR AND HELIOSPHERIC ENERGETIC IONS VIA ENERGETIC
 NEUTRAL ATOMS USING CELIAS/SOHO
 12/15/1998 - 12/31/2001 FY03: -\$14 Total: \$135,770
Prin. Invest.: K HSIEH
Tech. Officer: GSFC/D C LING
CASE Category: 11 – ASTRONOMY

NAG 5 7994 **UNIV OF ARIZONA**
 THE MARS LOWER AND UPPER ATMOSPHERE: DETAILED COUP LING
 USING GENERAL CIRCULATION MODELS
 01/06/1999 - 01/14/2003 FY03: \$0 Total: \$249,896
Prin. Invest.: S BOUGHER
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8117 **UNIV OF ARIZONA**
 COMBINED LIDAR AND RASSIVE SENSING TECHNIQUES FOR CHARACTER-
 IZATION OF AEROSOL RADIATIVE EFFECTS
 01/26/1999 - 01/31/2003 FY03: \$0 Total: \$314,862
Prin. Invest.: J A REAGAN
Tech. Officer: GSFC/M MISHCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8152 **UNIV OF ARIZONA**
 MARS GLOBAL SURVEYOR AEROBRAKING: THERMOSPHERE- IONOSHERE
 TRENDS & MTGCM INTERPRETATION
 02/11/1999 - 03/31/2002 FY03: -\$16 Total: \$125,284
Prin. Invest.: S W BOUGHER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8157 **UNIV OF ARIZONA**
 SUPPORT AN EXTENSION SPECIALIST IN GEOSPATIAL INFO RMATION
 TECHNOLOGY FOR THE STATE OF ARIZONA
 02/05/1999 - 01/31/2003 FY03: \$0 Total: \$399,349
Prin. Invest.: D YOUNG
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8185 **UNIV OF ARIZONA**
 ANALYSIS OF THE CRUSTAL MAGNETIC FIELD OF MARS
 02/17/1999 - 02/28/2002 FY03: -\$28 Total: \$124,172
Prin. Invest.: L L HOOD
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8214 **UNIV OF ARIZONA**
 INFLUENCE OF SUBGRID-SCALE HETEROGENEITY ON REMOTE LY
 SENSED ESTIMATES OF THE AMAZONIAN SURFACE EN
 03/01/1999 - 06/30/2003 FY03: \$0 Total: \$178,065
Prin. Invest.: J W SHUTTLEWORTH
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8308 **UNIV OF ARIZONA**
 QUANTITATIVE INTERPRETATION OF VOLCANIC FEATURES I N MOC IM-
 AGES
 03/03/1999 - 11/30/2001 FY03: -\$8 Total: \$94,292
Prin. Invest.: L KESZTHELYI
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8341 **UNIV OF ARIZONA**
 MODELS AND MODES OF ENABLING THE USE OF NASA EARTH SCIENCE
 AND DATA IN DECISION MAKING
 04/07/1999 - 12/31/2002 FY03: \$0 Total: \$580,000
Prin. Invest.: S E MARSH
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8426 **UNIV OF ARIZONA**
 MULTIWAVELENGTH DIAGNOSTICS OF GALAXY EVOLUTION AN D STAR
 FORMATION LTSA98
 04/26/1999 - 04/30/2004 FY03: \$131,452 Total: \$625,546
Prin. Invest.: R C KENNICUTT
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8502 **UNIV OF ARIZONA**
 SUPPORT OF ACTIVITIES AND OPERATION OF THE GLOBAL ENERGY AND
 WATER CYCLE EXPERIMENT SCIENCE STE
 05/11/1999 - 05/14/2003 FY03: \$0 Total: \$507,641
Prin. Invest.: S ROROOSHIAN
Tech. Officer: GSFC/R SCHIEFFER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8503 **UNIV OF ARIZONA**
 AN INTEGRATED INFORMATION SYSTEM FOR MULTI-PURPOSE USER-
 ADAPTIVE ACCESS TO LAND SURFACE HYDROLOGIC
 05/11/1999 - 05/14/2004 FY03: \$0 Total: \$1,553,031
Prin. Invest.: S SOROOSHIAN
Tech. Officer: GSFC/M JASINSKI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8686 **UNIV OF ARIZONA**
 MEMBERSHIP TO THE AEROSOL RADIATIVE FORCING SCIENC E TEAM
 07/16/1999 - 07/14/2002 FY03: -\$362 Total: \$38,935
Prin. Invest.: K J THOME
Tech. Officer: GSFC/M I MISHCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8911 **UNIV OF ARIZONA**
 COPERNICAN CRATERS AND THE PHANEROZOIC IMPACT FLUX
 12/29/1999 - 01/31/2003 FY03: \$0 Total: \$127,450
Prin. Invest.: A S MCEWEN
Tech. Officer: GSFC/J GRANT
CASE Category: 11 – ASTRONOMY

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NAG 5 8937 **UNIV OF ARIZONA**
 NUMERICAL MODELING OF TECTONIC PROCESSES AND METEORITE IMPACTS ON THE GALILEAN SATELLITES
 01/13/2000 - 01/14/2003 FY03: \$0 Total: \$85,000
Prin. Invest.: E P TURTLE
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8941 **UNIV OF ARIZONA**
 CYCLODIAL LINEAMENTS AND TIDAL TECTONICS ON EUROPA
 01/13/2000 - 04/14/2002 FY03: -\$88 Total: \$104,912
Prin. Invest.: R GREENBERG
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8949 **UNIV OF ARIZONA**
 THEORETICAL STUDIES OF VOLATILE PROCESSES IN SOLAR SYSTEM BODIES
 01/19/2000 - 04/30/2003 FY03: \$0 Total: \$88,260
Prin. Invest.: J I LUNINE
Tech. Officer: GSFC/D BOGAN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8952 **UNIV OF ARIZONA**
 IO AND ITS PLASMA TORUS: ATMOSPHERE-MAGNETOSPHERE INTERACTIONS
 01/21/2000 - 03/31/2003 FY03: \$0 Total: \$165,540
Prin. Invest.: F HERBERT
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8970 **UNIV OF ARIZONA**
 HYDROCARBONS IN JUPITER'S TROPOSPHERE
 01/24/2000 - 01/14/2003 FY03: \$0 Total: \$101,000
Prin. Invest.: D HUNTEN
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9072 **UNIV OF ARIZONA**
 AN ALL-METAL CASSEGRAIN TELESCOPE FOR SPACE APPLICATIONS
 02/15/2000 - 12/31/2003 FY03: \$0 Total: \$235,360
Prin. Invest.: J HOLBERG
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 9079 **UNIV OF ARIZONA**
 ELECTRON TEMPERATURE IN THE IO PLASMA TORUS: THE KEY TO UNDERSTANDING TORUS ENERGY FLOW
 02/23/2000 - 05/31/2003 FY03: \$0 Total: \$194,950
Prin. Invest.: F L HERBERT
Tech. Officer: GSFC/J SHARBER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9081 **UNIV OF ARIZONA**
 NEO FOLLOWUP OBSERVATIONS TO THE NASA NEAR EARTH OBJECTS OBSERVATIONS PROGRAM
 02/16/2000 - 02/14/2003 FY03: \$0 Total: \$200,664
Prin. Invest.: S M LARSON
Tech. Officer: GSFC/T H MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 9100 **UNIV OF ARIZONA**
 MICROMACHINING OF THZ WAVEGUIDE AND QUASI-OPTICAL COMPONENTS FOR SUB-ORBITAL AND SPACE-BORNE DETECTORS
 02/24/2000 - 01/31/2004 FY03: \$59,000 Total: \$487,000
Prin. Invest.: C K WALKER
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9176 **UNIV OF ARIZONA**
 INVESTIGATION OF EXTREME TEMPERATURE VOLCANISM ON IO
 03/08/2000 - 03/31/2003 FY03: \$0 Total: \$98,300
Prin. Invest.: L KESZTHELYI
Tech. Officer: GSFC/J GRANT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9198 **UNIV OF ARIZONA**
 AN IN SITU GEOCHRONOLOGY SYSTEM BASED ON LASER-INDUCED BREAKDOWN SPECTROSCOPY & NOBLE GAS MA
 03/09/2000 - 09/14/2003 FY03: \$0 Total: \$651,189
Prin. Invest.: T SWINDLE
Tech. Officer: GSFC/B BETTS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9205 **UNIV OF ARIZONA**
 A MULTI-WAVELENGTH STUDY OF THE INNER 50 PC-REGION AT THE GALACTIC CENTER (LTS99)
 03/14/2000 - 03/14/2005 FY03: \$33,733 Total: \$156,026
Prin. Invest.: F MELIA
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9208 **UNIV OF ARIZONA**
 LIS VALIDATION STUDIES USING LIGHTNING AT THE KSC- ER
 03/23/2000 - 03/31/2003 FY03: \$0 Total: \$99,754
Prin. Invest.: P KRIDER
Tech. Officer: GSFC/D O STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9293 **UNIV OF ARIZONA**
 REMOTE SENSING FOR DEBRIS FLOODING HAZARD ASSESSMENT IN ARID REGIONS.
 03/24/2000 - 03/31/2003 FY03: \$0 Total: \$225,000
Prin. Invest.: V R BAKER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9306 **UNIV OF ARIZONA**
 QUASARS AS PROBES (LTSA 99)
 03/20/2000 - 03/31/2005 FY03: \$137,088 Total: \$441,319
Prin. Invest.: C D IMPEY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9408 **UNIV OF ARIZONA**
 A DATABASE OF THE WHITE DWARF STARS
 04/11/2000 - 12/31/2003 FY03: \$0 Total: \$389,800
Prin. Invest.: J HOLBERG
Tech. Officer: GSFC/J BREDEKAMP
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9425 **UNIV OF ARIZONA**
 PENETRATOR-BASED SAMPLE COLLECTION OF COMETS AND OTHER
 SMALL BODIES
 04/17/2000 - 04/30/2004 FY03: \$0 Total: \$673,849
Prin. Invest.: W BOYNTON
Tech. Officer: GSFC/B BETTS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9435 **UNIV OF ARIZONA**
 GEOCHEMICAL EVOLUTION OF THE EARTH, MOON, IGNEOUS METEORITES
 & OTHER TERRESTRIAL PLANETARY BODIES
 04/24/2000 - 12/31/2002 FY03: \$30,709 Total: \$719,709
Prin. Invest.: M J DRAKE
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9465 **UNIV OF ARIZONA**
 A SOUTHERN HEMISPHERE NEO SURVEY
 04/18/2000 - 03/31/2004 FY03: \$0 Total: \$331,323
Prin. Invest.: S LARSON
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9549 **UNIV OF ARIZONA**
 IMPROVING SATELLITE RAIN EST. ALGORITHMS USING A COMBO. OF TRMM
 INSTANTANEOUS PRECIP. RETRIEVALS
 06/19/2000 - 11/30/2003 FY03: \$61,319 Total: \$331,429
Prin. Invest.: S SOROOSHIAN
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9609 **UNIV OF ARIZONA**
 STUDY OF STAR AND PLANETARY SYSTEM FORMATION
 05/18/2000 - 03/14/2003 FY03: \$0 Total: \$54,712
Prin. Invest.: A CAMERON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9691 **UNIV OF ARIZONA**
 A STUDY OF DUST IN AND AROUND GALAXIES
 06/26/2000 - 11/14/2002 FY03: \$0 Total: \$265,683
Prin. Invest.: D F ZARITSKY
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9775 **UNIV OF ARIZONA**
 CHARACTERIZATION OF THE MARTIAN SURFACE FOR FUTURE MISSIONS
 06/30/2000 - 06/30/2003 FY03: \$0 Total: \$113,600
Prin. Invest.: A S MCEWEN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9790 **UNIV OF ARIZONA**
 IDENTIFICATION OF MARTIAN HYDROTHERMAL SITES: A GEOLOGIC
 INVESTIGATION UTILIZING MULTIPLE DATASETS
 07/11/2000 - 07/31/2003 FY03: \$0 Total: \$180,000
Prin. Invest.: V R BAKER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9796 **UNIV OF ARIZONA**
 REPRESENTING HETEROGENEOUS VEGETATION IN THE CPTEC ETA MOD-
 ELS
 07/20/2000 - 09/30/2004 FY03: \$67,048 Total: \$160,634
Prin. Invest.: W SHUTTLEWORTH
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10007 **UNIV OF ARIZONA**
 ASSESSMENT OF GRANT PROGRAM UNDER CENTERS OF EXCELLENCE IN
 APPLICATIONS OF REMOTE SENSING IN REGION
 09/20/2000 - 09/30/2002 FY03: \$0 Total: \$59,410
Prin. Invest.: M W WALLENDORF
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10123 **UNIV OF ARIZONA**
 SAR INVESTIGATIONS OF LATE PLEISTOCENE PALEOFLOODS PALEO-
 LAKES, AND PALEOCLIMATE
 11/28/2000 - 11/30/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: V BAKER
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10162 **UNIV OF ARIZONA**
 SURFACE CHANGES ON IO
 12/20/2000 - 12/31/2003 FY03: \$13,900 Total: \$104,600
Prin. Invest.: P GEISSLER
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10166 **UNIV OF ARIZONA**
 OBSERVATIONS AND NUMERICAL MODELING OF TECTONIC PROCESSES
 ON IO
 01/04/2001 - 11/30/2003 FY03: \$50,800 Total: \$151,600
Prin. Invest.: E TURTLE
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10167 **UNIV OF ARIZONA**
 TIDAL TECTONIC PROCESSES ON EUROPA: DISPLACEMENTS, STRESS
 AND CYCLOIDS
 01/04/2001 - 11/30/2004 FY03: \$50,000 Total: \$100,000
Prin. Invest.: R GREENBERG
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10174 **UNIV OF ARIZONA**
 IMPROVING REGIONAL AND GLOBAL RAINFALL ESTIMATES USING THE
 COMBINATIONS OF TRMM SATELLITE OBSERVATIONS
 12/21/2000 - 12/31/2001 FY03: -\$1 Total: \$77,499
Prin. Invest.: S SOROOSHIAN
Tech. Officer: GSFC/A J NEGRI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10205 **UNIV OF ARIZONA**
 INFRARED & NEAR INFRARED SPECTROSCOPY OF ASTROPHYSICAL
 MOLECULES
 12/28/2000 - 12/31/2003 FY03: \$80,000 Total: \$240,000
Prin. Invest.: P BERNATH
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

ARIZONA

NASA'S UNIVERSITY PROGRAM

NAG 5 10245 **UNIV OF ARIZONA**
 ACCRETION ONTO MAGNETIC WHITE DWARFS (FUSE 00)
 02/12/2001 - 02/14/2002 FY03: \$0 Total: \$7,455
Prin. Invest.: G SCHMIDT
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10264 **UNIV OF ARIZONA**
 ANALYSIS OF ICE CORES FOR ESTIMATING ACCUMULATION PATTERNS
 AND THE INFLUENCE OF ACCUMULATION ON ICE
 01/09/2001 - 12/31/2002 FY03: \$0 Total: \$149,978
Prin. Invest.: R BALES
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10267 **UNIV OF ARIZONA**
 RETRIEVING BI-REFLECTANCE SPECTRA OF ROCKS ILLUMI- NATED BY
 DIRECT SUNLIGHT & BRIGHT SKY:A RE-E
 01/08/2001 - 12/31/2003 FY03: \$0 Total: \$204,200
Prin. Invest.: P H SMITH
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10294 **UNIV OF ARIZONA**
 EVOLUTION OF VOLATILES IN THE SOLAR SYSTEM
 02/08/2001 - 02/14/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: J I LUNINE
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10332 **UNIV OF ARIZONA**
 SUPPORT FOR SPACE IMAGERY CENTER NASA REGIONAL PLANETARY
 IMAGE FACILITY
 01/30/2001 - 01/31/2005 FY03: \$25,400 Total: \$75,800
Prin. Invest.: D KRING
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10333 **UNIV OF ARIZONA**
 SUB-MILLIMETER SPECTROSCOPY OF ASTROPHYSICALLY IMPORTANT
 METAL-CONTAINING MOLECULES
 01/30/2001 - 01/31/2002 FY03: \$0 Total: \$72,000
Prin. Invest.: L ZIURYS
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10346 **UNIV OF ARIZONA**
 KUIPER BELT DYNAMICS
 02/01/2001 - 02/14/2004 FY03: \$40,600 Total: \$121,200
Prin. Invest.: R MALHOTRA
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10441 **UNIV OF ARIZONA**
 AN INFRARED STUDY OF SPACECRAFT TARGETED COMETS
 02/16/2001 - 02/29/2004 FY03: \$54,400 Total: \$155,600
Prin. Invest.: H CAMPINS
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10442 **UNIV OF ARIZONA**
 2MASS ASTEROIDS, COMETS & SATELLITES
 02/16/2001 - 02/28/2004 FY03: \$0 Total: \$97,700
Prin. Invest.: M SYKES
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10446 **UNIV OF ARIZONA**
 INFRARED OBSERVATIONS OF SMALL BODIES
 02/20/2001 - 03/31/2004 FY03: \$82,500 Total: \$242,854
Prin. Invest.: R BROWN
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10447 **UNIV OF ARIZONA**
 SPACEWATCH SURVEY OF THE SOLAR SYSTEM
 02/20/2001 - 01/31/2004 FY03: \$88,028 Total: \$256,056
Prin. Invest.: R MCMILLAN
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10450 **UNIV OF ARIZONA**
 COUPLED PHYSICAL & CHEMICAL PROCESSES IN THE SOLAR NEBULA &
 EXTRASOLAR PLANETS
 02/20/2001 - 01/31/2004 FY03: \$40,000 Total: \$120,000
Prin. Invest.: J LUNINE
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10452 **UNIV OF ARIZONA**
 MINERALOGIC & TRACE-ELEMENT STUDIES OF METEORITES & METEOR-
 ITE IMPACTS
 02/21/2001 - 08/31/2002 FY03: -\$410 Total: \$179,590
Prin. Invest.: W BOYNTON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10486 **UNIV OF ARIZONA**
 THERMAL HISTORY OF PLANETARY MATERIALS: THEORY, EXPERIMENTS &
 APPLICATIONS
 03/05/2001 - 04/30/2004 FY03: \$70,000 Total: \$210,000
Prin. Invest.: J GANGULY
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10543 **UNIV OF ARIZONA**
 SOUTHERN HEMISPHERE NEO SURVEY INSTRUMENTATION
 03/14/2001 - 03/14/2004 FY03: \$0 Total: \$500,000
Prin. Invest.: S LARSON
Tech. Officer: GSFC/T MORGAN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10592 **UNIV OF ARIZONA**
 IMPACTS & ENVIRONMENTAL CATASTROPHES: A STUDY OF THE EFFECTS
 OF IMPACT EVENTS ON THE CLIMATE SYST
 03/21/2001 - 03/31/2002 FY03: \$0 Total: \$60,000
Prin. Invest.: E PIERAZZO
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 10629 **UNIV OF ARIZONA**
 THE CLASSIFICATION AND DETECTABILITY OF SUBSTELLAR- MASS OBJECTS
 03/17/2001 - 03/31/2003 FY03: \$0 Total: \$90,000
Prin. Invest.: A BURROWS
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10643 **UNIV OF ARIZONA**
 CODES & DECODERS FOR BANDWIDTH-EFFICIENT COMMUNICATIONS IN NEAR-EARTH MISSIONS.
 03/21/2001 - 03/31/2003 FY03: \$0 Total: \$87,273
Prin. Invest.: W RYAN
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10660 **UNIV OF ARIZONA**
 IMPROVED MARS UPPER ATMOSPHERE CLIMATOLOGY
 03/21/2001 - 03/31/2002 FY03: -\$221 Total: \$79,779
Prin. Invest.: S BOUGHER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10700 **UNIV OF ARIZONA**
 TEMPERATURE, GRAVITY AND COMPOSITION OF DAO WHITE DWARFS - FUSE 2000
 04/13/2001 - 10/14/2002 FY03: \$0 Total: \$18,300
Prin. Invest.: J B HOLBERG
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10749 **UNIV OF ARIZONA**
 CAPTURING PLANETARY SCIENCE DATA FROM NASA SUPPORTED RESEARCH
 04/13/2001 - 04/14/2004 FY03: \$118,708 Total: \$358,689
Prin. Invest.: M V SYKES
Tech. Officer: GSFC/N LAL
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 10760 **UNIV OF ARIZONA**
 THEORY OF BROWN DWARFS & GIANT PLANETS (ATP-2000)
 04/23/2001 - 04/30/2004 FY03: \$140,000 Total: \$350,000
Prin. Invest.: A S BURROWS
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10827 **UNIV OF ARIZONA**
 THE SMALL SCALE STRUCTURE OF THE UNIVERSE (ATP 2000)
 05/01/2001 - 05/14/2004 FY03: \$0 Total: \$186,628
Prin. Invest.: M STEINMETZ
Tech. Officer: GSFC/R OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 10843 **UNIV OF ARIZONA**
 RECALIBRATION OF THE NEAR INFRARED CAMERA & MULTI-OBJECT SPECTROMETER (NICMOS) & ANALYSIS OF
 05/04/2001 - 06/14/2004 FY03: \$837,000 Total: \$2,530,294
Prin. Invest.: R THOMPSON
Tech. Officer: GSFC/J JELETIC
CASE Category: 11 – ASTRONOMY

NAG 5 10853 **UNIV OF ARIZONA**
 OPERATION & OPTIMIZATION OF THE CATALINA SKY SURVEY FOR NEOS
 05/02/2001 - 04/30/2004 FY03: \$404,999 Total: \$1,322,099
Prin. Invest.: S LARSEN
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10884 **UNIV OF ARIZONA**
 ENERGETIC PARTICLES AND THE EARTH'S ENVIRONMENT IN SPACE
 05/03/2001 - 04/30/2004 FY03: \$104,768 Total: \$301,727
Prin. Invest.: J KOTA
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10893 **UNIV OF ARIZONA**
 MODELING SUPPORT FOR SEC OBSERVATIONS
 05/10/2001 - 05/31/2004 FY03: \$200,000 Total: \$300,000
Prin. Invest.: J JOKIPII
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10961 **UNIV OF ARIZONA**
 INSTRUMENT UPGRADE: OFFNER SPECTROMETER VISIBLE UPGRADE & EXTENSION DESIGN TO 2.5 MICR
 05/23/2001 - 06/30/2003 FY03: \$0 Total: \$74,200
Prin. Invest.: U FINK
Tech. Officer: GSFC/T MORGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10974 **UNIV OF ARIZONA**
 WAVES, TURBULENCE AND ENERGETIC PARTICLES IN THE HELIOSPHERE
 05/29/2001 - 11/15/2002 FY03: -\$37,352 Total: \$115,703
Prin. Invest.: G M WEBB
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10990 **UNIV OF ARIZONA**
 THEORY OF ENERGETIC PARTICLE TRANSPORT IN HELIOSPHERIC & SOLAR PLASMAS
 06/05/2001 - 06/14/2004 FY03: \$75,000 Total: \$225,000
Prin. Invest.: J R JOKIPII
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11044 **UNIV OF ARIZONA**
 MONITORING & PREDICTION OF WATER DISTRIBUTION/ AVAILABILITY IN SEMI-ARID REGIONS
 07/05/2001 - 06/14/2004 FY03: \$725,660 Total: \$1,426,050
Prin. Invest.: S SOROOSHIAN
Tech. Officer: GSFC/M JASINSKI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11108 **UNIV OF ARIZONA**
 CONSTRAINING THE DARK MATTER HALOS OF GIANT ELLIPTICAL GALAXIES
 07/13/2001 - 08/31/2006 FY03: \$88,958 Total: \$188,819
Prin. Invest.: A I ZABLUDOFF
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11153 **UNIV OF ARIZONA**
 STUDIES OF COSMOGONIC PROCESSES
 08/02/2001 - 07/31/2004 FY03: \$25,000 Total: \$75,000
Prin. Invest.: A CAMERON
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11163 **UNIV OF ARIZONA**
 ASSIMILATION OF GPS METEOROLOGICAL DATA INTO WEATHER AND CLIMATE ANALYSES.
 08/07/2001 - 08/14/2002 FY03: -\$1 Total: \$33,800
Prin. Invest.: E KURINSKI
Tech. Officer: GSFC/J JOINER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11166 **UNIV OF ARIZONA**
 INTER-CALIBRATION AND UTILIZATION OF GROUND-BASED AND TES DATA TO STUDY MARTIAN WATER VAPOR
 08/07/2001 - 08/14/2004 FY03: \$0 Total: \$126,877
Prin. Invest.: A L SPRAGUE
Tech. Officer: GSFC/J M BOYCE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 11168 **UNIV OF ARIZONA**
 PALEOMAGNETIC INVESTIGATION OF POLAR REORIENTATION ON MARS
 08/07/2001 - 08/14/2004 FY03: \$48,728 Total: \$146,184
Prin. Invest.: L L HOOD
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11169 **UNIV OF ARIZONA**
 MONITORING THE GEOLOGICAL ACTIVITY OF MARS
 08/07/2001 - 08/14/2004 FY03: \$57,000 Total: \$166,000
Prin. Invest.: P E GEISSLER
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11183 **UNIV OF ARIZONA**
 MGS RADIO SCIENCE ELECTRON DENSITY PROFILES AND IMPLICATIONS FOR THE NEUTRAL ATMOSPHERE
 08/13/2001 - 08/14/2002 FY03: \$0 Total: \$35,500
Prin. Invest.: S W BOUGHER
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11188 **UNIV OF ARIZONA**
 RETRIEVAL OF CLOUD PRESSURE FROM OMI MEASUREMENTS USING ROTATIONAL RAMAN SCATTERING
 08/07/2001 - 08/14/2003 FY03: \$0 Total: \$29,000
Prin. Invest.: D FLITTNER
Tech. Officer: GSFC/J JOINER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11195 **UNIV OF ARIZONA**
 COOPERATIVE CENTER FOR ATMOSPHERIC SCIENCE AND TECHNOLOGY
 08/30/2001 - 09/30/2004 FY03: \$45,000 Total: \$230,183
Prin. Invest.: R LOUGHMAN
Tech. Officer: GSFC/W HOEGY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11339 **UNIV OF ARIZONA**
 LANDSAT RADIOMETRIC CALIBRATION: TOWARDS A 20 YEAR RECORD OF CALIBRATED THEMATIC MAPPER CLASS DATA
 09/14/2001 - 09/14/2004 FY03: \$80,499 Total: \$229,998
Prin. Invest.: K THOME
Tech. Officer: GSFC/B L MARKHAM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11348 **UNIV OF ARIZONA**
 STEWARD OBSERVATORY'S GSFC GCN/SUPERLOTIS PROJECT COLLABORATION
 09/26/2001 - 07/31/2004 FY03: \$70,605 Total: \$117,166
Prin. Invest.: B PETERSON
Tech. Officer: GSFC/S D BARTHELOMY
CASE Category: 11 – ASTRONOMY

NAG 5 11355 **UNIV OF ARIZONA**
 ASU/MICHIGAN COLLABORATION: THE ABUNDANCE & ISOTOPIC COMPOSITION OF HG IN EXTRATERRESTRIAL MATERIALS
 09/21/2001 - 02/28/2004 FY03: \$145,415 Total: \$182,257
Prin. Invest.: D LAURETTA
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 11381 **UNIV OF ARIZONA**
 ESTIMATING GLOBAL RAINFALL AND STUDYING PRECIPITATION DIURNAL CYCLE USING THE COMBINATIONS OF TRMM
 10/30/2001 - 12/31/2003 FY03: \$0 Total: \$82,985
Prin. Invest.: S SOROOSHIAN
Tech. Officer: GSFC/A J NEGRI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11433 **UNIV OF ARIZONA**
 LARGE FORMAT FAR-INFRARED DETECTOR ARRAYS
 12/05/2001 - 04/30/2005 FY03: \$170,000 Total: \$360,000
Prin. Invest.: E T YOUNG
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11461 **UNIV OF ARIZONA**
 SUPPORT RESEARCH AND SCIENCE REQUIREMENTS AND CAPABILITIES AND THE INSTRUMENT FUNCTIONS NEEDED
 12/07/2001 - 12/14/2003 FY03: \$0 Total: \$7,306
Prin. Invest.: D H REIKE
Tech. Officer: GSFC/D C MATHER
CASE Category: 11 – ASTRONOMY

NAG 5 11471 **UNIV OF ARIZONA**
 SUB-MILLIMETER SPECTROSCOPY OF ASTROPHYSICALLY IMPORTANT METAL-CONTAINING MOLECULES
 12/14/2001 - 06/30/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: L M ZIURYS
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11493 **UNIV OF ARIZONA**
 IMPACT CRATERING AND THE EVOLUTION OF THE TERRESTRIAL PLANETS
 12/27/2001 - 12/31/2004 FY03: \$152,300 Total: \$304,600
Prin. Invest.: H J MELOSH
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11497 **UNIV OF ARIZONA**
 COLLISIONAL AND DYNAMICAL PROCESSES OF PLANETARY EVOLUTION
 12/28/2001 - 12/31/2004 FY03: \$88,800 Total: \$176,300
Prin. Invest.: R GREENBERG
Tech. Officer: GSFC/D SENSEKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11565 **UNIV OF ARIZONA**
 GAS-GRAIN INTERACTIONS
 02/08/2002 - 02/14/2005 FY03: \$38,000 Total: \$76,000
Prin. Invest.: L L HOOD
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11596 **UNIV OF ARIZONA**
 SOHO'S OBSERVATION OF HELIOSPHERIC ENERGETIC NEUTRAL ATOMS.
 NEW SEC GRANT.
 01/17/2002 - 01/31/2004 FY03: \$15,000 Total: \$87,664
Prin. Invest.: K HSIEH
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11661 **UNIV OF ARIZONA**
 DYNAMICAL PROCESSES IN THE EARLY SOLAR SYSTEM
 02/07/2002 - 02/14/2005 FY03: \$35,000 Total: \$70,000
Prin. Invest.: R MALHOTRA
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11745 **UNIV OF ARIZONA**
 MINERALOGIC AND TRACE-ELEMENT STUDIES OF METEORITE S
 02/20/2002 - 02/28/2003 FY03: \$0 Total: \$104,207
Prin. Invest.: W BOYNTON
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11828 **UNIV OF ARIZONA**
 SPACEWATCH SURVEY AND STUDY OF HAZARDOUS ASTEROIDS AND
 COMETS
 03/06/2002 - 03/14/2004 FY03: \$0 Total: \$574,095
Prin. Invest.: R S MCMILLAN
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11838 **UNIV OF ARIZONA**
 FUNDING FOR "POWER AND BANDWIDTH-EFFICIENT COMMUNICATIONS
 IN NEAR-EARTH MISSIONS VIA MULTILEVEL LDP
 03/07/2002 - 03/14/2004 FY03: \$0 Total: \$65,000
Prin. Invest.: W RYAN
Tech. Officer: GSFC/P YEHL
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11957 **UNIV OF ARIZONA**
 MODELS AND MODES OF ENABLING THE USE OF NASA EARTH SCIENCE
 AND DATA IN DECISION MAKING
 04/02/2002 - 03/31/2004 FY03: \$0 Total: \$200,000
Prin. Invest.: S E MARSH
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11968 **UNIV OF ARIZONA**
 A FUSE DETERMINATION OF THE GRAVITATIONAL REDSHIFT AND SPEC-
 TROSCOPIC MASS OF SIRIUS B
 04/03/2002 - 04/14/2003 FY03: \$0 Total: \$39,500
Prin. Invest.: J B HOLBERG
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11979 **UNIV OF ARIZONA**
 COSMOGENIC ¹⁴C AND ¹⁰BE IN METEORITES AND LUNAR SAMPLES
 04/08/2002 - 05/31/2005 FY03: \$35,000 Total: \$70,000
Prin. Invest.: A JULL
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 12014 **UNIV OF ARIZONA**
 MODELING THE ATMOSPHERES OF URANUS AND SATURN
 04/22/2002 - 04/30/2005 FY03: \$0 Total: \$89,756
Prin. Invest.: K KARKOSCHKA
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12059 **UNIV OF ARIZONA**
 NOBLE GAS STUDIES OF EARLY SOLAR SYSTEM HISTORY
 04/19/2002 - 05/31/2005 FY03: \$69,999 Total: \$139,999
Prin. Invest.: T SWINDLE
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 12086 **UNIV OF ARIZONA**
 FIRST NULLING & SIMULTANEOUS DIFFERENTIAL IMAGING SURVEY FOR
 MASSIVE PLANETS
 04/30/2002 - 04/30/2005 FY03: \$74,000 Total: \$148,000
Prin. Invest.: L CLOSE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12152 **UNIV OF ARIZONA**
 SUPPORT OF ACTIVITIES AND OPERATION OF THE GLOBAL ENERGY AND
 WATER CYCLE EXPERIMENT SCIENCE STEERING
 05/13/2002 - 05/14/2005 FY03: \$213,648 Total: \$424,297
Prin. Invest.: S SOROOSHIAN
Tech. Officer: GSFC/J KAYE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12272 **UNIV OF ARIZONA**
 SPECTROSCOPIC INVESTIGATIONS OF TITAN'S ATMOSPHERE AND SUR-
 FACE
 06/27/2002 - 08/31/2004 FY03: \$72,400 Total: \$143,000
Prin. Invest.: C GRIFFITH
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12318 **UNIV OF ARIZONA**
 MID INFRARED INSTRUMENT (MIRI) PRINCIPAL INVESTIGATOR FOR THE
 NEXT GENERATION SPACE TELESCOPE
 07/08/2002 - 07/31/2005 FY03: \$172,141 Total: \$329,915
Prin. Invest.: G RIEKE
Tech. Officer: GSFC/M GREENHOUSE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12433 **UNIV OF ARIZONA**
OBSERVATIONAL AND MECHANISTIC MODEL STUDIES OF THE QUASI-
DECADAL OSCILLATION
08/01/2002 - 07/31/2005 FY03: \$0 Total: \$45,844
Prin. Invest.: L L HOOD
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12459 **UNIV OF ARIZONA**
INTERDISCIPLINARY SCIENTIST INVESTIGATIONS IN ASTRONOMY FOR
NEXT GENERATION SPACE TELESCOPE
09/09/2002 - 09/14/2013 FY03: \$27,376 Total: \$53,852
Prin. Invest.: J I LUNINE
Tech. Officer: GSFC/M GREENHOUSE
CASE Category: 11 – ASTRONOMY

NAG 5 12461 **UNIV OF ARIZONA**
SIGNAL APPLICATION, CALIBRATION AND CORRECTION ALGORITHMS FOR
THE GLAS ATMOSPHERIC CHANNEL
08/13/2002 - 08/14/2005 FY03: \$0 Total: \$75,000
Prin. Invest.: D A REAGAN
Tech. Officer: GSFC/J D SPINHIRNE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12471 **UNIV OF ARIZONA**
ANALYSIS OF THE CRUSTAL MAGNETIC FIELD OF MARS
08/15/2002 - 08/14/2003 FY03: \$0 Total: \$35,000
Prin. Invest.: L L HOOD
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12484 **UNIV OF ARIZONA**
ASSIMILATION OF NASA SCIENCE RESULTS AND DATA INTO NATIONAL
DECISION SUPPORT SYSTEMS
08/26/2002 - 08/31/2005 FY03: \$0 Total: \$200,000
Prin. Invest.: C F HUTCHINSON
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12558 **UNIV OF ARIZONA**
THE MASS DISTRIBUTION OF WHITE DWARFS IN CATAclysmic VARI-
ABLES.
10/21/2002 - 10/31/2003 FY03: \$41,999 Total: \$41,999
Prin. Invest.: J B HOLBERG
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12619 **UNIV OF ARIZONA**
IMPACT RECORDS ON ASTEROIDS: INTEGRATIVE EVALUATION OF THE
BOMBARDING POPULATION, COLLISIONAL PROC
09/26/2002 - 09/30/2005 FY03: \$92,070 Total: \$164,925
Prin. Invest.: R GREENBERG
Tech. Officer: GSFC/S NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12670 **UNIV OF ARIZONA**
VARIABILITY OF ACCUMULATION, ICE-SHEET ELEVATION, AND MASS BAL-
ANCE AT REGIONAL SPATIAL SCALES
01/16/2003 - 01/31/2006 FY03: \$69,694 Total: \$69,694
Prin. Invest.: R BALES
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12691 **UNIV OF ARIZONA**
MODELING THE THERMAL EVOLUTION OF IMPACT-GENERATED HYDRO-
THERMAL SYSTEMS ON MARS
12/09/2002 - 11/30/2005 FY03: \$43,000 Total: \$43,000
Prin. Invest.: D KRING
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12699 **UNIV OF ARIZONA**
DYNAMICS, COMPOSITION, AND THERMAL STRUCTURE OF TI TAN'S UPPER
ATMOSPHERE
12/18/2002 - 08/14/2004 FY03: \$43,000 Total: \$43,000
Prin. Invest.: R YELLE
Tech. Officer: GSFC/J HILLMAN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 12719 **UNIV OF ARIZONA**
SUB-MILLIMETER SPECTROSCOPY OF ASTROPHYSICALLY IMPORTANT
METAL-HYDRIDE MOLECULES
12/31/2002 - 12/31/2005 FY03: \$80,000 Total: \$80,000
Prin. Invest.: L ZIURYS
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12795 **UNIV OF ARIZONA**
ORIGIN & GEOCHEMICAL EVOLUTION OF THE EARTH, MOON, IGNEOUS
METEORITES & OTHER TERRESTRIAL PLANETARY
01/22/2003 - 12/31/2005 FY03: \$245,000 Total: \$245,000
Prin. Invest.: M J DRAKE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 12854 **UNIV OF ARIZONA**
EQUATIONS OF STATE FOR GEOLOGIC MATERIALS
02/06/2003 - 01/31/2006 FY03: \$25,000 Total: \$25,000
Prin. Invest.: J MELOSH
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12858 **UNIV OF ARIZONA**
SPECTROSCOPIC SURVEY OF COMETS
01/30/2003 - 01/31/2006 FY03: \$85,139 Total: \$85,139
Prin. Invest.: U FINK
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12881 **UNIV OF ARIZONA**
PETROLOGICAL & GEOCHEMICAL ANALYSES OF IMPACT MELTS AND
IMPACT BRECCIAS
02/10/2003 - 01/31/2006 FY03: \$62,000 Total: \$62,000
Prin. Invest.: D KRING
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 12883 **UNIV OF ARIZONA**
DEVELOPMENT OF HIGH-RESOLUTION INDUCTIVELY COUPLED PLASMA
MASS SPECTROMETRY TECHNIQUES FOR ANALYSIS
02/26/2003 - 02/14/2006 FY03: \$218,958 Total: \$218,958
Prin. Invest.: D LAURETTA
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12919	UNIV OF ARIZONA	NAG 5 13328	UNIV OF ARIZONA
PROPAGATION AND DIFFUSION OF SOLAR ENERGETIC PARTICLES IN THE INNER HELIOSPHERE: COMPARISONS BETWEEN 02/28/2003 - 02/28/2006	FY03: \$71,720	SPACEWATCH SURVEY AND STUDY OF HAZARDOUS ASTEROIDS AND COMETS 04/12/2003 - 04/14/2006	FY03: \$300,006
Total: \$71,720		Total: \$300,006	
<i>Prin. Invest.:</i> J GIACALONE		<i>Prin. Invest.:</i> R MCMILLAN	
<i>Tech. Officer:</i> GSFC/M GOLDSTEIN		<i>Tech. Officer:</i> GSFC/T MORGAN	
<i>CASE Category:</i> 13 – PHYSICS		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 12998	UNIV OF ARIZONA	NAG 5 13329	UNIV OF ARIZONA
SPECTROSCOPY OF Z>4 RADIO-QUIET QUASARS 03/06/2003 - 03/14/2004	FY03: \$56,642	DYNAMICS OF JUPITER'S 5-MICRON HOT SPOTS AND EQUATORIAL REGIONS 04/12/2003 - 04/14/2006	FY03: \$70,000
Total: \$56,642		Total: \$70,000	
<i>Prin. Invest.:</i> J BECHTOLD		<i>Prin. Invest.:</i> A SHOWMAN	
<i>Tech. Officer:</i> GSFC/R MUSHOTZKY		<i>Tech. Officer:</i> GSFC/J HILLMAN	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 13201	UNIV OF ARIZONA	NAG 5 13368	UNIV OF ARIZONA
DEEP GAMMA-RAY OBSERVATIONS OF THE GALACTIC NUCLEAR REGION 04/01/2003 - 03/31/2004	FY03: \$20,000	UNDERSTANDING FLOOD FLOWS FROM SOURCE TO SINK 04/17/2003 - 04/14/2006	FY03: \$67,068
Total: \$20,000		Total: \$67,068	
<i>Prin. Invest.:</i> F MELIA		<i>Prin. Invest.:</i> A MCEWEWN	
<i>Tech. Officer:</i> GSFC/B TEEGARDEN		<i>Tech. Officer:</i> GSFC/C NIEBUR	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 13213	UNIV OF ARIZONA	NAG 5 13374	UNIV OF ARIZONA
FUSE OBSERVATIONS OF HS1136+6646 (FUSE 4) 04/01/2003 - 03/31/2004	FY03: \$41,600	TOWARDS NEW TESTS OF STRONG-FIELD GENERAL RELATIVITY WITH COMPACT OBJECTS 04/16/2003 - 04/14/2006	FY03: \$98,778
Total: \$41,600		Total: \$98,778	
<i>Prin. Invest.:</i> J B HOLBERG		<i>Prin. Invest.:</i> D PSALTIS	
<i>Tech. Officer:</i> GSFC/G SONNEBORN		<i>Tech. Officer:</i> GSFC/M SALAMON	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 13237	UNIV OF ARIZONA	NAG 5 13470	UNIV OF ARIZONA
A SOUTHERN HEMISPHERE SURVEY 04/07/2003 - 04/14/2006	FY03: \$154,843	PHOSPHORUS CHEMISTRY IN THE EARLY SOLAR SYSTEM 04/26/2003 - 04/30/2006	FY03: \$68,702
Total: \$154,843		Total: \$68,702	
<i>Prin. Invest.:</i> S LARSON		<i>Prin. Invest.:</i> D LAURETTA	
<i>Tech. Officer:</i> GSFC/T MORGAN		<i>Tech. Officer:</i> GSFC/M NEW	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 13254	UNIV OF ARIZONA	NAG 5 13583	UNIV OF ARIZONA
POWER-AND BANDWIDTH-EFFICIENT LDPC CODES. 04/15/2003 - 04/14/2004	FY03: \$68,718	CHARACTERISING GALAXY CLUSTERS AT Z0.8 08/26/2003 - 08/14/2004	FY03: \$43,300
Total: \$68,718		Total: \$43,300	
<i>Prin. Invest.:</i> W E RYAN		<i>Prin. Invest.:</i> D ZARITSKY	
<i>Tech. Officer:</i> GSFC/W FONG		<i>Tech. Officer:</i> GSFC/R F MUSHOTZKY	
<i>CASE Category:</i> 49 – ENGINEERING, OTHER		<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER	
NAG 5 13298	UNIV OF ARIZONA	NAG 5 13775	UNIV OF ARIZONA
VOLATILE PROCESSES IN SOLAR SYSTEM BODIES 04/05/2003 - 04/14/2006	FY03: \$40,000	GEOPHYSICAL DIAGNOSTICS OF GIANT-PLANET STRUCTURE 09/25/2003 - 09/14/2006	FY03: \$52,000
Total: \$40,000		Total: \$52,000	
<i>Prin. Invest.:</i> J LUNINE		<i>Prin. Invest.:</i> W HUBBARD	
<i>Tech. Officer:</i> GSFC/J HILLMAN		<i>Tech. Officer:</i> GSFC/S SAUNDERS	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 13322	UNIV OF ARIZONA	NAG 5 13775	UNIV OF ARIZONA
"INTEGRATION OF VISIBLE/NEAR-INFRARED & MICROWAVE SENSORS FOR THE RETRIEVAL OF GLOBAL SOIL MOISTURE 04/15/2003 - 04/14/2004	FY03: \$39,631	GEOPHYSICAL DIAGNOSTICS OF GIANT-PLANET STRUCTURE 09/25/2003 - 09/14/2006	FY03: \$52,000
Total: \$39,631		Total: \$52,000	
<i>Prin. Invest.:</i> X ZENG		<i>Prin. Invest.:</i> W HUBBARD	
<i>Tech. Officer:</i> GSFC/P R HOUSER		<i>Tech. Officer:</i> GSFC/S SAUNDERS	
<i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 13325	UNIV OF ARIZONA	NAG 8 1469	UNIV OF ARIZONA
CRUSTAL MAGNETIC FIELD OF MARS: SHOCK EFFECTS OF BASIN-FORMING IMPACTS 04/14/2003 - 04/14/2006	FY03: \$46,112	DEVELOPMENT OF SUPERIOR MATERIALS FOR LAYERED SOLID OXIDE ELECTROLYZERS BASED ON MECHANICAL 04/17/1998 - 01/31/2003	FY03: \$0
Total: \$46,112		Total: \$281,250	
<i>Prin. Invest.:</i> L HOOD		<i>Prin. Invest.:</i> J R SRIDHAR	
<i>Tech. Officer:</i> GSFC/C NIEBUR		<i>Tech. Officer:</i> MSFC/P M DOTY	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 46 – MECHANICAL ENGR	

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NAG 8 1654 **UNIV OF ARIZONA**
 MARS ATMOSPHERE AND DUST IN OPTICAL AND RADIO (MATADOR)
 01/19/2000 - 09/30/2002 FY03: -\$3 Total: \$328,172
Prin. Invest.: P H SMITH
Tech. Officer: MSFC/C A DARBY
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG 8 1667 **UNIV OF ARIZONA**
 GROWTH OF ROD EUTECTICS
 05/24/2000 - 11/30/2003 FY03: \$90,000 Total: \$305,500
Prin. Invest.: K J JACKSON
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1754 **UNIV OF ARIZONA**
 A PHYSICALLY BASED INVESTIGATION OF TROPICAL CONVECTIVE REGIMES
 01/23/2001 - 01/29/2004 FY03: \$0 Total: \$75,000
Prin. Invest.: D J BOCCIPIO
Tech. Officer: MSFC/J D ARNOLD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 8 1775 **UNIV OF ARIZONA**
 ATOM OPTICS IN CONTROLLED AND MICROGRAVITY ENVIRONMENTAL NETWORKS
 04/24/2001 - 04/30/2005 FY03: \$0 Total: \$165,000
Prin. Invest.: P MEYSTRE
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 923 **UNIV OF ARIZONA**
 POLYCRYSTALLINE ZIRCONIA ELECTROLYTIC CELL STACK FOR CO₂ ELECTROLYSIS
 01/29/1997 - 05/31/2002 FY03: -\$2,513 Total: \$378,236
Prin. Invest.: K R SRIDHAR
Tech. Officer: JSC/R S BAIRD
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1212 **UNIV OF ARIZONA**
 ULTRA HIGH SPATIAL RESOLUTION HARD X-RAY DETECTORS
 06/30/2000 - 06/30/2004 FY03: \$0 Total: \$249,863
Prin. Invest.: H B
Tech. Officer: JSC/L C SHACKELFORD
CASE Category: 13 – PHYSICS

NAG 9 1307 **UNIV OF ARIZONA**
 SCANNING CHEMICAL MICROSCOPY USING SURFACE ENHANCED RAMAN SCATTERING
 05/23/2001 - 02/28/2004 FY03: \$150,000 Total: \$520,000
Prin. Invest.: D SARID
Tech. Officer: JSC/D MCKAY
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1378 **UNIV OF ARIZONA**
 TESTING OF COMPACT & ROBUST HIGH INTENSITY WATER JACKETED PLANT LIGHTING SYSTEM
 08/24/2001 - 07/31/2004 FY03: \$0 Total: \$21,100
Prin. Invest.: G GIACOMELLI
Tech. Officer: JSC/D BARTA
CASE Category: 55 – AGRICULTURE

NAG10 286 **UNIV OF ARIZONA**
 STUDIES OF ATMOSPHERIC ELECTRICITY AT THE KENNEDY SPACE CENTER AND EASTERN RANGE
 06/05/2000 - 06/05/2004 FY03: \$63,823 Total: \$295,461
Prin. Invest.: E KRIDER
Tech. Officer: KSC/J MADURA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG10 302 **UNIV OF ARIZONA**
 SAFELY REDUCE THE IMPACT OF LIGHTNING ON GROUND PROCESSING, LAUNCH, FLIGHT AND LANDING ON OPERATION
 06/22/2001 - 06/30/2006 FY03: \$97,582 Total: \$234,604
Prin. Invest.: E KRIDER
Tech. Officer: KSC/J MADURA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG13 02001 **UNIV OF ARIZONA**
 REMOTE SENSING TOOLS FOR MONITORING AND MANAGING A SENSITIVE, ARID-ZONE RIPARIAN CORRIDOR: THE LOW
 11/26/2001 - 09/23/2004 FY03: \$0 Total: \$410,677
Prin. Invest.: E P GLENN
Tech. Officer: SSC/C DEL CASTILLO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 02004 **UNIV OF ARIZONA**
 ESTABLISHING A BASIS FOR CARBON MANAGEMENT POLICY AT THE STATE LEVEL: CARBON DYNAMICS AT SITE, LANDS
 12/10/2001 - 09/16/2004 FY03: \$0 Total: \$504,200
Prin. Invest.: C F HUTCHINSON
Tech. Officer: SSC/R HARRIS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 02044 **UNIV OF ARIZONA**
 RADIOMETRIC AND SPATIAL CHARACTERIZATION OF HIGH-SPATIAL RESOLUTION SENSORS
 08/09/2002 - 07/31/2003 FY03: \$0 Total: \$109,659
Prin. Invest.: K THOME
Tech. Officer: SSC/V ZANONI
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG13 03022 **UNIV OF ARIZONA**
 RADIOMETRIC AND SPATIAL CHARACTERIZATION OF HIGH-SPATIAL RESOLUTION SENSORS
 09/25/2003 - 06/30/2004 FY03: \$79,514 Total: \$79,514
Prin. Invest.: K THOME
Tech. Officer: SSC/V M ZANONI
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG13 99005 **UNIV OF ARIZONA**
 NASA SOUTHWEST EARTH SCIENCE APPLICATIONS CENTER SAME
 02/19/1999 - 08/31/2002 FY03: -\$546 Total: \$1,499,435
Prin. Invest.: R DAVIS
Tech. Officer: SSC/C HILL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 1 18939 **UNIV OF ARIZONA**
 SAGE III SCIENCE INVESTIGATION SUPPORT - P.I. - B. HERMAN
 02/28/1990 - 12/30/2002 FY03: \$7,419 Total: \$1,161,919
Prin. Invest.: B M HERMAN
Tech. Officer: LARC/G L MADDREA JR, LARC/L R MCMASTER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 1 99102 **UNIV OF ARIZONA**
 PICASSO-CENA SCIENCE TEAM SUPPORT FOR AEROSOL AND CLOUD STUDIES
 05/17/1999 - 05/16/2004 FY03: \$25,000 Total: \$328,102
Prin. Invest.: J A REAGAN
Tech. Officer: LARC/G GIBSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 2 00117 **UNIV OF ARIZONA**
 RESEARCH PROJECT-DEVEL AND TEST ULTRA HIGH DENSITY FAST READ-OUT OPTICAL STORAGE
 10/31/2000 - 10/30/2003 FY03: \$385,309 Total: \$1,218,944
Prin. Invest.: T MILSTER, F AKHAVAN
Tech. Officer: ARC/S LAU, ARC/R CARVALLHO
CASE Category: 22 – COMPUTER SCIENCE

NAS 5 02105 **UNIV OF ARIZONA**
 NGST NIR CAM - PHASE A
 07/17/2002 - 06/30/2014 FY03: \$6,263,000 Total: \$8,093,865
Prin. Invest.: M RIEKE
Tech. Officer: GSFC/R CSMITH
CASE Category: 11 – ASTRONOMY

NAS 5 03104 **UNIV OF ARIZONA**
 LWS SET NRA AWARD - PHASE I
 06/02/2003 - 12/01/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: H J BARNABY
Tech. Officer: GSFC/C BRODELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 5 31364 **UNIV OF ARIZONA**
 EOS/MODIS INVESTIGATION FROM DR. HUETE
 01/24/1992 - 12/14/2003 FY03: \$401,000 Total: \$4,781,109
Prin. Invest.: A HUETE
Tech. Officer: GSFC/H OSEROFF
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 31717 **UNIV OF ARIZONA**
 EOS INVESTIGATION
 01/03/1992 - 12/14/2003 FY03: \$606,276 Total: \$9,806,477
Prin. Invest.: P N SLATER
Tech. Officer: GSFC/L STUART
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 8 97309 **UNIV OF ARIZONA**
 FABRICATION, TEST, AND DELIVERY OF PRIMARY MIRROR SYSTEM DEMONSTRATOR.
 07/17/1997 - 12/20/2002 FY03: \$0 Total: \$6,462,490
Prin. Invest.: J H BURGE
Tech. Officer: MSFC/D JACOBSON
CASE Category: 49 – ENGINEERING, OTHER

NCC 1 03029 **UNIV OF ARIZONA**
 ANALYSIS METHODS FOR TAILORING OF COMPOSITE STRUCTURES
 05/07/2003 - 05/06/2006 FY03: \$108,854 Total: \$108,854
Prin. Invest.: E MADENCI
Tech. Officer: LARC/D R AMBUR
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1342 **UNIV OF ARIZONA**
 INTERPLANETARY TRANSFER OF ENDOLITHIC BACTERIA IN IMPACT EJECTA
 05/23/2002 - 05/31/2004 FY03: \$65,939 Total: \$135,842
Prin. Invest.: W NICHOLSON, P FAJARDO-CAVAZOS, H J MELOSH
Tech. Officer: ARC/M FONDA, ARC/D DEVINCENZI
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5357 **UNIV OF ARIZONA**
 ISRU TECHNOLOGIES FOR MARS LIFE SUPPORT
 09/29/1999 - 09/30/2002 FY03: \$0 Total: \$118,760
Prin. Invest.: K R SRIDHAR
Tech. Officer: ARC/J E FINN
CASE Category: 46 – MECHANICAL ENGR

NCC 2 5385 **UNIV OF ARIZONA**
 SOLID STATE SENSORS FOR AEROASSIST TECHNOLOGY APPLICATIONS
 06/01/2000 - 09/30/2002 FY03: \$0 Total: \$73,300
Prin. Invest.: K R SRIDHAR
Tech. Officer: ARC/G A RAICHE, ARC/P F WERCINSKI
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5477 **UNIV OF ARIZONA**
 FINDING THE TRUE COLOR OF MARTIAN ROCKS
 01/29/2002 - 01/14/2003 FY03: \$0 Total: \$9,000
Prin. Invest.: P H SMITH
Tech. Officer: ARC/C STOKER
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 5487 **UNIV OF ARIZONA**
 FEASIBILITY STUDY FOR QUICK COLLING OF BIOLOGICAL SAMPLES ON A NANOSATELLITE
 03/19/2002 - 07/14/2003 FY03: \$0 Total: \$49,914
Prin. Invest.: K R SRIDHAR
Tech. Officer: ARC/R D MACELROY, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5518 **UNIV OF ARIZONA**
 TIDAL DISSIPATION IN THE GIANT PLANETS
 08/21/2002 - 08/14/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: A SHOWMAN
Tech. Officer: ARC/R E YOUNG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 3 991 **UNIV OF ARIZONA**
 OPTIMAL PLACING OF ROUGHNESS ELEMENTS FOR SEPARATION DELAY IN LPT AIRFOILS
 07/31/2002 - 03/10/2004 FY03: \$52,308 Total: \$62,308
Prin. Invest.: A TUMIN
Tech. Officer: GRC/D E ASHPIS
CASE Category: 41 – AERONAUTICAL ENGR

NCC 5 355 **UNIV OF ARIZONA**
 PROPOSAL FOR GRADUATE STUDENT SUPPORT UNDER CCAST. NOW INCLUDES ADDITIONAL SUPP
 08/04/1998 - 09/30/2001 FY03: \$0 Total: \$539,798
Prin. Invest.: B M HERMAN
Tech. Officer: GSFC/A J NEGRI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 460 **UNIV OF ARIZONA**
 RADIOMETRIC CALIBRATION, SPATIAL CHARACTERIZATION, AND SPECTRAL EVALUATION OF THE ADVANCED LAND IMAG
 03/03/2000 - 12/31/2002 FY03: \$13,464 Total: \$603,730
Prin. Invest.: S F BIGGAR
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 478 **UNIV OF ARIZONA**
 INTER-SENSOR CALIBRATION OF VEGETATION INDICES FOR MONITORING AND CONTINUITY STUDIES
 03/22/2000 - 09/30/2003 FY03: \$0 Total: \$394,429
Prin. Invest.: A R HUETE
Tech. Officer: GSFC/S G UNGER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 603 **UNIV OF ARIZONA**
 USE OF AIRBORNE REMOTE SENSING FOR UNCERTAINTY ASSESSMENTS IN REGIONAL EXTRAPOLATIONS OF GROUND LB
 12/06/2001 - 09/14/2004 FY03: \$218,436 Total: \$428,119
Prin. Invest.: A R HUETE
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 709 **UNIV OF ARIZONA**
 MODELING AMAZONIAN CARBON RELEASE WITH CALIBRATED SOIL-VEGETATION-ATMOSPHERE TRANSFER MODELS.
 03/10/2003 - 04/30/2006 FY03: \$126,534 Total: \$126,534
Prin. Invest.: W J SHUTTLEWORTH
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 8 96 **UNIV OF ARIZONA**
 COMPARISON OF STRUCTURE AND SEGREGATION IN ALLOYS
 06/07/1996 - 05/30/2004 FY03: \$170,500 Total: \$1,133,443
Prin. Invest.: D R POIRIER
Tech. Officer: MSFC/M HUBBARD
CASE Category: 49 – ENGINEERING, OTHER

NGT 2 52268 **UNIV OF ARIZONA**
 ISRU TECHNOLOGIES FOR HUMAN MARS EXPLORATION
 08/10/2000 - 07/31/2003 FY03: \$0 Total: \$67,980
Prin. Invest.: K R SRIDHAR
Tech. Officer: ARC/J E FINN, ARC/M H KLISS
CASE Category: 41 – AERONAUTICAL ENGRN

NGT 5 111 **UNIV OF ARIZONA**
 MINIATURE DOPPLER AEROSOL BACKSCATTER LIDAR FOR DETECTION OF ATMOSPHERIC WINDS/STUDENT: JEREMY DOB
 07/07/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: J A REAGAN
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 13 – PHYSICS

NGT 5 114 **UNIV OF ARIZONA**
 CATASTROPHIC FLOODING ON ICELAND AND MARS (STUDENT : DEVON BURR)
 05/31/2001 - 06/30/2003 FY03: \$0 Total: \$46,000
Prin. Invest.: A S MCEWEN
Tech. Officer: GSFC/M S BURRELL
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 5 30140 **UNIV OF ARIZONA**
 ECOSYSTEM DEGRADATION AND HOUSEHOLD VULNERABILITY IN THE SEMI ARID REGION OF CHILE
 08/27/1998 - 12/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: C HUTCHINSON
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30148 **UNIV OF ARIZONA**
 SYNTHETIC LAHAR HAZARD MODELING USING ORBITAL DEM DATA/NASA EARTH SCI. SYSTEM_PROGRAM/STUDENT: KLI
 08/28/1998 - 03/31/2002 FY03: -\$22 Total: \$65,978
Prin. Invest.: C E GLASS
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30386 **UNIV OF ARIZONA**
 SEASONAL ACCUMULATION & NITROGEN DEPOSITION MAPPING ON THE GREENLAND ICESHEET/JOHNNY BURKHART
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: R C BALES
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30480 **UNIV OF ARIZONA**
 CHARACTERIZING PHENOLOGICAL TRANSITIONS: STUDENT KATHRYN MAUZ
 09/25/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S MARSH
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40082 **UNIV OF ARIZONA**
 ARIZONA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/09/2001 - 01/31/2005 FY03: \$580,750 Total: \$1,704,882
Prin. Invest.: M J DRAKE
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50243 **UNIV OF ARIZONA**
 PHYSICAL STUDIES OF NEA & TNO OBJECTS USING SPECTROPHOTOMETRY STUDENT: RONALD FEVIG
 06/02/1999 - 06/30/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: U FINK
Tech. Officer: GSFC/K HOLLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50246 **UNIV OF ARIZONA**
 DEVELOPMENT OF LASER MICROMACHINED COMPONENTS FOR SUBMILLIMETER HETERODYNE RECEIVERS_(STUDENT CHRIS
 06/02/1999 - 06/30/2002 FY03: -\$398 Total: \$65,602
Prin. Invest.: C WALKER
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50282 **UNIV OF ARIZONA**
 SUBMILLIMETER LABORATORY AND OBSERVATIONAL STUDIES OF MOLECULAR ION CHEMISTRY IN PHOTON-DOMINATE
 06/20/2000 - 07/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: L ZIURYS
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50283 **UNIV OF ARIZONA**
 THE EVOLUTION OF GALAXIES IN $0.54 < Z < 1.2$ CLUSTERS
 06/22/2000 - 07/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D MCCARTHY
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50289 **UNIV OF ARIZONA**
 THE COLLISIONAL EVOLUTION OF THE ASTEROID BELT: RECONCILING
 CONTRADICTIONARY EVIDENCE-STUDENT DOBRIE
 06/26/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: R GREENBERG
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50300 **UNIV OF ARIZONA**
 NEUTRINO PROCESSES & R-PROCESS NUCLEOSYNTHESIS IN PROTO-
 NEUTRON STAR WINDS/ STUDENT: TODD THOMPSON
 06/28/2000 - 06/30/2003 FY03: \$0 Total: \$48,000
Prin. Invest.: A BURROWS
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50303 **UNIV OF ARIZONA**
 THE EFFECTS OF MICROGRAVITY ON THE DEVELOPMENT OF THE IMMUNE
 SYSTEM/STUDENT: CHRIS C. WOODS
 07/06/2000 - 06/30/2003 FY03: \$0 Total: \$65,448
Prin. Invest.: D DELUCA
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50394 **UNIV OF ARIZONA**
 A UNIQUE DIRECT-DETECTION SURVEY FOR MASSIVE EXTRA -SOLAR
 PLANETS/STUDENT: MELANIE FREED
 05/31/2002 - 07/31/2005 FY03: \$24,000 Total: \$47,790
Prin. Invest.: P HINZE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50400 **UNIV OF ARIZONA**
 THE EVOLUTION OF DEBRIS DISKS AND STELLA ANGULAR MOMENTUM IN
 PRE-MAIN SEQUENCE SOLAR SYSTEMS
 06/12/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: M MEYER
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50419 **UNIV OF ARIZONA**
 INDEX INOMOGENEITY EFFECTS ON IMAGING SYSTEMS STUDENT: BRIAN
 STAMPER
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: J BURGE
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50461 **UNIV OF ARIZONA**
 GIANT PLANET INTERIORS AND ATMOSPHERES: JUPITER, S ATURN, AND
 HD209458B (STUDENT: JONATHANFORTNEY)
 04/29/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: W HUBBARD
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50462 **UNIV OF ARIZONA**
 ATMOSPHERIC CIRCULATION OF GIANT PLANETS AND BROWN DWARFS
 (STUDENT: CURTIS COOPER)
 04/29/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: A SHOWMAN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50463 **UNIV OF ARIZONA**
 DEVELOPMENT OF LARGE-SCALE HEB FOCAL PLANE ARRAYS FOR THE
 SUBMM (STUDENT: ABIGAIL HEDDEN)
 05/02/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C WALKER
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

ARKANSAS

NAG 3 2798 **ARKANSAS TECH UNIV**
 DEVELOPMENT OF A GENERIC CREEP-FATIGUE PREDICTION MODEL
 08/06/2002 - 12/31/2002 FY03: \$0 Total: \$5,000
Prin. Invest.: T GOSWAMI
Tech. Officer: GRC/G R HALFORD
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 13176 **UNIV OF ARKANSAS - LITTLE ROCK**
 DEVELOPMENT OF THE DUST PARTICLE ANALYZER
 04/09/2003 - 03/31/2006 FY03: \$99,700 Total: \$99,700
Prin. Invest.: M MAZUMDER
Tech. Officer: GSFC/S NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1935 **UNIV OF ARKANSAS - LITTLE ROCK**
 1-1-2-T7-D9927 DESIGN, SIMULATE, BUILD AND CHARACTERIZE A MEMS
 SENSOR ARRAY TO MEASURE TEMP.
 09/11/2003 - 02/28/2004 FY03: \$39,100 Total: \$39,100
Prin. Invest.: G ANDERSON
Tech. Officer: MSFC/J T WILEY, MSFC/J HAMILTON
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 5 597 **UNIV OF ARKANSAS - LITTLE ROCK**
 ARKANSAS NASA EPSCOR PROGRAM
 09/28/2001 - 08/14/2004 FY03: \$954,302 Total: \$1,366,802
Prin. Invest.: K HUDSON
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40119 **UNIV OF ARKANSAS - LITTLE ROCK**
 ARKANSAS SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 03/14/2001 - 02/28/2005 FY03: \$541,586 Total: \$1,168,223
Prin. Invest.: M HUDSON
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT13 52757 **UNIV OF ARKANSAS - LITTLE ROCK**
 GRADUATE RESEARCH STUDY - SIGNAL CORRELATION IN A HYBRID
 ROCKET MOTOR
 06/25/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: K HUDSON
Tech. Officer: SSC/R TRAVIS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

CALIFORNIA

NASA'S UNIVERSITY PROGRAM

NAG 1 02021 U OF ARKANSAS MAIN CAMP-FAYETTEVILLE
 MODELING BREAST CANCER TUMORS IN FREQUENCY DOMAIN USING THE
 STEEPEST DESCENT MULTIPOLE METHOD(SDFMM)
 12/19/2001 - 11/30/2002 FY03: -\$8,058 Total: \$49,481
Prin. Invest.: M EL-SHENAWE
Tech. Officer: LARC/J W JOHNSON
CASE Category: 45 – ELECTRICAL ENGR

NCC 2 5360 U OF ARKANSAS MAIN CAMP-FAYETTEVILLE
 GROWTH OF METHANOGENS ON CARVON MONOXIDE
 12/10/1999 - 11/30/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: T KRAL
Tech. Officer: ARC/M J LEON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT13 52753 U OF ARKANSAS MAIN CAMP-FAYETTEVILLE
 REMOTE SENSING TO DETECT MOISTURE AND SDS STRESS I N SOYBEAN
 06/20/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: S BAJAWA
Tech. Officer: SSC/R P TRAVIS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

CALIFORNIA

NAG 5 12576 AMERICAN RIVER COLLEGE
 PATHWAYS CENTER FOR STUDENT SUCCESS
 09/20/2002 - 09/14/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: S GRIFFITH
Tech. Officer: GSFC/D HALE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 4 235 ANTELOPE VALLEY COLLEGE
 HIGH SCHOOL/HIGH TECH "LET US OPEN DOORS TO YOUR FUTURE
 (DFRCU-02-021)
 12/11/2002 - 12/31/2003 FY03: \$53,266 Total: \$53,266
Prin. Invest.: L A LUCERO
Tech. Officer: DFRC/J LARSON
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 1 2151 CALIFORNIA INST OF TECHNOLOGY
 CHEMISTRY AND TRANSPORT IN A MULTI-DIMENSIONAL MODEL
 02/23/1999 - 12/31/2001 FY03: \$0 Total: \$354,542
Prin. Invest.: Y L YUNG
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01038 CALIFORNIA INST OF TECHNOLOGY
 ULTRADENSE SILICON CMOS-BASED MERGED MULTISPECTRAL
 IMAGER/NONVOLATILE MEMORY DEVICE BASED ON INJECTN
 08/24/2001 - 05/30/2004 FY03: \$355,000 Total: \$862,700
Prin. Invest.: H A ATWATER
Tech. Officer: LARC/C D ARMSTRONG
CASE Category: 13 – PHYSICS

NAG 1 02029 CALIFORNIA INST OF TECHNOLOGY
 GLOBAL FAILURE MODES IN COMPOSITE STRUCTURES FOR HIGH ALTI-
 TUDES
 01/07/2002 - 09/30/2002 FY03: \$0 Total: \$47,178
Prin. Invest.: W G KNAUS
Tech. Officer: LARC/D R AMBUR
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02081 CALIFORNIA INST OF TECHNOLOGY
 CHEMISTRY AND TRANSPORT IN A MULTI-DIMENSIONAL MODEL
 04/10/2002 - 04/09/2004 FY03: \$0 Total: \$50,000
Prin. Invest.: Y L YUNG
Tech. Officer: LARC/G L MADDREA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1346 CALIFORNIA INST OF TECHNOLOGY
 EVOLUTION OF NEURAL CREST & PLACODES
 07/21/1999 - 07/14/2003 FY03: \$0 Total: \$473,312
Prin. Invest.: M BRONNER-FRASER
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1368 CALIFORNIA INST OF TECHNOLOGY
 TRANSCRIPTIONAL REGULATION & EVOLUTION OF BILATERAL BODY
 PLANS
 08/05/1999 - 01/31/2003 FY03: \$0 Total: \$657,594
Prin. Invest.: E M DAVIDSON
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1370 CALIFORNIA INST OF TECHNOLOGY
 TRANSCRIPTION FACTOR EVOLUTION & LYMPHOCYTE ORIGIN S
 08/05/1999 - 03/31/2003 FY03: \$0 Total: \$524,038
Prin. Invest.: E V ROTHENBERG
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1541 CALIFORNIA INST OF TECHNOLOGY
 DISCOVERY AND DEFINITION OF THE MICROGRAVITY TRANS CRIPTOME
 WITH APPLICATION TOMUSCLE ATROPHY AND R
 03/14/2002 - 02/28/2004 FY03: \$610,407 Total: \$952,530
Prin. Invest.: E H DAVIDSON
Tech. Officer: ARC/G C JAHNS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1573 CALIFORNIA INST OF TECHNOLOGY
 ROBUSTNESS OF NETWORKED AGENTS
 07/24/2002 - 11/30/2002 FY03: \$0 Total: \$40,000
Prin. Invest.: J C DOYLE
Tech. Officer: ARC/K TURNER, ARC/D WOLPERT
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1585 CALIFORNIA INST OF TECHNOLOGY
 EVOLUTION OF THE NEURAL CREST AND ITS CONTRIBUTION TO THE
 INNER EAR
 10/25/2002 - 10/31/2005 FY03: \$476,962 Total: \$476,962
Prin. Invest.: M BRONNER-FRASER
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1587 CALIFORNIA INST OF TECHNOLOGY
 TRANSCRIPTIONAL REGULATION AND EVOLUTION OF BILATERAL BODY
 PLANTS
 10/31/2002 - 10/31/2003 FY03: \$267,200 Total: \$267,200
Prin. Invest.: E H DAVIDSON
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1588 CALIFORNIA INST OF TECHNOLOGY
 TRANSCRIPTION FACTOR EVOLUTION AND LYMPHOCYTE ORIG INS
 11/01/2002 - 10/31/2005 FY03: \$540,522 Total: \$540,522
Prin. Invest.: E V ROTHENBERG
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1610 CALIFORNIA INST OF TECHNOLOGY
 COMPARATIVE STUDIES OF MORPHOGENESIS IN 1G AND SIM ULATED
 MICROGRAVITY
 12/31/2002 - 12/31/2003 FY03: \$67,971 Total: \$67,971
Prin. Invest.: R LANSFORD
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2166 CALIFORNIA INST OF TECHNOLOGY
 INERTIAL EFFECTS IN SUSPENSION DYNAMICS
 05/08/1998 - 02/10/2002 FY03: \$0 Total: \$395,000
Prin. Invest.: J F BRADY
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2358 CALIFORNIA INST OF TECHNOLOGY
 GRANULAR MATERIAL FLOWS WITH INTERSTITIAL FLUID EF FECTS
 03/12/2000 - 11/30/2003 FY03: \$89,913 Total: \$301,499
Prin. Invest.: M L HUNT
Tech. Officer: GRC/J H AGUI
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2686 CALIFORNIA INST OF TECHNOLOGY
 IN-SITU INVESTIGATION OF ADVANCED STRUCTURAL COATI NG AND
 COMPOSITES
 01/10/2002 - 09/30/2004 FY03: \$85,471 Total: \$178,445
Prin. Invest.: U USTUNDAG
Tech. Officer: GRC/S C FARMER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2737 CALIFORNIA INST OF TECHNOLOGY
 INERTIAL EFFECTS IN SUSPENSION DYNAMICS. INERTIAL EFFECTS IN
 SUSPENSION DYNAMNICS.
 03/14/2002 - 10/30/2005 FY03: \$91,832 Total: \$172,536
Prin. Invest.: J F BRADY
Tech. Officer: GRC/N R HALL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2861 CALIFORNIA INST OF TECHNOLOGY
 CONTROL AND DESIGN METHODOLOGIES FOR GROUPS OF MIN IATURE
 AUTONOMOUS SENSORS AND ACTUATORS IN SMART
 03/13/2003 - 10/31/2003 FY03: \$104,995 Total: \$104,995
Prin. Invest.: D BURDICK
Tech. Officer: GRC/E WONG
CASE Category: 41 – AERONAUTICALENGNR

NAG 3 2900 CALIFORNIA INST OF TECHNOLOGY
 THE CQ EXPERIMENT: ENHANCED HEAT CAPACITY OF SUPER FLUID
 HELIUM IN A HEAT FLUX
 05/21/2003 - 04/30/2007 FY03: \$150,000 Total: \$150,000
Prin. Invest.: D L GOODSTEIN
Tech. Officer: GRC/M C HICKS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2902 CALIFORNIA INST OF TECHNOLOGY
 THE NATURE OF THE CAPILLARY BOND THE NATURE OF THE CAPILLARY
 BOND
 05/23/2003 - 10/01/2005 FY03: \$80,000 Total: \$80,000
Prin. Invest.: A PONCE
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3911 CALIFORNIA INST OF TECHNOLOGY
 MOLECULAR BEAM STUDIES OF STRATOSPHERIC PHOTOCHEMI
 02/26/1997 - 09/30/2002 FY03: \$0 Total: \$262,937
Prin. Invest.: D OKUMURA
Tech. Officer: GSFC/P J DECOLA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 4191 CALIFORNIA INST OF TECHNOLOGY
 DYNAMICS OF PLANETARY ATMOSPHERES
 06/27/1997 - 11/30/2001 FY03: \$0 Total: \$376,230
Prin. Invest.: D P INGERSOLL
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 4319 CALIFORNIA INST OF TECHNOLOGY
 EXPERIMENTAL AND ANALYTICAL STUDIES OF SOLAR SYSTE
 04/04/1997 - 07/31/2002 FY03: -\$3 Total: \$593,997
Prin. Invest.: D S BURNETT
Tech. Officer: GSFC/D NAVA
CASE Category: 11 – ASTRONOMY

NAG 5 4437 CALIFORNIA INST OF TECHNOLOGY
 PARTICIPATION OF D.O. MUHLEMAN AS A CO-INVESTIGATO OBSERVER
 LASER ALTIMETER (MOLA) TEAM
 04/28/1997 - 12/31/2002 FY03: \$0 Total: \$360,394
Prin. Invest.: D O MUHLEMAN
Tech. Officer: GSFC/D E SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 5203 CALIFORNIA INST OF TECHNOLOGY
 ULTRA HEAVY AND HEAVY COSMIC-RAY MEASUREMENTS ON ACCESS
 08/29/1998 - 02/28/2002 FY03: -\$6 Total: \$119,061
Prin. Invest.: R A MEWALDT
Tech. Officer: GSFC/B A MERRITT
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 5227 CALIFORNIA INST OF TECHNOLOGY
 FIRST INCREMENTAL FUNDING FOR NAG5-5227 PI DR. EDWARD C. STONE
 03/29/1999 - 05/31/2002 FY03: -\$122,971 Total: \$357,229
Prin. Invest.: E C STONE
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5228 CALIFORNIA INST OF TECHNOLOGY
 FIRST YEAR FUNDING FOR NAG5-5228 PI DR. EDWARD C STONE
 03/29/1999 - 05/31/2002 FY03: \$0 Total: \$215,632
Prin. Invest.: E C STONE
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5286 CALIFORNIA INST OF TECHNOLOGY
 HIGH SPECTRAL & SPATIAL RESOLUTION GE DETECTOR & READOUT
 TECHNOLOGIES FOR NUCLEAR SPECTROSCOPIC IMG
 05/31/2000 - 05/17/2004 FY03: \$0 Total: \$89,000
Prin. Invest.: S BOGGS
Tech. Officer: GSFC/B A MERRITT
CASE Category: 11 – ASTRONOMY

CALIFORNIA

NASA'S UNIVERSITY PROGRAM

NAG 5 5289 CALIFORNIA INST OF TECHNOLOGY
 HIGH ENERGY FOCUSING TELESCOPE HIGH ENERGY FOCUSING TELESCOPE
 06/02/2000 - 05/25/2003 FY03: \$0 Total: \$2,140,000
Prin. Invest.: F HARRISON
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5303 CALIFORNIA INST OF TECHNOLOGY
 GLOBAL MAPPING OF THE COSMIC UV BACKGROUND GLOBAL MAPPING OF THE COSMIC UV BACKGROUND
 09/29/2000 - 06/30/2004 FY03: \$110,000 Total: \$731,440
Prin. Invest.: C MARTIN
Tech. Officer: WFF/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5322 CALIFORNIA INST OF TECHNOLOGY
 THE PRESIDENTIAL EARLY CAREER AWARD (PECA)
 03/21/2001 - 10/31/2006 FY03: \$100,000 Total: \$300,000
Prin. Invest.: F HARRISON
Tech. Officer: WFF/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5338 CALIFORNIA INST OF TECHNOLOGY
 DETERMINATION OF THE CONFIDENCE LIMIT ON HHT RESULTS
 07/09/2001 - 09/30/2003 FY03: \$0 Total: \$30,992
Prin. Invest.: T WU
Tech. Officer: WFF/S LONG
CASE Category: 33 – OCEANOGRAPHY

NAG 5 5346 CALIFORNIA INST OF TECHNOLOGY
 BASIC RESEARCH ON THE COMPOSITION OF HEAVY COSMIC RAYS - THE TRANS-IRON GALACTIC ELEMENT RECORDER EX
 01/16/2002 - 01/07/2005 FY03: \$63,000 Total: \$126,000
Prin. Invest.: E STONE
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5394 CALIFORNIA INST OF TECHNOLOGY
 GAPS: GASEOUS ANTIMATTER PARTICLE SPECTROMETER FIRST YEAR OF THREE YEAR GRANT
 04/04/2003 - 04/03/2006 FY03: \$26,000 Total: \$26,000
Prin. Invest.: D HARRISON
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5398 CALIFORNIA INST OF TECHNOLOGY
 "HIGH ENERGY FOCUSING TELESCOPE" FIRST YEAR OF GRANT.
 02/06/2003 - 12/31/2005 FY03: \$750,000 Total: \$750,000
Prin. Invest.: F HARRISON
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 6263 CALIFORNIA INST OF TECHNOLOGY
 PHOTOCHEMICAL STUDIES OF CHEMISTRY IN OUTER SOLAR
 08/21/1997 - 06/30/2003 FY03: \$0 Total: \$493,287
Prin. Invest.: D L YUNG
Tech. Officer: GSFC/J HILLMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 6402 CALIFORNIA INST OF TECHNOLOGY
 5HE ORIGIN AND EVOLUTION OF NEUTRON STARS_(LTSA)
 10/15/1997 - 10/31/2003 FY03: \$0 Total: \$530,000
Prin. Invest.: S KULKARNI
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 6912 CALIFORNIA INST OF TECHNOLOGY
 MO&DA OF THE ADVANCED COMPOSITION EXPLORER MISSION
 01/30/1998 - 02/28/2003 FY03: \$0 Total: \$16,728,115
Prin. Invest.: E STONE
Tech. Officer: GSFC/B WORRALL
CASE Category: 11 – ASTRONOMY

NAG 5 7230 CALIFORNIA INST OF TECHNOLOGY
 STUDY OF TROPOSPHERIC OZONE AND UV REFLECTIVITY USING TOMS DATA
 04/16/1998 - 05/31/2002 FY03: \$0 Total: \$222,474
Prin. Invest.: Y L YUNG
Tech. Officer: GSFC/E HILSENATH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8217 CALIFORNIA INST OF TECHNOLOGY
 STAR FORMATION IN GIANT MOLECULAR CLOUDS_ LTSA98
 02/08/1999 - 02/14/2004 FY03: \$99,751 Total: \$405,888
Prin. Invest.: J M CARPENTER
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8251 CALIFORNIA INST OF TECHNOLOGY
 GEOCHEMICAL AND ISOTOPIC INVESTIGATIONS OF LUNAR & PLANETARY MATERIALS
 02/10/1999 - 02/14/2003 FY03: \$0 Total: \$1,030,000
Prin. Invest.: D A PAPANASTASSIOU
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8535 CALIFORNIA INST OF TECHNOLOGY
 HIGH RESOLUTION, HIGH ENERGY FOCUSING OPTICS FOR THE NEXT GENERATION GAMMA RAY EXPLORER.
 07/08/1999 - 07/14/2002 FY03: -\$12 Total: \$541,652
Prin. Invest.: F A HARRISON
Tech. Officer: GSFC/G MUCKLOW
CASE Category: 13 – PHYSICS

NAG 5 8822 CALIFORNIA INST OF TECHNOLOGY
 SPECTROSCOPIC STUDIES OF PRE-BIOTIC CARBON CHEMISTRY
 09/08/1999 - 02/28/2002 FY03: -\$40 Total: \$106,480
Prin. Invest.: G BLAKE
Tech. Officer: GSFC/M MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 8922 CALIFORNIA INST OF TECHNOLOGY
 PARTICIPATION OF THE NITRIC ACID CIMS INSTRUMENT IN THE SAGE III OZONE LOSS & VALIDATION EXPERIMENT
 01/06/2000 - 06/30/2003 FY03: \$0 Total: \$600,107
Prin. Invest.: P WENNERBERG
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9307 **CALIFORNIA INST OF TECHNOLOGY**
 CLOSEOUT OF "LABORATORY STUDIES OF THE PHOTOCHEMISTRY OF
 PEROXYNITRIC ACID" ASSET FORTH IN THE ATT
 03/22/2000 - 03/31/2002 FY03: -\$26 Total: \$123,143
Prin. Invest.: D O WENNERBERG
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 5 9344 **CALIFORNIA INST OF TECHNOLOGY**
 BALLOON-BORNE OBSERVATIONS OF THE POLARIZATION OF THE COSMIC
 MICROWAVE BACKGROUND
 03/27/2000 - 03/31/2003 FY03: \$0 Total: \$443,132
Prin. Invest.: A LANGE
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 11 - ASTRONOMY

NAG 5 9462 **CALIFORNIA INST OF TECHNOLOGY**
 USE OF SATELLITE FIRE PRODUCTS AND MODELS TO INVESTIGATE THE
 EFFECTS OF FIRE ON THE GLOBAL CARBON C
 04/18/2000 - 04/30/2004 FY03: \$49,053 Total: \$479,380
Prin. Invest.: J RANDERSON
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 9471 **CALIFORNIA INST OF TECHNOLOGY**
 ATMOSPHERIC TRACE GAS ABUNDANCES & STABLE ISOTOPE RATIOS VIA
 INFRARED LASER INDUCED FLUORESCENCE (IR
 04/14/2000 - 04/30/2004 FY03: \$0 Total: \$489,843
Prin. Invest.: G BLAKE
Tech. Officer: GSFC/B BETTS
CASE Category: 32 - GEOLOGICAL SCIENCE

NAG 5 9487 **CALIFORNIA INST OF TECHNOLOGY**
 INTERANNUAL VARIABILITY OF SNOW AND ICE AND IMPACT ON THE
 CARBON CYCLE
 04/25/2000 - 04/30/2004 FY03: \$99,384 Total: \$614,212
Prin. Invest.: Y L YUNG
Tech. Officer: GSFC/P HOUSER
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 9493 **CALIFORNIA INST OF TECHNOLOGY**
 DEVELOPMENT OF SUBMILLIMETER SIS MIXERS AND BROAD BAND HEMT
 AMPLIFIERS
 04/18/2000 - 04/30/2004 FY03: \$0 Total: \$438,000
Prin. Invest.: J ZMUIDZINAS
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 9530 **CALIFORNIA INST OF TECHNOLOGY**
 MILLIMETER-WAVE INTERFEROMETRY OF PROTO-PLANETARY DISKS
 04/27/2000 - 04/30/2004 FY03: \$0 Total: \$275,000
Prin. Invest.: S SARGENT
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 9601 **CALIFORNIA INST OF TECHNOLOGY**
 MARTIAN ATMOSPHERIC CIRCULATION AND CLIMATE
 05/17/2000 - 04/30/2003 FY03: \$0 Total: \$204,400
Prin. Invest.: A P INGERSOL
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 9606 **CALIFORNIA INST OF TECHNOLOGY**
 IMPLICATIONS OF MARTIAN NORTH-SOUTH POLAR DIFFERENCES
 05/12/2000 - 11/14/2003 FY03: \$0 Total: \$153,700
Prin. Invest.: B C MURRAY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 9821 **CALIFORNIA INST OF TECHNOLOGY**
 COSMOLOGY & PARTICLE ASTROPHYSICS THEORY (ATP-98)
 08/23/2000 - 04/30/2003 FY03: \$0 Total: \$190,107
Prin. Invest.: M P KAMIONKOWSKI
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 9919 **CALIFORNIA INST OF TECHNOLOGY**
 THE HOT PHASE OF THE VIOLENT ISM OF NEARBY DWARF IRREGULAR
 GALAXIES
 09/05/2000 - 09/30/2003 FY03: \$0 Total: \$46,300
Prin. Invest.: F WALTER
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 - ASTRONOMY

NAG 5 10047 **CALIFORNIA INST OF TECHNOLOGY**
 MEASURING THE MAGNETIC FIELD AND RELATIVISTIC PARTICLES IN
 RELIC RADIO GALAXIES
 10/03/2000 - 09/30/2002 FY03: \$0 Total: \$43,400
Prin. Invest.: F A HARRISON
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 - ASTRONOMY

NAG 5 10189 **CALIFORNIA INST OF TECHNOLOGY**
 PLANETARY ORIGIN, EVOLUTION AND STRUCTURE
 01/03/2001 - 01/14/2004 FY03: \$88,400 Total: \$266,500
Prin. Invest.: D J STEVENSON
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 - GEOLOGICAL SCIENCE

NAG 5 10198 **CALIFORNIA INST OF TECHNOLOGY**
 IMPACT PROCESSES IN THE SOLAR SYSTEM
 01/04/2001 - 12/31/2003 FY03: \$212,000 Total: \$652,500
Prin. Invest.: T AHRENS
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 10317 **CALIFORNIA INST OF TECHNOLOGY**
 LARGE-FORMAT, ANTENNA-COUPLED, MULTI-FREQUENCY, BOLOMETRIC
 (LAMB) FOCAL PLANE ARRAYS FOR MM & SUB
 02/07/2001 - 01/31/2004 FY03: \$194,492 Total: \$546,262
Prin. Invest.: A E LANGE
Tech. Officer: GSFC/E J WOLLACK
CASE Category: 11 - ASTRONOMY

NAG 5 10358 **CALIFORNIA INST OF TECHNOLOGY**
 DEVELOPMENT OF SUPERCONDUCTING DETECTOR WITH MULTIPLEXED
 READOUTS-
 02/01/2001 - 02/14/2004 FY03: \$218,156 Total: \$626,048
Prin. Invest.: J ZMUIDZINAS
Tech. Officer: GSFC/C STAHL
CASE Category: 13 - PHYSICS

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NAG 5 10406 CALIFORNIA INST OF TECHNOLOGY
 A NEOTECTONIC MAP OF THE EARTH: A PILOT STUDY OF SRTM DATA
 04/02/2001 - 06/30/2004 FY03: \$150,161 Total: \$300,161
Prin. Invest.: K E SIEH
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10707 CALIFORNIA INST OF TECHNOLOGY
 SOURCES OF LOW FREQUENCY GRAVITATIONAL WAVES (ATP 2000)
 04/23/2001 - 04/30/2004 FY03: \$188,000 Total: \$454,900
Prin. Invest.: E PHINNEY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10410 CALIFORNIA INST OF TECHNOLOGY
 MINIATURE IRON BIOMINERAL DETECTOR FOR MARTIAN EXO BIOLOGY
 04/10/2001 - 04/14/2004 FY03: \$0 Total: \$166,514
Prin. Invest.: J KIRSCHVINK
Tech. Officer: GSFC/B BETTS
CASE Category: 11 – ASTRONOMY

NAG 5 10724 CALIFORNIA INST OF TECHNOLOGY
 CIRRUS CLOUDS ON MARS: DATA ANALYSIS AND GCM MODEL ING
 04/12/2001 - 04/14/2004 FY03: \$60,000 Total: \$180,000
Prin. Invest.: Y YUNG
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10423 CALIFORNIA INST OF TECHNOLOGY
 EXPERIMENTAL STUDIES OF PHASE EQUILIBRIA OF METEORITES AND
 PLANETARY BODIES
 02/20/2001 - 02/29/2004 FY03: \$150,000 Total: \$450,000
Prin. Invest.: E STOLPER
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10761 CALIFORNIA INST OF TECHNOLOGY
 UNDERSTANDING GAMMA-RAY BURSTS (ATP 2000)
 04/23/2001 - 04/30/2004 FY03: \$0 Total: \$64,917
Prin. Invest.: R SARI
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10467 CALIFORNIA INST OF TECHNOLOGY
 THE STRUCTURE OF YOUNG STELLAR SYSTEMS: ESTABLISHING INITIAL
 CONDITIONS FOR PLANET FORMATION
 02/22/2001 - 02/29/2004 FY03: \$45,000 Total: \$135,000
Prin. Invest.: G BLAKE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10804 CALIFORNIA INST OF TECHNOLOGY
 CONCEPT STUDY FOR THE "THE HEAVY NUCLEI EXPLORER" (HNX)
 MISSION AO-99-OSS-05
 04/30/2001 - 09/30/2002 FY03: \$0 Total: \$47,600
Prin. Invest.: D A MEWALDT
Tech. Officer: GSFC/J R BYRD
CASE Category: 11 – ASTRONOMY

NAG 5 10470 CALIFORNIA INST OF TECHNOLOGY
 TEMPORAL VARIABILITY IN THE ACCRETION RATE OF INTERPLANETARY
 DUST USING THE ASA TRACER
 02/27/2001 - 03/31/2004 FY03: \$48,900 Total: \$147,400
Prin. Invest.: K A FARLEY
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10885 CALIFORNIA INST OF TECHNOLOGY
 THE MULTI-WAVELENGTH EXTRAGALACTIC SKY (ADP 2000)
 05/03/2001 - 08/31/2002 FY03: -\$846 Total: \$47,302
Prin. Invest.: R J BRUNNER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10558 CALIFORNIA INST OF TECHNOLOGY
 BROWN DWARFS: DISCOVERY AND DETAILED STUDIES
 03/13/2001 - 03/14/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: S KULKARNI
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10901 CALIFORNIA INST OF TECHNOLOGY
 A MECHANISM FOR SOLAR FORDING OF CLIMATE: DID THE MAUNDER
 MINIMUM CAUSE THE LITTLE ICE AGE?
 05/07/2001 - 05/14/2004 FY03: \$159,098 Total: \$486,425
Prin. Invest.: Y L YUNG
Tech. Officer: GSFC/J F SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10587 CALIFORNIA INST OF TECHNOLOGY
 MARS INTERNAL EVOLUTION CONSTRAINED BY MGS DATA
 03/13/2001 - 03/14/2004 FY03: \$60,000 Total: \$180,000
Prin. Invest.: D STEVENSON
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10955 CALIFORNIA INST OF TECHNOLOGY
 A STUDY OF EXTREMELY RED GALAXIES
 05/30/2001 - 05/31/2006 FY03: \$66,609 Total: \$195,674
Prin. Invest.: D THOMPSON
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10618 CALIFORNIA INST OF TECHNOLOGY
 PALEOMAGNETIC CONSTRAINTS ON PANSPERMIA AND THE ALH84001
 MAGNETOFOSSELS
 03/19/2001 - 03/31/2004 FY03: \$71,200 Total: \$212,300
Prin. Invest.: J L KIRSCHVINK
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 11157 CALIFORNIA INST OF TECHNOLOGY
 LABORATORY STUDIES OF THE PHOTOCHEMISTRY OF PEROXY NITRIC
 ACID
 08/01/2001 - 07/31/2004 FY03: \$81,000 Total: \$176,210
Prin. Invest.: P O WENBERG
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11214 CALIFORNIA INST OF TECHNOLOGY
OBSERVATIONAL AND MODELING STUDIES OF THE SOUTH PO LAR
RESIDUAL CAP
08/13/2001 - 08/14/2002 FY03: -\$324 Total: \$39,676
Prin. Invest.: A P INGERSOLL
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11257 CALIFORNIA INST OF TECHNOLOGY
AEOLIAN TRANSPORT PROCESSES ON MARS: SURFACE OBSERVATIONS
AND MESOSCALE MODELING
08/17/2001 - 08/31/2004 FY03: \$0 Total: \$140,000
Prin. Invest.: A ALBEE
Tech. Officer: HQ/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11273 CALIFORNIA INST OF TECHNOLOGY
THE EXPLORATION OF THE OUTER SOLAR SYSTEM
08/22/2001 - 09/30/2004 FY03: \$200,000 Total: \$300,000
Prin. Invest.: M BROWN
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11288 CALIFORNIA INST OF TECHNOLOGY
DAILY WEATHER MAPS FROM MARS ORBITER IMAGES
08/20/2001 - 08/31/2004 FY03: \$73,500 Total: \$216,700
Prin. Invest.: A INGERSOLL
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11419 CALIFORNIA INST OF TECHNOLOGY
QUIESCENT EMISSION FROM TRANSIENT TYPE I X-RAY BURSTERS
12/18/2001 - 12/31/2003 FY03: \$0 Total: \$38,425
Prin. Invest.: R E RUTLEDGE
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11423 CALIFORNIA INST OF TECHNOLOGY
TERAHERTZ (THZ) LABORATORY SPECTROSCOPY IN SUPPORT OF THE
SOFIA AND FIRST/HERSCHEL HETERODYNE RECEIVERS
12/03/2001 - 11/30/2004 FY03: \$69,000 Total: \$138,000
Prin. Invest.: G A BLAKE
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11488 CALIFORNIA INST OF TECHNOLOGY
SPECTROSCOPIC STUDIES OF PRE-BIOTIC CARBON CHEMISTRY
12/31/2001 - 02/28/2003 FY03: \$0 Total: \$60,000
Prin. Invest.: G A BLAKE
Tech. Officer: GSFC/M A MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 11549 CALIFORNIA INST OF TECHNOLOGY
AEROSOL AND CCN CHARACTERIZATION IN CRYSTAL-FACE
01/14/2002 - 01/31/2004 FY03: \$130,192 Total: \$235,674
Prin. Invest.: R FLAGAN
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11640 CALIFORNIA INST OF TECHNOLOGY
EXPERIMENTAL AND ANALYTICAL STUDIES OF SOLAR SYSTEM CHEMISTRY
01/22/2002 - 01/31/2005 FY03: \$137,000 Total: \$274,000
Prin. Invest.: D BURNETT
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11645 CALIFORNIA INST OF TECHNOLOGY
OPTICALLY THIN CIRCUMSTELLAR DUST AND GAS DISKS (L TSA 2001)
01/29/2002 - 01/31/2007 FY03: \$78,305 Total: \$159,085
Prin. Invest.: L HILLENBRAND
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11657 CALIFORNIA INST OF TECHNOLOGY
IR CAVITY RINGDOWN STUDIES OF ATMOSPHERIC FREE RADICAL
CHEMISTRY
01/25/2002 - 01/31/2005 FY03: \$77,486 Total: \$152,434
Prin. Invest.: M OKAMURA
Tech. Officer: GSFC/M KURYLO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11725 CALIFORNIA INST OF TECHNOLOGY
APPLICATION OF ISOTOPIC AND CHEMICAL ANALYSES TO UNDERSTANDING
THE ORIGIN OF EXTRATERRESTRIAL
02/11/2002 - 02/14/2004 FY03: \$0 Total: \$120,000
Prin. Invest.: G WASSERBURG
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11739 CALIFORNIA INST OF TECHNOLOGY
RETRIEVAL OF ATMOSPHERIC CO₂ COLUMN FROM GROUND BASED NEAR
IR SPECTRA OF THE SUN
02/12/2002 - 02/28/2005 FY03: \$0 Total: \$51,609
Prin. Invest.: P WENNBEG
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11851 CALIFORNIA INST OF TECHNOLOGY
A COMPREHENSIVE TECHNOLOGY DEVELOPMENT PROGRAM FOR THE
CONSTELLATION MISSION HARD X-RAY TELESCOPE
03/15/2002 - 03/14/2006 FY03: \$607,000 Total: \$891,000
Prin. Invest.: F A HARRISON
Tech. Officer: GSFC/D NGUYEN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11932 CALIFORNIA INST OF TECHNOLOGY
A SUMMER RESEARCH PROGRAM ON SUMMER FACULTY FELLOW SHIPS
AT THE JET PROPULSION LABORATORY.
05/23/2002 - 04/30/2004 FY03: \$0 Total: \$380,000
Prin. Invest.: A ALBEE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11985 CALIFORNIA INST OF TECHNOLOGY
COSMOLOGY AND FUNDAMENTAL PHYSICS FROM SPACE: THEORETICAL
INVESTIGATIONS OF INFLATION,
04/12/2002 - 04/14/2005 FY03: \$57,768 Total: \$135,041
Prin. Invest.: M P KAMIONKOWSKI
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

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NAG 5 12000 CALIFORNIA INST OF TECHNOLOGY
 DEVELOPMENT OF A DATA FEDERATION FACILITY FOR THE NVO.
 04/17/2002 - 08/31/2002 FY03: -\$76,480 Total: \$10,080
Prin. Invest.: R BRUNNER
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12564 CALIFORNIA INST OF TECHNOLOGY
 CONSTRAINING MODES OF CRUSTAL DEFORMATION USING INTERFEROMETRIC SYNTHETIC APERTURE RADAR
 09/12/2002 - 09/14/2005 FY03: \$0 Total: \$113,199
Prin. Invest.: M SIMONS
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12032 CALIFORNIA INST OF TECHNOLOGY
 BLACK HOLE ASTROPHYSICS OF AGN, X-RAY BINARIES AND GAMMA RAY BURSTS
 04/12/2002 - 04/15/2005 FY03: \$71,359 Total: \$164,459
Prin. Invest.: R D BLANDFORD
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12683 CALIFORNIA INST OF TECHNOLOGY
 STABILITY OF CO2 FROST AND WATER FROST MARS
 11/27/2002 - 11/30/2005 FY03: \$63,000 Total: \$63,000
Prin. Invest.: A INGERSOL
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12037 CALIFORNIA INST OF TECHNOLOGY
 PROCESSES IN THE FORMATION AND EVOLUTION OF EXTRA SOLAR PLANETS
 04/12/2002 - 04/14/2005 FY03: \$41,053 Total: \$95,804
Prin. Invest.: P M GOLDREICH
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12834 CALIFORNIA INST OF TECHNOLOGY
 FOUNDATIONS FOR LISA DATA ANALYSIS: COMPUTATION OF WAVEFORMS, AND DEVELOPMENT AND SCOPING OUT
 02/06/2003 - 02/14/2006 FY03: \$170,000 Total: \$170,000
Prin. Invest.: K THORNE
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12118 CALIFORNIA INST OF TECHNOLOGY
 SUPPORT FOR THE ACTIVITIES RELATED TO THE NATIONAL VIRTUAL OBSERVATORY SCIENCE DEFINITION TEAM
 04/29/2002 - 04/30/2004 FY03: \$0 Total: \$99,952
Prin. Invest.: S G DJORGOVSKI
Tech. Officer: GSFC/P E HUNTER
CASE Category: 11 – ASTRONOMY

NAG 5 12915 CALIFORNIA INST OF TECHNOLOGY
 DYNAMICAL MODELING OF MARS' PALEOCLIMATE
 03/05/2003 - 02/14/2004 FY03: \$70,390 Total: \$70,390
Prin. Invest.: M RICHARDSON
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12156 CALIFORNIA INST OF TECHNOLOGY
 WATER AND THE MARTIAN POLAR ATMOSPHERE
 05/13/2002 - 05/14/2005 FY03: \$70,000 Total: \$140,000
Prin. Invest.: M RICHARDSON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12925 CALIFORNIA INST OF TECHNOLOGY
 A XMM SURVEY FOR COMPACT OBJECTS IN SUPERNOVA REMNANTS
 02/26/2003 - 02/29/2004 FY03: \$48,000 Total: \$48,000
Prin. Invest.: S R KULKARNI
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 12247 CALIFORNIA INST OF TECHNOLOGY
 MEASUREMENT OF COLUMN-AVERAGED CO2
 06/26/2002 - 06/14/2005 FY03: \$39,400 Total: \$368,469
Prin. Invest.: P WENBERG
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12929 CALIFORNIA INST OF TECHNOLOGY
 MO&DA OF THE ADVANCED COMPOSITION EXPLORER MISSION (ACE)
 03/04/2003 - 02/28/2006 FY03: \$2,870,000 Total: \$2,870,000
Prin. Invest.: E C STONE
Tech. Officer: GSFC/T VONROSENVINCE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12384 CALIFORNIA INST OF TECHNOLOGY
 PARTICIPATION OF D.O. MUHLEMAN AS A CO-INVESTIGATOR ON THE MARS OBSERVER LASER ALTIMETER (M)
 07/17/2002 - 06/30/2004 FY03: \$0 Total: \$50,000
Prin. Invest.: D O MUHLEMAN
Tech. Officer: GSFC/D E SMITH
CASE Category: 31 – ATMOSPHERICSCIENCE

NAG 5 13209 CALIFORNIA INST OF TECHNOLOGY
 MILLIMETER-WAVE INTERFEROMETRY OF PROTOPLANETARY DISKS
 03/28/2003 - 04/30/2004 FY03: \$100,000 Total: \$100,000
Prin. Invest.: A SARGENT
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12492 CALIFORNIA INST OF TECHNOLOGY
 FORECASTING SHOCKS AND ENERGETIC PARTICLE HAZARDS
 08/27/2002 - 08/31/2005 FY03: \$94,459 Total: \$216,457
Prin. Invest.: C S COHEN
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13232 CALIFORNIA INST OF TECHNOLOGY
 MORPHOLOGIC, TOPOGRAPHIC, AND THERMAL ANALYSIS OF THE MARTIAN SURFACE
 04/07/2003 - 04/30/2006 FY03: \$75,000 Total: \$75,000
Prin. Invest.: O AHARONSON
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13238 CALIFORNIA INST OF TECHNOLOGY
 DYNAMICS OF JUPITER'S ATMOSPHERE: MEASURING THE EDDY MOMENTUM TRANSPORT/DIAGNOSING THE STRUCTURES
 04/07/2003 - 04/14/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: A INGERSOLL
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTIDISCIPLINARY, OTHER

NAG 5 13245 CALIFORNIA INST OF TECHNOLOGY
 POLARIZATION MEASUREMENTS OF PROMPT GAMMA & X-RAY EMISSION IN GAMMA-RAY BURSTS (AND SGR FLARES)
 04/01/2003 - 02/29/2004 FY03: \$6,880 Total: \$6,880
Prin. Invest.: R SARI
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 13296 CALIFORNIA INST OF TECHNOLOGY
 PHOTOCHEMICAL STUDIES OF CHEMISTRY IN THE OUTER SOLAR SYSTEM
 04/05/2003 - 04/16/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: Y YUNG
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTIDISCIPLINARY, OTHER

NAG 5 13326 CALIFORNIA INST OF TECHNOLOGY
 MARS MULTI-SCALE SURFACE-ROUGHNESS AND POWER SPECTRAL PROPERTIES
 04/14/2003 - 04/14/2006 FY03: \$89,694 Total: \$89,694
Prin. Invest.: O AHARONSON
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTIDISCIPLINARY, OTHER

NAG 5 13343 CALIFORNIA INST OF TECHNOLOGY
 RECENT HISTORY OF THE POLAR LAYERED DEPOSITS: KEY TO SURFICIAL WATER ON MARS
 04/16/2003 - 04/14/2006 FY03: \$45,000 Total: \$45,000
Prin. Invest.: B MURRAY
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTIDISCIPLINARY, OTHER

NAG 5 13427 CALIFORNIA INST OF TECHNOLOGY
 MARTIAN ATMOSPHERIC CIRCULATION AND CLIMATE
 04/26/2003 - 04/30/2005 FY03: \$86,402 Total: \$86,402
Prin. Invest.: M RICHARDSON
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTIDISCIPLINARY, OTHER

NAG 5 13457 CALIFORNIA INST OF TECHNOLOGY
 INTERSTELLAR CONTRIBUTIONS TO NEBULAR ORGANICS: A NEW OBSERVATIONAL/ LABORATORY STUDY
 04/24/2003 - 04/30/2006 FY03: \$75,000 Total: \$75,000
Prin. Invest.: G BLAKE
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTIDISCIPLINARY, OTHER

NAG 5 13630 CALIFORNIA INST OF TECHNOLOGY
 A SUMMER RESEARCH PROGRAM OF NASA/FACULTY FELLOWSHIPS AT THE JET PROPULSION LABORATORY
 08/27/2003 - 08/31/2004 FY03: \$380,000 Total: \$380,000
Prin. Invest.: A ALBEE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTIDISCIPLINARY, OTHER

NAG 5 13773 CALIFORNIA INST OF TECHNOLOGY
 SURVEY OF RECENT (& FUTURE) LARGE EARTHQUAKES USING INSAR, PIXEL TRACKING, AND SEISMOLOGICAL METHODS
 09/30/2003 - 09/30/2005 FY03: \$107,000 Total: \$107,000
Prin. Invest.: M SIMONS
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 8 1661 CALIFORNIA INST OF TECHNOLOGY
 DISPERSION MICROSTRUCTURE AND PHEOLOGY IN CERAMICS PROCESSING
 05/16/2000 - 11/30/2003 FY03: \$84,994 Total: \$290,988
Prin. Invest.: J BRADY
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1743 CALIFORNIA INST OF TECHNOLOGY
 MEASUREMENT OF THERMOPHYSICAL PROPERTIES OF MOLTEN SILICON AND GERMANIUM
 09/27/2000 - 09/30/2004 FY03: \$169,997 Total: \$442,497
Prin. Invest.: W K RHIM
Tech. Officer: MSFC/P DOTY
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 8 1744 CALIFORNIA INST OF TECHNOLOGY
 MEASUREMENT OF THERMOPHYSICAL PROPERTIES OF MOLTEN SILICON AND GERMANIUM
 09/27/2000 - 09/30/2003 FY03: \$126,542 Total: \$1,023,042
Prin. Invest.: W L JOHNSON
Tech. Officer: MSFC/P DOTY
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 8 1763 CALIFORNIA INST OF TECHNOLOGY
 THE CQ EXPERIMENT ENHANCED HEAT CAPACITY OF SUPERFLUID HELIUM IN A HEAT FLUX
 05/01/2001 - 02/01/2006 FY03: \$0 Total: \$270,000
Prin. Invest.: D GOODSTEIN
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1785 CALIFORNIA INST OF TECHNOLOGY
 BIOMIMETIC SELF-ASSEMBLY OF MESOSTRUCTURES IN MICROGRAVITY: THE NATURE OF CAPILLARY BOND
 04/30/2001 - 04/29/2005 FY03: \$0 Total: \$143,000
Prin. Invest.: A PONCE
Tech. Officer: MSFC/D S HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1934 CALIFORNIA INST OF TECHNOLOGY
 4200019914 COLLABORATIVE RESEARCH ON PUMP DYNAMICS
 08/14/2003 - 09/30/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: C BRENNEN
Tech. Officer: MSFC/A D MULDER
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1013 CALIFORNIA INST OF TECHNOLOGY
 GENESIS DISCOVERY MISSION PHASE B
 05/13/1998 - 05/31/2004 FY03: \$232,300 Total: \$932,172
Prin. Invest.: D S BURNETT
Tech. Officer: JSC/E K STANSBERRY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 5 98034 CALIFORNIA INST OF TECHNOLOGY
 PHASE A STUDY FOR GALE X (GALAXY EVOLUTION EXPLORER) INVESTIGATION
 12/05/1997 - 02/28/2005 FY03: \$10,272,793 Total: \$75,521,551
Prin. Invest.: C MARTIN
Tech. Officer: GSFC/F SNOW
CASE Category: 11 – ASTRONOMY

NAS 5 98152 CALIFORNIA INST OF TECHNOLOGY
 CONSTELLATION X-RAY MISSION
 06/22/1998 - 12/15/2001 FY03: -\$1 Total: \$424,469
Prin. Invest.: F HARRISON
Tech. Officer: GSFC/J GRADY
CASE Category: 46 – MECHANICAL ENGR

NCC 2 1410 CALIFORNIA INST OF TECHNOLOGY
 TURBULENT ENHANCEMENT FACTOR DETERMINATION FOR CAN DIDATE TITAN SHAPES
 06/18/2003 - 12/31/2003 FY03: \$100,000 Total: \$100,000
Prin. Invest.: H G HORNUNG
Tech. Officer: ARC/B LAUB, ARC/D A KONTINOS
CASE Category: 13 – PHYSICS

NCC 2 5431 CALIFORNIA INST OF TECHNOLOGY
 ADJOINT ERROR ANALYSIS: IMPROVING THE ACCURACY & RELIABILITY OF LIFT & DRAG ESTIMATES
 03/28/2001 - 12/31/2003 FY03: \$0 Total: \$79,999
Prin. Invest.: N A PIERRE
Tech. Officer: ARC/J J RENTHER
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 5 626 CALIFORNIA INST OF TECHNOLOGY
 HIGH PERFORMANCE CORNERSTONE TECHNOLOGIES FOR THE NATIONAL VIRTUAL OBSERVATORY.
 02/26/2002 - 02/25/2008 FY03: \$1,097,221 Total: \$1,493,221
Prin. Invest.: T A PRINCE
Tech. Officer: GSFC/J FISCHER
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NGT 5 30138 CALIFORNIA INST OF TECHNOLOGY
 CRUCIAL DESERTIFICATION PROCESSES FOR MONITORING ARID LANDS
 08/27/1998 - 11/30/2001 FY03: \$0 Total: \$66,000
Prin. Invest.: B C MURRAY, OKIN
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30393 CALIFORNIA INST OF TECHNOLOGY
 VOLCANIC HAZARDS ASSESSMENT USING REMOTE SENSING, BAJA, CALIFORNIA, MEXICO (STUDENT: JANE DMOCH)
 08/14/2001 - 08/31/2004 FY03: \$20,000 Total: \$66,000
Prin. Invest.: J STOCK
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30407 CALIFORNIA INST OF TECHNOLOGY
 THE SUBDUCTION ZONE EARTHQUAKE CYCLE AS CONSTRAINED BY SPACE GEODESY AND SEISMOLOGY/STUDENT: MATTHE
 08/15/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: M SIMONS
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30452 CALIFORNIA INST OF TECHNOLOGY
 CO AND H₂O ISOTOPE STUDIES USING CAVITY-ENHANCED, OPTICAL HETERODYNE SPECTROSCOPY. STUDENT: DAV
 08/20/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: M OKUMURA
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50231 CALIFORNIA INST OF TECHNOLOGY
 CHEMICAL PROCESSES IN CIRCUMSTELLAR ACCRETION DISKS (STUDENT: JACQUELINE KESSLER)
 05/27/1999 - 06/30/2002 FY03: \$4,275 Total: \$70,275
Prin. Invest.: G BLAKE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50249 CALIFORNIA INST OF TECHNOLOGY
 OBSERVATIONS OF CMB ANISOTROPIES WITH THE ARCMINUTE COSMOLOGY BOLOMETRIC ARRAY RECEIVER (STUDENT: MA
 06/04/1999 - 06/30/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: A LANGE
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50278 CALIFORNIA INST OF TECHNOLOGY
 BOLOMETRIC POLARIMETRY FOR COSMOLOGY
 06/20/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: A LANGE
Tech. Officer: GSFC/L K SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50280 CALIFORNIA INST OF TECHNOLOGY
 INVESTIGATION OF VACUUM ARC ION THRUSTER FOR SPACE PROPULSION APPLICATIONS--STUDENT: MICHA
 06/20/2000 - 06/30/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: F CULICK
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50308 CALIFORNIA INST OF TECHNOLOGY
 DEVELOPMENT OF SUPERCONDUCTING CAVITY STABILIZED OSCILLATORS (SCSO) FOR FREQUENCY STANDARDS & PREC
 07/06/2000 - 09/30/2003 FY03: -\$15,433 Total: \$52,567
Prin. Invest.: N YEH
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50339 CALIFORNIA INST OF TECHNOLOGY
 GALAXY FORMATION AND EVOLUTION: MODELS FOR CURRENT AND FUTURE OBSERVATIONS (STUDENT: MICH
 05/04/2001 - 08/30/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: M KAMIONKOWSKI
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50449 CALIFORNIA INST OF TECHNOLOGY
 THE MATTER DISTRIBUTION IN GALAXY CLUSTERS (STUDENT DAVID SAND)
 04/28/2003 - 04/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R S ELLIS
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50456 CALIFORNIA INST OF TECHNOLOGY
CMB POLARIZATION AND LENSING RECONSTRUCTION (STUDENT:
MICHAEL KESDEN)
04/29/2003 - 09/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M KAMIONKOWSKI
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 60003 CALIFORNIA INST OF TECHNOLOGY
A SUMMER RESEARCH PROGRAM OF NASA SUMMER FACULTY F
09/23/1997 - 08/31/2002 FY03: \$0 Total: \$1,670,527
Prin. Invest.: A ALBEE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52937 CALIFORNIA INST OF TECHNOLOGY
4200013037 INST SYSTEM FOR PULSE DETONATION ENGINES
07/01/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J SHEPHERD
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01099 CALIFORNIA POLYTECHNIC STATE U-SAN LUIS
CONFIGURATION STUDIES OF PERSONAL AIR VEHICLE EXPLORATION
06/14/2001 - 01/13/2002 FY03: -\$3,003 Total: \$46,993
Prin. Invest.: D HALL
Tech. Officer: LARC/M D MOORE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1386 CALIFORNIA POLYTECHNIC STATE U-SAN LUIS
POTENTIAL BENEFITS FROM TMA AND SMS INTEGRATION
11/01/1999 - 12/31/2002 FY03: \$0 Total: \$118,758
Prin. Invest.: S HOCKADAY
Tech. Officer: ARC/L TOBIAS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 8674 CALIFORNIA POLYTECHNIC STATE U-SAN LUIS
ADAPTIVE SAMPLING OF PHYTOPLANKTON RESPONSES TO EPISODIC
PHYSICAL FORCING IN THE NEARSHORE COASTAL
07/08/1999 - 07/14/2004 FY03: \$100,000 Total: \$383,638
Prin. Invest.: M A MOLINE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 1 02012 CALIFORNIA POLYTECHNIC STATE U-SAN LUIS
STARBOOSTER DEMONSTRATOR CLUSTER CONFIGURATION
ANALYSIS/VERIFICATION PROGRAM
02/20/2002 - 03/19/2003 FY03: \$0 Total: \$49,951
Prin. Invest.: D J DETURRIS
Tech. Officer: LARC/J W PAULSON
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 2 1149 CALIFORNIA POLYTECHNIC STATE U-SAN LUIS
DEVELOPMENT OF MULTIDISCIPLINARY FLIGHT CONTROL DESIGN PRO-
CESSES USING CONDUIT
12/01/1999 - 07/31/2003 FY03: \$58,400 Total: \$376,743
Prin. Invest.: D J BIEZAD
Tech. Officer: ARC/M TISCHLER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1401 CALIFORNIA POLYTECHNIC STATE U-SAN LUIS
AEROSPACE SYSTEMS DESIGN STUDIES
03/28/2003 - 12/31/2004 FY03: \$75,000 Total: \$75,000
Prin. Invest.: D W HALL
Tech. Officer: ARC/R K CALLAWAY, ARC/D A WARDWELL
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5392 CALIFORNIA POLYTECHNIC STATE U-SAN LUIS
INNOVATIVE VERTICAL & SHORT TAKEOFF & LANDING CONC EPTS &
SUPPORTING TECHNOLOGIES
08/16/2000 - 10/31/2002 FY03: \$0 Total: \$45,000
Prin. Invest.: D W HALL
Tech. Officer: ARC/J ZUK
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5464 CALIFORNIA POLYTECHNIC STATE U-SAN LUIS
MARS AIRPLANE MISSION AND TECHNOLOGY DEVELOPMENT
09/27/2001 - 12/31/2003 FY03: \$0 Total: \$71,980
Prin. Invest.: D W HALL, D J BIEZAD
Tech. Officer: ARC/L G LEMKE, ARC/A GONZALES
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 2 5508 CALIFORNIA POLYTECHNIC STATE U-SAN LUIS
RUNWAY INDEPENDANT SHORT TAKEOFF AND LANDING (R/S TOL) RE-
REGIONAL JET PROJECT
08/01/2002 - 01/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: D W HALL
Tech. Officer: ARC/D A WARDWELL, ARC/C E HANGE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 171 CALIFORNIA ST. POLYTECHNIC U-POMONA
ENHANCEMENT OF RESEARCH & DESIGN CAPABILITIES INACTIVE
09/30/1999 - 09/30/2002 FY03: -\$3,800 Total: \$191,228
Prin. Invest.: W E MORTENSEN
Tech. Officer: DFRC/K GUPTA, DFRC/L VOEKLER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 7 11 CALIFORNIA ST. POLYTECHNIC U-POMONA
NEW BUSINESS INCUBATOR
01/11/2002 - 01/11/2004 FY03: \$367,207 Total: \$617,207
Prin. Invest.: V GARNER
Tech. Officer: NMO/M BATTAGLIA
CASE Category: 49 – ENGINEERING, OTHER

NAG 4 225 CALIFORNIA ST. UNIV.-SAN BERNADINO
FINITE ELEMENT MODEL (FEM) STUDIES OF EXISTING HDA S AND THE
DEVELOPMENT OF NEWHAD COMPOSITES
04/29/2002 - 03/21/2005 FY03: \$123,578 Total: \$198,243
Prin. Invest.: D USHER
Tech. Officer: DFRC/D GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 172 CALIFORNIA STATE UNIV - FRESNO
PARTNERSHIP PROJECT EXPLORE
09/30/1999 - 01/31/2003 FY03: \$0 Total: \$184,914
Prin. Invest.: S MAHANTY, T MCCLANAHAN
Tech. Officer: DFRC/K GUPTA, DFRC/L VOEKLER
CASE Category: 41 – AERONAUTICAL ENGR

CALIFORNIA

NASA'S UNIVERSITY PROGRAM

NAG 4 207 CALIFORNIA STATE UNIV - FRESNO
 REMOTE ACCESS TO NASA DRYDEN'S FLIGHT LOADS LABORATORY: A MIDDLE SCHOOL VIRTUAL LABORATORY
 08/16/2002 - 10/30/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: N BENGIAMIN
Tech. Officer: DFRC/L HUDSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 236 CALIFORNIA STATE UNIV - FULLERTON
 REPAIR AND RETROFIT OF STRUCTURES REPAIR AND RETROFIT OF STRUCTURES
 02/13/2003 - 11/06/2005 FY03: \$100,000 Total: \$100,000
Prin. Invest.: P CHAKRABARTI
Tech. Officer: DFRC/J LARSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 9433 CALIFORNIA STATE UNIV - FULLERTON
 SOLAR NEBULA THERMAL AND PHYSICAL EVOLUTION AS CONSTRAINED BY PLANETARY, METEORITIC AND ASTRONOMICAL
 04/21/2000 - 04/14/2002 FY03: -\$63 Total: \$44,937
Prin. Invest.: D WOODLUM
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10312 CALIFORNIA STATE UNIV - FULLERTON
 BETA PIC-LIKE CIRCUMSTELLAR GAS DISK AROUND 2 AND -- FUSE-00
 01/26/2001 - 01/31/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: K CHEN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10695 CALIFORNIA STATE UNIV - FULLERTON
 SOLAR NEBULA THERMAL AND PHYSICAL EVOLUTION AS CONSTRAINED BY PLANETARY, METEORITIC AND ASTRONOMICAL
 04/16/2001 - 04/14/2004 FY03: \$0 Total: \$45,000
Prin. Invest.: D WOOLUM
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 9 1009 CALIFORNIA STATE UNIV - FULLERTON
 GENESIS: DETECTORS CHARACTERIZATION/SELECTION AND EDUCATIONAL OUTREACH
 05/05/1998 - 07/01/2002 FY03: \$0 Total: \$157,244
Prin. Invest.: D S WOOLUM
Tech. Officer: JSC/E K STANSBERRY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1462 CALIFORNIA STATE UNIV - FULLERTON
 PHASE E - GENESIS PROGRESS REPORT & WORK STATEMENT W/BUDGET FOR 2002
 11/08/2002 - 10/31/2003 FY03: \$33,000 Total: \$33,000
Prin. Invest.: D WOOLUM
Tech. Officer: JSC/N ROBERTSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9310 CALIFORNIA STATE UNIV - LONG BEACH
 INTERNATIONAL, STATE & LOCAL WORKFORCE DEVELOPMENT & CAPACITY BUILDING IN SUPPORT OF NASA ESE PROGRAM
 04/12/2000 - 04/14/2003 FY03: \$0 Total: \$399,964
Prin. Invest.: C T LEE
Tech. Officer: GSFC/A J TUYAHOV
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12361 CALIFORNIA STATE UNIV - LONG BEACH
 CSU/NASA EDUCATION COLLABORATIVE
 08/12/2002 - 06/30/2004 FY03: \$0 Total: \$190,000
Prin. Invest.: R WEST
Tech. Officer: GSFC/M PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 329 CALIFORNIA STATE UNIV - LONG BEACH
 AUGMENTED LEARNING ENVIRONMENT FOR RENEWABLE TEACHING (ALERT)
 05/07/1998 - 08/14/2002 FY03: \$0 Total: \$450,000
Prin. Invest.: E AMBOS
Tech. Officer: GSFC/B MEESON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 4 173 CALIFORNIA STATE UNIV - LOS ANGELES
 PARTNERSHIP AN INQUIRY AERONAUTICAL SCIENCE DISTANCE LEARNING PROJECT
 09/16/1999 - 11/30/2002 FY03: \$0 Total: \$199,998
Prin. Invest.: T ADENIKA-MORROW
Tech. Officer: DFRC/M MCCARTY, DFRC/J LARSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 4 174 CALIFORNIA STATE UNIV - LOS ANGELES
 PARTNERSHIP INTEGRATION OF CONFIGURATION
 09/16/1999 - 06/30/2003 FY03: \$0 Total: \$200,000
Prin. Invest.: C WU
Tech. Officer: DFRC/K GUPTA, DFRC/L VOELKER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 175 CALIFORNIA STATE UNIV - LOS ANGELES
 PARTNERSHIP CONTROL HYPERSONIC VEHICLES
 09/15/1999 - 09/13/2002 FY03: \$0 Total: \$199,980
Prin. Invest.: M MIRMIRANI
Tech. Officer: DFRC/K GUPTA, DFRC/L VOELKER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 224 CALIFORNIA STATE UNIV - LOS ANGELES
 CONTROL OF HIGH-PERFORMANCE FLIGHT VEHICLES: A MULTIDISCIPLINARY APPROACH
 05/02/2002 - 12/31/2003 FY03: \$0 Total: \$79,999
Prin. Invest.: M MIRMIRANI
Tech. Officer: DFRC/K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 8889 CALIFORNIA STATE UNIV - LOS ANGELES
 USE OF DECENTRALIZED CONTROL IN DESIGN OF A SEGMENTED SPACE
 01/03/2000 - 12/31/2002 FY03: \$0 Total: \$1,500,000
Prin. Invest.: H R BOUSSALIS
Tech. Officer: GSFC/J MALONE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8945 CALIFORNIA STATE UNIV - LOS ANGELES
 ASYMMETRIES AND VARIATIONS IN JUPITER'S MAGNETOSPHERE
 01/28/2000 - 01/14/2003 FY03: \$0 Total: \$128,600
Prin. Invest.: K KHURANA
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 9160 CALIFORNIA STATE UNIV - LOS ANGELES
 UNIV PREPARATORY PROGRAM
 03/06/2000 - 06/30/2004 FY03: \$100,000 Total: \$300,000
Prin. Invest.: M EPSTEIN
Tech. Officer: GSFC/M STOUTSENBERGER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 4 158 **CALIFORNIA STATE UNIV - LOS ANGELES**
 STRUCTURES, PROPULSION, AND CONTROL ENGINEERING CENTER
 02/28/2003 - 02/28/2008 FY03: \$1,200,000 Total: \$1,200,000
Prin. Invest.: K TSAI
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NCC 5 439 **CALIFORNIA STATE UNIV - LOS ANGELES**
 EXCELLENCE IN SCIENCE AND MATH EDUCATION FOR HARD TO STAFF
 URBAN SCHOOLS
 03/03/2000 - 06/30/2003 FY03: \$0 Total: \$599,820
Prin. Invest.: T ADENIKA-MORROW
Tech. Officer: GSFC/B WHITE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 99020 **CALIFORNIA STATE UNIV - MONTEREY BAY**
 APPLICATION OF REMOTE SENSING AND ECOSYSTEM MODELING TO
 VINEYARD MANAGEMENT IN CA NAPA VALLEY
 08/13/1999 - 11/01/2003 FY03: \$0 Total: \$481,039
Prin. Invest.: L F JOHNSON
Tech. Officer: SSC/R MCKELLIP
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 1186 **CALIFORNIA STATE UNIV - MONTEREY BAY**
 REMOTE SENSING, ECOSYSTEM MODELING, & GEOSPATIAL ANALYSIS
 FOR EARTH SYSTEMS SCIENCE & HEALTH
 06/28/2000 - 12/30/2003 FY03: \$262,400 Total: \$2,511,897
Prin. Invest.: S E ALEXANDER
Tech. Officer: ARC/J C COUGHLAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 1421 **CALIFORNIA STATE UNIV - MONTEREY BAY**
 ADVANCED TECHNOLOGIES MODELING AND APPLICATIONS FOR EARTH
 SYSTEMS SCIENCE RESEARCH AND EDUCATION
 08/26/2003 - 08/14/2006 FY03: \$585,394 Total: \$585,394
Prin. Invest.: S ALEXANDER
Tech. Officer: ARC/J L DUNGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 703 **CALIFORNIA STATE UNIV - MONTEREY BAY**
 MODELING THE EFFECT OF LAND USE CHANGE AND SURFACE HYDROLOGY
 ON CARBON AND TRACE GAS FLUXES OVER THE
 02/11/2003 - 02/14/2006 FY03: \$111,207 Total: \$111,207
Prin. Invest.: S A KLOOSTER
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC13 03009 **CALIFORNIA STATE UNIV - MONTEREY BAY**
 SYSTEMS INTEGRATION & VISUALIZATION OF YELLOWSTONE
 09/25/2003 - 09/30/2008 FY03: \$302,395 Total: \$302,395
Prin. Invest.: F WATSON
Tech. Officer: SSC/R MCKELLIP
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7191 **CALIFORNIA STATE UNIV - NORTHBRIDGE**
 ACQUISITION AND ANALYSIS OF PRECISE GROUND-BASED PHOTOMETRIC
 FULL-DISK IMAGES FOR THE UNDERSTANDING
 03/25/1998 - 07/31/2003 FY03: \$0 Total: \$193,005
Prin. Invest.: G A CHAPMAN
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 7778 **CALIFORNIA STATE UNIV - NORTHBRIDGE**
 A PROPOSAL TO CHARACTERIZE AND UNDERSTAND THE SOURCES OF
 SOLAR TOTAL AND SPECTRAL IRRADIANCE VARIABILITY
 10/28/1998 - 01/31/2003 FY03: \$0 Total: \$114,487
Prin. Invest.: D A CHAPMAN
Tech. Officer: GSFC/J SHARBER
CASE Category: 11 – ASTRONOMY

NAG 5 7878 **CALIFORNIA STATE UNIV - NORTHBRIDGE**
 A PROPOSAL TO COMPARE GROUND-BASED PHOTOMETRIC IMAGES WITH
 IRRADIANCE DATA FROM SOHO
 12/01/1998 - 12/14/2002 FY03: \$0 Total: \$35,810
Prin. Invest.: G A CHAPMAN
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10880 **CALIFORNIA STATE UNIV - NORTHBRIDGE**
 STUDY OF THE POWER INPUT TO THE SOLAR CORONA FROM INTERMITTENT
 MAGNETIC FOOTPRINT MOTIONS
 05/14/2001 - 05/31/2004 FY03: \$63,387 Total: \$189,456
Prin. Invest.: A CADAVID
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12905 **CALIFORNIA STATE UNIV - NORTHBRIDGE**
 A STUDY OF SOLAR VARIABILITY USING PRECISE GROUND-BASED
 PHOTOMETRY FROM FULL-DISK IMAGES
 02/26/2003 - 02/28/2006 FY03: \$81,712 Total: \$81,712
Prin. Invest.: G A CHAPMAN
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 489 **CALIFORNIA STATE UNIV - NORTHBRIDGE**
 ANALYZING DATA SETS
 04/06/2000 - 02/29/2004 FY03: \$300,058 Total: \$1,196,290
Prin. Invest.: C SHUBIN
Tech. Officer: GSFC/M MATTHEWS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 513 **CALIFORNIA STATE UNIV - NORTHBRIDGE**
 FAILURE ANALYSIS PREVENTION, AND RELIABILITY MODELING FOR
 SUB-MICRON ELECTRONICS TECHNOLOGY, A RESEARCH
 08/29/2000 - 08/31/2004 FY03: \$499,141 Total: \$1,497,521
Prin. Invest.: B BAVARIAN
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 4 200 **CALIFORNIA STATE UNIV-BAKERSFIELD**
 METRIC ANALYSIS AND EVALUATION FOR NASA/DRYDEN FLIGHT RESEARCH
 01/31/2000 - 02/06/2004 FY03: \$60,000 Total: \$133,041
Prin. Invest.: K L NYBERG
Tech. Officer: DFRC/K S SHY
CASE Category: 49 – ENGINEERING, OTHER

NAG13 99010 **CALIFORNIA STATE UNIV, DOMINIQUEZ HILLS**
 SOUTHERN CALIFORNIA CENTER FOR MANAGING FIRE HAZARDS AT THE
 URBAN WILDLANDS INTERFACE
 03/03/1999 - 02/28/2003 FY03: -\$4,816 Total: \$1,582,707
Prin. Invest.: C LEE
Tech. Officer: JSC/C HILL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8017 **CLAREMONT MCKENNA COLLEGE**
 THE COSMIC RAY PATH LENGTH DISTRIBUTION EXPECTED FROM THE LOCAL SPACE AND TIME DEPENDENT SUPERNOV
 01/06/1999 - 12/31/2001 FY03: \$0 Total: \$113,112
Prin. Invest.: D C HIGDON
Tech. Officer: GSFC/M C GUHATHAKURTA
CASE Category: 11 – ASTRONOMY

NGT 2 52280 **FOOTHILL-DE ANZA COM COLLEGE SYSTEM OFF**
 EXPERIMENTAL INTERNSHIPS SUPPORTING ASTROBIOLOGY AEROSPACE TECHNOLOGY & INFORMATION TECHNOLOGY
 07/03/2001 - 09/30/2005 FY03: \$830,292 Total: \$3,084,146
Prin. Invest.: V K SERMON
Tech. Officer: ARC/G JAMES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9700 **GLENDALE COMM COLLEGE**
 CIMMARUSTI SCIENCE CENTER
 07/18/2000 - 08/14/2004 FY03: \$0 Total: \$3,831,000
Prin. Invest.: L SEROT
Tech. Officer: GSFC/H KASS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 5510 **HARVEY MUDD COLLEGE**
 A SAMPLE LOADING AND MANIPULATION SYSTEMS (SLIMS) FOR THE CHEMIN XRD/XRF INSTRUMENT
 09/11/2002 - 08/31/2003 FY03: \$0 Total: \$41,490
Prin. Invest.: J A KING
Tech. Officer: ARC/D F BLAKE
CASE Category: 12 – CHEMISTRY

NAG 9 1452 **LOMA LINDA UNIV**
 RESPONSE OF THYROID FUNCTIONAL TISSUE UNITS TO SPACE-LIKE RADIATION FIELDS
 08/15/2002 - 08/31/2005 FY03: \$271,555 Total: \$325,866
Prin. Invest.: L M GREEN
Tech. Officer: JSC/C LLOYD
CASE Category: 56 – MEDICL

NCC 9 79 **LOMA LINDA UNIV**
 PROTON SPACE RESEARCH
 01/13/1999 - 09/30/2003 FY03: \$0 Total: \$12,000,000
Prin. Invest.: G A NELSON
Tech. Officer: JSC/F A CUCINOTTA
CASE Category: 13 – PHYSICS

NCC 9 118 **LOMA LINDA UNIV**
 COOPERATIVE RESEARCH IN PROTON SPACE RADIATION
 02/02/2001 - 12/31/2001 FY03: \$0 Total: \$3,661,000
Prin. Invest.: G NELSON, J ARCHAMBEAU, J SLATER
Tech. Officer: JSC/F CUCINOTTA
CASE Category: 13 – PHYSICS

NCC 9 149 **LOMA LINDA UNIV**
 COOPERATIVE RESEARCH IN PROTON SPACE RADIATION
 03/28/2002 - 09/30/2004 FY03: \$6,227,000 Total: \$11,216,000
Prin. Invest.: J SLATER, D GRIDLEY
Tech. Officer: JSC/F CUCINOTTA
CASE Category: 13 – PHYSICS

NAG 2 6062 **NATIONAL HISPANIC UNIV**
 PRE COLLEGE ACHIEVEMENT OF EXCELLENCE IN MATHEMATICS SCIENCE ENGINEERING AND TECHNOLOGY PROJECT DIS
 08/21/2002 - 08/14/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: M A CRUZ
Tech. Officer: ARC/A CARDENAS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1343 **NATIONAL HISPANIC UNIV**
 SCHOLARSHIP SUPPORT OF LATINO AND /OR NATIVE AMERICAN HIGH SCHOOL STUDENTS AND LATINO COLLEGE PREPA
 06/04/2002 - 05/31/2003 FY03: \$0 Total: \$73,266
Prin. Invest.: M PEREZ
Tech. Officer: ARC/A CARDENAS
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 6055 **NATIONAL HISPANIC UNIV**
 A PROPOSAL TO ESTABLISH A TEACHER ENHANCEMENT PROGRAM FOR RURAL ELEMENTARY TEACHERS SERVING LARGE P
 02/19/2002 - 08/31/2003 FY03: \$0 Total: \$124,915
Prin. Invest.: J S HAWKINS
Tech. Officer: ARC/A CARDENAS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 664 **NATIONAL HISPANIC UNIV**
 THE FUTURE MSET TEACHERS CENTER FOR EDUCATIONAL EXCELLENCE
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$200,000
Prin. Invest.: J HAWKINS
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11197 **PASADENA CITY COLLEGE**
 SMARTT: SCIENTISTS MENTORING ASTRONOMY RESEARCH TEAMS OF TOMORROW: A PROPOSAL FOR DOING RESEARCH
 09/13/2001 - 12/31/2003 FY03: \$125,000 Total: \$299,000
Prin. Invest.: J SEPIKAS
Tech. Officer: GSFC/P J SAKIMOTO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9618 **POMONA COLLEGE**
 THERMAL AND MECHANICAL ANALYSIS OF SMALL, SHALLOW MAGMA RESERVOIRS ON MARS
 05/18/2000 - 09/30/2002 FY03: \$24,155 Total: \$62,555
Prin. Invest.: E GROSFILS
Tech. Officer: GSFC/J BOYCE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10157 **POMONA COLLEGE**
 VOLCANIC & TECTONIC HISTORY OF THE NEMESIS TESSERA REGION ON VENUS
 12/18/2000 - 12/31/2003 FY03: \$25,200 Total: \$75,200
Prin. Invest.: E GROSFILS
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10498 **POMONA COLLEGE**
 THERMOMECHANICAL ANALYSIS OF SMALL, SHALLOW MAGMA RESERVOIRS ON MARS: IMPLICATIONS FOR RESERVOIR FAILURE
 03/09/2001 - 09/14/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: E GROSFILS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 2 6060 **SAN BERNARDINO VALLEY COLLEGE**
 STUDENT SUCCESS IN MESA PROPOSAL
 08/14/2002 - 01/14/2004 FY03: \$0 Total: \$59,030
Prin. Invest.: D AVILA
Tech. Officer: ARC/B J COLLINS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 6076 **SAN BERNARDINO VALLEY COLLEGE**
 SUCCESS OF UNDERREPRESENTED STUDENTS IN SCIENCE AND MATH-
 EMATICS
 09/17/2003 - 08/31/2004 FY03: \$156,000 Total: \$156,000
Prin. Invest.: W W HUGHES
Tech. Officer: ARC/A CARDENAS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 02082 **SAN DIEGO STATE UNIV**
 A DIFFUSION BASED APPROACH TO THERMAL TOMOGRAPHY
 04/08/2002 - 04/07/2004 FY03: \$75,000 Total: \$140,000
Prin. Invest.: R A KLINE
Tech. Officer: LARC/W P WINFREE, LARC/P A HOWELL
CASE Category: 13 – PHYSICS

NAG 5 8560 **SAN DIEGO STATE UNIV**
 ENVIRONMENTAL CHANGE AND NATURAL HAZARD ASSESSMENT IN WEST-
 ERN TURKMENIS-TAN USING INTERFEROMETRIC SY
 07/14/1999 - 06/30/2003 FY03: \$0 Total: \$127,864
Prin. Invest.: R MELLORS
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9301 **SAN DIEGO STATE UNIV**
 OPERATIONAL MONITORING OF ALTERATION IN REGIONAL FOREST COVER
 USING MULTITEMPORAL REMOTE SENSING
 03/20/2000 - 07/31/2003 FY03: \$0 Total: \$274,311
Prin. Invest.: J FRANKLIN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10376 **SAN DIEGO STATE UNIV**
 PROBING SHOCKS & WINDS IN THE PECULIAR BINARY STAR VSAGITTAE
 (FUSE 00)
 02/08/2001 - 02/14/2004 FY03: \$0 Total: \$44,100
Prin. Invest.: W WELSH
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11141 **SAN DIEGO STATE UNIV**
 FIRE, LAND COVER AND CLIMATE CHANGE: IMPACTS ON RIVER FLOWS IN
 SEMI-ARID SHRUBLAND WATERSHEDS
 07/26/2001 - 07/31/2004 FY03: \$97,530 Total: \$308,545
Prin. Invest.: A HOPE
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12348 **SAN DIEGO STATE UNIV**
 ACCRETION DISK VISCOSITY (FUSE 2001)
 08/20/2002 - 08/31/2004 FY03: \$0 Total: \$21,133
Prin. Invest.: W WELSH
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12401 **SAN DIEGO STATE UNIV**
 PICOPLANKTON AND OTHER PHYTOPLANKTON FUNCTIONAL GROUPS:
 OPTICAL PROPERTIES AND REMOTE SENSING
 07/24/2002 - 07/14/2005 FY03: \$0 Total: \$81,784
Prin. Invest.: J MUELLER
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 99017 **SAN DIEGO STATE UNIV**
 REGIONAL CHANGE MONITORING OF HABITAT RESERVE SYSTEMS WITH
 VERY HIGH RESOLUTION REMOTELY SENSED
 07/19/1999 - 10/31/2002 FY03: -\$75 Total: \$578,925
Prin. Invest.: D STOW
Tech. Officer: JSC/R MCKELLIP
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 00199 **SAN DIEGO STATE UNIV**
 R & D TO SUPPORT GSFC'S SIMBIOS PROJECT
 01/26/2001 - 11/30/2003 FY03: \$121,753 Total: \$350,637
Prin. Invest.: J L MUELLER
Tech. Officer: GSFC/C R CRANE
CASE Category: 33 – OCEANOGRAPHY

NAS 5 00202 **SAN DIEGO STATE UNIV**
 R & D TO SUPPORT GSFC'S SIMBIOS PROJECT
 02/07/2001 - 11/30/2003 FY03: \$188,089 Total: \$539,203
Prin. Invest.: C C TREES
Tech. Officer: GSFC/C R MCCLAIN
CASE Category: 33 – OCEANOGRAPHY

NCC 3 842 **SAN DIEGO STATE UNIV**
 DYNAMICS OF FLAME SPREAD IN MICROGRAVITY ENVIRONMENT
 01/05/2001 - 11/30/2004 FY03: \$119,999 Total: \$329,499
Prin. Invest.: S BHATTACHARJEE
Tech. Officer: GRC/S L OLSON
CASE Category: 49 – ENGINEERING, OTHER

NCC13 00002 **SAN DIEGO STATE UNIV**
 AFFILIATED RESEARCH CENTER (ARC) PROGRAM AT SAN DIEGO STATE
 UNIV
 02/11/2000 - 02/10/2005 FY03: \$274,425 Total: \$798,775
Prin. Invest.: D STOWE
Tech. Officer: SSC/A PEEK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC13 03007 **SAN DIEGO STATE UNIV**
 A BORDER SECURITY DECISION SUPPORT SYSTEM DRIVEN BY REMOTELY
 SENSED DATA INPUTS
 09/25/2003 - 09/30/2008 FY03: \$374,395 Total: \$374,395
Prin. Invest.: D STOW
Tech. Officer: SSC/B DAVIS
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 1 02018 **SAN DIEGO STATE UNIV**
 GRADUATE STUDENT RESEARCHER PROGRAM (GSRP)
 07/10/2002 - 06/30/2005 FY03: \$10,000 Total: \$24,000
Prin. Invest.: P ETZEL, J L STOCKUM
Tech. Officer: LARC/D D MAZANEK
CASE Category: 11 – ASTRONOMY

NGT 1 03007 **SAN DIEGO STATE UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 04/15/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R A KLINE, C R ENGSTRAND
Tech. Officer: LARC/E I MODARAS
CASE Category: 46 – MECHANICAL ENGR

NGT 5 30335 **SAN DIEGO STATE UNIV**
 LONG-TERM IMPACTS OF FIRE ON STREAMFLOW IN CALIFORNIA
 MEDITERRANEAN-TYPE SHRUB LANDS: AN INTEGRATED
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$62,000
Prin. Invest.: A S HOPE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30367 **SAN DIEGO STATE UNIV**
 ASSESSING THE EFFECTS OF VARIATIONS IN SOIL MOISTURE ON THE
 SURFACE ENERGY BALANCE AND CARBON/R
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: A HOPE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30439 **SAN DIEGO STATE UNIV**
 HYDRO-ECOLOGICAL LINKAGES IN URBANIZING WATERSHEDS : A
 PROCESS-BASED ASSESSMENT OF LAND-USE CHANGE
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C TAGUE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30444 **SAN DIEGO STATE UNIV**
 LONG-TERM IMPACTS OF FREQUENT FIRE AND URBANIZATION ON NATIVE
 VEGETATION IN CALIFORNIA MEDITERRANEAN-T
 08/23/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: J FRANKLIN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1285 **SAN FRANCISCO STATE UNIV**
 FREE FLIGHT INFORMATION & AUTOMATION ISSUES
 02/08/1999 - 09/30/2003 FY03: \$0 Total: \$362,499
Prin. Invest.: K L MOSIER, E A LYALL
Tech. Officer: ARC/J M ORASANU
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 5 7511 **SAN FRANCISCO STATE UNIV**
 THE SEASONAL AND INTERANNUAL VARIABILITY OF PHYTOPLANKTON IN
 THE BERING SEA AS INFLUENCED BY SEA ICE
 07/24/1998 - 12/31/2002 FY03: \$372 Total: \$329,015
Prin. Invest.: D H ROBINSON
Tech. Officer: GSFC/J W MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 1277 **SAN FRANCISCO STATE UNIV**
 EFFECTS OF CENTRIFUGATION ON THE IMMUNE RESPONSE OF MACROPHAGES &
 DIFFERENTIATION INTO OSTEOCLASTS
 08/15/2001 - 07/31/2003 FY03: \$0 Total: \$10,427
Prin. Invest.: S WEINSTEIN
Tech. Officer: ARC/N D SEARBY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1278 **SAN FRANCISCO STATE UNIV**
 MODELING THE ONSET EXTENT & DURATION OF HEYDRATION IN THE
 WINTER POLAR VORTEX, USING IMPACT, AVHRR
 08/15/2001 - 07/31/2004 FY03: \$68,000 Total: \$198,000
Prin. Invest.: P FOSCHI
Tech. Officer: ARC/C SCOFIELD, ARC/A TABAZADEH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 6059 **SAN FRANCISCO STATE UNIV**
 EDUCATIONAL OUTREACH TO ENCOURAGE AND INSPIRE THE PURSUIT OF
 CAREERS IN SCIENCE AND ENGINEERING TO D
 07/19/2002 - 07/31/2003 FY03: \$87,076 Total: \$118,742
Prin. Invest.: S UJLAKI, M SCOTT
Tech. Officer: ARC/M E DUENAS
CASE Category: 62 – PSYCHOLOGY SOCIAL ASPECTS

NAG 1 2205 **SAN JOSE STATE UNIV**
 CHARACTERIZING STRATOSPHERIC & TROPOSPHERIC AEROSOL: THEORETICAL
 STUDIES & ANALYSIS OF SATELLITE DATA (NRA)
 06/15/1999 - 02/28/2003 FY03: \$0 Total: \$126,687
Prin. Invest.: P HAMIL
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1528 **SAN JOSE STATE UNIV**
 THE VIRTUAL GLOVEBOX (VGX): A PROCEDURE IDENTIFICATION, TASK
 ANALYSIS & COMPUTER AIDED DESIGN
 10/22/2001 - 01/31/2003 FY03: \$0 Total: \$97,029
Prin. Invest.: K M CORKER
Tech. Officer: ARC/J D SMITH, ARC/R BOYLE
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 2 1550 **SAN JOSE STATE UNIV**
 REQUIREMENTS SPECIFICATION FOR REAL AND FAST TIME SCENARIOS
 FOR SIMULATED EVALUATION OF ADVANCED AIR
 04/12/2002 - 04/14/2005 FY03: \$135,806 Total: \$267,806
Prin. Invest.: K CORKER
Tech. Officer: ARC/S LOZITO, ARC/R ASHFORD
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1563 **SAN JOSE STATE UNIV**
 HUMAN SYSTEM PERFORMANCE MODELING FOR PREDICTION OF ERRO-
 RNEOUS BEHAVIOR: ADVANCED AND INTEGRATED VI
 05/30/2002 - 09/30/2004 FY03: \$247,959 Total: \$303,526
Prin. Invest.: K CORKER
Tech. Officer: ARC/D FOYLE
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 1640 **SAN JOSE STATE UNIV**
 SAFETY CULTURE AND CLIMATE IN MAJOR AND REGIONAL AIR CARRIERS
 07/07/2003 - 02/14/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: S GLAZER
Tech. Officer: ARC/I BARSHI
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 6056 **SAN JOSE STATE UNIV**
 DEVELOPMENT OF THE NASA AMES TEACHER INST
 06/05/2002 - 03/31/2003 FY03: \$0 Total: \$35,347
Prin. Invest.: E M LANDESMAN
Tech. Officer: ARC/L K COE, ARC/D G JAMES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9500 **SAN JOSE STATE UNIV**
 NUMERICAL SIMULATION OF MARS' CONVECTIVE BOUNDARY LAYER AND
 DUST DEVILS
 05/09/2000 - 01/31/2003 FY03: -\$21,378 Total: \$119,822
Prin. Invest.: S C RAFKIN
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9751 **SAN JOSE STATE UNIV**
 MESOSCALE & LES MODELING OF THE MARTIAN ATMOSPHERE WIND
 STREAKS AND DUST DEVILS
 06/27/2000 - 01/14/2003 FY03: -\$31,882 Total: \$70,218
Prin. Invest.: S RAFKIN
Tech. Officer: GSFC/D BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9766 **SAN JOSE STATE UNIV**
 LARGE-SCALE WAVE ACTIVITY IN A MARS GENERAL CIRCULATION MODEL:
 CHARACTERIZATION & COMPARISON WITH
 06/29/2000 - 06/30/2003 FY03: \$0 Total: \$62,900
Prin. Invest.: A BRIDGER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11184 **SAN JOSE STATE UNIV**
 CLIMATOLOGY AND NUMERICAL SIMULATION OF CONDENSATE CLOUDS
 DETECTED BY MGS
 09/05/2001 - 01/31/2003 FY03: -\$61,412 Total: \$33,075
Prin. Invest.: S RAFKIN
Tech. Officer: GSFC/C M NIEBUR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11185 **SAN JOSE STATE UNIV**
 AVP GRADUATE STUDIES AND RESEARCH
 08/21/2001 - 08/31/2004 FY03: \$0 Total: \$77,972
Prin. Invest.: A BRIDGER
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12302 **SAN JOSE STATE UNIV**
 CONTINUED STUDIES OF STATIONARY PLANETARY-SCALE WAVES IN
 MARS' ATMOSPHERE
 06/20/2002 - 06/30/2004 FY03: \$38,487 Total: \$76,974
Prin. Invest.: A BRIDGER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NCC 2 1045 **SAN JOSE STATE UNIV**
 AIRBORNE MEASUREMENT RESEARCH
 06/30/1998 - 06/30/2003 FY03: \$0 Total: \$141,145
Prin. Invest.: J GOODMAN
Tech. Officer: ARC/PBU
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 1095 **SAN JOSE STATE UNIV**
 HUMAN FACTORS RESEARCH, TECHNOLOGY & SAFETY
 03/11/1999 - 04/30/2002 FY03: -\$53 Total: \$7,289,654
Prin. Invest.: K P JORDAN
Tech. Officer: ARC/R K DISMUKES, ARC/C H NULL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1096 **SAN JOSE STATE UNIV**
 EFFECTS OF CHRONIC EXPOSURE TO HYPER GRAVITY ON DIFFERENT
 STRAINS OF YOUNG & MATURE RATS
 03/11/1999 - 07/31/2002 FY03: \$0 Total: \$169,868
Prin. Invest.: R A FOX
Tech. Officer: ARC/N G DAUNTON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1097 **SAN JOSE STATE UNIV**
 FLIGHT MANAGEMENT & AIR TRAFFIC MODELING
 03/19/1999 - 10/31/2002 FY03: \$0 Total: \$2,376,686
Prin. Invest.: K P JORDAN
Tech. Officer: ARC/M B TISCHLER, ARC/B D MCNALLY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1106 **SAN JOSE STATE UNIV**
 EXPERIMENTAL STUDIES OF THE DISTRIBUTION OF & INTERACTION
 BETWEEN REACTIVE TRACE CHEMICALS WITH DYN
 04/12/1999 - 03/31/2003 FY03: \$0 Total: \$842,658
Prin. Invest.: J GOODMAN
Tech. Officer: ARC/P BUI, ARC/E P CONDON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 1155 **SAN JOSE STATE UNIV**
 FLIGHT HUMAN FACTORS
 02/02/2000 - 03/31/2003 FY03: \$465,834 Total: \$5,891,543
Prin. Invest.: K JORDON
Tech. Officer: ARC/R JDISMUKES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1248 **SAN JOSE STATE UNIV**
 RINGS NODE DATA ARCHIVE MANAGEMENT
 03/27/2001 - 03/31/2004 FY03: \$117,356 Total: \$390,361
Prin. Invest.: P J HAMIL
Tech. Officer: ARC/J N CUZZI
CASE Category: 11 – ASTRONOMY

NCC 2 1284 **SAN JOSE STATE UNIV**
 A PROPOSAL TO SUPPORT FUTURE FLIGHT RESEARCH AT NASA AMES
 RESEARCH CENTER
 09/17/2001 - 11/30/2002 FY03: -\$1,602 Total: \$24,496
Prin. Invest.: M S PATANKAR
Tech. Officer: ARC/N S DORGI, ARC/B SULLIVAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1285 **SAN JOSE STATE UNIV**
 ARTIFICIAL INTELLIGENCE STUDIES OF SPACE SCIENCE DATA
 09/27/2001 - 09/30/2004 FY03: \$55,090 Total: \$300,714
Prin. Invest.: P A HAMIL
Tech. Officer: ARC/T L ROUSH, ARC/J SCARGLE
CASE Category: 11 – ASTRONOMY

NCC 2 1286 **SAN JOSE STATE UNIV**
 RESEARCH COLLABORATIVE WITH COMPUTATIONAL SCIENCES DIVISION
 (CSD)
 09/28/2001 - 09/30/2002 FY03: -\$14,748 Total: \$218,352
Prin. Invest.: J MURPHY
Tech. Officer: ARC/N MUSCETTOLA, ARC/D CLANCY
CASE Category: 49 – ENGINEERING, OTHER

NCC 2 1289 **SAN JOSE STATE UNIV**
 SYSTEMS SAFETY RESEARCH
 02/01/2002 - 01/31/2005 FY03: \$2,688,953 Total: \$4,368,332
Prin. Invest.: K JORDAN
Tech. Officer: ARC/K DISMUKES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1368 **SAN JOSE STATE UNIV**
 RESEARCH COLLABORATIVE WITH COMPUTATIONAL SCIENCES DIVISION
 09/24/2002 - 09/30/2004 FY03: \$97,054 Total: \$250,031
Prin. Invest.: J P MURPHY
Tech. Officer: ARC/D CLANCY, ARC/S LAU
CASE Category: 49 – ENGINEERING, OTHER

NCC 2 1294 **SAN JOSE STATE UNIV**
 RESEARCH COLLABORATIVE WITH NASA - ARC
 11/01/2001 - 01/31/2004 FY03: \$200,970 Total: \$390,978
Prin. Invest.: N IBRAHIM
Tech. Officer: ARC/G S HUBBARD
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 2 1378 **SAN JOSE STATE UNIV**
 HUMAN INTERACTION WITH AUTOMATION
 12/23/2002 - 01/31/2006 FY03: \$2,113,388 Total: \$2,113,388
Prin. Invest.: K JORDAN
Tech. Officer: ARC/K DISMUKES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1302 **SAN JOSE STATE UNIV**
 HUMAN INFORMATION MANAGEMENT
 02/01/2002 - 01/31/2005 FY03: \$1,322,791 Total: \$2,162,776
Prin. Invest.: K JORDAN
Tech. Officer: ARC/R K DISMUKES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1384 **SAN JOSE STATE UNIV**
 HUMAN AND SYSTEM RISK MODELING INTEGRATION OF PRED ICTIVE
 HUMAN AND SYSTEM ERROR MODELING TOOLS FOR
 12/31/2002 - 12/31/2003 FY03: \$100,237 Total: \$100,237
Prin. Invest.: K CORKER
Tech. Officer: ARC/J SMITH
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 2 1305 **SAN JOSE STATE UNIV**
 AVIAITON MONITORING AND MODELING SUB ELEMENT SYSTE M WIDE
 ACCIDENT PREVENTION; NASA AVIAITON SAFETY
 02/26/2002 - 02/28/2005 FY03: \$259,511 Total: \$421,313
Prin. Invest.: K CORKER
Tech. Officer: ARC/I STATLER, ARC/M M CONNORS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1400 **SAN JOSE STATE UNIV**
 EXPERIMENTAL STUDIES OF THE DISTRIBUTION OF AND IN TERACTION
 BETWEEN REACTIVE TRACE CHEMICALS WITH T
 04/10/2003 - 03/31/2004 FY03: \$195,663 Total: \$195,663
Prin. Invest.: J GOODMAN
Tech. Officer: ARC/P BUI, ARC/H SINGH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 1307 **SAN JOSE STATE UNIV**
 SJSU/NASA COORDINATION OF AIR MIDAS SAFETY DEVELOP MENT HUMAN
 ERROR MODELING: NASA AVIAITON SAFETY P
 02/26/2002 - 02/28/2003 FY03: \$0 Total: \$100,491
Prin. Invest.: K CORKER
Tech. Officer: ARC/D C FOYLE
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 1404 **SAN JOSE STATE UNIV**
 NASA SUMMER ROBOTICS CAMP
 05/15/2003 - 04/30/2004 FY03: \$148,802 Total: \$148,802
Prin. Invest.: P HSU, H ALFARO
Tech. Officer: ARC/B J COLLINS
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1313 **SAN JOSE STATE UNIV**
 SYSTEM WIDE ACCIDENT PREVENTION HUMAN FACTORS ANAL YSIS
 EVALUATION PROVIDED TO THE NASA AVIAITON SAF
 02/28/2002 - 05/31/2003 FY03: \$43,325 Total: \$129,975
Prin. Invest.: K CORKER
Tech. Officer: ARC/B BEARD, ARC/D FOYLE
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 1420 **SAN JOSE STATE UNIV**
 EDUCATION AND OUTREACH DEVLOP
 08/26/2003 - 07/31/2006 FY03: \$275,389 Total: \$275,389
Prin. Invest.: C SCHMIDT
Tech. Officer: ARC/L BECK, ARC/J BRASS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 1314 **SAN JOSE STATE UNIV**
 DISTRIBUTIONA ND SOURCES OF REACTIVE TRACE GASES A ND AEROSOL
 IN THE TROPOSPHERE OF THE WESTERN PACI
 02/20/2002 - 02/28/2004 FY03: \$56,568 Total: \$110,248
Prin. Invest.: P HAMIL, W VIEZEE
Tech. Officer: ARC/H SINGH, ARC/R S HIRSKIND
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 1424 **SAN JOSE STATE UNIV**
 HUMAN FACTORS ANALYSIS EVALUATION FOR SYSTEM WIDE ACCIDENT
 PREVENTION
 08/27/2003 - 07/31/2005 FY03: \$55,500 Total: \$55,500
Prin. Invest.: K CORKER
Tech. Officer: ARC/B BEARD, ARC/D FOYCE
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 1365 **SAN JOSE STATE UNIV**
 FLIGHT MANAGEMENT AND AIR - TRAFFIC MODELING
 09/12/2002 - 12/14/2003 FY03: \$999,338 Total: \$1,136,307
Prin. Invest.: K JORDAN
Tech. Officer: ARC/M TISCHLER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1431 **SAN JOSE STATE UNIV**
 CARBON SCIENCE
 09/25/2003 - 09/14/2006 FY03: \$70,322 Total: \$70,322
Prin. Invest.: S KLOOSTER, D HELGREN
Tech. Officer: ARC/C POTTER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 5344 **SAN JOSE STATE UNIV**
 ASTROBIOLOGOY RAPID RATES OF CHANGE
 08/12/1999 - 07/31/2002 FY03: \$0 Total: \$30,000
Prin. Invest.: E P METZGER
Tech. Officer: ARC/H L D'ANTONI
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 2 5451 **SAN JOSE STATE UNIV**
 EXTREME ATMOSPHERIC ENVIRONMENTS AND HABITABLE CLIMATES
 07/30/2001 - 07/31/2003 FY03: \$74,134 Total: \$188,144
Prin. Invest.: J L HOLLINGSWORTH
Tech. Officer: ARC/R E YOUNG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5452 **SAN JOSE STATE UNIV**
 ANALYSIS OF THE INTERACTION OF HALOGENATED AND ORGANIC
 GASES WITH ATMOSPHERIC PARTICULATES
 08/03/2001 - 07/31/2003 FY03: \$0 Total: \$20,403
Prin. Invest.: P J HAMILL
Tech. Officer: ARC/L T IRACI, ARC/A TABAZADEH
CASE Category: 12 – CHEMISTRY

NCC 2 5460 **SAN JOSE STATE UNIV**
 IONIZED, NEUTRAL & MOLECULAR GAS DIAGNOSTICS IN GALAXIES:
 MODELS FOR SIRT
 09/17/2001 - 08/31/2004 FY03: \$50,406 Total: \$90,406
Prin. Invest.: M J KAUFMAN
Tech. Officer: ARC/D J HOLLENBACH, ARC/R E YOUNG
CASE Category: 11 – ASTRONOMY

NCC 2 5468 **SAN JOSE STATE UNIV**
 THE RUNAWAY GREENHOUSE EFFECT ON EARTH & OTHER PLANETS
 10/16/2001 - 11/30/2002 FY03: \$2,000 Total: \$36,121
Prin. Invest.: P A HAMILL
Tech. Officer: ARC/P PILEWSKIE, ARC/W J GORE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5476 **SAN JOSE STATE UNIV**
 EARTH SCIENCE APPLICATIONS OF NEURAL NETWORKS
 11/23/2001 - 11/30/2003 FY03: \$10,000 Total: \$20,000
Prin. Invest.: E F METZGER
Tech. Officer: ARC/H L D'ANTONIO, ARC/J BRASS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 5498 **SAN JOSE STATE UNIV**
 THE EFFECT OF CLOUD CRYSTALLIZATION PROCESSES ON CLIMATE
 CHANGE & OZONE
 07/01/2002 - 06/30/2003 FY03: \$0 Total: \$16,368
Prin. Invest.: P HAMILL
Tech. Officer: ARC/A TABAZADEH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5521 **SAN JOSE STATE UNIV**
 EJECTA FROM CRATERS IN THE SATURNIAN SYSTEM
 09/04/2002 - 09/30/2003 FY03: \$0 Total: \$10,000
Prin. Invest.: P HAMILL
Tech. Officer: ARC/K ZAHNLE, ARC/J LISSAUAR
CASE Category: 11 – ASTRONOMY

NCC 2 5525 **SAN JOSE STATE UNIV**
 ANALYSIS OF WATER AND DUST CYCLES ON MARS
 01/06/2003 - 12/31/2003 FY03: \$95,000 Total: \$95,000
Prin. Invest.: A BRIDGER
Tech. Officer: ARC/R YOUNG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5527 **SAN JOSE STATE UNIV**
 ASTROBIOLOGY: COMPILING RESULTS
 01/27/2003 - 01/31/2004 FY03: \$20,097 Total: \$20,097
Prin. Invest.: E METZGER
Tech. Officer: ARC/H D'ANTONI, ARC/J SKILES
CASE Category: 32 – GEOLOGICAL SCIENCE

NCC 2 5534 **SAN JOSE STATE UNIV**
 TRANSIT SEARCH FOR EXTRASOLAR PLANETS
 04/22/2003 - 04/30/2004 FY03: \$49,340 Total: \$49,340
Prin. Invest.: N M BATALHA
Tech. Officer: ARC/W J BORUCKI, ARC/C SABECK
CASE Category: 11 – ASTRONOMY

NCC 2 5550 **SAN JOSE STATE UNIV**
 LARGE SCALE EXTRATROPICAL WEATHER SYSTEMS IN MARS ATMOSPHERE
 08/21/2003 - 06/30/2005 FY03: \$53,450 Total: \$53,450
Prin. Invest.: A F BRIDGER
Tech. Officer: ARC/R HABERLE, ARC/R E YOUNG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 6075 **SAN JOSE STATE UNIV**
 INSPIRING THE NEXT GENERATION OF EXPLORERS
 08/29/2003 - 01/31/2004 FY03: \$215,000 Total: \$215,000
Prin. Invest.: N BUSSANI
Tech. Officer: ARC/D G JAMES, ARC/B J COLLINS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 6077 **SAN JOSE STATE UNIV**
 THE FOUNDATION FOR A COLLEGE EDUCATION
 09/29/2003 - 09/30/2006 FY03: \$26,489 Total: \$26,489
Prin. Invest.: K JORDAN, S WICK
Tech. Officer: ARC/V BATTISTE, ARC/M DUENAS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 2 52262 **SAN JOSE STATE UNIV**
 SUMMER FACULTY RESEARCH FELLOWSHIP PROGRAM
 03/31/2000 - 08/31/2003 FY03: \$5,260 Total: \$1,235,228
Prin. Invest.: B STONE
Tech. Officer: ARC/M MOORE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 2 52292 **SAN JOSE STATE UNIV**
 SUMMER FACULTY RESEARCH FELLOWSHIP GRANT
 06/12/2003 - 08/31/2003 FY03: \$455,000 Total: \$455,000
Prin. Invest.: B M STONE
Tech. Officer: ARC/B J COLLINS, ARC/S LANGHOFF
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12113 **SANTA ANA COLLEGE-RANCHO SANTA ANA COMM COLLEGE**
 PARTNERSHIP OF THE DISCOVERY SCIENCE CENTER AND SANTA ANA COLLEGE
 05/03/2002 - 04/30/2004 FY03: \$0 Total: \$1,497,000
Prin. Invest.: P BOSTIC
Tech. Officer: HQ/M PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9736 **SANTA CLARA UNIV**
 DISTRIBUTED SPACE SYSTEM TECHNOLOGY DEMONSTRATIONS WITH THE
 EMERALD NANOSATELLITE
 06/22/2000 - 12/31/2003 FY03: \$0 Total: \$80,000
Prin. Invest.: C A KITTS
Tech. Officer: GSFC/K LUU
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1320 **SANTA CLARA UNIV**
 CONSTRUCTIVE RESEARCH PROJECTS EVALUATING AVIATION MAINTENANCE RESOURCE MANAGEMENT
 03/12/2002 - 05/31/2003 FY03: \$41,770 Total: \$125,310
Prin. Invest.: J C TAYLOR
Tech. Officer: ARC/B KANKI, ARC/M CONNORS
CASE Category: 69 – PSYCHOLOGY, OTHER

NGT 2 52297 **SANTA CLARA UNIV**
 MODELING OF CARBON NANOTUBE CNT INTERCONNECTS FOR HIGH FREQUENCY HYBRID SI CNT INTEGRATED CIRCUITS
 08/07/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C YANG
Tech. Officer: ARC/B J COLLINS, ARC/M MEYYAPPAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9495 **SONOMA STATE UNIV**
 SWIFT: A PANCHROMATIC GAMMA RAY BURST MIXED MISSION
 04/19/2000 - 01/31/2007 FY03: \$161,490 Total: \$857,568
Prin. Invest.: L R COMINSKY
Tech. Officer: GSFC/A PARSONS
CASE Category: 11 – ASTRONOMY

NAG 5 11328 **SONOMA STATE UNIV**
 SWIFT AND GLAST PRESS OFFICER FUNDS- FY02
 09/18/2001 - 09/30/2006 FY03: \$46,900 Total: \$65,000
Prin. Invest.: L R COMINSKY
Tech. Officer: GSFC/A M PARSONS
CASE Category: 11 – ASTRONOMY

NAG 5 12610 **SONOMA STATE UNIV**
 XMM-NEWTON EDUCATION AND PUBLIC OUTREACH
 11/07/2002 - 10/31/2006 FY03: \$141,000 Total: \$141,000
Prin. Invest.: L R COMINSKY
Tech. Officer: GSFC/N WHITE
CASE Category: 11 – ASTRONOMY

NCC 5 429 **SONOMA STATE UNIV**
 SPACE MYSTERIES: INQUIRY-DRIVEN WEB EXPLORATIONS THAT TEACH PHYSICAL SCIENCE & MATHEMATICS STANDARD
 09/29/1999 - 09/30/2003 FY03: \$0 Total: \$600,753
Prin. Invest.: L COMINSKY
Tech. Officer: GSFC/D GABRYS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 03046 **STANFORD UNIV**
 ADVANCED ALGORITHMS FOR VALIDATION & DESIGN OF QUIET SUPERSONIC PLATFORMS
 04/16/2003 - 07/15/2004 FY03: \$258,787 Total: \$258,787
Prin. Invest.: J J ALONSO, A JAMESON, I M KROO
Tech. Officer: LARC/P G COEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1219 **STANFORD UNIV**
 ACTIVE CONTROL OF COMBUSTION INSTABILITY IN AIR-BR EATING PROPULSION SYSTEMS - A COMPUTATIONAL & ...
 05/19/1998 - 04/30/2002 FY03: -\$1,006 Total: \$1,913,904
Prin. Invest.: C T BOWMAN, C F EDWARDS, G RVETSCH
Tech. Officer: ARC/N N MANSOUR, ARC/A A WRAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1337 **STANFORD UNIV**
 ENVIRONMENTAL MONITORING FOR SITUATION ASSESSMENT USING MOBILE & FIXED SENSORS
 07/13/1999 - 07/14/2003 FY03: \$0 Total: \$365,973
Prin. Invest.: R E FIKES
Tech. Officer: ARC/J A KURIEN, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1354 **STANFORD UNIV**
 ROLE OF ADRENERGIC RECEPTORS IN ADAPTATION TO MICROGRAVITY: GENE TARGETED MICE AS A MODEL OF MICROGRAVITY
 07/21/1999 - 07/14/2003 FY03: \$0 Total: \$771,019
Prin. Invest.: D BERSTEIN, B K KOBILKA
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1397 **STANFORD UNIV**
 EVALUATION OF CHEMICAL KINETICS AND PHOTOCHEMICAL DATA FOR USE IN STRATOSPHERIC MODELING
 02/17/2000 - 12/31/2003 FY03: \$80,000 Total: \$302,532
Prin. Invest.: C T BOWMAN
Tech. Officer: ARC/E CONDON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1464 **STANFORD UNIV**
 2-D SELF-CALIBRATING PSEUDOLITE ARRAYS FOR COOPERATIVE ROVER/AERIAL VEHICLE NAVIGATION
 03/23/2001 - 03/14/2004 FY03: \$118,217 Total: \$523,115
Prin. Invest.: S M ROCK
Tech. Officer: ARC/R MORRIS, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1478 **STANFORD UNIV**
 COMPACT LASER-BASED SENSORS FOR MONITORING & CONTROL OF GAS TURBINE COMBUSTORS
 04/20/2001 - 06/30/2003 FY03: \$0 Total: \$370,000
Prin. Invest.: R K HANSON
Tech. Officer: ARC/N N MANSOUR, ARC/A A WRAY
CASE Category: 46 – MECHANICAL ENGR

NAG 2 1539 **STANFORD UNIV**
 INTELLIGENT DISTRIBUTED COMBUSTION FOR ADVANCED GAS TURBINE ENGINES
 02/22/2002 - 12/31/2004 FY03: \$350,000 Total: \$636,069
Prin. Invest.: C F EDWARDS, J C GERDES, C T BOWMAN
Tech. Officer: ARC/N MANSOUR
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1557 **STANFORD UNIV**
 AIR TRAFFIC POLLUTANT PREDICTION
 05/01/2002 - 04/30/2005 FY03: \$69,798 Total: \$119,653
Prin. Invest.: P A DURBIN
Tech. Officer: ARC/R M MIRAFLOR, ARC/L TOBIAS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1564 **STANFORD UNIV**
 HYBRID, HIERARCHICAL CONTROL MODELS OF THE NATIONAL AIRSPACE SYSTEM
 06/02/2002 - 05/31/2005 FY03: \$120,000 Total: \$170,000
Prin. Invest.: C TOMLIN
Tech. Officer: ARC/L TOBIAS, ARC/C QUINN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1601 **STANFORD UNIV**
LOADING INDUCE FLUID FLOW MEDIATED MICROGRAVITY RE LATED
DISUSE BONE LOSS
12/04/2002 - 11/30/2003 FY03: \$195,554 Total: \$195,554
Prin. Invest.: C R JACOBS
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1644 **STANFORD UNIV**
AN ADJOINT BASED MULTI DISCIPLINARY COMPUTATIONAL ENVIRONMENT
TO IDENTIFY OPTIMAL SHAPES AND TRAJECT
08/26/2003 - 08/31/2006 FY03: \$115,346 Total: \$115,346
Prin. Invest.: A JAMESON
Tech. Officer: ARC/S E CLIFF, ARC/D J KINNEY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1645 **STANFORD UNIV**
ENVIRONMENTAL MONITORING FOR SITUATION ASSESMENT U SING MO-
BILE AND FIXED SNESORS
09/03/2003 - 11/30/2003 FY03: \$14,416 Total: \$14,416
Prin. Invest.: R FIKES
Tech. Officer: ARC/R MORRIS
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2398 **STANFORD UNIV**
ANISOTROPIC COLLOIDAL SELF ASSEMBLY ANISOTROPIC COLLOIDAL
SELF ASSEMBLY
04/19/2000 - 11/30/2002 FY03: \$0 Total: \$270,000
Prin. Invest.: A P GAST
Tech. Officer: GRC/J H AGUI
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2446 **STANFORD UNIV**
MICROGRAVITY FLUID MECHANICS: G-JITTER CONVECTION AND THE
MECHANICS OF FLUIDIZED BEDS
05/26/2000 - 11/30/2003 FY03: \$0 Total: \$0
Prin. Invest.: G M HOMSY
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2579 **STANFORD UNIV**
IP INFRASTRUCTURE FOR DISTRIBUTED SPACE SYSTEM
04/13/2001 - 01/30/2004 FY03: \$157,000 Total: \$445,710
Prin. Invest.: A FOX
Tech. Officer: GRC/K BHASIN
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2724 **STANFORD UNIV**
DROP BREAKUP AND DNA ADVECTION IN FIXED BEDS OF FI BERS: HAIRPIN
DYNAMICS IN ORDERED AND DISORDERED
03/07/2002 - 11/30/2005 FY03: \$93,000 Total: \$186,500
Prin. Invest.: D SHAQFEH
Tech. Officer: GRC/G ZIMMERLI
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2738 **STANFORD UNIV**
MEASUREMENT OF FLOWFIELD DISTORTION AND PARTICLE EQUATION OF
MOTION IN TURBULENT GAS FLOWS.
03/15/2002 - 11/30/2005 FY03: \$90,544 Total: \$175,088
Prin. Invest.: J K EATON
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2812 **STANFORD UNIV**
AN INVESTIGATION OF THE AMBIENT NOISE FLOOR MEASUR EMENTS AND
TRENDS
09/27/2002 - 12/31/2003 FY03: \$0 Total: \$205,402
Prin. Invest.: P ENGE
Tech. Officer: GRC/J E HOLLANSWORTH
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2852 **STANFORD UNIV**
FUNDING FUNDING
03/28/2003 - 01/31/2007 FY03: \$250,000 Total: \$250,000
Prin. Invest.: J A LIPA
Tech. Officer: GRC/M C HICKS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2873 **STANFORD UNIV**
UNIVERSALITY TEST ON DYNAMX UNIVERSALITY TEST ON DYNAMX
04/04/2003 - 10/31/2006 FY03: \$45,002 Total: \$45,002
Prin. Invest.: J A LIPA
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2884 **STANFORD UNIV**
FUNDING DEVELOPMENT OF HIGH REGRESSION RATE HYBRID FUELS
COMBUSTIONS STABILITY AND EFFICIENCY
04/30/2003 - 04/01/2004 FY03: \$160,196 Total: \$160,196
Prin. Invest.: B J CANTWELL
Tech. Officer: GRC/D M VENTO
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 3 2888 **STANFORD UNIV**
TEST OF FUNDAMENTAL PHYSICS THROUGH STUDIES OF SUPERFLUID
HELIUM THREE
05/16/2003 - 01/31/2006 FY03: \$150,000 Total: \$150,000
Prin. Invest.: D D OSHEROFF
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2935 **STANFORD UNIV**
ATOM INTERFEROMETER TEST OF THE EQUIVALENCE PRINCI PLE, PRO-
POSAL SPO #29047
08/11/2003 - 04/30/2006 FY03: \$175,000 Total: \$175,000
Prin. Invest.: M A KASEVICH
Tech. Officer: GRC/M C HICKS
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3441 **STANFORD UNIV**
DIGITAL TOPOGRAPHY PROPOSAL: LONG TERM MONITORING OF EARTH
SURFACE CHANGE WITH ERS-1 AND ERS-2....
01/11/1997 - 10/14/2001 FY03: \$0 Total: \$164,472
Prin. Invest.: H ZEBKER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 3906 **STANFORD UNIV**
RADAR STUDIES OF LUNAR AND PLANETARY SURFACES
02/21/1997 - 10/31/2003 FY03: \$0 Total: \$366,750
Prin. Invest.: G TYLER
Tech. Officer: GSFC/P G ROGERS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 5200 **STANFORD UNIV**
 INVESTIGATION OF THE CORONA/CHROMOSPHERE INTERFACE WITH THE
 CHROMOSPHERIC/CORONAL SPECTROHELIOGRAPH
 05/28/1998 - 05/31/2003 FY03: \$0 Total: \$566,460
Prin. Invest.: A B WALKER
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5300 **STANFORD UNIV**
 INVESTIGATION OF CHROMOSPHERIC AND CORONAL STRUCTURES WITH
 ADVANCED TECHNOLOGY SOLAR IMAGER
 07/18/2000 - 07/17/2004 FY03: \$782,056 Total: \$1,421,010
Prin. Invest.: B C WALKER
Tech. Officer: HQ/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5419 **STANFORD UNIV**
 EXPERIMENTAL INVESTIGATIONS OF ASTROPHYSICALLY IMPORTANT
 X-RAY LINE EMITTING ELECTRON-ION
 08/11/2003 - 08/10/2006 FY03: \$124,331 Total: \$124,331
Prin. Invest.: S M KAHN
Tech. Officer: WFF/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 7464 **STANFORD UNIV**
 A TRANSITION EDGE MICROCALORIMETER SPECTROMETER FO R THE
 EUV AND FUV
 11/30/1998 - 12/31/2002 FY03: \$0 Total: \$232,708
Prin. Invest.: A C WALKER, JR.
Tech. Officer: GSFC/H HASAN
CASE Category: 11 – ASTRONOMY

NAG 5 7835 **STANFORD UNIV**
 THE INTERFACE OF TRANSITION REGION AND CORONAL PLA SMAS WITH
 THE CHROMOSPHERIC NETWORK
 12/14/1998 - 12/14/2002 FY03: \$0 Total: \$241,451
Prin. Invest.: D B GALARCE
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8025 **STANFORD UNIV**
 SEPS/CEPPAD SCIENCE INVESTIGATION
 01/12/1999 - 12/31/2001 FY03: \$0 Total: \$160,000
Prin. Invest.: M WALT
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8563 **STANFORD UNIV**
 URBANIZATION, LAND USE AND BIOLOGICAL RESOURCES
 05/24/1999 - 05/31/2002 FY03: \$0 Total: \$47,001
Prin. Invest.: M L IMHOFF
Tech. Officer: GSFC/M L IMHOFF
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8600 **STANFORD UNIV**
 X-RAY AND MICROWAVE MODELS IN SUPPORT OF HESSI SOLAR FLARE
 OBSERVATIONS
 06/14/1999 - 06/14/2003 FY03: \$0 Total: \$135,080
Prin. Invest.: V PETROSIAN
Tech. Officer: GSFC/G D HOLMAN
CASE Category: 11 – ASTRONOMY

NAG 5 8645 **STANFORD UNIV**
 STUDYING THE EFFECTS OF CA, MG, AND K ON AEROSOL SIZE &
 COMPOSITION, NOY & RADIATIVE TRANSFER
 07/13/1999 - 07/31/2002 FY03: \$0 Total: \$317,184
Prin. Invest.: M Z JACOBSON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8714 **STANFORD UNIV**
 VARIATIONS OF THE SOLAR MAGNETIC FIELDS
 08/03/1999 - 02/28/2003 FY03: \$0 Total: \$70,500
Prin. Invest.: P H SCHERRER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8866 **STANFORD UNIV**
 A COUPLED ICE-OCEAN MODEL OF MESOSCALE PHYSICAL/ BIOLOGICAL
 INTERACTIONS IN THE ROSS SEA
 12/08/1999 - 12/31/2001 FY03: \$0 Total: \$169,598
Prin. Invest.: K ARRIGO
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9040 **STANFORD UNIV**
 VALIDATION & IMPROVEMENT OF SRTM PERFORMANCE OVER RUGGED
 TERRAIN.
 02/10/2000 - 02/14/2004 FY03: \$0 Total: \$150,000
Prin. Invest.: H A ZEBKER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9087 **STANFORD UNIV**
 SUPERCONDUCTING WIDE-BAND FAST SPECTROPHOTOMETERS
 02/17/2000 - 06/30/2002 FY03: \$0 Total: \$621,440
Prin. Invest.: B CABRERA
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 9494 **STANFORD UNIV**
 UPLINK MICRO-RADIO INSTRUMENT DEVELOPMENT
 04/18/2000 - 04/30/2004 FY03: \$170,284 Total: \$480,640
Prin. Invest.: L TYLER
Tech. Officer: GSFC/B BETTS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9556 **STANFORD UNIV**
 RESEARCH INTO RADIO OCCULTATION METHODS FOR STUDY OF PLAN-
 ETARY ATMOSPHERES
 05/04/2000 - 04/30/2004 FY03: \$0 Total: \$225,000
Prin. Invest.: G TYLER
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9737 **STANFORD UNIV**
 DISTRIBUTED SPACE SYSTEM TECHNOLOGY DEMONSTRATIONS WITH THE
 EMERALD NANOSATELLITE
 06/22/2000 - 06/30/2002 FY03: \$0 Total: \$130,000
Prin. Invest.: DEBRA
Tech. Officer: GSFC/K LUU
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 5 9760 **STANFORD UNIV**
 MEASURING HUMAN IMPACTS ON BIODIVERSITY & CARRYING CAPACITY
 OF ECO-SYSTEMS: COMBINING REMOTELY-SENSE
 06/29/2000 - 08/31/2004 FY03: \$0 Total: \$102,105
Prin. Invest.: P EHRlich
Tech. Officer: GSFC/M L IMHOFF
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9784 **STANFORD UNIV**
 STRUCTURE OF SOLAR VELOCITY AND MAGNETIC FIELDS
 07/06/2000 - 12/31/2003 FY03: \$140,089 Total: \$456,993
Prin. Invest.: P T SCHERER
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 9842 **STANFORD UNIV**
 COMPOSITION, PALEOENVIRONMENTAL DISTRIBUTION, AND PALEOECOL-
 OGY OF ARCHEAN BACTERIAL COMMUNITIE
 07/31/2000 - 07/31/2003 FY03: \$0 Total: \$260,071
Prin. Invest.: D R LOWE
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 9853 **STANFORD UNIV**
 ANTARCTIC ICE SHEET PENETRATION DEPTHS, GRAIN SIZE & ACCUMULA-
 TION RATES FROM INSAR & SAR ANALYSIS OF
 07/31/2000 - 03/31/2004 FY03: \$144,548 Total: \$321,006
Prin. Invest.: H ZEBKER
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10483 **STANFORD UNIV**
 SOLAR OSCILLATIONS INVESTIGATION - MICHELSON DOPPLER IMAGER
 FOR THE SOHO SOLAR MAXIMUM MISSION
 03/05/2001 - 07/14/2003 FY03: \$2,420,000 Total: \$8,920,000
Prin. Invest.: P H SCHERRER
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10519 **STANFORD UNIV**
 THE 15TH NATIONAL CONFERENCE OF THE BLACK PHYSICS STUDENTS
 03/09/2001 - 03/14/2002 FY03: \$0 Total: \$84,800
Prin. Invest.: B CABRERA
Tech. Officer: GSFC/D MENCHAN
CASE Category: 13 – PHYSICS

NAG 5 10534 **STANFORD UNIV**
 MONITORING & MODELING LAND-USE CHANGE: INTERGRA TING REMOTE
 SENSING WITH SOCIOECONOMIC DRIVERS
 03/12/2001 - 02/28/2004 FY03: \$0 Total: \$239,044
Prin. Invest.: K SETO
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10544 **STANFORD UNIV**
 UNDERSTANDING ORGANICS IN METEORITES & THE PRE-BIO TIC ENVI-
 RONMENT
 03/09/2001 - 07/31/2002 FY03: -\$65,000 Total: \$45,000
Prin. Invest.: R ZARE
Tech. Officer: GSFC/J M BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10576 **STANFORD UNIV**
 INFERENCE OF SURFACE PROPERTIES FROM MARS GLOBAL SURVEYOR
 3.6 CM WAVELENGTH OBLIQUE SCATTERING
 03/21/2001 - 02/28/2004 FY03: \$50,000 Total: \$150,000
Prin. Invest.: G TYLER
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10719 **STANFORD UNIV**
 ORION: A LOW-COST DEMONSTRATION OF FORMATION FLYING
 04/24/2001 - 10/31/2002 FY03: \$0 Total: \$328,830
Prin. Invest.: R L BYER
Tech. Officer: GSFC/S P HUGHES
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 10799 **STANFORD UNIV**
 CONCEPT STUDY FOR THE "SATELLITE TEST OF THE EQUIV ALENCE
 PRINCIPLE" (STEP) MISSION AO-99-OSS-0
 05/01/2001 - 05/31/2003 FY03: \$207,923 Total: \$493,913
Prin. Invest.: C EVERITT
Tech. Officer: GSFC/J R BYRD
CASE Category: 11 – ASTRONOMY

NAG 5 11264 **STANFORD UNIV**
 MODELLING CHANGE IN THE SOUTHERN OCEAN: BIOCHEMIS TRY OF
 CARBON UPTAKE AND EXPORT IN THE ROSS SEA,
 08/31/2001 - 09/30/2004 FY03: \$87,213 Total: \$167,896
Prin. Invest.: K ARRIGO
Tech. Officer: GSFC/J MARRA
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11439 **STANFORD UNIV**
 DEVELOPMENT OF TRANSITION-EDGE SENSOR ARRAYS FOR I
 R/VISIBLE/UV IMAGING APPLICATIONS
 12/05/2001 - 12/31/2004 FY03: \$375,000 Total: \$760,000
Prin. Invest.: B CABRERA
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11573 **STANFORD UNIV**
 CONTINUED SCIENTIFIC ANALYSIS OF SEPS DATA DURING CY 2002, 2003 &
 2004
 01/07/2002 - 01/14/2005 FY03: \$30,000 Total: \$60,000
Prin. Invest.: M WALT
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11821 **STANFORD UNIV**
 PRECIPITATION OF ENERGETIC RADIATION BELT ELECTRON S BY
 LIGHTNING- GENERATED WHISTLERS
 03/01/2002 - 02/28/2005 FY03: \$86,280 Total: \$169,995
Prin. Invest.: U S INAN
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11918 **STANFORD UNIV**
 STUDIES OF PARTICLE ACCELERATION, TRANSPORT AND RADIATION IN
 THE IMPULSIVE PHASE OF SOLAR FLARES
 04/03/2002 - 03/14/2005 FY03: \$84,913 Total: \$163,674
Prin. Invest.: V PETROSIAN
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 11955 **STANFORD UNIV**
 DESIGNS FOR A VIRTUAL SOLAR OBSERVATORY
 04/11/2002 - 04/30/2003 FY03: \$0 Total: \$70,052
Prin. Invest.: P H SCHERRER
Tech. Officer: GSFC/J GURMAN
CASE Category: 11 – ASTRONOMY

NAG 5 11972 **STANFORD UNIV**
 HIGH RESOLUTION X-RAY PROPERTIES OF BL LACS: AN XM M SURVEY
 04/26/2002 - 04/30/2003 FY03: \$0 Total: \$7,266
Prin. Invest.: G MADEJSKI
Tech. Officer: GSFC/R MUTSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 12111 **STANFORD UNIV**
 SPATIAL AND SPECTRAL STRUCTURE OF FLARES FROM HESS I
 04/29/2002 - 04/30/2005 FY03: \$74,762 Total: \$143,609
Prin. Invest.: V PETROSIAN
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12315 **STANFORD UNIV**
 DEVELOPMENT OF VETO FOR CONSTELLATION-X TES X-RAY DETECTOR
 ARRAY
 07/17/2002 - 06/30/2004 FY03: \$41,587 Total: \$77,368
Prin. Invest.: B CABRERA
Tech. Officer: GSFC/C K STAHL
CASE Category: 13 – PHYSICS

NAG 5 12452 **STANFORD UNIV**
 HELIOTOMOGRAPHY TOOLS FOR STUDYING INTERIOR SOURCE S OF
 SOLAR ACTIVITY
 08/15/2002 - 08/14/2005 FY03: \$0 Total: \$364,628
Prin. Invest.: P H SCHERRER
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12656 **STANFORD UNIV**
 SATELLITE TEST OF EQUIVALENCE PRINCIPLE (STEP)
 11/04/2002 - 10/31/2003 FY03: \$392,077 Total: \$392,077
Prin. Invest.: F EVERITT
Tech. Officer: GSFC/L CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12663 **STANFORD UNIV**
 A RESEARCH AND EDUCATION PLAN IN MARINE BIOGEOCHEMICAL
 CYCLES
 11/04/2002 - 10/31/2006 FY03: \$101,169 Total: \$101,169
Prin. Invest.: A PAYTAN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12673 **STANFORD UNIV**
 INVESTIGATION OF THE REACTIONS AND DISTRIBUTION OF POLYCYCLIC
 AROMATIC HYDROCARBONS AND FULLERENES
 11/13/2002 - 07/31/2005 FY03: \$130,000 Total: \$130,000
Prin. Invest.: R ZARE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 5 12973 **STANFORD UNIV**
 ANALYSIS & INTERPRETATION OF MILLIMETRIC SUNYAEZ-Z EL'DOVICH
 OBSERVATIONS
 03/13/2003 - 03/14/2008 FY03: \$70,000 Total: \$70,000
Prin. Invest.: N AVAILABLE
Tech. Officer: GSFC/S CHURCH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13000 **STANFORD UNIV**
 PROBING THE PHYSICS OF HIGH ENERGY SPECTRA OF NGC 4151 AND IC
 4329A WITH INTEGRAL
 04/01/2003 - 03/31/2004 FY03: \$12,000 Total: \$12,000
Prin. Invest.: G M MADEJSKI
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 13015 **STANFORD UNIV**
 DEVELOPMENT OF AN ATOM INTERFEROMETER GRAVITY GRAD IOMETER
 FOR SPACE FLIGHT
 03/13/2003 - 03/14/2004 FY03: \$152,915 Total: \$152,915
Prin. Invest.: P KASEVICH
Tech. Officer: GSFC/N DENNEHY
CASE Category: 13 – PHYSICS

NAG 5 13031 **STANFORD UNIV**
 ANALYSIS OF PLANNED & ARCHIVAL RXTE HARD X-RAY OBSERVATIONS OF
 CLUSTERS OF GALAXIES
 03/11/2003 - 03/14/2004 FY03: \$27,851 Total: \$27,851
Prin. Invest.: V PETROSIAN
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13261 **STANFORD UNIV**
 SOLAR OSCILLATIONS INVESTIGATION-MISSION OBSERVATIONS AND
 DATA ANALYSIS
 05/01/2003 - 07/14/2005 FY03: \$1,687,500 Total: \$1,687,500
Prin. Invest.: P H SCHERRER
Tech. Officer: GSFC/J B GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 13344 **STANFORD UNIV**
 NEUTRON STAR SPECTRA AND PULSES IN THE OPTICAL THROUGH X-RAY
 BANDS: TOWARDS NEW PROBES OF PULSARS
 04/16/2003 - 06/30/2006 FY03: \$67,101 Total: \$67,101
Prin. Invest.: R ROMANI
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13356 **STANFORD UNIV**
 IS THERE AN OBSCURED AGN IN THE NORMAL GALAXY IRAS F01063-8034
 04/23/2003 - 04/30/2004 FY03: \$16,987 Total: \$16,987
Prin. Invest.: G MADEJSKI
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13442 **STANFORD UNIV**
 COMPOSITION, PALEOENVIRONMENTAL DISTRIBUTION, AND PALEOECOL-
 OGY OF ARCHEAN BACTERIAL COMMUNITIES
 04/29/2003 - 07/31/2004 FY03: \$60,000 Total: \$60,000
Prin. Invest.: D LOWE
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NASA'S UNIVERSITY PROGRAM

CALIFORNIA

NAG 5 13568	STANFORD UNIV	NAS 1 00104	STANFORD UNIV
RADAR STUDIES OF PLANETARY SURFACES		AWARD CONTRACT RESULTING FROM NRA-99-OES-07	
08/07/2003 - 07/31/2006	FY03: \$47,000	05/25/2000 - 11/24/2003	FY03: \$85,716
<i>Prin. Invest.:</i> G TYLER	Total: \$47,000	<i>Prin. Invest.:</i> R L BYER	Total: \$898,692
<i>Tech. Officer:</i> GSFC/S SAUNDERS		<i>Tech. Officer:</i> LARC/F PERI	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 31 – ATMOSPHERIC SCIENCE	
NAG 5 13675	STANFORD UNIV	NAS 5 00147	STANFORD UNIV
CHARACTERIZING SUBSURFACE PROCESSES WITH SUBTLE DEFORMATION SIGNATURES USING ENVISAT SCANSAR		GAMMA RAY LARGE AREA SPACE TELESCOPE (GLAST)	
09/15/2003 - 09/14/2006	FY03: \$83,098	05/03/2000 - 04/14/2011	FY03: \$14,648,000
<i>Prin. Invest.:</i> H ZEBKER	Total: \$83,098	<i>Prin. Invest.:</i> P MICHELSON	Total: \$19,773,515
<i>Tech. Officer:</i> GSFC/H V FREY		<i>Tech. Officer:</i> GSFC/S LAMBROSS	
<i>CASE Category:</i> 13 – PHYSICS		<i>CASE Category:</i> 11 – ASTRONOMY	
NAG 8 1431	STANFORD UNIV	NAS 5 02139	STANFORD UNIV
R/S HIGH RESOLUTION STUDY OF THE CRITICAL REGION OF OXYGEN USING MAGNETIC LEVITATION		HELIOSEISMIC & MAGNETIC IMAGER(HMI) FOR THE SOLAR DYNAMICS OBSERVATORY(SDO) HELIOSEISMIC & MAGNETIC	
03/05/1998 - 01/31/2004	FY03: \$0	09/27/2002 - 10/10/2003	FY03: \$5,429,430
<i>Prin. Invest.:</i> J A LIPA	Total: \$582,455	<i>Prin. Invest.:</i> P SCHERRER	Total: \$5,429,430
<i>Tech. Officer:</i> MSFC/D HUBBARD		<i>Tech. Officer:</i> GSFC/J BLARCON	
<i>CASE Category:</i> 13 – PHYSICS		<i>CASE Category:</i> 12 – CHEMISTRY	
NAG 8 1439	STANFORD UNIV	NAS 8 39225	STANFORD UNIV
R/S FUNDAMENTAL PHYSICS EXPERIMENTS WITH SUPER- CONDUCTING CAVITY-STABILIZED OSCILLATORS ON SPACE		GRAVITY PROBE B SCIENCE MISSION INTERIM CONTRACT	
02/01/1998 - 01/31/2003	FY03: \$0	01/18/1995 - 09/30/2004	FY03: \$53,300,161
<i>Prin. Invest.:</i> J A LIPA	Total: \$1,077,500	<i>Prin. Invest.:</i> C W EVERITT, B PARKINSON	Total: \$422,808,110
<i>Tech. Officer:</i> MSFC/J W POE		<i>Tech. Officer:</i> MSFC/R S GEVEDEN, MSFC/B RANDOLPH	
<i>CASE Category:</i> 13 – PHYSICS		<i>CASE Category:</i> 13 – PHYSICS	
NAG 8 1772	STANFORD UNIV	NCC 1 03016	STANFORD UNIV
THE EFFECTS OF LARGE-SCALE ONE-DIMENSIONAL CONFINEMENT ON THE SPECIFIC HEAT OF HELIUM...		CONTROL CONCEPTS FOR IN-FLIGHT RECONFIGURABLE AIR VEHICLES	
05/04/2001 - 04/30/2003	FY03: \$50,000	04/14/2003 - 12/31/2003	FY03: \$95,334
<i>Prin. Invest.:</i> J A LIPA	Total: \$350,000	<i>Prin. Invest.:</i> I M KROO	Total: \$95,334
<i>Tech. Officer:</i> MSFC/D HUBBARD		<i>Tech. Officer:</i> LARC/M R WASZAK	
<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER		<i>CASE Category:</i> 41 – AERONAUTICAL ENGR	
NAG 8 1777	STANFORD UNIV	NCC 2 908	STANFORD UNIV
TEST OF FUNDAMENTAL PHYSICS THROUGH STUDIES OF SUPERFLUID HELIUM THREE		STUDIES OF PLANETARY RING SYSTEMS	
04/27/2001 - 09/30/2005	FY03: \$0	06/26/1995 - 05/31/2002	FY03: \$0
<i>Prin. Invest.:</i> D D OSHEROFF	Total: \$240,000	<i>Prin. Invest.:</i> A L TYLER, M R SHOWALTER	Total: \$839,827
<i>Tech. Officer:</i> MSFC/D HUBBARD		<i>Tech. Officer:</i> ARC/J N CUZZI	
<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER		<i>CASE Category:</i> 11 – ASTRONOMY	
NAG 8 1843	STANFORD UNIV	NCC 2 1010	STANFORD UNIV
PRODUCTION AND IN-FLIGHT REGENERATION OF ACTIVE BIOLOGICAL MEMBRANES		DECELOPMENT OF 3-D BIOMEDICAL COMPUTATION	
10/04/2001 - 11/30/2004	FY03: \$164,000	01/07/1998 - 12/31/2003	FY03: \$1,238,186
<i>Prin. Invest.:</i> C FRANK, G G FULLER, J R SWARTZ	Total: \$776,000	<i>Prin. Invest.:</i> S A SCHENDEL	Total: \$6,259,546
<i>Tech. Officer:</i> MSFC/B GYNES		<i>Tech. Officer:</i> ARC/J W HINES, ARC/R D BOYLE	
<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER		<i>CASE Category:</i> 56 – MEDICL	
NAG 8 1864	STANFORD UNIV	NCC 2 1151	STANFORD UNIV
STUDY OF BIOCHEMICAL PROCESSES AT THE SINGULAR MOLECULAR LEVEL		CENTER FOR TURBULENCE RESEARCH	
05/01/2002 - 01/31/2005	FY03: \$300,000	01/07/2000 - 01/31/2003	FY03: \$0
<i>Prin. Invest.:</i> S CHU	Total: \$450,000	<i>Prin. Invest.:</i> P MOIN	Total: \$3,587,000
<i>Tech. Officer:</i> MSFC/D HUBBARD		<i>Tech. Officer:</i> ARC/N N MANSOUR, ARC/M M ROGER	
<i>CASE Category:</i> 13 – PHYSICS		<i>CASE Category:</i> 46 – MECHANICAL ENGR	
		NCC 2 1154	STANFORD UNIV
		MULTIPLE COOPERATING ROBOTS	
		01/20/2000 - 06/30/2003	FY03: \$0
		<i>Prin. Invest.:</i> S ROCK	Total: \$569,999
		<i>Tech. Officer:</i> ARC/M G BUALAT	
		<i>CASE Category:</i> 22 – COMPUTER SCIENCE	

NCC 2 1175 **STANFORD UNIV**
 THE DEVELOPMENT OF A SOLID WASTE TREATMENT TECHNOLOGY FOR
 THE NEAR TERM HUMAN EXPLORATION OF MARS
 04/27/2000 - 03/31/2004 FY03: \$0 Total: \$343,360
Prin. Invest.: M REINHARD
Tech. Officer: ARC/M T FLYNN
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 2 5400 **STANFORD UNIV**
 SIMULATION-BASED DESIGN OF SMART NANOTUBE COMPOSITE MATERIALS
 09/25/2000 - 09/30/2002 FY03: \$0 Total: \$125,561
Prin. Invest.: K J CHO
Tech. Officer: ARC/H PARTIDGE, ARC/M MEYYAPPAN
CASE Category: 12 – CHEMISTRY

NCC 2 1208 **STANFORD UNIV**
 DOES MECHANICAL STIMULATION ALTER GENE EXPRESSION IN CELLS
 11/24/2000 - 11/14/2002 FY03: \$0 Total: \$40,000
Prin. Invest.: S K KIM
Tech. Officer: ARC/C A CONLEY, ARC/E M HOLTON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5422 **STANFORD UNIV**
 DESIGN OF PREDICTIVE MODELS OF NAS
 03/09/2001 - 06/30/2003 FY03: \$0 Total: \$90,000
Prin. Invest.: C TOMLIN
Tech. Officer: ARC/G MEYER, ARC/R BACH
CASE Category: 49 – ENGINEERING, OTHER

NCC 2 1300 **STANFORD UNIV**
 HIGH REGRESSION RATE FUELS FOR HYBRID COMBUSTION
 01/29/2002 - 07/14/2003 FY03: \$0 Total: \$200,853
Prin. Invest.: B J CANTWELL
Tech. Officer: ARC/G ZILLAC
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 2 5434 **STANFORD UNIV**
 NONINVASIVE INVESTIGATION OF BONE ADAPTATION IN HUMANS TO
 CUMULATIVE DAILY MECHANICAL LOADING
 04/26/2001 - 08/31/2003 FY03: \$0 Total: \$95,260
Prin. Invest.: N J PELC
Tech. Officer: ARC/R T WHALEN, ARC/S B ARNAUD
CASE Category: 56 – MEDICL

NCC 2 1345 **STANFORD UNIV**
 STUDIES OF PLANETARY RING SYSTEMS
 06/05/2002 - 05/31/2005 FY03: \$192,645 Total: \$301,265
Prin. Invest.: G L TYLER
Tech. Officer: ARC/J CUZZI, ARC/J LISSAUER
CASE Category: 11 – ASTRONOMY

NCC 2 5439 **STANFORD UNIV**
 SIMULATION BASED PROTOTYPED OF SOLID-STATE QUANTUM COMPUTERS:
 A PATHWAY FOR REVOLUTIONARY COMPUTING
 07/17/2001 - 07/31/2002 FY03: \$0 Total: \$42,719
Prin. Invest.: K CHO
Tech. Officer: ARC/H PATRIDGE, ARC/T R GORINDAN
CASE Category: 13 – PHYSICS

NCC 2 1371 **STANFORD UNIV**
 CENTER FOR TURBULENCE RESEARCH
 12/06/2002 - 11/30/2005 FY03: \$980,000 Total: \$980,000
Prin. Invest.: P MOIN, W C REYNOLDS
Tech. Officer: ARC/N MANSOUR, ARC/A WRAY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5444 **STANFORD UNIV**
 THREE DIMENSIONAL NUMERICAL SIMULATION OF NASA STU DIED MFD-
 BYPASS SCRAMJET ENGINES
 07/12/2001 - 09/30/2003 FY03: \$0 Total: \$75,000
Prin. Invest.: R W MACCORMICK
Tech. Officer: ARC/U B MANTA
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1388 **STANFORD UNIV**
 MODELING 21ST CENTURY PROJECT TEAMS: INTEGRATING WORKFLOW
 AND KNOWLEDGE NETWORK MODELS OF ORGANIZING
 01/23/2003 - 01/31/2004 FY03: \$100,000 Total: \$100,000
Prin. Invest.: R LEVITT
Tech. Officer: ARC/P JONES, ARC/J ORASANU
CASE Category: 79 – SOCIAL SCIENCE, OTHER

NCC 2 5446 **STANFORD UNIV**
 FABRICATION OF SILICON SUBSTRATES FOR CONTROLLED SYNTHESIS OF
 CARBON NANOTUBES
 07/16/2001 - 05/14/2003 FY03: \$0 Total: \$99,360
Prin. Invest.: Z X SHEN
Tech. Officer: ARC/H PATRIDGE, ARC/M MEYYAPPAN
CASE Category: 12 – CHEMISTRY

NCC 2 1397 **STANFORD UNIV**
 A MULTI LAYER ARCHITECTURE FOR NATURAL ACTIVITY ORIENTED
 DIALOGUE
 03/03/2003 - 09/30/2003 FY03: \$100,007 Total: \$100,007
Prin. Invest.: S PETERS
Tech. Officer: ARC/J HIERONYMUS
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5457 **STANFORD UNIV**
 DEVELOPMENT OF FUNDAMENTAL TECHNOLOGIES FOR COMPLEX MULTISCALE
 FLUID FLOW CALCULATIONS
 08/17/2001 - 08/14/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: T J HUGHES
Tech. Officer: ARC/N MANSOUR, ARC/T BARTH
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5377 **STANFORD UNIV**
 DEVELOPMENT AND APPLICATION OF NOVEL DIAGNOSTICS FOR ARC-JET
 CHARACTERIZATION
 04/03/2000 - 09/30/2002 FY03: \$0 Total: \$189,896
Prin. Invest.: R K HANSON
Tech. Officer: ARC/G A RAICHE, ARC/J H GRINSTEAD
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5467 **STANFORD UNIV**
 MOLECULAR DYNAMICS ON MASSIVELY PARALLEL COMPUTERS :
 TOWARDS BIOLOGICAL TIME SCALES
 09/28/2001 - 03/31/2004 FY03: \$0 Total: \$122,080
Prin. Invest.: E F DARVE
Tech. Officer: ARC/N N MANSOUR
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5475 **STANFORD UNIV**
 COMPUTATIONAL TECHNIQUES IN MULTIDIMENSIONAL NMR METHOD FOR
 HIGH-THROUGHPUT DETECTION OF METABOLITE
 11/19/2001 - 11/30/2003 FY03: \$0 Total: \$111,171
Prin. Invest.: R B LAUGHLIN
Tech. Officer: ARC/S LIANG
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5478 **STANFORD UNIV**
 MARS EXPLORATION ROVER (MER) WORK PRACTICE SUPPORT TOOL
 DESIGN
 01/31/2002 - 01/31/2003 FY03: \$10,681 Total: \$65,681
Prin. Invest.: L J LEIFER
Tech. Officer: ARC/J TRIMBLE
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5488 **STANFORD UNIV**
 NANOPORE SEQUENCING SOFTWARE DEVELOPMENT
 03/22/2002 - 03/14/2004 FY03: \$0 Total: \$92,882
Prin. Invest.: R W DAVIS
Tech. Officer: ARC/H PARTRIDGE, ARC/M MEYYAPPAN
CASE Category: 12 – CHEMISTRY

NCC 2 5489 **STANFORD UNIV**
 BREAST TISSUE PHYSIOLOGIC SIGNATURE CHARACTERIZATION USING
 THE NASA SMART PROBE
 07/11/2002 - 05/31/2003 FY03: \$0 Total: \$20,733
Prin. Invest.: S S JEFFREY
Tech. Officer: ARC/R MAH, ARC/R PAPASIN
CASE Category: 56 – MEDICL

NCC 2 5495 **STANFORD UNIV**
 COLLECTIVE CONTROL FOR AERONAUTICAL SYSTEMS
 06/06/2002 - 05/31/2003 FY03: \$0 Total: \$74,999
Prin. Invest.: I KROO
Tech. Officer: ARC/K TURNER, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5497 **STANFORD UNIV**
 FUNCTIONALITY AND EVOLUTIONARY HISTORY OF THE CHAPERONINS IN
 THERMOPHILIC ARCHAEA A BIOINFORMATICAL
 06/21/2002 - 06/30/2003 FY03: \$0 Total: \$22,000
Prin. Invest.: S KARLIN
Tech. Officer: ARC/J TRENT, ARC/M H KLISS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5502 **STANFORD UNIV**
 HIGH PERFORMANCE SCALABLE PARALLEL CODE FOR MOLECULAR
 SIMULATION IN ASTROBIOLOGY AND FUNDAMENTAL BI
 07/17/2002 - 09/30/2004 FY03: \$64,139 Total: \$144,237
Prin. Invest.: E F DARVE
Tech. Officer: ARC/N MANSOUR, ARC/A WRAY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5522 **STANFORD UNIV**
 DIODE LASER SENSORS FOR ARC JET CHARACTERIZATION
 09/10/2002 - 08/31/2004 FY03: \$71,000 Total: \$74,000
Prin. Invest.: R K HANSON
Tech. Officer: ARC/G RAICHE
CASE Category: 46 – MECHANICAL ENGR

NCC 2 5533 **STANFORD UNIV**
 NANOWIRE ELECTRONICS: GROWTH FABRICATION AND TESTING
 04/21/2003 - 03/31/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: Y NISHI
Tech. Officer: LARC/H PARTRIDGE, LARC/M MAYYAPPAN
CASE Category: 46 – MECHANICAL ENGR

NCC 2 5536 **STANFORD UNIV**
 DESIGN AND CONTROL OF PREDICTIVE MODELS OF NASA
 07/03/2003 - 06/30/2004 FY03: \$59,104 Total: \$59,104
Prin. Invest.: C TOMLIN
Tech. Officer: ARC/G MEYER, ARC/M BODINE
CASE Category: 49 – ENGINEERING, OTHER

NCC 2 5542 **STANFORD UNIV**
 ENERGY BALANCE ANALYSIS OF METABOLIC NETWORKS
 08/11/2003 - 08/31/2004 FY03: \$58,440 Total: \$58,440
Prin. Invest.: R B LAUGHLIN
Tech. Officer: ARC/S LIANG, ARC/B BIEGEL
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 5553 **STANFORD UNIV**
 COLD WATER MICROBIAL COMMUNITIES AND CARBONATES IN LAKES OF
 THE TORRES DEL PAINE NATIONAL PARK CHILE
 09/17/2003 - 08/14/2004 FY03: \$10,850 Total: \$10,850
Prin. Invest.: D LOWE
Tech. Officer: ARC/M KLISS
CASE Category: 32 – GEOLOGICAL SCIENCE

NCC 3 640 **STANFORD UNIV**
 ATTENUATION OF GAS TURBULENCE BY A NEARLY STATIONARY DISPERSION
 OF FINE PARTICLES
 08/18/1998 - 12/31/2002 FY03: \$0 Total: \$395,000
Prin. Invest.: J K EATON
Tech. Officer: GRC/F CHARIMONTE
CASE Category: 46 – MECHANICAL ENGR

NCC 8 197 **STANFORD UNIV**
 ACTIVE SENSING MONITORING OF CRYOGENIC COMPOSITE STRUCTURES
 FOR SPACE TRANSPORTATION APPLICATIONS.
 03/09/2000 - 03/05/2002 FY03: \$0 Total: \$290,000
Prin. Invest.: F CHANG
Tech. Officer: MSFC/A KELLEY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 1 02021 **STANFORD UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 07/24/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R TWIGGS, F J LI
Tech. Officer: LARC/R BRAUN
CASE Category: 41 – AERONAUTICAL ENGR

NGT 2 52267 **STANFORD UNIV**
 AN ALTERNATIVE TO PNEUMATIC CONTROL TECHNIQUES FOR ROLL-YAW
 CONTROL OF FLIGHT VEHICLES
 07/28/2000 - 06/30/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: S M ROCK
Tech. Officer: ARC/R D MEHTA, ARC/J C ROSS
CASE Category: 41 – AERONAUTICAL ENGR

NGT 2 52282 **STANFORD UNIV**
 VESTIBULO-OCULAR REFLEXES IN NORMAL AND OTOCONIA-D EFICIENT
 HEAD TILT (HET) MICE
 08/09/2001 - 07/31/2002 FY03: \$0 Total: \$21,000
Prin. Invest.: J RAYMOND
Tech. Officer: ARC/R D BOYLE, ARC/T INTRAVAIA
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 5 30204 **STANFORD UNIV**
 LAND-USE CHANGE, AGRICULTURAL RUNOFF, & GREENHOUSE GASES IN
 TWO ESTUARIES OF SOUTHERN SONORA MEXICO
 08/19/1999 - 08/31/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: P MATSON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30216 **STANFORD UNIV**
 PHYSIO-CHEMICAL AND BIOLOGICAL CONTROL OVER THE FA TE OF
 NITROGEN AND PHOSPHORUS IN TROPICAL SOIL
 08/24/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: P M VITOUSEK
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30342 **STANFORD UNIV**
 HYDROLIC APPLICATIONS OF SATELLITE RADAR INTERFERO METRY: LAND
 SUBSIDENCE OVER EXPLOITED AQUIFER SYS
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: H ZEBKER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30392 **STANFORD UNIV**
 RESOLVING THE RED SEA PARADOX: INTERANNUAL TO DEC ADAL VARI-
 ABILITY IN PRIMARY PRODUCTION AND CORA
 08/14/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: K ARRIGO
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30489 **STANFORD UNIV**
 PRIMARY PRODUCTION MODELING AND REMOTE SENSING. STUDENT:
 TASHA REDDY
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: K ARRIGO
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30496 **STANFORD UNIV**
 PLANT GROWTH RESPONSES IN A FERTILIZED WORLD. STUDENT: VIR-
 GINIA MATZEK
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P VITOUSEK
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30502 **STANFORD UNIV**
 MODELING DEFORMATION ON N SAN ANDREAS FAULT SYSTEM USING
 PERMANENT SCATTERER RADAR INTERFEROMETRY
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: H ZEBKER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50254 **STANFORD UNIV**
 MULTI-SPECTRAL OBSERVATIONS OF THE SOLAR CORONA, CHROMO-
 SPHERE AND TRANSITION REGION
 06/10/1999 - 06/30/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: A B WALKER, JR.
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50351 **STANFORD UNIV**
 NONLINEAR BEAM-PLASMA COUPLING OF THUNDERSTORM- GENERATED
 RELATIVISTIC ELECTRONS TO THE MAGNETOSPH
 05/10/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: U S INAN
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50358 **STANFORD UNIV**
 IP INFRASTRUCTURE FOR DISTRIBUTED SPACE SYSTEMS
 05/14/2001 - 07/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: A FOX
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50476 **STANFORD UNIV**
 EUROAN OCEAN CHEMISTRY AND THE SURVIVAL OF BIOMAR KERS ON
 THE EUROAN SURFACE. GSRP STUDENT: K
 05/05/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C CHYBA
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50477 **STANFORD UNIV**
 DEVELOPMENT & CHARACTERIZATION OF TRANSITION-EDGE SENSOR
 ARRAYS FOR IR/VISIBLE/UV ASTROPHYSICSAPLI
 05/06/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: B CABRERA
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9386 **THE SCRIPPS REASERCH INST (TSRI) -LA JOLLA**
 EVOLUTION OF CATALYIC RNA IN THE LABORATORY
 04/07/2000 - 03/31/2003 FY03: \$0 Total: \$849,061
Prin. Invest.: G JOYCE
Tech. Officer: HQ/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9604 **THE SCRIPPS REASERCH INST (TSRI) -LA JOLLA**
 A REGIONAL REAL-TIME, INTERACTIVE, GIS-BASED COMPU TATIONAL
 ENVIRONMENT FOR NASA'S DIRECT BROADCAST
 05/31/2000 - 05/31/2004 FY03: \$100,000 Total: \$900,000
Prin. Invest.: J J SIMPSON
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12160 **THE SCRIPPS REASERCH INST (TSRI) -LA JOLLA**
 THE USE OF INSOLU BLE AGGREGATES IN TEMPLATE LIGAT ION
 05/10/2002 - 05/14/2005 FY03: \$0 Total: \$217,476
Prin. Invest.: M GHADIRI
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1834 **THE SCRIPPS REASERCH INST (TSRI) -LA JOLLA**
CRYSTALLIZATION OF INTEGRAL MEMBRANE PROTEINS USING MOLECULAR BIOLOGY
09/19/2001 - 11/30/2004 FY03: \$401,250 Total: \$670,250
Prin. Invest.: G A CHANG
Tech. Officer: MSFC/B GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 1055 **THE SCRIPPS REASERCH INST (TSRI) -LA JOLLA**
SELF-REPRODUCING MOLECULAR SYSTEMS & DARWINIAN CHEMISTRY
08/27/1998 - 04/30/2004 FY03: \$889,656 Total: \$5,215,186
Prin. Invest.: R GHADIRI
Tech. Officer: ARC/L J CAROFF, ARC/S CHANG
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 5 11944 **UNIV. OF CALIFORNIA**
PROPOSAL FOR OPERATION OF THE EFW INSTRUMENTS ON THE CLUSTER SATELLITES AND FOR DATA ANALYSES
04/08/2002 - 03/31/2005 FY03: \$912,707 Total: \$1,860,000
Prin. Invest.: F S MOZER
Tech. Officer: GSFC/M GOLDSTEIN
CASE Category: 11 – ASTRONOMY

NAG 1 2191 **UNIV OF CALIFORNIA - BERKELEY**
MODELING ISOTOPE FRACTIONATION IN STRATOSPHERIC CO₂/N₂O/CH₄&O₃, INVEST STRATOSPHERIC CHEM/TRANSPORT, STRATOSPHERIC TROPOSPHERE
05/17/1999 - 03/30/2003 FY03: \$0 Total: \$282,801
Prin. Invest.: K A BOERING
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02083 **UNIV OF CALIFORNIA - BERKELEY**
MODELING ISOTOPE FRACTIONATION IN STRATOSPHERIC CO₂/N₂O/CH₄&O₃: INVEST STRATOSPHERIC CHEM/TRANSPORT, STRATOSPHERIC TROPOSPHERE
04/09/2002 - 04/08/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: K A BOERING
Tech. Officer: LARC/G L MADDREA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1351 **UNIV OF CALIFORNIA - BERKELEY**
EARLY GRAVITROPIC EVENTS IN ROOTS OF ARABIDOPSIS: CA₂⁺ & H⁺ FLUXES IN THE COLUMELLA CELLS
07/21/1999 - 07/31/2003 FY03: \$0 Total: \$417,034
Prin. Invest.: L J FELDMAN
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIRONMENTAL)

NAG 2 1359 **UNIV OF CALIFORNIA - BERKELEY**
COMPARATIVE ANALYSIS OF SEGMENTATION, DURING EMBRYOGENESIS, POSTEMBRYONIC GROWTH & REGENERATION, AM
07/23/1999 - 07/31/2003 FY03: \$0 Total: \$576,012
Prin. Invest.: D A WEISBLAT
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIRONMENTAL)

NAG 2 1361 **UNIV OF CALIFORNIA - BERKELEY**
HEMICHORDATES & THE ORIGIN OF CHORDATES
07/27/1999 - 08/31/2002 FY03: \$0 Total: \$538,726
Prin. Invest.: J C GERHART
Tech. Officer: ARC/M M AVERNER, ARC/G C JAHNS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIRONMENTAL)

NAG 2 1398 **UNIV OF CALIFORNIA - BERKELEY**
SUPERCONDUCTING BOLOMETERS OF INFRARED AND MILLIMETER WAVELENGTHS
03/16/2000 - 03/14/2003 FY03: \$0 Total: \$220,000
Prin. Invest.: P L RICHARDS
Tech. Officer: ARC/C MCCREIGHT
CASE Category: 13 – PHYSICS

NAG 2 1479 **UNIV OF CALIFORNIA - BERKELEY**
DETERMINISTIC & PROBABILISTIC HYBRID CONTROL OF A THERMODYNAMIC SYSTEM
05/01/2001 - 04/30/2003 FY03: \$0 Total: \$117,600
Prin. Invest.: S S SASTRY
Tech. Officer: ARC/G MEYER, ARC/M J BONDI
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1483 **UNIV OF CALIFORNIA - BERKELEY**
STABLE ISOTOPE MEASUREMENTS OF CO₂ & NO₂ FOR SOLVING CONSTRAINTS ON OBSERVED OZONE CHANGES DUE TO CHANGES IN STRATOSPHERIC OZONE
06/04/2001 - 09/30/2002 FY03: \$0 Total: \$25,000
Prin. Invest.: K A BOERING
Tech. Officer: ARC/R S HIPKIN, ARC/C SCOFIELD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1523 **UNIV OF CALIFORNIA - BERKELEY**
BIOGEOCHEMICAL MARS-LIKE ENVIRONMENTS (BIOMES)
09/17/2001 - 08/31/2004 FY03: \$125,000 Total: \$500,000
Prin. Invest.: J F BANFIELD
Tech. Officer: ARC/R GRAYMES, ARC/W DOLCI
CASE Category: 99 – MULTI INTERDISCIPLINARY, OTHER

NAG 2 1567 **UNIV OF CALIFORNIA - BERKELEY**
FROM LOW LEVEL PROTOCOLS TO MODELS OF THE NATIONAL AIRSPACE SYSTEM: A HYBRID SYSTEMS APPROACH
06/14/2002 - 06/14/2004 FY03: \$120,000 Total: \$169,870
Prin. Invest.: S S SASTRY, E A LEE
Tech. Officer: ARC/L TOBIAS, ARC/C QUINN
CASE Category: 41 – AERONAUTICAL ENGINEERING

NAG 2 1605 **UNIV OF CALIFORNIA - BERKELEY**
HEMICHORDATES AND THE ORIGIN OF CHORDATES
12/11/2002 - 11/30/2003 FY03: \$75,000 Total: \$75,000
Prin. Invest.: J C GERHART
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIRONMENTAL)

NAG 2 6067 **UNIV OF CALIFORNIA - BERKELEY**
KEPLER A SEARCH FOR TERRESTRIAL PLANETS
01/15/2003 - 09/30/2003 FY03: \$40,000 Total: \$40,000
Prin. Invest.: W J BORUCKI
Tech. Officer: ARC/D G KOEN, ARC/C K SOBECK
CASE Category: 11 – ASTRONOMY

NAG 3 2026 **UNIV OF CALIFORNIA - BERKELEY**
A FUNDAMENTAL STUDY OF SMOLDERING COMBUSTION IN MICROGRAVITY
03/14/1997 - 07/01/2003 FY03: \$69,000 Total: \$820,526
Prin. Invest.: A C FERNANDEZ-PELLO
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2103 **UNIV OF CALIFORNIA - BERKELEY**
 LOW EMISSION, HIGH PERFORMANCE GAS TURBINE ENGINES EXPERIMENT AND MODEL RESEARCH AND DEVELOPMENT
 03/04/1998 - 05/31/2002 FY03: \$0 Total: \$386,026
Prin. Invest.: R DIBBLE
Tech. Officer: GRC/R R TACINA, GRC/N S LIU
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 3 2152 **UNIV OF CALIFORNIA - BERKELEY**
 WEAKLY NONLINEAR DESCRIPTION OF PARAMETRIC INSTABILITIES
 06/09/1998 - 12/31/2002 FY03: \$0 Total: \$419,500
Prin. Invest.: E KNOBLOCK
Tech. Officer: GRC/J R SKARDA
CASE Category: 13 – PHYSICS

NAG 3 2876 **UNIV OF CALIFORNIA - BERKELEY**
 DEVELOPMENT OF HIGH SENSITIVITY SENSORS DEVELOPMENT OF HIGH SENSITIVITY SENSORS
 04/07/2003 - 09/30/2005 FY03: \$40,000 Total: \$40,000
Prin. Invest.: R E PACKARD
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3499 **UNIV OF CALIFORNIA - BERKELEY**
 COSMOLOGICAL STUDIES OF THE COSMIC MICROWAVE BACKGROUND
 11/27/1996 - 11/30/2001 FY03: \$0 Total: \$335,762
Prin. Invest.: M I DAVIS
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 3556 **UNIV OF CALIFORNIA - BERKELEY**
 A MULTI-WAVELENGTH STUDY OF A COMPLETE SAMPLE OF N
 01/04/1997 - 12/14/2002 FY03: \$0 Total: \$636,000
Prin. Invest.: A V FILIPPENKO
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 3596 **UNIV OF CALIFORNIA - BERKELEY**
 MISSION OPERATIONS AND DATA ANALYSIS FOR THE FAST AURORAL SNAPSHOT EXPLORER (FAST) MISSION
 01/25/1997 - 05/31/2002 FY03: \$333,397 Total: \$13,150,397
Prin. Invest.: C W CARLSON
Tech. Officer: GSFC/R F PFAFF, JR.
CASE Category: 12 – CHEMISTRY

NAG 5 4194 **UNIV OF CALIFORNIA - BERKELEY**
 SILICON DIFFRACTION GRATINGS FOR ULTRAVIOLET APPLICATIONS
 03/25/1997 - 03/31/2004 FY03: \$0 Total: \$468,848
Prin. Invest.: D V HURWITZ
Tech. Officer: GSFC/H HASAN
CASE Category: 11 – ASTRONOMY

NAG 5 4992 **UNIV OF CALIFORNIA - BERKELEY**
 HISTORICAL STUDIES ON EXTRATERRESTRIAL MATERIALS
 06/27/1997 - 12/31/2002 FY03: \$0 Total: \$992,000
Prin. Invest.: D NISHIZUMI
Tech. Officer: GSFC/J F BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 5213 **UNIV OF CALIFORNIA - BERKELEY**
 FUNDING FOR PHASE A OF THE CHIPS PROJECT P. I. - DR. M HURWITZ
 10/08/1998 - 10/31/2003 FY03: \$2,685,373 Total: \$16,479,773
Prin. Invest.: M HURWITZ
Tech. Officer: GSFC/D PIERCE
CASE Category: 13 – PHYSICS

NAG 5 5231 **UNIV OF CALIFORNIA - BERKELEY**
 TECHNOLOGY DEVELOPMENT FOR THE EXTREMELY-HEAVY GALACTIC COSMIC-RAY COMPOSITION OBSERVER (ECCO)
 05/17/1999 - 11/30/2003 FY03: \$0 Total: \$894,900
Prin. Invest.: A J WESTPHAL
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5312 **UNIV OF CALIFORNIA - BERKELEY**
 SOUNDING ROCKET EXPERIMENT TO EXPLORE ELECTRODYNAMICS COUPLING PULSATIONS IN THE CUSP
 02/06/2001 - 08/05/2003 FY03: \$0 Total: \$10,700
Prin. Invest.: G T DELORY
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5350 **UNIV OF CALIFORNIA - BERKELEY**
 THE NUCLEAR COMPTON TELESCOPE A BALLOON-BORNE GAMMA A-RAY SPECTROMETER, POLARIMETER, & IMAGER
 01/16/2002 - 11/30/2003 FY03: \$600,000 Total: \$750,000
Prin. Invest.: S BOGGS
Tech. Officer: GSFC/B MERRITT
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 5355 **UNIV OF CALIFORNIA - BERKELEY**
 SPEAR-RESEARCH CARRIER: SPECTROSCOPY OF PLASMA EVOLUTION FROM ASTROPHYSICAL RADIATION
 02/05/2002 - 02/03/2005 FY03: \$450,000 Total: \$1,099,993
Prin. Invest.: J EDELSTEIN
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5395 **UNIV OF CALIFORNIA - BERKELEY**
 RIO: THE R-PROCESS ISOTOPE OBSERVER FIRST YEAR OF THREE YEAR GRANT
 04/04/2003 - 09/30/2006 FY03: \$305,000 Total: \$305,000
Prin. Invest.: D WESTPHAL
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 6551 **UNIV OF CALIFORNIA - BERKELEY**
 ORIGIN AND EVOLUTION OF WHITE DWARF STARS: THE EARLY YEARS (LTS A)
 11/21/1997 - 11/30/2001 FY03: \$0 Total: \$270,162
Prin. Invest.: S VENNES
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 6552 **UNIV OF CALIFORNIA - BERKELEY**
 FOREGROUND ANALYSIS & REMOVAL FOR FUTURE CMB EXPERIMENTS (LTS A)
 11/21/1997 - 11/30/2003 FY03: \$0 Total: \$540,500
Prin. Invest.: G F SMOOT
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 6890 **UNIV OF CALIFORNIA - BERKELEY**
 VLA MONITORING OF JUPITER IN 3-D AT $\pm 6-90$ CM: 1981 - 1996
 01/21/1998 - 12/31/2002 FY03: \$0 Total: \$190,439
Prin. Invest.: I DE PATER
Tech. Officer: GSFC/J HILLMAN
CASE Category: 11 – ASTRONOMY

NAG 5 6928 **UNIV OF CALIFORNIA - BERKELEY**
ANALYSIS OF DATA FROM THE 3-D PLASMA AND ENERGETIC PARTICLE
EXPERIMENT ON THE GGS WIND SPACECRAFT
02/04/1998 - 01/31/2002 FY03: -\$30 Total: \$2,407,970
Prin. Invest.: R P LIN
Tech. Officer: GSFC/K OBILVIE
CASE Category: 13 – PHYSICS

NAG 5 7265 **UNIV OF CALIFORNIA - BERKELEY**
GALACTIC BLACK HOLES AND POSITRON ANNIHILATION RAD IATION
04/29/1998 - 11/30/2002 FY03: \$0 Total: \$140,000
Prin. Invest.: D M SMITH
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7580 **UNIV OF CALIFORNIA - BERKELEY**
"SEISMIC HAZARD ASSESSMENT OF THE HAYWARD FAULT, C A, FROM GPS
AND INSAR MEASUREMENT" (SE
08/04/1998 - 07/31/2002 FY03: \$0 Total: \$224,000
Prin. Invest.: R BURGMANN
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7755 **UNIV OF CALIFORNIA - BERKELEY**
DIRECT IMMERSION PROCESS FOR MCP PERFORMANCE IMPRO VEMENTS
12/08/1998 - 12/31/2002 FY03: \$0 Total: \$293,258
Prin. Invest.: D EDELSTEIN
Tech. Officer: GSFC/H HASAN
CASE Category: 11 – ASTRONOMY

NAG 5 7936 **UNIV OF CALIFORNIA - BERKELEY**
PROBING THE MORPHOLOGY, DYNAMICS AND INTERFACES OF THE
INTERSTELLAR MEDIUM (L TSA 98)
12/23/1998 - 12/31/2003 FY03: \$108,000 Total: \$424,000
Prin. Invest.: M COHEN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7951 **UNIV OF CALIFORNIA - BERKELEY**
CMES AND SOLAR MAGNETIC FIELD EVOLUTION: A SOHO G I PROPOSAL
12/21/1998 - 12/31/2001 FY03: \$0 Total: \$248,800
Prin. Invest.: J G LUHMANN
Tech. Officer: GSFC/J LING
CASE Category: 11 – ASTRONOMY

NAG 5 8078 **UNIV OF CALIFORNIA - BERKELEY**
O16LYSIS OF DAT FROM ELECTRIC FIELD EXPERIMENT ON POLAR 11
01/22/1999 - 04/30/2002 FY03: -\$7 Total: \$1,422,493
Prin. Invest.: F MOZER
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8098 **UNIV OF CALIFORNIA - BERKELEY**
THE MAGNETIC FIELDS OF T TAURI STARS
02/04/1999 - 02/14/2003 FY03: \$0 Total: \$115,000
Prin. Invest.: G H FISHER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8667 **UNIV OF CALIFORNIA - BERKELEY**
AN ADVANCED PHOTON COUNTING UV IMAGING DETECTOR
07/08/1999 - 07/14/2002 FY03: \$0 Total: \$299,600
Prin. Invest.: O H SIEGMUND
Tech. Officer: GSFC/G MUCKLOW
CASE Category: 11 – ASTRONOMY

NAG 5 8737 **UNIV OF CALIFORNIA - BERKELEY**
THE ROLE OF MULTI-SCALE LAND SURFACE HETEROLGENEIT Y IN
PRECIPITATION RECYCLING AND LAND ATMOSPHE
08/17/1999 - 08/14/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: X LIANG
Tech. Officer: GSFC/P T HOUSER
CASE Category: 39 – ENVIRONMENTALSCI, OTHER

NAG 5 8753 **UNIV OF CALIFORNIA - BERKELEY**
FLUXNET: UNIFYING A GLOBAL ARRAY OF TOWER FLUX NE TWORKS FOR
VALIDATING EOS TERRESTRIAL CARBON, WAT
08/12/1999 - 04/30/2002 FY03: -\$13,317 Total: \$539,257
Prin. Invest.: D BALDOCCHI
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8861 **UNIV OF CALIFORNIA - BERKELEY**
DETECTING EXTRASOLAR PLANETS
10/07/1999 - 06/30/2002 FY03: \$0 Total: \$466,247
Prin. Invest.: D W MARCY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8984 **UNIV OF CALIFORNIA - BERKELEY**
CORONAL HEATING DURING STELLAR FLARES & THE SEARCH FOR
PROTON BEAMS - FUSE
02/03/2000 - 01/31/2002 FY03: -\$10 Total: \$63,290
Prin. Invest.: G H FISHER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9091 **UNIV OF CALIFORNIA - BERKELEY**
RESEARCH IN FUV INTERFEROMETRIC SPECTROSCOPY III
02/17/2000 - 08/31/2003 FY03: \$0 Total: \$394,200
Prin. Invest.: J EDELSTEIN
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 9115 **UNIV OF CALIFORNIA - BERKELEY**
PHASE-A AND BRIDGE PHASE STUDY OF STEREO/WAVES ACCOMODATION
03/02/2000 - 03/31/2003 FY03: \$120,000 Total: \$441,725
Prin. Invest.: S BALE
Tech. Officer: GSFC/M L KAISER
CASE Category: 11 – ASTRONOMY

NAG 5 9149 **UNIV OF CALIFORNIA - BERKELEY**
ADVANCED MCP UV VISIBLE DETECTOR SYSTEMS
03/03/2000 - 03/14/2004 FY03: \$0 Total: \$547,000
Prin. Invest.: O SIEGMUND
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 9210 **UNIV OF CALIFORNIA - BERKELEY**
SWIFT PHASE B AND C/D
03/10/2000 - 08/14/2004 FY03: \$60,000 Total: \$268,156
Prin. Invest.: K HURLEY
Tech. Officer: GSFC/N GEHRELS
CASE Category: 11 – ASTRONOMY

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NAG 5 9231 **UNIV OF CALIFORNIA - BERKELEY**
 DEVELOPMENT OF A LONG-TERM INVENTORY OF FIRE BURNE D AREAS &
 EMISSIONS OF NORTH AMERICA'S BOREAL AN
 03/22/2000 - 04/30/2003 FY03: \$0 Total: \$189,023
Prin. Invest.: P GONG
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9260 **UNIV OF CALIFORNIA - BERKELEY**
 AN EXPERIMENTAL INVESTIGATION OF THE REACTION CHEM ISTRY OF
 ORGANIC MOLECULES IN COMETARY IMPACT
 03/17/2000 - 09/14/2003 FY03: \$0 Total: \$84,780
Prin. Invest.: J BLANK
Tech. Officer: GSFC/M MEYER
CASE Category: 12 – CHEMISTRY

NAG 5 9305 **UNIV OF CALIFORNIA - BERKELEY**
 DATA CALIBRATION AND SCIENTIFIC DEFINITION OF THE NEAR, LUNAR
 PROSPECTORAND MGS MAGNETOMETERS
 03/20/2000 - 02/28/2003 FY03: \$0 Total: \$65,641
Prin. Invest.: R LIN
Tech. Officer: GSFC/M H ACUNA
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 9317 **UNIV OF CALIFORNIA - BERKELEY**
 ENHANCEMENT OF THE GLOBAL SYSTEMS SCIENCE STUDENT GUIDE
 SERIES FOR THE DIGITAL EARTH INITIATIVE
 03/22/2000 - 03/31/2004 FY03: \$0 Total: \$352,250
Prin. Invest.: A GOULD
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9384 **UNIV OF CALIFORNIA - BERKELEY**
 MOLECULAR CARBON IN THE GALAXY
 04/04/2000 - 03/31/2003 FY03: \$0 Total: \$470,720
Prin. Invest.: R J SAYKALLY
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 13 – PHYSICS

NAG 5 9398 **UNIV OF CALIFORNIA - BERKELEY**
 BALLOON BORNE OBSERVATIONS OF THE POLARIZATION ANI SOTROPY
 OF THE COSMIC MICROWAVE BACKGROUND RADIAT
 04/06/2000 - 03/31/2003 FY03: \$0 Total: \$504,178
Prin. Invest.: P L RICHARDS
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 11 – ASTRONOMY

NAG 5 9514 **UNIV OF CALIFORNIA - BERKELEY**
 BIOSPHERE-ATMOSPHERE INTERACTIONS
 04/25/2000 - 04/30/2004 FY03: \$103,333 Total: \$930,000
Prin. Invest.: I FUNG
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9626 **UNIV OF CALIFORNIA - BERKELEY**
 NEW SOLAR MAX GRANT STUDIES OF GEOTAIL ELECTRIC FIELDS &
 PLASMA FIELDS
 05/22/2000 - 09/30/2001 FY03: -\$1 Total: \$95,033
Prin. Invest.: F MOZER
Tech. Officer: GSFC/D FAIRFIELD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9629 **UNIV OF CALIFORNIA - BERKELEY**
 CASSANDRA: A STORM BASED MODEL FOR FORECASTING THE INITIATION
 & RUNOUT OF DEBRIS FLOWS
 05/30/2000 - 05/31/2003 FY03: \$0 Total: \$230,000
Prin. Invest.: W E DIETRICH
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9864 **UNIV OF CALIFORNIA - BERKELEY**
 GEOLOGICAL ANALYSIS OF MARTIAN CRUSTAL MAGNETIC AMOMALIES
 08/25/2000 - 08/14/2003 FY03: \$0 Total: \$30,453
Prin. Invest.: M RICHARDS
Tech. Officer: GSFC/P TAYLOR
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10131 **UNIV OF CALIFORNIA - BERKELEY**
 CLUSTER ION COMPOSITION (CIS) EXPERIMENT
 12/27/2000 - 12/31/2003 FY03: \$894,000 Total: \$2,694,400
Prin. Invest.: G K PARKS
Tech. Officer: GSFC/M GOLDSTEIN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10300 **UNIV OF CALIFORNIA - BERKELEY**
 ELECTRON DYNAMICS IS SHOCK RAMPS
 01/30/2001 - 04/14/2003 FY03: \$0 Total: \$148,000
Prin. Invest.: L MUSCHIETTI
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10314 **UNIV OF CALIFORNIA - BERKELEY**
 THE SCIENCE EDUCATION GATEWAY II
 02/01/2001 - 01/31/2004 FY03: \$187,427 Total: \$487,427
Prin. Invest.: I HAWKINS
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10393 **UNIV OF CALIFORNIA - BERKELEY**
 A SEARCH FOR TRACE ELEMENTS IN ULTRAMASSIVE WHITE DWARF
 PHOTOSPHERES (FUSE 00)
 02/12/2001 - 12/31/2001 FY03: \$0 Total: \$5,605
Prin. Invest.: J DUPIUS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10411 **UNIV OF CALIFORNIA - BERKELEY**
 DEVELOPMENT OF CALORIMETRIC AEROGEL FOR CAPTURE OF INTER-
 PLANETARY & INTERSTELLAR GRAINS IN LOW EARTH
 04/10/2001 - 04/15/2002 FY03: -\$3 Total: \$52,497
Prin. Invest.: A WESTPHAL
Tech. Officer: GSFC/B BETTS
CASE Category: 11 – ASTRONOMY

NAG 5 10428 **UNIV OF CALIFORNIA - BERKELEY**
 3-D PLASMA AND ENERGETIC PARTICLES INVESTIGATION O N THE WIND
 SPACECRAFT
 02/23/2001 - 02/28/2003 FY03: \$0 Total: \$788,000
Prin. Invest.: R P LIN
Tech. Officer: GSFC/K OGILVIE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10466 **UNIV OF CALIFORNIA - BERKELEY**
 UVI DATA ANALYSIS
 03/08/2001 - 03/14/2003 FY03: \$0 Total: \$448,000
Prin. Invest.: G PARKS
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10471 **UNIV OF CALIFORNIA - BERKELEY**
 DUAL-SPACECRAFT INVESTIGATION OF SUBSTANTIAL SOLAR WIND
 PLASMA ENTRY ACROSS THE TAIL FLANK MAGENTOPA
 02/27/2001 - 02/28/2004 FY03: \$80,000 Total: \$234,100
Prin. Invest.: T PHAN
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10657 **UNIV OF CALIFORNIA - BERKELEY**
 THE STRUCTURE AND DYNAMICS OF GIANT HERBIG-HARO FLOWS
 03/20/2001 - 12/31/2003 FY03: \$0 Total: \$70,000
Prin. Invest.: W WELCH
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10664 **UNIV OF CALIFORNIA - BERKELEY**
 NUMERICAL SIMULATION OF 3D COMPACT EDDIES IN A PRO TOPLANETARY
 ACCRETION DISK; THEIR ROBUSTNESS AND
 03/21/2001 - 02/28/2004 FY03: \$50,000 Total: \$150,000
Prin. Invest.: P MARCUS
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10673 **UNIV OF CALIFORNIA - BERKELEY**
 ESTIMATING SOIL MOISTURE CHANGES USING RADARSAT & ITS APPLICA-
 TION IN HYDROLOGICAL MODELING
 03/27/2001 - 03/14/2004 FY03: \$0 Total: \$121,656
Prin. Invest.: X LIANG
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10710 **UNIV OF CALIFORNIA - BERKELEY**
 BEPOSAX GRBS (ADP 2000)
 04/23/2001 - 04/30/2002 FY03: \$0 Total: \$33,880
Prin. Invest.: K C HURLEY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10713 **UNIV OF CALIFORNIA - BERKELEY**
 ADVANCED ADIABATIC DEMAGNETIZATION REFRIGERATORS FOR CON-
 TINUOUS COOLING FROM 10K TO 50MK
 04/20/2001 - 04/30/2004 FY03: \$0 Total: \$93,390
Prin. Invest.: P L RICHARDS
Tech. Officer: GSFC/P J SHIRRON
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10715 **UNIV OF CALIFORNIA - BERKELEY**
 MATADOR IDPU & DCE TESTS
 04/12/2001 - 03/14/2003 FY03: \$0 Total: \$124,000
Prin. Invest.: D T DELORY
Tech. Officer: GSFC/W M FARREL
CASE Category: 13 – PHYSICS

NAG 5 10800 **UNIV OF CALIFORNIA - BERKELEY**
 CONCEPT STUDY FOR THE "STUDY OF GALACTIC PLASMA EVOLUTION
 WITH SPEAR" (SPEAR) MISSION AO-99-OSS-0
 04/30/2001 - 04/30/2002 FY03: -\$1 Total: \$251,178
Prin. Invest.: D EDELSTEIN
Tech. Officer: GSFC/J R BYRD
CASE Category: 11 – ASTRONOMY

NAG 5 10839 **UNIV OF CALIFORNIA - BERKELEY**
 3-D MHD TURBULENT DYNAMOS (ATP 2000)
 05/10/2001 - 06/30/2004 FY03: \$86,000 Total: \$249,000
Prin. Invest.: G H FISHER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10866 **UNIV OF CALIFORNIA - BERKELEY**
 ENRICHMENTS OF 3HE IN PLANETARY NEBULAE
 05/08/2001 - 11/14/2003 FY03: \$0 Total: \$49,000
Prin. Invest.: I ROTH
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10925 **UNIV OF CALIFORNIA - BERKELEY**
 CORONAL MODELS AND APPLICATIONS FOR LWS
 05/11/2001 - 05/14/2004 FY03: \$83,534 Total: \$246,088
Prin. Invest.: J G LUHMANN
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11055 **UNIV OF CALIFORNIA - BERKELEY**
 EFFECT OF IMF BY COMPONENT ON THERMOSPHERIC COMPOSITION
 06/18/2001 - 06/30/2004 FY03: \$94,704 Total: \$289,688
Prin. Invest.: T IMMEL
Tech. Officer: GSFC/M MELLOTT
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11179 **UNIV OF CALIFORNIA - BERKELEY**
 ORIGINS OF RECENT EROSIONAL FEATURES ON MARS: QUANTITATIVE
 ANALYSIS OF MOC AND MOLA DATA, PHYSICAL
 08/14/2001 - 08/14/2004 FY03: \$55,000 Total: \$165,000
Prin. Invest.: W DIETRICH
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11200 **UNIV OF CALIFORNIA - BERKELEY**
 INFERENCES OF REGIONAL CARBON EXCHANGE PROCESSES & THEIR
 VARIABILITY SINCE 1980
 08/10/2001 - 08/14/2004 FY03: \$188,431 Total: \$588,566
Prin. Invest.: I FUNG
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11333 **UNIV OF CALIFORNIA - BERKELEY**
 X-RAY SPECTROSCOPY OF LOW-LUMINOSITY ACTIVE GALACTIC NUCLEI
 WITH XMM
 10/26/2001 - 08/31/2003 FY03: \$0 Total: \$8,610
Prin. Invest.: E QUATAERT
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11394 **UNIV OF CALIFORNIA - BERKELEY**
 HIGH RESOLUTION CROSS-STRIP DETECTOR READ-OUT TECH NOLOGIES
 FOR SPACE ASTROPHYSICS APPLICATIONS
 12/03/2001 - 11/30/2004 FY03: \$180,000 Total: \$355,000
Prin. Invest.: O H SIEGMUND
Tech. Officer: GSFC/P CRANE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11416 **UNIV OF CALIFORNIA - BERKELEY**
 MO&DA OF THE ULTRA-VIOLET IMAGING (UVI) EXPERIMENT FOR THE
 POLAR EXTENDED MISSION.
 01/15/2002 - 12/31/2004 FY03: \$401,000 Total: \$777,750
Prin. Invest.: G PARKS
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11422 **UNIV OF CALIFORNIA - BERKELEY**
 SQUID READOUT MULTIPLEXER FOR SUPERCONDUCTING TES BOLOM-
 ETTER ARRAYS
 12/03/2001 - 11/30/2004 FY03: \$190,000 Total: \$380,000
Prin. Invest.: A LEE
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11451 **UNIV OF CALIFORNIA - BERKELEY**
 ADDING HETE-II AND '01 MARS ODYSSEY TO THE IPN
 12/27/2001 - 12/31/2004 FY03: \$45,000 Total: \$105,000
Prin. Invest.: K C HURLEY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11651 **UNIV OF CALIFORNIA - BERKELEY**
 FLUXNET, A GLOBAL NETWORK OF CARBON, WATER AND ENERGY FLUX
 MEASUREMENT SITES
 01/28/2002 - 01/31/2005 FY03: \$213,723 Total: \$424,325
Prin. Invest.: D BALDOCCHI
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11689 **UNIV OF CALIFORNIA - BERKELEY**
 MULTI-EPOCH XMM OBSERVATIONS OF NGC4258
 02/13/2002 - 02/14/2003 FY03: \$0 Total: \$13,132
Prin. Invest.: A V FILIPPENKO
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11733 **UNIV OF CALIFORNIA - BERKELEY**
 ANALYSIS OF DATA FROM THE ELECTRIC FIELD EXPERIMENT ON THE
 POLAR SATELLITE.
 02/25/2002 - 01/31/2005 FY03: \$363,000 Total: \$696,000
Prin. Invest.: F MOZER
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11769 **UNIV OF CALIFORNIA - BERKELEY**
 CHARTING PLANET FORMATION WITH DIRECT IMAGING AND STELLAR
 KINEMATICS
 02/26/2002 - 02/28/2005 FY03: \$35,000 Total: \$70,000
Prin. Invest.: P KALAS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11781 **UNIV OF CALIFORNIA - BERKELEY**
 ELECTRIC FIELD SENSORS FOR PLANETARY SUBSURFACE SOUNDING
 02/26/2002 - 02/29/2004 FY03: \$154,389 Total: \$317,585
Prin. Invest.: G DELORY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11804 **UNIV OF CALIFORNIA - BERKELEY**
 3D PLASMA AND ENERGETIC PARTICLES INVESTIGATION ON THE WIND
 SPACECRAFT; OPERATIONS AND DATA ANALYSIS
 03/27/2002 - 03/31/2005 FY03: \$140,000 Total: \$383,400
Prin. Invest.: R LIN
Tech. Officer: GSFC/K OGILVIE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11901 **UNIV OF CALIFORNIA - BERKELEY**
 ADVANCED HIGH-SENSITIVE-COSMOGENIC NUCLIDE MEASUREMENTS
 FOR SAMPLE RETURN
 04/04/2002 - 03/31/2005 FY03: \$223,000 Total: \$593,000
Prin. Invest.: K NISHIZUMI
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11902 **UNIV OF CALIFORNIA - BERKELEY**
 ROBUST EXTRACTION AND SUBSEQUENT HANDLING OF HYPER VELOCITY
 GRAINS CAPTURED IN AEROGEL COLLECT
 04/04/2002 - 03/31/2005 FY03: \$168,000 Total: \$312,000
Prin. Invest.: A J WESTPHAL
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11910 **UNIV OF CALIFORNIA - BERKELEY**
 AN ISOTOPIC APPROACH FOR DETERMINING THE INDUSTRIAL FRACTION
 OF TOTAL CH3BR SOURCE TO THE A
 04/19/2002 - 04/30/2004 FY03: \$75,000 Total: \$150,000
Prin. Invest.: A GOLDSTEIN
Tech. Officer: GSFC/M KURYLO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11914 **UNIV OF CALIFORNIA - BERKELEY**
 THE PHYSICS OF ACTIVE REGIONS
 03/21/2002 - 04/30/2005 FY03: \$132,094 Total: \$261,847
Prin. Invest.: G H FISHER
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 11987 **UNIV OF CALIFORNIA - BERKELEY**
 CLUSTER-II/GEOTAIL INVESTIGATION OF THE LARGE-SCALE NATURE OF
 RECONNECTION
 04/18/2002 - 04/30/2005 FY03: \$79,402 Total: \$157,318
Prin. Invest.: T PHAN
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12004 **UNIV OF CALIFORNIA - BERKELEY**
 CORRELATIVE STUDIES OF IONS AND FIELDS MEASURED BY THE CLUS-
 TER SPACECRAFT
 04/12/2002 - 04/14/2005 FY03: \$97,143 Total: \$185,712
Prin. Invest.: J P MCFADDEN
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12031 **UNIV OF CALIFORNIA - BERKELEY**
 FORMATION AND COLLIMATION OF PULSAR WINDS
 04/12/2002 - 04/14/2005 FY03: \$60,285 Total: \$145,315
Prin. Invest.: J ARONS
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12039 **UNIV OF CALIFORNIA - BERKELEY**
 A SURVEY OF THE SPATIAL, TEMPORAL, AND STATISTICAL PROPERTIES OF
 HIGH-ALTITUDE AURORAL ZONE ELECTRIC
 04/12/2002 - 04/14/2005 FY03: \$77,983 Total: \$155,966
Prin. Invest.: J BONNELL
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12042 **UNIV OF CALIFORNIA - BERKELEY**
 THE FORMATION OF HIGH MASS STARS
 04/17/2002 - 04/14/2005 FY03: \$58,502 Total: \$111,971
Prin. Invest.: R I KLEIN
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12043 **UNIV OF CALIFORNIA - BERKELEY**
 ACCRETION ONTO MASSIVE BLACK HOLES IN LOW-LUMINOSITY GALACTIC
 NUCLEI
 04/17/2002 - 04/14/2005 FY03: \$53,407 Total: \$139,237
Prin. Invest.: E QUATAERT
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12062 **UNIV OF CALIFORNIA - BERKELEY**
 THERMAL RADIO MAPS OF JUPITER
 04/18/2002 - 04/30/2005 FY03: \$100,000 Total: \$197,775
Prin. Invest.: I DEPATER
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12090 **UNIV OF CALIFORNIA - BERKELEY**
 JUPITER ANALOGS AND ROCKY PLANETS: TOWARD 1M/S PRECISION
 05/02/2002 - 06/30/2005 FY03: \$268,317 Total: \$518,317
Prin. Invest.: G W MARCY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12167 **UNIV OF CALIFORNIA - BERKELEY**
 CHONDRITIC METEORITES AND PLANETESIMALS
 05/14/2002 - 05/14/2005 FY03: \$40,000 Total: \$80,000
Prin. Invest.: A GLASSGOLD
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12173 **UNIV OF CALIFORNIA - BERKELEY**
 THE FORMATION AND EVOLUTION OF DARK MATTER HALOS
 05/15/2002 - 04/14/2005 FY03: \$60,611 Total: \$141,222
Prin. Invest.: C M MA
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12193 **UNIV OF CALIFORNIA - BERKELEY**
 MULTI-WAVELENGTH VISIBILITY OBSERVATIONS OF CIRCUMSTELLAR
 MATERIAL WITH THE KECK INTERFEROMETER
 05/23/2002 - 05/31/2004 FY03: \$0 Total: \$48,022
Prin. Invest.: C TOWNES
Tech. Officer: GSFC/D DANCHI
CASE Category: 11 – ASTRONOMY

NAG 5 12232 **UNIV OF CALIFORNIA - BERKELEY**
 A FAR UV STUDY OF HV ATOMIC AND MOLECULAR GAS ASSOCIATED WITH
 THE EVOLVED SHALN 147 SNR.
 06/06/2002 - 06/14/2003 FY03: \$0 Total: \$60,000
Prin. Invest.: B Y WELSH
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12324 **UNIV OF CALIFORNIA - BERKELEY**
 THE HALO'S O VI INTENSITY (FUSE 01)
 08/12/2002 - 09/30/2003 FY03: \$0 Total: \$10,000
Prin. Invest.: O W SIEGMUND
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12424 **UNIV OF CALIFORNIA - BERKELEY**
 INVESTIGATING OVI EMISSION IN THE ERIDANUS SUPER BUBBLE (FUSE
 2001)
 08/06/2002 - 05/31/2004 FY03: \$0 Total: \$79,400
Prin. Invest.: O W SIEGMUND
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12437 **UNIV OF CALIFORNIA - BERKELEY**
 THE SUNYAEV-ZEL'DOVICH EFFECT(S)
 08/05/2002 - 04/14/2005 FY03: \$64,953 Total: \$159,098
Prin. Invest.: M WHITE
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12453 **UNIV OF CALIFORNIA - BERKELEY**
 MULTI-SPACECRAFT AND SIMULATION STUDY OF ENERGY TRANSPORT BY
 ALFVEN WAVES IN THE HIGH-LATITUDE
 08/15/2002 - 08/14/2004 FY03: \$75,659 Total: \$151,402
Prin. Invest.: C CHASTON
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12483 **UNIV OF CALIFORNIA - BERKELEY**
 A MULTISPACECRAFT INVESTIGATION OF SHOCK STRUCTURE AND UP-
 STREAM WAVES
 08/26/2002 - 08/31/2004 FY03: \$0 Total: \$60,796
Prin. Invest.: S D BALE
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12541 **UNIV OF CALIFORNIA - BERKELEY**
 SUDDEN OAK DEATH IN CALIFORNIA: SPATIAL ANALYSIS FOR TESTING
 HYPOTHESES OF DISEASE SPREAD
 08/29/2002 - 08/31/2005 FY03: \$0 Total: \$81,580
Prin. Invest.: N KELLY
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12590 **UNIV OF CALIFORNIA - BERKELEY**
 SCIENCE OPERATION AND DATA ANALYSIS FOR THE FAST AURORAL
 SNAPSHOT EXPLORER (FAST) MISSION.
 09/20/2002 - 03/14/2004 FY03: \$949,999 Total: \$1,169,234
Prin. Invest.: D W CARLSON
Tech. Officer: GSFC/R PFAFF
CASE Category: 11 – ASTRONOMY

NAG 5 12614 **UNIV OF CALIFORNIA - BERKELEY**
 ADDING INTEGRAL TO THE 3RD INTERPLANETARY NETWORK OF GRB
 DETECTORS
 12/31/2002 - 12/31/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: K HURLEY
Tech. Officer: GSFC/C SHRADER
CASE Category: 11 – ASTRONOMY

NAG 5 12706 **UNIV OF CALIFORNIA - BERKELEY**
 INTEGRAL STUDIES OF GAMMA-RAY BURSTS
 01/09/2003 - 01/14/2004 FY03: \$55,000 Total: \$55,000
Prin. Invest.: K C HURLEY
Tech. Officer: GSFC/C SHRADER
CASE Category: 11 – ASTRONOMY

NAG 5 12709 **UNIV OF CALIFORNIA - BERKELEY**
 EFFECT OF OUTGASSING FROM COMMON SPACECRAFT MATERIALS ON
 UV-TO-IR MIRROR REFLECTANCE
 01/07/2003 - 12/31/2005 FY03: \$80,000 Total: \$80,000
Prin. Invest.: B WELSH
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12710 **UNIV OF CALIFORNIA - BERKELEY**
 HIGH PERFORMANCE IMAGING MICROCHANNEL PLATE DETECTOR SYS-
 TEM FOR UV/VISIBLE ASTRONOMY
 12/30/2002 - 12/31/2005 FY03: \$190,000 Total: \$190,000
Prin. Invest.: O H SIEGMUND
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12711 **UNIV OF CALIFORNIA - BERKELEY**
 CHEMICAL METHODS TO INCREASE THE QUANTUM DETECTION EFFI-
 CIENCY OF MICROCHANNEL PLATE DETECTORS
 12/30/2002 - 12/31/2005 FY03: \$110,000 Total: \$110,000
Prin. Invest.: J EDELSTEIN
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12768 **UNIV OF CALIFORNIA - BERKELEY**
 CLUSTER-II/GEOTAIL INVESTIGATION OF THE ORIGIN OF THE COLD-DENSE
 PLASMA SHEET
 01/17/2003 - 01/14/2006 FY03: \$81,837 Total: \$81,837
Prin. Invest.: T PHAN
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12774 **UNIV OF CALIFORNIA - BERKELEY**
 FAST SURVEY OF THE PROPERTIES OF BROADBAND ELF WAVES & ION
 OUTFLOW ELECTRODYNAMICS IN THE CUSP
 01/21/2003 - 01/31/2006 FY03: \$99,980 Total: \$99,980
Prin. Invest.: J BONNELL
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12784 **UNIV OF CALIFORNIA - BERKELEY**
 ION ACCELERATION IN ALFVEN WAVES
 01/28/2003 - 01/14/2006 FY03: \$77,045 Total: \$77,045
Prin. Invest.: C CHASTON
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12816 **UNIV OF CALIFORNIA - BERKELEY**
 AN INVESTIGATION OF SOLAR WIND COHERENT STRUCTURE AND TUR-
 BULENCE USING WIND SPACECRAFT INSTRUMENTS
 01/29/2003 - 01/31/2005 FY03: \$37,262 Total: \$37,262
Prin. Invest.: S BALES
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12836 **UNIV OF CALIFORNIA - BERKELEY**
 ARE INTERACTING CORONAL MASS EJECTIONS ACCELERATING SOLAR
 ENERGETIC PARTICLES?
 02/06/2003 - 02/14/2004 FY03: \$45,638 Total: \$45,638
Prin. Invest.: S KRUCKER
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12862 **UNIV OF CALIFORNIA - BERKELEY**
 THE ORIGIN OF COLD SOLAR WIND ELECTRON DISTRIBUTIONS & THE
 IMPLICATIONS FOR MAGNETIC
 01/31/2003 - 01/31/2004 FY03: \$68,432 Total: \$68,432
Prin. Invest.: D E LARSON
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12941 **UNIV OF CALIFORNIA - BERKELEY**
 CHARACTERIZING THE LOCATION, DURATION, AND SPATIAL EXTENT OF
 MAGNETIC RECONNECTION IN THE DISTANT
 03/03/2003 - 02/28/2006 FY03: \$86,870 Total: \$86,870
Prin. Invest.: M OIEROSET
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12945 **UNIV OF CALIFORNIA - BERKELEY**
 GEOSPACE SCIENCE SUPPORTING RESEARCH & TECHNOLOGY PROGRAM
 (SR&T)
 02/27/2003 - 02/28/2006 FY03: \$96,533 Total: \$96,533
Prin. Invest.: J MCFADDEN
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12954 **UNIV OF CALIFORNIA - BERKELEY**
 ION ACCELERATION BY ALFVEN WAVES ABOVE THE AURORAL OVAL:
 OBSERVATIONS & SIMULATIONS
 03/06/2003 - 02/28/2006 FY03: \$77,045 Total: \$77,045
Prin. Invest.: C CHASTON
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12956 **UNIV OF CALIFORNIA - BERKELEY**
 A QUICK LOOK AT A DARK BURST, GRB001025
 03/06/2003 - 03/14/2004 FY03: \$39,500 Total: \$39,500
Prin. Invest.: K HURLEY
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 12989 **UNIV OF CALIFORNIA - BERKELEY**
 CHARACTERIZATION AND SIMULATIONS OF ION SOLITARY WAVES IN THE
 AURORAL ZONE
 03/06/2003 - 02/28/2006 FY03: \$85,922 Total: \$85,922
Prin. Invest.: L MUSCHIETTI
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13080 **UNIV OF CALIFORNIA - BERKELEY**
 INTEGRATING THE RHESI SPACECRAFT INTO THE 3RD INT ERPLANETARY NETWORK
 03/13/2003 - 03/14/2005 FY03: \$54,078 Total: \$54,078
Prin. Invest.: K HURLEY
Tech. Officer: GSFC/J HAYES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13093 **UNIV OF CALIFORNIA - BERKELEY**
 COSMIC-RAY ACCELERATION IN SN 1006: SYNCHROTRON RADIATION & NONTHERMAL BREMSSTRAHLUNG IN HARD
 03/24/2003 - 03/31/2004 FY03: \$15,000 Total: \$15,000
Prin. Invest.: S E BOGGS
Tech. Officer: GSFC/B TEEGARADEN
CASE Category: 11 – ASTRONOMY

NAG 5 13142 **UNIV OF CALIFORNIA - BERKELEY**
 PROPOSAL TO NASA TO SUPPORT BERKELEY'S ROLE IN THE SPI/INTEGRAL MISSION
 03/31/2003 - 03/31/2004 FY03: \$239,000 Total: \$239,000
Prin. Invest.: S E BOGGS
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 13273 **UNIV OF CALIFORNIA - BERKELEY**
 SEARCH FOR EVIDENCE OF DUST/GAS ESCAPE FROM THE MARTIAN MOON PHOBOS & DEIMOS FROM ELECTRON & MAG
 04/17/2003 - 04/14/2004 FY03: \$67,000 Total: \$67,000
Prin. Invest.: M OIEROSET
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13284 **UNIV OF CALIFORNIA - BERKELEY**
 DEVELOPMENT OF LUMINESCENT CALORIMETRIC AEROGEL FO R INTER-PLANETARY AND INTERSTELLAR DUST COLLECTIO
 04/07/2003 - 03/31/2006 FY03: \$219,674 Total: \$219,674
Prin. Invest.: A WESTPHAL
Tech. Officer: GSFC/S NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13291 **UNIV OF CALIFORNIA - BERKELEY**
 FURTHER PROBING OF THE CONNECTION BETWEEN THE LOCAL INTER-
 STELLAR CHIMNEY & THE INNER HALO
 04/10/2003 - 04/14/2004 FY03: \$22,800 Total: \$22,800
Prin. Invest.: B Y WELSH
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13339 **UNIV OF CALIFORNIA - BERKELEY**
 LABORATORY STUDIES OF LOW-TEMPERATURE RATE COEFFICIENTS: THE ATMOSPHERIC CHEMISTRY OF THE
 04/17/2003 - 04/14/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: S LEONE
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13349 **UNIV OF CALIFORNIA - BERKELEY**
 SATURN'S RING SYSTEM AT INFRARED AND RADIO WAVE- LENGHTS
 04/12/2003 - 04/14/2006 FY03: \$85,000 Total: \$85,000
Prin. Invest.: I DE-PATER
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13370 **UNIV OF CALIFORNIA - BERKELEY**
 OBSERVING THE JOVIAN RING SYSTEM WITH KECK AND HST DURING THE 2002-2003 RING PLANE CROSSING
 04/16/2003 - 04/14/2006 FY03: \$80,000 Total: \$80,000
Prin. Invest.: I DE-PATER
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13668 **UNIV OF CALIFORNIA - BERKELEY**
 MEASUREMENTS OF NO₂, EPN, EAN, NHO₃ AND HO₂NO₂ BY THERMAL DISSOCIATION & LASERINDUCED FLOURESCENCE
 09/30/2003 - 09/30/2006 FY03: \$219,258 Total: \$219,258
Prin. Invest.: R COHEN
Tech. Officer: GSFC/J GLEASON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13738 **UNIV OF CALIFORNIA - BERKELEY**
 TARGET OF OPPORTUNITY OBSERVATIONS OF ACTIVE SOFT GAMMA REPEATERS
 09/24/2003 - 09/30/2004 FY03: \$31,700 Total: \$31,700
Prin. Invest.: K C HURLEY
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 6 10 **UNIV OF CALIFORNIA - BERKELEY**
 SOUNDING ROCKET RESEARCH PROGRAM
 11/01/1980 - 12/31/2001 FY03: -\$17,521 Total: \$3,601,955
Prin. Invest.: C W CARLSON, F S MOZER, K A ANDERSON
Tech. Officer: GSFC/W B JOHNSON, GSFC/R H PLESS
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1458 **UNIV OF CALIFORNIA - BERKELEY**
 R/S EXPLOITING THE TEMPERATURE DEPENDENCE OF MAGNETIC SUS-
 CEPTIBILITY TO CONTROL CONVECTION
 02/15/1998 - 08/31/2002 FY03: -\$7,600 Total: \$332,410
Prin. Invest.: J W EVANS, F SZOFRAN
Tech. Officer: MSFC/P M DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1051 **UNIV OF CALIFORNIA - BERKELEY**
 GENESIS DISCOVERY MISSION
 08/19/1998 - 05/31/2004 FY03: \$26,300 Total: \$138,200
Prin. Invest.: K NISHIZUMI
Tech. Officer: JSC/K E CYR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 5 00133 **UNIV OF CALIFORNIA - BERKELEY**
 STEREO PHASE A CONCEPT STUDY FOR INSITU_POP5-22-00 MEASURE-
 MENTS OF PARTICLES &CME TRANSIENTS(IMPACT
 02/22/2000 - 11/30/2005 FY03: \$4,204,191 Total: \$9,581,776
Prin. Invest.: J LUHMAN, E STONE
Tech. Officer: GSFC/A HARPER
CASE Category: 13 – PHYSICS

NAS 5 02099 **UNIV OF CALIFORNIA - BERKELEY**
 TIME HISTORY OF EVENTS & MACROSCALE INTERACTIONS DURING SUBSTORMS (THEMIS) MISSION PHASE A EFFORT
 06/25/2002 - 09/30/2003 FY03: \$6,917,804 Total: \$7,367,804
Prin. Invest.: V ANGELOPOULOS
Tech. Officer: GSFC/C SAVINELL
CASE Category: 11 – ASTRONOMY

CALIFORNIA

NASA'S UNIVERSITY PROGRAM

NAS 5 98033 UNIV OF CALIFORNIA - BERKELEY
 PHASE A CONCEPT STUDY FOR HESSI INVESTIGATION
 11/19/1997 - 05/30/2005 FY03: \$3,661,000 Total: \$48,084,000
Prin. Invest.: R P LIN
Tech. Officer: GSFC/F SNOW
CASE Category: 11 – ASTRONOMY

NAS 5 99242 UNIV OF CALIFORNIA - BERKELEY
 FAST FLIGHT OPERATIONS
 10/01/1999 - 03/08/2004 FY03: \$300,000 Total: \$1,086,200
Prin. Invest.: C W CARLSON
Tech. Officer: GSFC/R PFAFF
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1125 UNIV OF CALIFORNIA - BERKELEY
 THE EXTRACTION OF POINT SOURCES FROM THE NIRS SPECTROMETER
 ABOARD THE INFRARED TELESCOPE IN SPACE
 06/14/1999 - 05/31/2003 FY03: \$0 Total: \$28,000
Prin. Invest.: M COHEN
Tech. Officer: ARC/D GOORVITCH
CASE Category: 11 – ASTRONOMY

NCC 2 1255 UNIV OF CALIFORNIA - BERKELEY
 2-DOF HAPTIC SIMULATION & PSYCHOPHYSICAL EXPERIMENTS
 05/03/2001 - 03/31/2003 FY03: \$0 Total: \$70,000
Prin. Invest.: H KAZEROONI
Tech. Officer: ARC/B ADELSTEIN, ARC/S R ELLIS
CASE Category: 46 – MECHANICAL ENGR

NCC 2 1347 UNIV OF CALIFORNIA - BERKELEY
 ENHANCED NANOMANIPULATION THROUGH HAPTIC AUGMENTATION
 06/05/2002 - 05/31/2005 FY03: \$40,000 Total: \$112,739
Prin. Invest.: H KAZEROONI
Tech. Officer: ARC/B A ADELSTEIN, ARC/S ELLIS
CASE Category: 46 – MECHANICAL ENGR

NCC 2 1387 UNIV OF CALIFORNIA - BERKELEY
 UC BERKELEY LABORATORY PHYSICS AND ENGINEERING TEST BED
 01/29/2003 - 12/31/2003 FY03: \$85,000 Total: \$85,000
Prin. Invest.: G COOPER
Tech. Officer: ARC/G A BRIGGS
CASE Category: 46 – MECHANICAL ENGR

NCC 2 1428 UNIV OF CALIFORNIA - BERKELEY
 AIR TRAFFIC MANAGEMENT OPTIMIZATION UNDER UNCERTAINTY
 09/19/2003 - 12/14/2004 FY03: \$100,000 Total: \$100,000
Prin. Invest.: M HANSEN
Tech. Officer: ARC/B SRIDHAR, ARC/K BILIMORA
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5334 UNIV OF CALIFORNIA - BERKELEY
 A STUDY OF THE STATIC & DYNAMIC AERODYNAMICS CHARACTERISTICS
 OF BLUNT PLANETARY PROBES
 07/19/1999 - 06/30/2002 FY03: \$0 Total: \$80,000
Prin. Invest.: G T CHAPMAN, M BROWN, A RAMSEY
Tech. Officer: ARC/P F WERCINSKI, ARC/T C TAM
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5388 UNIV OF CALIFORNIA - BERKELEY
 TOW-TANK STUDIES OF HELICOPTER VORTEX WAKE
 07/14/2000 - 09/30/2002 FY03: \$0 Total: \$65,000
Prin. Invest.: O SAVAS
Tech. Officer: ARC/F CARADONNA, ARC/C TUNG
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5416 UNIV OF CALIFORNIA - BERKELEY
 MASSIVE STAR FORMATION
 01/26/2001 - 02/14/2004 FY03: \$0 Total: \$126,706
Prin. Invest.: C F MCKEE
Tech. Officer: ARC/D J HOLLENBACH, ARC/G LAUGHLIN
CASE Category: 11 – ASTRONOMY

NCC 2 5455 UNIV OF CALIFORNIA - BERKELEY
 LONG TERM EXTREME ENVIRONMENT AND MARS ANALOG STUDIES IN
 THE ATACAMA DESERT
 08/09/2001 - 12/31/2003 FY03: \$21,474 Total: \$114,288
Prin. Invest.: R ADMUNDSON
Tech. Officer: ARC/C MCKAY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5461 UNIV OF CALIFORNIA - BERKELEY
 TOW-TANK STUDIES OF AIRCRAFT WAKE VORTEX INSTABILITIES
 09/26/2001 - 10/31/2003 FY03: \$0 Total: \$35,400
Prin. Invest.: O SAVAS
Tech. Officer: ARC/D A DURSTON
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5492 UNIV OF CALIFORNIA - BERKELEY
 EVOLUTION OF GAS AND DUST IN PROTOPLANETARY DISKS
 05/21/2002 - 05/31/2004 FY03: \$73,522 Total: \$129,334
Prin. Invest.: C F MCKEE
Tech. Officer: ARC/D HOLLENBACH, ARC/K R BELL
CASE Category: 11 – ASTRONOMY

NCC 2 5507 UNIV OF CALIFORNIA - BERKELEY
 MEASUREMENTS OF ROTOR FLOW FIELDS AND FORCES IN A WATER
 FACILITY AT LOW AND MODERATE REYNOLDS NUMBER
 08/01/2002 - 09/30/2003 FY03: \$0 Total: \$60,000
Prin. Invest.: O SAVAS
Tech. Officer: ARC/F X CARADONNA
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5548 UNIV OF CALIFORNIA - BERKELEY
 OPTICAL PROPERTIES OF PERIODIC NANOWIRE ARRAYS AND PASSIVE
 PHOTONIC CRYSTALS
 08/11/2003 - 07/31/2005 FY03: \$68,838 Total: \$68,838
Prin. Invest.: P YANG
Tech. Officer: ARC/T R GOVINDAN, ARC/B B BREGEL
CASE Category: 13 – PHYSICS

NCC 3 803 UNIV OF CALIFORNIA - BERKELEY
 FLAMMABILITY DIAGRAMS OF COMBUSTIBLE MATERIALS IN MICROGRAVITY
 05/31/2000 - 04/30/2004 FY03: \$140,000 Total: \$407,000
Prin. Invest.: D FERNANDEZ-PELLO
Tech. Officer: GRC/H D ROSS
CASE Category: 46 – MECHANICAL ENGR

NCC 3 833 UNIV OF CALIFORNIA - BERKELEY
 MICROGRAVITY PRODUCTION OF NANOPARTICLES OF NOVEL MATERIALS
 USING PLASMA SYNTHESIS
 12/13/2000 - 10/31/2004 FY03: \$75,000 Total: \$245,000
Prin. Invest.: M FRENKLACH
Tech. Officer: GRC/N D PILTCH
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 874 **UNIV OF CALIFORNIA - BERKELEY**
TWO DIMENSIONAL SMOLDERING & ITS TRANSITION TO FLAMING IN
MICROGRAVITY
03/14/2001 - 11/30/2004 FY03: \$120,000 Total: \$360,000
Prin. Invest.: C F PELLO
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 896 **UNIV OF CALIFORNIA - BERKELEY**
CARBON MONOXIDE AND SOOT FORMATION IN INVERSE DIFFUSION
FLAMES
06/06/2001 - 12/31/2003 FY03: \$0 Total: \$60,000
Prin. Invest.: C FERNANDEZ-PELLO
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 253 **UNIV OF CALIFORNIA - BERKELEY**
THE SUN-EARTH CONNECTION EDUCATION FORUM.
10/30/1997 - 11/14/2002 FY03: \$0 Total: \$5,211,484
Prin. Invest.: I HAWKINS
Tech. Officer: GSFC/J THIEMAN
CASE Category: 13 – PHYSICS

NCC 5 352 **UNIV OF CALIFORNIA - BERKELEY**
SOIL BIOGEOCHEMISTRY OF CARBON, NUTRIENTS, & TRACE GASES IN
THE AMAZON REGION OF BRAZIL: FIELD & MOD
07/28/1998 - 12/31/2002 FY03: \$0 Total: \$227,478
Prin. Invest.: W SILVER
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 492 **UNIV OF CALIFORNIA - BERKELEY**
EO-1 & LANDSAT IMAGERY FOR MONITORING CALIFORNIA'S CONIFER
FOREST & HARDWOOD RANGELAND
04/12/2000 - 09/30/2003 FY03: \$0 Total: \$179,100
Prin. Invest.: P GONG
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 660 **UNIV OF CALIFORNIA - BERKELEY**
SUN-EARTH CONNECTION EDUCATION FORUM
10/25/2002 - 11/14/2007 FY03: \$2,038,117 Total: \$2,038,117
Prin. Invest.: I HAWKINS
Tech. Officer: GSFC/J THIEMAN
CASE Category: 11 – ASTRONOMY

NGT 1 03003 **UNIV OF CALIFORNIA - BERKELEY**
GRADUATE STUDENT RESEARCHERS PROGRAM
04/14/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: A M STACY, C R BECKER
Tech. Officer: LARC/C C FAY
CASE Category: 12 – CHEMISTRY

NGT 1 03009 **UNIV OF CALIFORNIA - BERKELEY**
GRADUATE STUDENT RESEARCHERS PROGRAM
04/15/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: A M STACY, L TRAHEY
Tech. Officer: LARC/N AVAILABLE
CASE Category: 12 – CHEMISTRY

NGT 2 52258 **UNIV OF CALIFORNIA - BERKELEY**
HIGH-RESOLUTION GROUND-BASED MAPPING OF TITAN'S SURFACE &
HAZE LAYER
08/11/1999 - 07/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: I DEPATER
Tech. Officer: ARC/C P MCKAY
CASE Category: 11 – ASTRONOMY

NGT 2 52278 **UNIV OF CALIFORNIA - BERKELEY**
COMPUTATIONAL INVESTIGATIONS OF MASSIVE STAR FORMATION
06/19/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: C F MCKEE
Tech. Officer: ARC/B J COLLINS
CASE Category: 11 – ASTRONOMY

NGT 2 52290 **UNIV OF CALIFORNIA - BERKELEY**
C AND N CYCLING AS INDICATORS OF BIOLOGICAL THRESHOLDS IN THE
ATACAMA DESERT CHILE
06/18/2002 - 07/31/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R G AMUNDSON
Tech. Officer: ARC/B J COLLINS, ARC/C F MCKAY
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 2 52298 **UNIV OF CALIFORNIA - BERKELEY**
SOIL FORMATION AND GEOMORPHOLOGY IN THE ATACAMA DESERT
CHILE
08/07/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R AMUNDSON
Tech. Officer: ARC/B J COLLINS, ARC/C P MCKAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30183 **UNIV OF CALIFORNIA - BERKELEY**
MEASUREMENT & MODELING OF CARBON, WATER & ENERGY OVER A
CALIFORNIA OAK SAVANNA: LINKING THE BIOPHYSICS
08/19/1999 - 12/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: T L BENNING
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30219 **UNIV OF CALIFORNIA - BERKELEY**
ATMOSPHERIC NO₂: LASER-INDUCED FLUORESCENCE DETECTION AT
THE PART PER TRILLION LEVEL FROM AIRCRAFT
08/24/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: R C COHEN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30351 **UNIV OF CALIFORNIA - BERKELEY**
THE IMPLICATIONS OF MICROBIAL DECOMPOSITION ON THE DISTRIBUTION
OF STABLE C & N ISOTOPES IN TERRESTRIA
08/24/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: I CHAPELA
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30361 **UNIV OF CALIFORNIA - BERKELEY**
INTEGRATING REMOTELY SENSED AFFORESTATION POTENTIAL WITH
CREDIT TRADING & TECHNICAL LEARNING IN MODERN
08/24/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D M KAMMEN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

CALIFORNIA

NASA'S UNIVERSITY PROGRAM

NGT 5 30380 UNIV OF CALIFORNIA - BERKELEY
 THE GLOBAL IRON GEOCHEMICAL CYCLE: CHARACTERIZING AEOLIAN
 IRON SOURCES TO THE OCEAN AND THE EFFECT
 08/13/2001 - 08/31/2004 FY03: \$30,368 Total: \$76,368
Prin. Invest.: D DE PAOLO
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30383 UNIV OF CALIFORNIA - BERKELEY
 GLOBAL TRENDS IN SOIL ORGANIC CARBON RESIDENCE TIME/JONATHAN
 SANDERMAN
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: R AMUNDSON
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30403 UNIV OF CALIFORNIA - BERKELEY
 ECOSYSTEM LEVEL IMPACTS OF CLIMATE WARMING & LOSS OF BIODI-
 VERSITY IN MONTANE MEADOW HABITAT/STUDENT
 08/14/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J HARTE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30424 UNIV OF CALIFORNIA - BERKELEY
 ANOMALOUS FRACTIONATION OF TROPOSPHERIC CO2 AS A POTENTIAL
 TRACER OF BIOSPHERE PRODUCTIVITY
 09/07/2001 - 09/14/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: K BOERING
Tech. Officer: GSFC/_ WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30463 UNIV OF CALIFORNIA - BERKELEY
 INTERACTIONS OF IRON BIOGEOCHEMISTRY WITH NITROGEN CYCLING
 IN TROPICAL FOREST_ STUDENT NAME: ERIC
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: M FIRESTONE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30473 UNIV OF CALIFORNIA - BERKELEY
 QUANTIFYING EVAPOTRANSPIRATION IN CALIFORNIA FOREST ECOSYS-
 TEMS: REMOTE SENSING VS. FLUX MEASUREMENTS
 08/27/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: Y QUI
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30493 UNIV OF CALIFORNIA - BERKELEY
 LAND COVER CLASSIFICATION USING MACHINE LEARNING STUDENT:
 DESHENG LIU
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P GONG
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30530 UNIV OF CALIFORNIA - BERKELEY
 A COMPARISON OF CARBON CYCLING & MATERIAL EXCHANGE IN LAND-
 SCAPES DOMINATED BY NATIVE & EXOTIC GRASSES
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J HARTE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30535 UNIV OF CALIFORNIA - BERKELEY
 STABILITY AND LOSS OF BURIED SOIL ORGANIC CARBON
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J HARTE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50188 UNIV OF CALIFORNIA - BERKELEY
 DIAMONDS IN GIANT PLANETS? EXPERIMENTS ON "PLANETARY ICES" AT
 HIGH PRESSURES AND TEMPERATURES
 05/27/1998 - 12/31/2001 FY03: -\$29 Total: \$65,971
Prin. Invest.: R JEANLOZ
Tech. Officer: HQ/A NURRIDIN
CASE Category: 13 – PHYSICS

NGT 5 50196 UNIV OF CALIFORNIA - BERKELEY
 FRAGMENTATION IN COLLAPSING NON-ISOTHERMAL MOLECULAR
 CLOUDS
 06/04/1998 - 09/30/2001 FY03: \$0 Total: \$66,000
Prin. Invest.: C F MCKEE
Tech. Officer: HQ/A NURRIDIN
CASE Category: 13 – PHYSICS

NGT 5 50253 UNIV OF CALIFORNIA - BERKELEY
 X-RAY SPECTROSCOPY OF EVOLVED SUPERNOVA REMNANTS
 06/07/1999 - 06/30/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: C F MCKEE
Tech. Officer: GSFC/L SMITH
CASE Category: 11 – ASTRONOMY

NGT 5 50331 UNIV OF CALIFORNIA - BERKELEY
 EFFECTS OF OXIDATION-DYNAMICS ON METHANE EFFLUX & STABLE
 ISOTOPE COMPOSITION IN HUMID TROPICA
 08/17/2000 - 08/31/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: W SILVER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50338 UNIV OF CALIFORNIA - BERKELEY
 LUNAR MAGNETIC AND ELECTRIC FIELDS (STUDENT: JASPER HALEKAS)
 05/04/2001 - 06/30/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: R LIN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50342 UNIV OF CALIFORNIA - BERKELEY
 DETERMINATION OF EVOLUTIONARY PARAMETERS IN POPULATIONS OF
 THERMOPHILIC ARCHAEA/STUDENT: RACHEL WHITA
 05/14/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J TAYLOR
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50365 UNIV OF CALIFORNIA - BERKELEY
 AN ELECTRON EDM MEASUREMENT UTILIZING A SLOW-BEAM ATOMIC
 FOUNTAIN/STUDENT: JASON AMINI
 06/12/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S FREEDMAN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50393 **UNIV OF CALIFORNIA - BERKELEY**
SUPPORT FOR RESEARCH ON THE NUCLEAR COMPTON TELE-
SCOPE/STUDENT: SUSAN AMROSE
05/23/2002 - 06/30/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: S BOGGS
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50424 **UNIV OF CALIFORNIA - BERKELEY**
VEGETATION CHANGE IN MONTANE MEADOWS ON THE KERN P LATEAU,
SIERRA NEVADA, CA (STUDENT: HEATHER SWART
08/14/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: C M D'ANTONIO
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50460 **UNIV OF CALIFORNIA - BERKELEY**
THE ORIGIN OF MOLECULAR CLOUDS (STUDENT: ERIC ROSOLOWSKY)
04/29/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: L BLITZ
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01045 **UNIV OF CALIFORNIA - DAVIS**
FURTHER DEVELOPMENT IN AERO-MECHANICAL DESIGN METHODOLO-
GIES FOR HIGH-LIFT SYSTEMS
04/11/2001 - 09/30/2002 FY03: \$0 Total: \$77,593
Prin. Invest.: C P VAN DAM
Tech. Officer: LARC/P A GELHAUSEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01116 **UNIV OF CALIFORNIA - DAVIS**
MODELING AND DESIGN ANALYSIS METHODOLOGY FOR TAYLORED COM-
POSITE AIRCRAFT STRUCTURES
09/21/2001 - 01/20/2004 FY03: \$55,916 Total: \$129,630
Prin. Invest.: L W REHFELD
Tech. Officer: LARC/D R AMBUR
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 03049 **UNIV OF CALIFORNIA - DAVIS**
COMPUTATIONAL MODULE FOR RAPID ANAL OF AIRCRAFT PERFORMANCE
AND STABILITY AND CONTROL
05/13/2003 - 01/12/2004 FY03: \$32,000 Total: \$32,000
Prin. Invest.: C P VAN DAM
Tech. Officer: LARC/L P OZOROSKI, LARC/R E MCKINLEY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1404 **UNIV OF CALIFORNIA - DAVIS**
EFFECTS OF GRAVITY ON INSECT CIRCADIAN RHYTHMICITY
04/27/2000 - 07/31/2003 FY03: \$0 Total: \$654,889
Prin. Invest.: T M HOBAN-HIGGINS
Tech. Officer: ARC/R D MACELROY, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1451 **UNIV OF CALIFORNIA - DAVIS**
EFFECTS OF HYPERGRAVITY ON RAT CIRCADIAN CLOCK GEN ES, REGU-
LATION & EXPRESSION
12/19/2000 - 12/14/2003 FY03: \$238,138 Total: \$718,255
Prin. Invest.: C A FULLER
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1494 **UNIV OF CALIFORNIA - DAVIS**
EFFECTS OF THE HYPERGRAVITY ON EXPRESSION OF GENES INVOLVED
IN REGULATION OF FEEDING
07/05/2001 - 06/30/2004 FY03: \$191,870 Total: \$469,195
Prin. Invest.: B A HORWITZ
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1558 **UNIV OF CALIFORNIA - DAVIS**
SECOND INTERNATIONAL CONFERENCE ON COMPUTATIONAL F LIUD
DYNAMICS
05/07/2002 - 04/30/2003 FY03: \$0 Total: \$35,000
Prin. Invest.: J J CHATTOT
Tech. Officer: ARC/E TU, ARC/W R VANDALSEM
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 8430 **UNIV OF CALIFORNIA - DAVIS**
THE FORMATION OF GALAXY CLUSTERS (LTS 98)
05/10/1999 - 05/14/2004 FY03: \$89,765 Total: \$448,825
Prin. Invest.: S STANFORD
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 9360 **UNIV OF CALIFORNIA - DAVIS**
NEW EOS DATA PRODUCTS TO IMPROVE BIOGEOCHEMICAL ESTIMATES
04/06/2000 - 04/30/2004 FY03: \$24,976 Total: \$602,230
Prin. Invest.: S USTIN
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9947 **UNIV OF CALIFORNIA - DAVIS**
X-RAYS FROM RADIO-LOUD BROAD ABSORPTION LINE QSOS
09/06/2000 - 09/14/2002 FY03: \$0 Total: \$30,500
Prin. Invest.: R H BECKER
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10480 **UNIV OF CALIFORNIA - DAVIS**
ERROR CONTROL CODING TECHNIQUES FOR SPACE AND SATE LLITE
COMMUNICATIONS
02/27/2001 - 06/30/2003 FY03: \$0 Total: \$140,000
Prin. Invest.: S LIN
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10591 **UNIV OF CALIFORNIA - DAVIS**
BIOGEOCHEMICAL CHARACTERIZATION OF LATE ARCHEAN FE NESTRATE
MICROBIALITES FROM THE GAMOHAAN FORMATION
03/20/2001 - 03/31/2004 FY03: \$73,400 Total: \$256,700
Prin. Invest.: D Y SUMNER
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 11098 **UNIV OF CALIFORNIA - DAVIS**
ANALYSIS & INTERPRETATION OF CMB DATA (LTSA 2000)
07/12/2001 - 07/14/2006 FY03: \$98,377 Total: \$175,023
Prin. Invest.: L KNOX
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

CALIFORNIA

NASA'S UNIVERSITY PROGRAM

NAG 5 11260 UNIV OF CALIFORNIA - DAVIS
 WESTERN CENTER FOR ESTUARINE ECOSYSTEM INDICATOR RESEARCH
 08/20/2001 - 08/31/2005 FY03: \$224,410 Total: \$376,520
Prin. Invest.: S USTIN
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11607 UNIV OF CALIFORNIA - DAVIS
 UNIFICATION OF QUASAR AND SEYFERT OUTFLOWS (L TSA 2 001)
 01/28/2002 - 06/30/2002 FY03: -\$63,478 Total: \$39,238
Prin. Invest.: N ARAV
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 12124 UNIV OF CALIFORNIA - DAVIS
 VELOCITY IMAGING STUDIES OF COMETARY MOLECULES
 04/30/2002 - 04/30/2005 FY03: \$99,465 Total: \$202,947
Prin. Invest.: W M JACKSON
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12373 UNIV OF CALIFORNIA - DAVIS
 A DETAILED STUDY OF TWO OPTICALLY-SELECTED, HIGH-R ED SHIFT
 CLUSTERS OF GALAXIES
 08/07/2002 - 09/14/2004 FY03: \$0 Total: \$22,243
Prin. Invest.: L M LUBIN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 12789 UNIV OF CALIFORNIA - DAVIS
 LOW DENSITY PARITY CHECK CODE FOR SATELLITE COMMUNICATIONS
 02/11/2003 - 02/28/2005 FY03: \$95,000 Total: \$95,000
Prin. Invest.: S LIN
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 13475 UNIV OF CALIFORNIA - DAVIS
 STUDIES OF VOLCANISM AND TECTONISM ON MARS AND THE MOON
 04/29/2003 - 04/14/2004 FY03: \$25,999 Total: \$25,999
Prin. Invest.: D TURCOTTE
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13678 UNIV OF CALIFORNIA - DAVIS
 ON-LINE TRACER SIMULATIONS USING A REGIONAL MESOSCALE MODEL
 09/23/2003 - 12/14/2003 FY03: \$15,036 Total: \$15,036
Prin. Invest.: S CHEN
Tech. Officer: GSFC/W TAO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13685 UNIV OF CALIFORNIA - DAVIS
 THE GALAXY CLUSTER MASS TX-RELATION AT HIGH RED SHIFT
 09/23/2003 - 09/14/2004 FY03: \$45,000 Total: \$45,000
Prin. Invest.: S A STANFORD
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13743 UNIV OF CALIFORNIA - DAVIS
 ANALYSIS OF SCIGN DATA: EVAL OF TOPOGRAPHIC SURFACE CHANGES &
 THEIR IMPLICATION FOR FUTURE DEFORMATION
 09/29/2003 - 09/30/2006 FY03: \$51,000 Total: \$51,000
Prin. Invest.: J B RUNDLE
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13771 UNIV OF CALIFORNIA - DAVIS
 RXTE, INTEGRAL, & RADIO OBSERVATIONS OF THE BLACK HOLE X-RAY
 TRANSIENT FU 1630-47
 09/30/2003 - 09/30/2004 FY03: \$13,160 Total: \$13,160
Prin. Invest.: J A TOMSICK
Tech. Officer: GSFC/J H SWANK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1048 UNIV OF CALIFORNIA - DAVIS
 MESOSCOPIC INSTRUMENTATION MINITURE FTIR FOR ENVIRONMENTAL
 MONITORING
 08/13/1998 - 05/01/2003 FY03: \$0 Total: \$401,700
Prin. Invest.: S D COLLINS
Tech. Officer: HQ/D L JAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 9 1474 UNIV OF CALIFORNIA - DAVIS
 MULTIPURPOSE FRUIT & VEGATABLE PROCESSING SYSTEM FOR AD-
 VANCED LIFE SUPPORT
 01/13/2003 - 01/12/2006 FY03: \$174,989 Total: \$174,989
Prin. Invest.: R SINGH
Tech. Officer: JSC/K DAUES
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1572 UNIV OF CALIFORNIA - DAVIS
 NEW DIRECTIONS IN BEHAVIORAL HEALTH: A WORKSHOP IN INTEGRATING
 RESEARCH & APPLICATION
 09/15/2003 - 06/30/2004 FY03: \$76,722 Total: \$76,722
Prin. Invest.: A A HARRISON
Tech. Officer: JSC/J DARDANO
CASE Category: 41 – AERONAUTICAL ENGR

NAG13 99023 UNIV OF CALIFORNIA - DAVIS
 USING REMOTE SENSING TO MONITOR THE IMPACTS OF FLOOD-
 IRRIGATION OF MEADOWS IN EAST WALKER RIVER
 08/25/1999 - 11/01/2003 FY03: \$0 Total: \$543,490
Prin. Invest.: K W TATE
Tech. Officer: SSC/R MCKELLIP
CASE Category: 32 – GEOLOGICAL SCIENCE

NCC 1 02010 UNIV OF CALIFORNIA - DAVIS
 DEVELOPMENT OF A DESIGN METHODOLOGY FOR RECONFIGURABLE
 FLIGHT CONTROL SYSTEMS
 02/12/2002 - 09/30/2002 FY03: -\$10,838 Total: \$20,182
Prin. Invest.: R A HESS
Tech. Officer: LARC/J B DAVIDSON, LARC/J G BATTERSON
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 02028 UNIV OF CALIFORNIA - DAVIS
 AERODYNAMIC SIMULATION OF AIRCRAFT AT DYNAMIC FLOW CONDITIONS
 06/19/2002 - 06/18/2004 FY03: \$59,845 Total: \$79,845
Prin. Invest.: C P VAN DAM
Tech. Officer: LARC/C M FREMAUX
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1183 UNIV OF CALIFORNIA - DAVIS
 MODELING ROTORCRAFT INTERACTION WITH ATMOSPHERIC TURBU-
 LENCE IN LOW-SPEED AND HOVERING FLIGHT
 06/07/2000 - 07/31/2003 FY03: \$0 Total: \$110,108
Prin. Invest.: R HESS
Tech. Officer: ARC/M B TISCHER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1271 **UNIV OF CALIFORNIA - DAVIS**
GRAVITATIONAL BIOLOGY: COMPARISON OF MAMMALIAN ADA PTATIONS TO GROUND-BASED MODELS
07/31/2001 - 06/30/2003 FY03: \$120,000 Total: \$613,072
Prin. Invest.: C A FULLER, D M MURAKAMI
Tech. Officer: ARC/E M HOLTON, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1352 **UNIV OF CALIFORNIA - DAVIS**
GRAVITY & THE INSECT CIRCADIAN TIMING SYSTEM
07/01/2002 - 12/31/2003 FY03: \$140,987 Total: \$160,987
Prin. Invest.: T M HOBAN-HIGGINS
Tech. Officer: ARC/B E GIRTIN, ARC/R BERHOLD
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1372 **UNIV OF CALIFORNIA - DAVIS**
CHARACTERIZATION OF VOLCANIC ROCK ALTERATION FOR M ARS STUD-IES
12/11/2002 - 11/30/2003 FY03: \$26,617 Total: \$26,617
Prin. Invest.: P SCHIFFMAN
Tech. Officer: ARC/M SCHULTE
CASE Category: 32 – GEOLOGICAL SCIENCE

NCC 2 5387 **UNIV OF CALIFORNIA - DAVIS**
DEVELOPMENT & APPLICATION OF A DATA MANAGEMENT TECHNIQUE WITHIN A DISTRIBUTED COMPUTING ENVIRONMENT
06/23/2000 - 06/30/2002 FY03: -\$54 Total: \$94,946
Prin. Invest.: M HAFEZ, J S DACLES-MARIANI
Tech. Officer: ARC/D KWAK
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5426 **UNIV OF CALIFORNIA - DAVIS**
METACOMPUTATIONS & SIMULATIONS OF SEPARATED FLOWS WITH APPLICATIONS TO AEROSPACE & BIOFLUID DYNAMICS
03/08/2001 - 02/29/2004 FY03: \$15,000 Total: \$185,000
Prin. Invest.: M HAFEZ, J J CHATTOT
Tech. Officer: ARC/D KWAK
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 2 5447 **UNIV OF CALIFORNIA - DAVIS**
DATA COMPRESSION VIA WAVELETS
08/14/2001 - 07/31/2002 FY03: \$0 Total: \$95,000
Prin. Invest.: M HAFEZ
Tech. Officer: ARC/D KWAK, ARC/C KIRIS
CASE Category: 21 – MATHEMATICS

NCC 2 5485 **UNIV OF CALIFORNIA - DAVIS**
A CFD BASED METHODOLOGY TO AUTOMATE THE GENERATION OF C81 AIRFOIL TABLES
03/01/2002 - 07/31/2003 FY03: \$0 Total: \$40,456
Prin. Invest.: C P VAN DAM
Tech. Officer: ARC/R STRAWN, ARC/C TUNG
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5512 **UNIV OF CALIFORNIA - DAVIS**
INTELLIGENT FLIGHT CONTROL
08/08/2002 - 11/30/2002 FY03: \$0 Total: \$15,000
Prin. Invest.: M HAFEZ
Tech. Officer: ARC/K G BURLET, ARC/G POWER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5531 **UNIV OF CALIFORNIA - DAVIS**
PRECONDITIONING TECHNIQUES FOR FLOW SIMULATIONS WITH APPLICATIONS TO PUMPS
03/03/2003 - 02/28/2005 FY03: \$95,000 Total: \$95,000
Prin. Invest.: M HAFEZ
Tech. Officer: ARC/D KWAK, ARC/C KIRIS
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 3 353 **UNIV OF CALIFORNIA - DAVIS**
ELECTROHYDRODYNAMIC POOLING IN REDUCED GRAVITY
06/29/1994 - 12/31/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: B D SHAW
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 46 – MECHANICAL ENGR

NCC 3 668 **UNIV OF CALIFORNIA - DAVIS**
THE IMPACT OF BUOYANCY AND FLAME STRUCTURE ON SOOT, RADIATION AND NOX EMISSIONS FROM A TURBULENT DI
02/12/1999 - 11/30/2003 FY03: \$0 Total: \$203,033
Prin. Invest.: I M KENNEDY
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 683 **UNIV OF CALIFORNIA - DAVIS**
COMBUSTION OF HAN-BASED MONOPROPELLANT IN REDUCED GRAVITY
03/08/1999 - 01/03/2004 FY03: \$0 Total: \$338,750
Prin. Invest.: B D SHAW
Tech. Officer: GRC/D L DIETRICH
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 845 **UNIV OF CALIFORNIA - DAVIS**
FLAME PROPAGATION IN LOW INTENSITY TURBULENCE UNDER MICROGRAVITY CONDITIONS
01/05/2001 - 11/30/2004 FY03: \$105,000 Total: \$280,500
Prin. Invest.: R C ALDREDGE
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 859 **UNIV OF CALIFORNIA - DAVIS**
MECHANISM OF CREEP OF CU-CR-NB ALLOYS MECHANISM OF CREEP OF CU-CR-NB ALLOYS
02/08/2001 - 01/14/2004 FY03: \$50,000 Total: \$130,000
Prin. Invest.: J GIBELING
Tech. Officer: GRC/M NATHAL
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 872 **UNIV OF CALIFORNIA - DAVIS**
ELECTRIC FIELD EFFECTS IN SELF-PRO PAGATING HIGH TEMPERATURE COMBUSTION SYNTHESIS UNDER MICROGRAVIT
03/19/2001 - 11/30/2004 FY03: \$90,000 Total: \$289,000
Prin. Invest.: Z A MUNIR
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 890 **UNIV OF CALIFORNIA - DAVIS**
COMBUSTION EXPERIMENTS IN REDUCED GRAVITY WITH TWO COMPONENT MISCIBLE DROPLETS
05/01/2001 - 08/28/2003 FY03: \$0 Total: \$356,838
Prin. Invest.: B D SHAW
Tech. Officer: GRC/D L DIETRICH
CASE Category: 49 – ENGINEERING, OTHER

NCC 4 155 **UNIV OF CALIFORNIA - DAVIS**
 QUANTITATIVE VISUALIZATION OF AIRCRAFT SURFACE FLO WS USING
 INFRARED THERMOGRAPHY
 05/09/2002 - 02/28/2003 FY03: \$0 Total: \$22,500
Prin. Invest.: D VANDAM
Tech. Officer: DFRC/D W BANKS
CASE Category: 41 – AERONAUTICAL ENGR

NCC 4 163 **UNIV OF CALIFORNIA - DAVIS**
 ANALYSIS OF AIRFOIL SURFACE TEMPERATURE DISTRIBUTIONS AT HIGH
 ALTITUDE CONDITIONS
 08/10/2003 - 11/30/2003 FY03: \$15,000 Total: \$15,000
Prin. Invest.: C VAN DAM
Tech. Officer: DFRC/D W BANKS
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 30187 **UNIV OF CALIFORNIA - DAVIS**
 FORMATION, DETECTION & QUANTIFICATION OF OXIDIZED HALOGEN
 SPECIES IN AEROSOLS FROM THE MARINE BOUND
 08/19/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: C ANASTASIO
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30352 **UNIV OF CALIFORNIA - DAVIS**
 ECOLOGICAL & ECONOMIC INFLUENCES ON SMALL-SCALE TROPICAL
 RAINFOREST SUCCESSION: AREMOTE SENSING
 08/24/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: S USTIN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30373 **UNIV OF CALIFORNIA - DAVIS**
 HYPERSPECTRAL REMOTE SENSING OF CORAL REEFS IN THE HAWAIIAN
 ISLANDS STUDENT: JAMES GOODMAN
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S USTIN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30411 **UNIV OF CALIFORNIA - DAVIS**
 EVALUATION BRDF MODELING STRATEGIES FOR BIOPHYSICAL PARAM-
 ETER RETRIEVAL THROUGH INVERSION, .../STUD
 08/15/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S USTIN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30451 **UNIV OF CALIFORNIA - DAVIS**
 EFFECTS OF GLOBAL CLIMATE CHANGE ON CALIFORNIA SAL T MARSHES:
 INTEGRATING REMOTE SENSING AND SPATIAL
 08/19/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: S L USTIN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50230 **UNIV OF CALIFORNIA - DAVIS**
 UTILIZING SCIGN VELOCITY SOLUTIONS TO MODEL LITHOSPHERIC
 PROCESSES IN THE WESTERN TRANSVERSE RANGE
 05/24/1999 - 06/30/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: L H KELLOGG, GLASCO
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50281 **UNIV OF CALIFORNIA - DAVIS**
 NEW APPROACHES TO CALCULATING GRAVITATIONAL RADIATION &
 RADIATION REACTION/STUDENT: JAMES R VAN MET
 06/20/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: S CARLIP
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50388 **UNIV OF CALIFORNIA - DAVIS**
 COSMOLOGY FROM GALAXY CLUSTER PECULIAR VELOCITIES (STUDEN-
 T: ALAN PEEL)
 06/03/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: L KNOX
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2308 **UNIV OF CALIFORNIA - IRVINE**
 DEVELOPMENT OF CHEMISTRY-TRANSPORT MODELS IN SUPPORT OF
 CLIMATE STUDIES AND ASSESSMENTS
 06/15/2000 - 03/14/2003 FY03: \$0 Total: \$318,619
Prin. Invest.: M J PRATHER
Tech. Officer: LARC/G L MADDREA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01001 **UNIV OF CALIFORNIA - IRVINE**
 REGIONAL CHEMISTRY FROM GLOBAL CTMS W/EC-MODELED MET-FIELDS
 FOR THE TRACE-P MISSION
 03/08/2001 - 03/14/2003 FY03: -\$1 Total: \$70,000
Prin. Invest.: M J PRATHER
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01006 **UNIV OF CALIFORNIA - IRVINE**
 COMPACT AIRBORNE SYS FOR S02 & DMS MEAS FOR USE OF FUTURE GTE
 MISSIONS ABOARD P-3 OR DC-8
 03/01/2001 - 03/31/2003 FY03: \$0 Total: \$81,988
Prin. Invest.: E S SALTZMAN
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02050 **UNIV OF CALIFORNIA - IRVINE**
 EXTENDING THE CAPABILITY OF CAPTSD TO ACCURATELY AND RELIABIL-
 ITY PREDICT BUFFET AND NONLINEAR
 02/07/2002 - 01/31/2004 FY03: \$84,003 Total: \$124,003
Prin. Invest.: F LIU
Tech. Officer: LARC/D M SCHUSTER, LARC/J W EDWARDS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02115 **UNIV OF CALIFORNIA - IRVINE**
 MLPG FOR THE ANALYSIS OF BUILT-UP STRUCTURES
 09/16/2002 - 04/15/2003 FY03: \$0 Total: \$65,000
Prin. Invest.: S N ATLURI
Tech. Officer: LARC/I S RAJU, LARC/J B RANSOM
CASE Category: 46 – MECHANICAL ENGR

NAG 2 1555 **UNIV OF CALIFORNIA - IRVINE**
 COLLABORATIVE SOFTWARE ENGINEERING TOLLS WORKSHOP AND FOL-
 LOW UP
 04/19/2002 - 10/14/2003 FY03: \$0 Total: \$92,796
Prin. Invest.: D REDMIRE
Tech. Officer: ARC/J PENIX, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2024 **UNIV OF CALIFORNIA - IRVINE**
 IGNITION AND FLAME SPREAD ABOVE LIQUID FUEL POOLS: GRAVITY EFFECTS
 03/01/1997 - 06/30/2002 FY03: \$0 Total: \$482,924
Prin. Invest.: W A SIRIGNANO
Tech. Officer: GRC/H D ROSS
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2226 **UNIV OF CALIFORNIA - IRVINE**
 APPLICATIONS OF ELECTRIC FIELD IN MICROGRAVITY COM BUSTION
 02/01/1999 - 01/31/2003 FY03: \$0 Total: \$338,800
Prin. Invest.: D DUNN-RANKIN
Tech. Officer: GRC/H D ROSS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2345 **UNIV OF CALIFORNIA - IRVINE**
 MIXING ENHANCEMENT AND NOISE REDUCTION IN HIGH-SPEED JETS
 03/07/2000 - 02/28/2004 FY03: \$132,925 Total: \$325,686
Prin. Invest.: D PAMAMOSCHOU
Tech. Officer: GRC/K Q ZAMAN
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2389 **UNIV OF CALIFORNIA - IRVINE**
 SUPERFLUID CONTACT LINE DYNAMICS SUPERFLUID CONTACT LINE DYNAMICS
 04/13/2000 - 11/30/2003 FY03: \$100,000 Total: \$340,000
Prin. Invest.: P TABOREK
Tech. Officer: GRC/R WILKINSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2775 **UNIV OF CALIFORNIA - IRVINE**
 IGNITION AND FLAME SPREAD ABOVE LIQUID FUEL POOLS: GRAVITY EFFECTS
 05/02/2002 - 12/31/2002 FY03: \$0 Total: \$43,500
Prin. Invest.: D A SIRIGNANO
Tech. Officer: GRC/H D ROSS
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2885 **UNIV OF CALIFORNIA - IRVINE**
 FUEL CELL SIMULATION IN NUMERICAL PROPULSION SYSTEMS SIMULATIONS
 07/01/2003 - 09/30/2003 FY03: \$26,927 Total: \$26,927
Prin. Invest.: S SAMULESON
Tech. Officer: GRC/J E FREEH
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2938 **UNIV OF CALIFORNIA - IRVINE**
 IGNITION AND FLAME SPREAD ABOVE LIQUID FUEL POOLS: GRAVITY EFFECTS
 09/02/2003 - 06/30/2005 FY03: \$72,090 Total: \$72,090
Prin. Invest.: W A SIRIGNANO
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 5149 **UNIV OF CALIFORNIA - IRVINE**
 DEVELOPMENT OF EMPIRICAL MODE DECOMPOSITION METHOD & HILBERT SPECTRAL ANALYSIS FOR ENGR APPLICATIONS
 09/09/1997 - 02/28/2004 FY03: \$0 Total: \$160,924
Prin. Invest.: J N YANG, Z SHEN
Tech. Officer: GSFC/S R LONG, GSFC/N E HUANG
CASE Category: 33 – OCEANOGRAPHY

NAG 5 5388 **UNIV OF CALIFORNIA - IRVINE**
 "ANITA: ANTARCTIC IMPULSIVE TRANSIENT ANTENNA" FIRST YEAR OF FIVE YEAR GRANT
 04/04/2003 - 09/30/2008 FY03: \$218,000 Total: \$218,000
Prin. Invest.: S BARWICK
Tech. Officer: GSFC/B MERRIT
CASE Category: 13 – PHYSICS

NAG 5 8685 **UNIV OF CALIFORNIA - IRVINE**
 PHOTOCHEMICAL APPLICATIONS OF AEROSOL CLIMATOLOGIE S
 07/16/1999 - 07/14/2002 FY03: \$0 Total: \$55,486
Prin. Invest.: M J PRATHER
Tech. Officer: GSFC/M I MISHCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8935 **UNIV OF CALIFORNIA - IRVINE**
 CONTINUED MONITORING & TRENDS OF SELECTED TRACE GASES AT REMOTE LOCATIONS BETWEEN 71 DEGREES
 01/13/2000 - 02/28/2003 FY03: \$0 Total: \$641,094
Prin. Invest.: D R BLAKE
Tech. Officer: GSFC/M KURYLO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9695 **UNIV OF CALIFORNIA - IRVINE**
 RESOURCE MANAGEMENT IN TIGHTLY COUPLED MULTIPROCESSORS
 07/03/2000 - 10/14/2003 FY03: \$0 Total: \$99,999
Prin. Invest.: I SCHERSON
Tech. Officer: GSFC/J DORBAND
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10147 **UNIV OF CALIFORNIA - IRVINE**
 EFFECTS OF LAND-USE ON CLIMATE AND WATER RESOURCES :APPLICATION OF A LAND-USE MANAGEMENT
 12/08/2000 - 09/30/2003 FY03: \$20,277 Total: \$59,647
Prin. Invest.: C ZENDER
Tech. Officer: GSFC/G GUTMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10546 **UNIV OF CALIFORNIA - IRVINE**
 INFLUENCE OF MINERAL DUST AEROSOL ON THE CHEMICAL COMPOSITION OF THE ATMOSPHERE
 03/14/2001 - 03/14/2004 FY03: \$0 Total: \$216,927
Prin. Invest.: ZENDER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10758 **UNIV OF CALIFORNIA - IRVINE**
 FE K-ALPHA EMISSION IN THE BRIGHT ELLIPTICAL GALAXY NGC 1399
 04/18/2001 - 09/30/2002 FY03: \$0 Total: \$31,500
Prin. Invest.: D BUOTE
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11272 **UNIV OF CALIFORNIA - IRVINE**
 ADDING NEW CAPABILITY TO CHEMISTRY-CLIMATE ASSESSMENTS THROUGH THE GLOBAL MODELLING INITIATIVE
 08/22/2001 - 08/31/2004 FY03: \$45,000 Total: \$90,000
Prin. Invest.: M PRATHER
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NAG 5 11429 **UNIV OF CALIFORNIA - IRVINE**
 MEASUREMENTS AND INTERPRETATIONS OF MIXING AND STABLE ISOTOPE RATIOS OF ATMOSPHERIC TRACE GASES CH4
 12/03/2001 - 11/30/2004 FY03: \$221,057 Total: \$444,135
Prin. Invest.: S TYLER
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11646 **UNIV OF CALIFORNIA - IRVINE**
 OPTIMAL LAND INITIALIZATION FOR SEASONAL CLIMATE PREDICTIONS
 02/01/2002 - 02/28/2003 FY03: \$0 Total: \$131,758
Prin. Invest.: J S FAMIGLIETTI
Tech. Officer: GSFC/M RIENECKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11718 **UNIV OF CALIFORNIA - IRVINE**
 SOIL MOISTURE VARIABILITY AND ITS ROLE IN LAND-ATMOSPHERE INTERACTION DURING SGP97
 03/14/2002 - 06/14/2003 FY03: \$0 Total: \$124,221
Prin. Invest.: J S FAMIGLIETTI
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11753 **UNIV OF CALIFORNIA - IRVINE**
 "A CATCHMENT-BASED GLOBAL RIVER ROUTING SCHEME FOR CLIMATE MODELS AND ASSIMILATION OF STEAMFLOW A
 02/25/2002 - 02/28/2005 FY03: \$55,000 Total: \$110,000
Prin. Invest.: J S FAMIGLIETTI
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12344 **UNIV OF CALIFORNIA - IRVINE**
 INITIALIZATION OF NSIPP LAND SURFACE MODEL SOIL WATER STATES FOR IMPROVED SEASONAL-TO-INTERANNUAL P
 07/29/2002 - 07/31/2004 FY03: \$0 Total: \$80,000
Prin. Invest.: J FAMIGIETTI
Tech. Officer: GSFC/M RIENECKER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12753 **UNIV OF CALIFORNIA - IRVINE**
 CONTINUED MONITORING AND TRENDS OF SELECTED TRACE GASES AT REMOTE LOCATIONS BETWEEN 71N AND 47S
 01/23/2003 - 02/29/2004 FY03: \$218,643 Total: \$218,643
Prin. Invest.: D BLAKE
Tech. Officer: GSFC/M KURYLO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13059 **UNIV OF CALIFORNIA - IRVINE**
 COMPREHENSIVE STUDY OF HOT BARYONS IN GALAXY GROUP S
 03/12/2003 - 03/14/2006 FY03: \$95,827 Total: \$95,827
Prin. Invest.: D BUOTE
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13143 **UNIV OF CALIFORNIA - IRVINE**
 NGC 5044: PROBING THE IRON ABUNDANCE AT LARGE RADII
 03/20/2003 - 03/31/2004 FY03: \$43,494 Total: \$43,494
Prin. Invest.: D A BUOTE
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13505 **UNIV OF CALIFORNIA - IRVINE**
 THE CARDIOVASCULAR SYSTEM IN MICROGRAVITY SYMPOSIUM
 08/28/2003 - 09/14/2003 FY03: \$6,045 Total: \$6,045
Prin. Invest.: R PURDY
Tech. Officer: GSFC/L CHAMBERS
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 5 13643 **UNIV OF CALIFORNIA - IRVINE**
 XMM TEMPERATURE MEASUREMENTS OF DARK GROUPS OF GALAXIES
 09/10/2003 - 09/14/2004 FY03: \$40,530 Total: \$40,530
Prin. Invest.: D A BUOTE
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13693 **UNIV OF CALIFORNIA - IRVINE**
 A FULLY MERGED OPTICALLY DARK GROUP
 09/24/2003 - 09/30/2004 FY03: \$45,783 Total: \$45,783
Prin. Invest.: D A BUOTE
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 13 – PHYSICS

NAG 8 1437 **UNIV OF CALIFORNIA - IRVINE**
 RESEARCH/3HE-4HE MIXTURES AND DROPLETS STABILIZED IN CESIATED CONTAINERS
 03/23/1998 - 01/31/2003 FY03: \$0 Total: \$321,250
Prin. Invest.: P TABOREK, J RUTLEDGE
Tech. Officer: MSFC/D HUBBARD
CASE Category: 12 – CHEMISTRY

NAG 8 1569 **UNIV OF CALIFORNIA - IRVINE**
 GROWTH PROCESSES AND DEFECT STRUCTURE OF MACRO-MOLECULAR CRYSTALS.
 03/04/1999 - 11/30/2003 FY03: \$0 Total: \$513,900
Prin. Invest.: A J MALKIN
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1149 **UNIV OF CALIFORNIA - IRVINE**
 MECHANISMS OF MICROACTIVITY EFFECT ON VASCULAR FUNCTIONS
 09/15/1999 - 11/14/2002 FY03: \$0 Total: \$789,073
Prin. Invest.: R E PURDY
Tech. Officer: JSC/C W LLOYD
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAS 3 27094 **UNIV OF CALIFORNIA - IRVINE**
 ENVIRONMENTAL TESTING OF MATERIALS
 02/22/1994 - 10/31/2003 FY03: \$0 Total: \$541,442
Prin. Invest.: G S SAMUELSON, J C EARTHMAN, E J LAVERNIAN
Tech. Officer: GRC/N S JACOBSON, GRC/J L SMIALEK
CASE Category: 49 – ENGINEERING, OTHER

NAS 8 00017 **UNIV OF CALIFORNIA - IRVINE**
 OPCGA PHASE C/D FLIGHT HARDWARE DEVELOPMENT
 02/16/2000 - 07/31/2004 FY03: \$2,691,357 Total: \$11,611,452
Prin. Invest.: A MCPHERSON
Tech. Officer: MSFC/S ROBBINS
CASE Category: 59 – LIFE SCIENCE, OTHER

NAS 8 00019 **UNIV OF CALIFORNIA - IRVINE**
 ENHANCED GASEOUS NITROGEN DEWAR
 03/30/2000 - 11/19/2004 FY03: \$437,000 Total: \$1,984,000
Prin. Invest.: A MCPHERSON
Tech. Officer: MSFC/S ROBBINS
CASE Category: 59 – LIFE SCIENCE, OTHER

NAS 8 39763 **UNIV OF CALIFORNIA - IRVINE**
CRYSTAL GROWTH FLIGHT APPARATUS
10/30/1992 - 09/30/2003 FY03: \$61,889 Total: \$15,956,950
Prin. Invest.: A MCPHERSON
Tech. Officer: MSFC/R FRENCH
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 1 413 **UNIV OF CALIFORNIA - IRVINE**
WHOLE AIR SAMPLING FROM THE DC-8 AND P3-B AIRCRAFT DURING TRACE-P
09/21/2000 - 06/30/2004 FY03: \$125,000 Total: \$1,168,385
Prin. Invest.: D R BLAKE
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5378 **UNIV OF CALIFORNIA - IRVINE**
OPTIMIZATION OF PERCEPTUAL TRANSPARENCY IN SYNTHETIC VISION DISPLAYS
04/05/2000 - 03/31/2002 FY03: \$0 Total: \$20,791
Prin. Invest.: T M DZMURA
Tech. Officer: ARC/J MULLIGAN
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 5404 **UNIV OF CALIFORNIA - IRVINE**
LABORATORY MODELS OF PROTOCELLS
10/17/2000 - 04/30/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: J K LANYI
Tech. Officer: ARC/A POHORILLE, ARC/M FONDA
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 5 280 **UNIV OF CALIFORNIA - IRVINE**
MEASURING THE EFFECTS OF LOGGING ON THE CO2 AND ENERGY EXCHANGE OF A PRIMARY FOREST IN TAPAJOS N
06/24/1998 - 06/30/2003 FY03: \$0 Total: \$1,543,848
Prin. Invest.: M L GOULDEN
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 336 **UNIV OF CALIFORNIA - IRVINE**
CARBON DYNAMICS IN VEGETATION AND SOILS ALONG THE EASTERN LBA TRANSECT
06/16/1998 - 12/31/2003 FY03: \$0 Total: \$1,167,711
Prin. Invest.: S TRUMBORE
Tech. Officer: GSFC/D DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 680 **UNIV OF CALIFORNIA - IRVINE**
CARBON DYNAMICS IN VEGETATION AND SOILS OF THE EASTERN LBA TRANSECT
01/03/2003 - 12/31/2005 FY03: \$211,087 Total: \$211,087
Prin. Invest.: S E TRUMBORE
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 702 **UNIV OF CALIFORNIA - IRVINE**
MEASURING THE EFFECTS OF LOGGING ON THE CO2 AND ENERGY EXCHANGE OF A PRIMARY FOREST IN TAPAJOS
02/05/2003 - 02/14/2006 FY03: \$283,042 Total: \$283,042
Prin. Invest.: M L GOULDEN
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30203 **UNIV OF CALIFORNIA - IRVINE**
LOW LATITUDE NONLINEAR BEHAVIOR OF ROSSBY WAVES COMPOSED OF A SPECTRUM OF PHASE SPEEDS/STUDENT
08/19/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: G MAGNUSDOTTIR
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30409 **UNIV OF CALIFORNIA - IRVINE**
AN INVESTIGATION OF THE RELATIONSHIP BETWEEN CARBON STORAGE AND METHANE EMISSION IN RICE PADDIES/ST
08/15/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S TYLER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30443 **UNIV OF CALIFORNIA - IRVINE**
UNCERTAINTY IN SOIL MOISTURE INITIALIZATION AND IMPACTS ON SEASONAL-TO- INTERANNUAL PREDICTION
08/23/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: J FAMIGLIETTI
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30487 **UNIV OF CALIFORNIA - IRVINE**
OZONE CHEMISTRY WITH SEA-SALT PARTICLES AT THE AIR PARTICLE INTERFACE: A SURFACE ANALYSIS APPROACH
09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J HEMMINGER
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30521 **UNIV OF CALIFORNIA - IRVINE**
SOURCES OF SOIL RESPIRATION STUDENT: DOZAL CISNEROS
09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S TROMBORE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30522 **UNIV OF CALIFORNIA - IRVINE**
ITCZ BREAKDOWN: AN OBSERVATIONAL STUDY. STUDENT: CHIA-CHI WANG
09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: G MAGNUSDOTTIR
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50317 **UNIV OF CALIFORNIA - IRVINE**
SIMULATED MICROGRAVITY ALTERS VASCULAR CONTRACTILITY: ROLE OF CALCIUM DEPENDENT PKC-MEDIATED NON-
07/11/2000 - 06/30/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: R E PURDY
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50325 **UNIV OF CALIFORNIA - IRVINE**
METHYL HALIDE EMISSIONS: THE ATMOSPHERIC IMPACT OF AGRICULTURE
08/17/2000 - 08/31/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: R J CICERONE
Tech. Officer: GSFC/M W WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

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NAG 1 01082 **UNIV OF CALIFORNIA - LOS ANGELES**
 MESHLESS (MLPG AND LBIE) METHODS FOR NONLINEAR ANALYSES
 05/22/2001 - 05/31/2002 FY03: \$0 Total: \$65,005
Prin. Invest.: S N ATTURE
Tech. Officer: LARC/J S RAJA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02036 **UNIV OF CALIFORNIA - LOS ANGELES**
 ANAL OF ACOUSTIC EMISSION WAVES FROM IMPACT & FATI QUE DAMAGE
 COMPOSITES FOR INTEGRD IVHM TECHNOL DE
 01/14/2002 - 12/31/2004 FY03: \$0 Total: \$51,346
Prin. Invest.: A K MAL
Tech. Officer: LARC/W H PROSSER
CASE Category: 46 – MECHANICALENGR

NAG 2 1193 **UNIV OF CALIFORNIA - LOS ANGELES**
 MEACHANICAL SIGNAL TRANSDUCTION IN COUNTERMEASURES OF
 PHYSIOLOGICAL SCIENCE
 03/25/1998 - 04/30/2002 FY03: \$0 Total: \$536,583
Prin. Invest.: T J TIDBALL
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1222 **UNIV OF CALIFORNIA - LOS ANGELES**
 HYPERGRAVITY-INDUCED MODIFICATIONS IN SPATIO-TEMPO RAL CODING
 AMONG UTRICULAR PRIMARY AFFERENT NEURO
 05/22/1998 - 06/30/2003 FY03: \$0 Total: \$539,538
Prin. Invest.: L F HOFFMAN
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1484 **UNIV OF CALIFORNIA - LOS ANGELES**
 MANAGEMENT OF AIR CEHICLE SYSTEMS
 05/14/2001 - 05/14/2004 FY03: \$120,000 Total: \$296,618
Prin. Invest.: J L SPEYER
Tech. Officer: ARC/L TOBIAS, ARC/Y C JUNG
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2108 **UNIV OF CALIFORNIA - LOS ANGELES**
 DIFFUSING LIGHT PHOTOGRAPHY OF CONTAINERLESS RIPPL E TURBU-
 LENCE
 03/01/1998 - 05/30/2002 FY03: \$0 Total: \$615,000
Prin. Invest.: S J PUTTERMAN
Tech. Officer: GRC/W M DUVAL
CASE Category: 13 – PHYSICS

NAG 3 2397 **UNIV OF CALIFORNIA - LOS ANGELES**
 TRANSITION FROM POOL TO FLOW BOILING - THE EFFECT OF REDUCED
 GRAVITY
 04/18/2000 - 11/30/2003 FY03: \$99,991 Total: \$340,000
Prin. Invest.: V K DHIR
Tech. Officer: GRC/D F CHAO
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2467 **UNIV OF CALIFORNIA - LOS ANGELES**
 A MECHANISTIC STUDY OF NUCLEATE BOILING HEAT TRANS FER UNDER
 MICROGRAVITY CONDITIONS
 06/21/2000 - 05/15/2005 FY03: \$214,000 Total: \$639,000
Prin. Invest.: V K DHIR
Tech. Officer: GRC/D F CHAO
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2481 **UNIV OF CALIFORNIA - LOS ANGELES**
 THE MELTING OF AQUEOUS FOAMS THE MELTING OF AQUEOUS FOAMS
 08/01/2000 - 05/31/2005 FY03: \$230,000 Total: \$720,000
Prin. Invest.: D J DURIAN
Tech. Officer: GRC/F P CHARIAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2735 **UNIV OF CALIFORNIA - LOS ANGELES**
 DIFFUSING LIGHT PHOTORAPHY OF CONTAINERLESS RIPPLE
 03/15/2002 - 01/07/2004 FY03: \$140,000 Total: \$280,000
Prin. Invest.: S J PUTTERMAN
Tech. Officer: GRC/W DUVAL
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3863 **UNIV OF CALIFORNIA - LOS ANGELES**
 THERMAL AND DYNAMICAL PROCESSES IN THE EVOLUTION O SATELLITES
 02/14/1997 - 11/30/2002 FY03: \$0 Total: \$396,000
Prin. Invest.: G SCHUBERT
Tech. Officer: GSFC/P G ROGERS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 3956 **UNIV OF CALIFORNIA - LOS ANGELES**
 VENUS TECTONICS AND EVOLUTION
 03/12/1997 - 02/14/2004 FY03: \$0 Total: \$183,780
Prin. Invest.: W M KAULA
Tech. Officer: GSFC/P G ROGERS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 4117 **UNIV OF CALIFORNIA - LOS ANGELES**
 DYNAMICAL STUDIES OF PLANETARY AND SATELLITE ATMOS
 02/28/1997 - 01/31/2002 FY03: -\$2,871 Total: \$301,910
Prin. Invest.: P SCHUBERT
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 4215 **UNIV OF CALIFORNIA - LOS ANGELES**
 PRISTINE IGNEOUS ROCKS AND THE EARLY DIFFERENTIATI MATERIALS
 03/19/1997 - 12/14/2001 FY03: -\$44 Total: \$743,956
Prin. Invest.: D H WARREN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 4339 **UNIV OF CALIFORNIA - LOS ANGELES**
 THE ROLE OF THIN CURRENT SHEETS IN PLASMA SHEET CO DISRUPTION
 04/12/1997 - 10/31/2001 FY03: \$0 Total: \$324,270
Prin. Invest.: D L PRITCHETT
Tech. Officer: GSFC/J D BOHLIN
CASE Category: 13 – PHYSICS

NAG 5 4766 **UNIV OF CALIFORNIA - LOS ANGELES**
 CHONDRITIC METEORITES: NEBULAR AND PARENT-BODY FO
 06/05/1997 - 05/31/2002 FY03: \$0 Total: \$253,000
Prin. Invest.: D E RUBIN
Tech. Officer: GSFC/D NAVA
CASE Category: 11 – ASTRONOMY

NAG 5 5389 **UNIV OF CALIFORNIA - LOS ANGELES**
 "ANITA: ANTARCTIC IMPULSIVE TRANSIENT ANTENNA" FIRST YEAR OF A
 FIVE YEAR GRANT.
 04/04/2003 - 09/30/2008 FY03: \$94,000 Total: \$94,000
Prin. Invest.: D SALTBERG
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 6975 **UNIV OF CALIFORNIA - LOS ANGELES**
 THE ROLE OF COMPANION STARS IN PLANETARY FORMATION
 03/25/1998 - 06/30/2002 FY03: -\$506 Total: \$116,094
Prin. Invest.: A GHEZ
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 7555 **UNIV OF CALIFORNIA - LOS ANGELES**
 REAL-TIME FORECASTING AND RAPID POST-EVENT ASSESSMENT OF
 EROSIONAL AND DEPOSITIONAL FLOOD DAMAGE
 06/25/1998 - 08/31/2002 FY03: \$0 Total: \$330,915
Prin. Invest.: L C SMITH
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 32 – GEOLOGICALSCIENCE

NAG 5 7738 **UNIV OF CALIFORNIA - LOS ANGELES**
 RADIATIVE TRANSFER AND REMOTE SENSING IN AEROSOL ATMOSPHERE.
 10/02/1998 - 09/30/2002 FY03: \$0 Total: \$245,000
Prin. Invest.: K LIU
Tech. Officer: GSFC/M I MISHCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7924 **UNIV OF CALIFORNIA - LOS ANGELES**
 EVOLUTION OF DUST AROUND MAIN SEQUENCE STARS (LTSA - 98)
 01/06/1999 - 12/14/2003 FY03: \$74,957 Total: \$349,153
Prin. Invest.: M A JURA
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7959 **UNIV OF CALIFORNIA - LOS ANGELES**
 THE GALILEAN MOONS OF JUPITER: INFERRING INTERNAL PROPERTIES
 OF NEW WORLDS FROM THEIR INTERACTI
 01/08/1999 - 11/30/2001 FY03: -\$17 Total: \$177,989
Prin. Invest.: D G KIVELSON
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 7962 **UNIV OF CALIFORNIA - LOS ANGELES**
 DYNAMICS OF THE R=10-30 RE MAGNETOTAIL DURING GEOMAGNETIC
 DISTURBANCES
 12/23/1998 - 12/14/2002 FY03: \$60 Total: \$247,060
Prin. Invest.: L R LYONS
Tech. Officer: GSFC/L ZANETTI
CASE Category: 11 – ASTRONOMY

NAG 5 7995 **UNIV OF CALIFORNIA - LOS ANGELES**
 CALIBRATION AND COMPARISON BETWEEN MDI, GOLF, AND MT. WILSON
 DATA 11
 01/05/1999 - 12/31/2001 FY03: \$0 Total: \$751,562
Prin. Invest.: R K ULRICH
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8050 **UNIV OF CALIFORNIA - LOS ANGELES**
 SOME STUDIES OF STRUCTURE AND DYNAMICS OF JUPITER'S MAGNETO-
 SPHERE
 01/15/1999 - 11/30/2001 FY03: \$12,649 Total: \$136,345
Prin. Invest.: D K KHURANA
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 8059 **UNIV OF CALIFORNIA - LOS ANGELES**
 MULTIPLE SCALE STRUCTURE OF AURORAL ARCS
 01/14/1999 - 01/31/2003 FY03: \$0 Total: \$207,418
Prin. Invest.: F V CORONITI
Tech. Officer: GSFC/M MELLOTT
CASE Category: 13 – PHYSICS

NAG 5 8060 **UNIV OF CALIFORNIA - LOS ANGELES**
 THE PHYSICAL NATURE OF THE ELECTRON CYCLOTRON MASE R INSTA-
 BILITY IN THE AKR SOURCE REGION
 01/14/1999 - 01/31/2003 FY03: \$0 Total: \$177,301
Prin. Invest.: P L PRITCHETT
Tech. Officer: GSFC/M MELLOTT
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8065 **UNIV OF CALIFORNIA - LOS ANGELES**
 NON-ADIABATIC PLASMA PROCESSES IN THE JOVIAN MAGNETOSPHERE
 AND COUPLING TO THE ATMOSPHERE
 01/11/1999 - 06/30/2002 FY03: -\$9 Total: \$104,991
Prin. Invest.: D M THORNE
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 8066 **UNIV OF CALIFORNIA - LOS ANGELES**
 ANALYSIS AND INTERPRETATION OF JOVIAN ATMOSPHERE AND SATEL-
 LITE DATA FROM THE GALILEO MISSION
 01/12/1999 - 12/31/2001 FY03: -\$594 Total: \$104,406
Prin. Invest.: D SCHUBERT
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 8335 **UNIV OF CALIFORNIA - LOS ANGELES**
 EVOLUTION OF DUST AROUND YOUNG MAIN SEQUENCE STARS
 02/24/1999 - 02/28/2003 FY03: \$0 Total: \$65,400
Prin. Invest.: D JURA
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8470 **UNIV OF CALIFORNIA - LOS ANGELES**
 BIOMARKERS FOR MARS EXPLORATION
 05/06/1999 - 07/31/2003 FY03: \$0 Total: \$84,287
Prin. Invest.: D F KERRIDGE
Tech. Officer: GSFC/M MEYER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8507 **UNIV OF CALIFORNIA - LOS ANGELES**
 STUDY OF THE TERRESTRIAL EFFECTS OF SOLAR IRRADIANCE VARI-
 ATIONS FROM EUV TO INFRARED: A NEW APPROACH
 05/10/1999 - 04/30/2002 FY03: -\$30 Total: \$100,897
Prin. Invest.: J M PAP
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 8530 **UNIV OF CALIFORNIA - LOS ANGELES**
 MINING LUNAR PROSPECTOR'S GRAVITY DATA FOR INSIGHTS INTO THE
 MECHANICAL AND THERMAL EVOLUTION OF THE
 06/15/1999 - 06/30/2002 FY03: \$616 Total: \$76,616
Prin. Invest.: G SCHUBERT
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

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NAG 5 8540 UNIV OF CALIFORNIA - LOS ANGELES
 PRIOR GRANT NAG5-3252 CONTINUATION OF MAP SCIENCE SUPPORT
 ACTIVITIES BEING IMPLEMENTED BY THE MAP
 08/19/1999 - 08/14/2004 FY03: \$60,851 Total: \$337,965
Prin. Invest.: E L WRIGHT
Tech. Officer: GSFC/C BENNET
CASE Category: 11 – ASTRONOMY

NAG 5 8812 UNIV OF CALIFORNIA - LOS ANGELES
 HIGH RESOLUTION SOLAR TRANSMISSION MEASUREMENTS FOR THE
 DETECTION OF AEROSOLS AND CLOUDS
 09/15/1999 - 09/30/2003 FY03: \$0 Total: \$276,524
Prin. Invest.: A ELDERING
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9027 UNIV OF CALIFORNIA - LOS ANGELES
 GLOBAL SURFACE GEOCHEMISTRY & THE DIFFERENTIATION, BULK COM-
 POSITION, & ORIGIN OF THE MOON
 02/04/2000 - 02/14/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: P H WARREN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9071 UNIV OF CALIFORNIA - LOS ANGELES
 CONSEQUENCES OF HIGH-LATITUDE RECONNECTION
 02/15/2000 - 08/31/2003 FY03: \$0 Total: \$236,623
Prin. Invest.: J P BERCHEM
Tech. Officer: GSFC/J SHARBER
CASE Category: 13 – PHYSICS

NAG 5 9074 UNIV OF CALIFORNIA - LOS ANGELES
 PARTICLE TRANSPORT IN THE IO TORUS AND NEAR THE MOONS IO AND
 EUROPA
 02/15/2000 - 03/31/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: R THORNE
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9111 UNIV OF CALIFORNIA - LOS ANGELES
 MHD TURBULENCE SIMULATION OF THE DYNAMICS OF THE MAGNETOTAIL
 02/23/2000 - 02/28/2003 FY03: \$0 Total: \$139,396
Prin. Invest.: C WU
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9207 UNIV OF CALIFORNIA - LOS ANGELES
 ANALYSIS AND VALIDATION OF THE UARS/ACRIM II DATA
 03/10/2000 - 10/14/2001 FY03: -\$89 Total: \$24,651
Prin. Invest.: J PAP
Tech. Officer: GSFC/R CAHALAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9255 UNIV OF CALIFORNIA - LOS ANGELES
 THE INTERPLANETARY MAGNETIC FIELD AND THE MAGNETOSPHERIC
 CURRENT SYSTEMS
 03/15/2000 - 02/28/2003 FY03: \$0 Total: \$232,606
Prin. Invest.: M EL-ALAOUI
Tech. Officer: GSFC/J SHARBER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9294 UNIV OF CALIFORNIA - LOS ANGELES
 SEQUENTIAL ESTIMATION & PREDICTABILITY STUDIES FOR THE ATMO-
 SPHERE & OCEANS
 04/10/2000 - 04/14/2003 FY03: \$0 Total: \$338,800
Prin. Invest.: M GHIL
Tech. Officer: GSFC/S COHN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9358 UNIV OF CALIFORNIA - LOS ANGELES
 SENSITIVITY OF PRECIPITATION IN COUPLED LAND-ATMOSPHERE MOD-
 ELS
 04/06/2000 - 06/30/2004 FY03: \$50,000 Total: \$300,000
Prin. Invest.: D J NEELIN
Tech. Officer: GSFC/K BERGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9441 UNIV OF CALIFORNIA - LOS ANGELES
 THE METEORITIC COMPONENT IN IMPACT DEPOSITS
 04/13/2000 - 04/14/2003 FY03: \$0 Total: \$170,000
Prin. Invest.: F T KYTE
Tech. Officer: GSFC/D NAVA
CASE Category: 11 – ASTRONOMY

NAG 5 9546 UNIV OF CALIFORNIA - LOS ANGELES
 DEVELOPMENT OF GLOBAL MAGNETOSPHERIC FIELD MODELS OF JUPI-
 TER
 05/15/2000 - 05/14/2004 FY03: \$0 Total: \$247,205
Prin. Invest.: K K KHURANA
Tech. Officer: GSFC/J SHARBER
CASE Category: 13 – PHYSICS

NAG 5 9573 UNIV OF CALIFORNIA - LOS ANGELES
 TOWARD OTHER PLANETARY SYSTEMS: IMAGING OF MASSIVE PLANETS
 AND DUSTY DEBRISDISKS
 05/08/2000 - 04/30/2002 FY03: -\$11 Total: \$21,989
Prin. Invest.: B ZUCKERMAN
Tech. Officer: HQ/J M BOYCE
CASE Category: 13 – PHYSICS

NAG 5 9667 UNIV OF CALIFORNIA - LOS ANGELES
 REMOTE SENSING OF THE OPTICAL & MICROPHYSICAL PROPERTIES OF
 CIRRUS CLOUDS USING MODIS CHANNELS
 05/30/2000 - 08/31/2002 FY03: -\$7 Total: \$79,993
Prin. Invest.: K N LIOU
Tech. Officer: GSFC/M KING
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9713 UNIV OF CALIFORNIA - LOS ANGELES
 INFLUENCE OF LAND SURFACE PROCESSES/LAND COVER CHANGES IN
 AMAZON ON REGIONAL HYDROMETEOROLOGY
 07/06/2000 - 03/14/2003 FY03: \$0 Total: \$350,572
Prin. Invest.: Y XUE
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9789 UNIV OF CALIFORNIA - LOS ANGELES
 ISOTOPIC INVESTIGATIONS OF NEBULAR AND PARENT BODY PROCESSES
 WITH HIGH SENSITIVITY ION MICROPROBE
 07/11/2000 - 07/14/2004 FY03: \$0 Total: \$372,001
Prin. Invest.: K D MCKEEGAN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9826 **UNIV OF CALIFORNIA - LOS ANGELES**
 THE LOCAL DISTANCE SCALE: APPLICATION OF THE TIP OF THE RED
 GIANT BRANCH DISTANCE INDICATOR - LTSA
 08/23/2000 - 08/31/2004 FY03: \$0 Total: \$159,900
Prin. Invest.: S SAKAI
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 9860 **UNIV OF CALIFORNIA - LOS ANGELES**
 OCEAN CARBON FLUX: TRANSPORT, & BURIAL WITHIN THE WESTERN &
 EASTERN U.S.COASTAL ZONES
 08/07/2000 - 12/31/2003 FY03: \$44,200 Total: \$383,400
Prin. Invest.: J MCWILLIAMS
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 10032 **UNIV OF CALIFORNIA - LOS ANGELES**
 AN XMM LONG-LOOK AT NGC5548
 09/26/2000 - 09/30/2003 FY03: \$0 Total: \$46,500
Prin. Invest.: R EDELSON
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 - ASTRONOMY

NAG 5 10282 **UNIV OF CALIFORNIA - LOS ANGELES**
 MAGNETOHYDRODYNAMIC MODELING OF THE JOVIAN MAGNETO SPHERE
 01/23/2001 - 01/31/2004 FY03: \$95,728 Total: \$277,798
Prin. Invest.: R WALKER
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 10287 **UNIV OF CALIFORNIA - LOS ANGELES**
 KINETIC PHYSICS OF THE STRESSED NEAR-EARTH PLASMA SHEET
 01/23/2001 - 01/31/2004 FY03: \$94,381 Total: \$277,705
Prin. Invest.: P L PRITCHETT
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 10351 **UNIV OF CALIFORNIA - LOS ANGELES**
 SEARCH FOR MOLECULAR HYDROGEN AROUND VEGA-TYPE STARS
 02/08/2001 - 02/14/2003 FY03: \$0 Total: \$69,500
Prin. Invest.: M A JURIA
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 - ASTRONOMY

NAG 5 10421 **UNIV OF CALIFORNIA - LOS ANGELES**
 COSMOCHEMICAL STUDIES: METEORITES AND THEIR PARENT ASTEROIDS
 02/15/2001 - 01/31/2002 FY03: -\$1,089 Total: \$153,911
Prin. Invest.: J WASSON
Tech. Officer: GSFC/D NAVA
CASE Category: 12 - CHEMISTRY

NAG 5 10473 **UNIV OF CALIFORNIA - LOS ANGELES**
 MAGNETOSPHERE-IONOSPHERE COUPLING IN THE AURORAL ZONE
 02/27/2001 - 08/31/2003 FY03: \$0 Total: \$153,922
Prin. Invest.: D SCHRIVER
Tech. Officer: GSFC/J SPANN
CASE Category: 32 - GEOLOGICAL SCIENCE

NAG 5 10490 **UNIV OF CALIFORNIA - LOS ANGELES**
 ACQUISITION OF A NEW ELECTRON MICROPROBE AT UCLA
 03/01/2001 - 02/28/2003 FY03: \$0 Total: \$336,000
Prin. Invest.: P WARREN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 - CHEMISTRY

NAG 5 10609 **UNIV OF CALIFORNIA - LOS ANGELES**
 DETECTION AND MODELING OF MECHANICAL ICE BREAKUP IN LARGE
 POLAR RIVERS WITH SAR INTERFEROMETRY
 03/15/2001 - 03/14/2004 FY03: \$70,500 Total: \$212,332
Prin. Invest.: L SMITH
Tech. Officer: GSFC/M WEI
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 10615 **UNIV OF CALIFORNIA - LOS ANGELES**
 LOCAL INVERSIONS OF THE MARTIAN GRAVITY FIELD AND INTERPRETA-
 TIONS OF REGIONAL TECTONICS
 03/16/2001 - 03/14/2003 FY03: \$0 Total: \$49,000
Prin. Invest.: W MOORE
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 10663 **UNIV OF CALIFORNIA - LOS ANGELES**
 ADAPTIVE OPTICS IMAGING OF MASSIVE PLANETARY COMPANIONS TO
 YOUNG STARS
 03/22/2001 - 06/30/2004 FY03: \$40,000 Total: \$120,000
Prin. Invest.: B ZUCKERMAN
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 10685 **UNIV OF CALIFORNIA - LOS ANGELES**
 APPLICATIONS AND VALIDATION OF THE SRTM DEM IN THE AMAZON
 BASIN: HYDROLOGICAL AND GEOMORPHOLOGICAL
 03/30/2001 - 02/29/2004 FY03: \$0 Total: \$300,000
Prin. Invest.: D E ALSDORF
Tech. Officer: GSFC/H V FREY
CASE Category: 32 - GEOLOGICALSCIENCE

NAG 5 10834 **UNIV OF CALIFORNIA - LOS ANGELES**
 SOLAR CYCLE VARIATION AND MULTI-POINT STUDIES OF ICME PROPER-
 TIES
 04/27/2001 - 04/30/2004 FY03: \$81,957 Total: \$239,726
Prin. Invest.: C T RUSSELL
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 10905 **UNIV OF CALIFORNIA - LOS ANGELES**
 TIME DEPENDENCE OF SOLAR MAGNETIC FIELDS
 05/22/2001 - 05/31/2004 FY03: \$0 Total: \$170,498
Prin. Invest.: R K ULRICH
Tech. Officer: GSFC/W J WAGNER
CASE Category: 11 - ASTRONOMY

NAG 5 10973 **UNIV OF CALIFORNIA - LOS ANGELES**
 MARS POLAR PROPERTIES AND CLIMATE HISTORY
 05/24/2001 - 06/30/2004 FY03: \$75,000 Total: \$225,000
Prin. Invest.: D PAIGE
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 10986 **UNIV OF CALIFORNIA - LOS ANGELES**
 SOLAR EFFECTS ON GLOBAL CLIMATE DUE TO COSMIC RAYS AND SOLAR
 ENERGETIC PARTICLES
 05/15/2001 - 05/14/2004 FY03: \$114,592 Total: \$325,947
Prin. Invest.: R TURCO
Tech. Officer: GSFC/J F SPANN
CASE Category: 31 - ATMOSPHERIC SCIENCE

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NAG 5 11102 **UNIV OF CALIFORNIA - LOS ANGELES**
 TECTONICS AND VOLCANISM IN AFAR USING RADARSAT INTERFEROMETRY DATA
 07/10/2001 - 06/30/2004 FY03: \$0 Total: \$171,247
Prin. Invest.: G PELTZER
Tech. Officer: GSFC/W ABDALATI
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11210 **UNIV OF CALIFORNIA - LOS ANGELES**
 DYNAMICAL STUDIES OF PLANETARY AND SATELLITE ATMOSPHERES
 08/09/2001 - 08/14/2003 FY03: \$0 Total: \$145,000
Prin. Invest.: G SCHUBERT
Tech. Officer: GSFC/D J BOGAN
CASE Category: 99 – MULTI INTERDISCIPLINARY, OTHER

NAG 5 11216 **UNIV OF CALIFORNIA - LOS ANGELES**
 MAGNETOSPHERE-IONOSPHERE COUPLING IN THE JOVIAN AUORAL ZONE
 08/13/2001 - 08/31/2004 FY03: \$83,000 Total: \$163,000
Prin. Invest.: R THORNE
Tech. Officer: GSFC/D BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11324 **UNIV OF CALIFORNIA - LOS ANGELES**
 POLAR MAGNETIC FIELD EXPERIMENT
 11/20/2001 - 11/30/2004 FY03: \$630,000 Total: \$1,069,965
Prin. Invest.: C RUSSELL
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11363 **UNIV OF CALIFORNIA - LOS ANGELES**
 APPLICATIONS OF REMOTELY SENSED LAND SURFACE DATA FOR SEASONAL AND LONG-TERM HYDROCLIMATE PREDICTION
 09/28/2001 - 09/30/2004 FY03: \$208,333 Total: \$735,000
Prin. Invest.: J KIM
Tech. Officer: GSFC/M JACKSON
CASE Category: 39 – ENVIRONMENTAL SCIENCE, OTHER

NAG 5 11384 **UNIV OF CALIFORNIA - LOS ANGELES**
 FAULT-TOLERANT NAVIGATION AND GUIDANCE OF SATELLITE CLUSTERS
 11/20/2001 - 11/30/2004 FY03: \$25,000 Total: \$361,000
Prin. Invest.: J L SPEYER
Tech. Officer: GSFC/R CARPENTER
CASE Category: 41 – AERONAUTICAL ENGINEERING

NAG 5 11541 **UNIV OF CALIFORNIA - LOS ANGELES**
 SUPPORT FOR 65TH ANNUAL MEETING OF THE METEORITICAL SOCIETY, LOS ANGELES JULY 2002
 01/04/2002 - 12/31/2002 FY03: \$0 Total: \$25,000
Prin. Invest.: P WARREN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11556 **UNIV OF CALIFORNIA - LOS ANGELES**
 PRISTINE IGNEOUS ROCKS & EARLY DIFFERENTIATION OF PLANETARY MATERIALS
 01/09/2002 - 01/14/2003 FY03: \$0 Total: \$125,000
Prin. Invest.: P WARREN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11583 **UNIV OF CALIFORNIA - LOS ANGELES**
 ICME'S TESTING THE FLUXROPE PARADIGM
 01/16/2002 - 01/31/2005 FY03: \$75,401 Total: \$148,169
Prin. Invest.: C T RUSSELL
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11691 **UNIV OF CALIFORNIA - LOS ANGELES**
 PLANETARY AND SATELLITE STRUCTURE, DYNAMICS AND EVOLUTION
 01/31/2002 - 01/31/2005 FY03: \$81,200 Total: \$162,400
Prin. Invest.: G SCHUBERT
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 11704 **UNIV OF CALIFORNIA - LOS ANGELES**
 THEORETICAL INVESTIGATIONS FOR THE INTERNATIONAL SOLAR-TERRESTRIAL PHYSICS PROGRAM.
 02/06/2002 - 09/30/2003 FY03: \$0 Total: \$219,799
Prin. Invest.: A ABDALLA
Tech. Officer: GSFC/S A CURTIS
CASE Category: 13 – PHYSICS

NAG 5 11708 **UNIV OF CALIFORNIA - LOS ANGELES**
 GLOBAL SOLAR OSCILLATIONS AND MAGNETISM FROM SOHO.
 02/14/2002 - 02/28/2005 FY03: \$127,000 Total: \$251,984
Prin. Invest.: R ULRICH
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11823 **UNIV OF CALIFORNIA - LOS ANGELES**
 QUIET EVENING AURORAL ARC AS AN EXEMPLAR OF AN ARC-CURRENT SYSTEM
 03/07/2002 - 03/14/2005 FY03: \$106,592 Total: \$209,846
Prin. Invest.: P L PRITCHETT
Tech. Officer: GSFC/J SHARBER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11826 **UNIV OF CALIFORNIA - LOS ANGELES**
 MECHANISMS RESPONSIBLE FOR THE EARTH'S DIFFUSE AURORA
 03/07/2002 - 03/14/2005 FY03: \$85,834 Total: \$166,816
Prin. Invest.: R M THORNE
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11858 **UNIV OF CALIFORNIA - LOS ANGELES**
 OCCURRENCE CHARACTERISTICS OF AURORAL POLEWARD BOUNDARY INTENSIFICATIONS
 03/08/2002 - 03/14/2005 FY03: \$99,498 Total: \$194,865
Prin. Invest.: L R LYONS
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11859 **UNIV OF CALIFORNIA - LOS ANGELES**
 INTERACTIONS OF ICY GALILEAN SATELLITES WITH JUPITER'S MAGNETOSPHERE
 03/08/2002 - 03/14/2005 FY03: \$84,939 Total: \$165,349
Prin. Invest.: K K KHURANA
Tech. Officer: GSFC/J SHARBER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11898 **UNIV OF CALIFORNIA - LOS ANGELES**
 STATISTICAL EXAMINATION OF THE SIGNIFICANCE OF THE APPARENT
 ASSOCIATION BETWEEN SOLAR WIND TRIGGERS
 03/25/2002 - 03/31/2005 FY03: \$86,006 Total: \$168,006
Prin. Invest.: R L MCPHERRON
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11922 **UNIV OF CALIFORNIA - LOS ANGELES**
 RELATIVISTIC ELECTRON VARIABILITY DURING GEOMAGNETIC STORMS
 03/26/2002 - 04/30/2005 FY03: \$90,178 Total: \$175,258
Prin. Invest.: R M THORNE
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11923 **UNIV OF CALIFORNIA - LOS ANGELES**
 ON THE CONSEQUENCES OF THIN CURRENT SHEETS IN THE MAGNETO-
 TAIL
 03/26/2002 - 03/31/2005 FY03: \$105,031 Total: \$207,439
Prin. Invest.: M ASHOUR-ABDALLA
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11960 **UNIV OF CALIFORNIA - LOS ANGELES**
 PHOTOCHEMICAL PROCESSES IN COSMIC ICY SYSTEMS
 04/04/2002 - 04/14/2005 FY03: \$74,142 Total: \$144,189
Prin. Invest.: C R WU
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11989 **UNIV OF CALIFORNIA - LOS ANGELES**
 CONSEQUENCES OF ALFVEN WAVES & PARALLEL POTENTIAL DROPS IN
 THE AURORALZONE
 04/10/2002 - 03/31/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: D SCHRIVER
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12006 **UNIV OF CALIFORNIA - LOS ANGELES**
 RING CURRENT MODELING AND ION PRECIPITATION DURING SOLAR
 MAXIMUM STORMS
 04/11/2002 - 04/14/2005 FY03: \$95,786 Total: \$192,017
Prin. Invest.: R M THORNE
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12007 **UNIV OF CALIFORNIA - LOS ANGELES**
 THE GEO-EFFECTIVENESS OF SOLAR WIND PRESSURE FRONT S
 04/11/2002 - 04/14/2005 FY03: \$83,976 Total: \$169,210
Prin. Invest.: E ZESTAV
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12022 **UNIV OF CALIFORNIA - LOS ANGELES**
 ION CYCLOTRON WAVE MASS SPECTROMETRY OF THE IO ATMOSPHERE.
 04/18/2002 - 04/30/2005 FY03: \$71,665 Total: \$141,545
Prin. Invest.: C T RUSSELL
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12058 **UNIV OF CALIFORNIA - LOS ANGELES**
 COSMOCHEMICAL STUDIES: METEORITES AND THEIR PARENT ASTEROIDS
 04/19/2002 - 04/30/2003 FY03: \$0 Total: \$85,000
Prin. Invest.: J WASSON
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 12106 **UNIV OF CALIFORNIA - LOS ANGELES**
 MAGNETOSPHERIC CURRENT SYSTEM DURING DISTURBED TIMES
 05/09/2002 - 05/14/2005 FY03: \$127,668 Total: \$262,382
Prin. Invest.: J EL-ALAOUI
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12107 **UNIV OF CALIFORNIA - LOS ANGELES**
 GEOSPACE MODELING WITH ADAPTIVE MESH REFINEMENT
 05/09/2002 - 05/14/2005 FY03: \$116,878 Total: \$231,354
Prin. Invest.: J RAEDER
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12131 **UNIV OF CALIFORNIA - LOS ANGELES**
 UCLA CLUSTER II MISSION PARTICIPATION
 04/30/2002 - 03/31/2005 FY03: \$300,000 Total: \$500,000
Prin. Invest.: D G KIVELSON
Tech. Officer: GSFC/M ACUNA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12177 **UNIV OF CALIFORNIA - LOS ANGELES**
 THE IMPORTANCE OF SOLAR ENERGETIC ION
 05/13/2002 - 05/14/2005 FY03: \$96,349 Total: \$190,610
Prin. Invest.: R RICHARD
Tech. Officer: GSFC/J SPANN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12215 **UNIV OF CALIFORNIA - LOS ANGELES**
 PARENT-BODY MODIFICATION OF CHONDRITIC METEORITES
 05/16/2002 - 05/31/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: A E RUBIN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12357 **UNIV OF CALIFORNIA - LOS ANGELES**
 PALEOBIOCHEMICAL STUDIES OF ANCIENT LIFE
 07/02/2002 - 06/30/2005 FY03: \$94,946 Total: \$164,126
Prin. Invest.: W J SCHOPF
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12528 **UNIV OF CALIFORNIA - LOS ANGELES**
 CONSTRAINING OCEANIC SOURCES & SINKS OF CO2 BY INVERSE
 MODELING: A FIRSTSTEP TOWARD ASSIMILATION OF
 08/26/2002 - 08/31/2005 FY03: \$0 Total: \$76,998
Prin. Invest.: N GRUBER
Tech. Officer: GSFC/C TREES
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12559 **UNIV OF CALIFORNIA - LOS ANGELES**
 SURFACE DIVERGENCE AND NON-PRECIPITATING BOUNDARY LAYER
 CLOUDS: INTEGRATING SIMPLE MODELS U
 11/04/2002 - 11/14/2005 FY03: \$98,512 Total: \$98,512
Prin. Invest.: B STEVENS
Tech. Officer: GSFC/M WEI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12740 **UNIV OF CALIFORNIA - LOS ANGELES**
 "FLOODPLAIN STORAGE CHANGES FROM INTERFEROMETRIC SAR MEASUREMENTS OF WATER LEVEL FLUCTUATIONS
 01/16/2003 - 12/31/2005 FY03: \$92,883 Total: \$92,883
Prin. Invest.: D E ALSDORF
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12769 **UNIV OF CALIFORNIA - LOS ANGELES**
 DYNAMICS OF THE NEAR EARTH MAGNETOTAIL
 01/17/2003 - 01/14/2006 FY03: \$91,181 Total: \$91,181
Prin. Invest.: R WALKER
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12819 **UNIV OF CALIFORNIA - LOS ANGELES**
 PRISTINE IGNEOUS ROCKS AND THE GLOBAL DIFFERENTIATION OF PLANETS AND ASTEROIDS
 01/24/2003 - 01/31/2006 FY03: \$142,000 Total: \$142,000
Prin. Invest.: P WARREN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 12823 **UNIV OF CALIFORNIA - LOS ANGELES**
 ON UNDERSTANDING THE ORIGIN AND PROPERTIES OF MAGNETIC STRUCTURES IN THE SOLAR WIND
 01/28/2003 - 01/31/2006 FY03: \$81,100 Total: \$81,100
Prin. Invest.: M B MOLDWIN
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12887 **UNIV OF CALIFORNIA - LOS ANGELES**
 CHONDRULES, IRON METEORITES, CHONDRITES, ASTEROIDAL & NEBULAR PROCESSES
 02/10/2003 - 01/31/2006 FY03: \$102,000 Total: \$102,000
Prin. Invest.: J WASSON
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 12895 **UNIV OF CALIFORNIA - LOS ANGELES**
 THE METEORITIC COMPONENT IN IMPACT DEPOSITS
 02/24/2003 - 04/14/2006 FY03: \$66,000 Total: \$66,000
Prin. Invest.: F KYTE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 12898 **UNIV OF CALIFORNIA - LOS ANGELES**
 ISOTOPIC INVESTIGATION OF NEBULAR PROCESSES WITH A HIGH SENSITIVITY ION MICROPROBE
 03/04/2003 - 07/14/2006 FY03: \$145,000 Total: \$145,000
Prin. Invest.: K MCKEEGAN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 12943 **UNIV OF CALIFORNIA - LOS ANGELES**
 INTERACTION OF STRONG TRANSIENT INTERPLANETARY DISTURBANCES WITH THE DAYSIDE MAGNETOSPHERE
 03/03/2003 - 02/29/2004 FY03: \$41,000 Total: \$41,000
Prin. Invest.: J BERCHEM
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12953 **UNIV OF CALIFORNIA - LOS ANGELES**
 COMPREHENSIVE SURVEY OF ULF WAVES IN SATELLITE DATA SETS USING AUTOMATIC DETECTION ALGORITHM
 03/03/2003 - 02/28/2006 FY03: \$77,712 Total: \$77,712
Prin. Invest.: P CHI
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12967 **UNIV OF CALIFORNIA - LOS ANGELES**
 ASTEROIDAL & NEBULAR MATERIALS: THE PARENT-BODY MODIFICATION OF CHONDRITIC
 03/04/2003 - 05/31/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: A RUBIN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 12969 **UNIV OF CALIFORNIA - LOS ANGELES**
 ROLE OF IONOSPHERIC IONS IN MAGNETOSPHERIC DYNAMICS
 03/04/2003 - 03/14/2006 FY03: \$91,109 Total: \$91,109
Prin. Invest.: V PEROOMIAN
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12986 **UNIV OF CALIFORNIA - LOS ANGELES**
 INVESTIGATION OF THE DYNAMICS OF COHERENT STRUCTURES, BBF & INTERMITTENT TURBULENCE IN EARTH'S
 03/06/2003 - 02/29/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: C WU
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13017 **UNIV OF CALIFORNIA - LOS ANGELES**
 PHOTOCHEMISTRY AND HIGH-TEMPERATURE CHEMICAL KINETICS OF GAS-PHASE OXYGEN ISOTOPES IN THE EARLY
 03/15/2003 - 03/14/2006 FY03: \$45,000 Total: \$45,000
Prin. Invest.: J R LYONS
Tech. Officer: GSFC/D J LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13064 **UNIV OF CALIFORNIA - LOS ANGELES**
 UNCOVERING THE MISSING ACTIVE GALACTIC NUCLEI: THE 2MASS BRIGHT SEYFERT SAMPLE
 03/12/2003 - 03/14/2004 FY03: \$74,350 Total: \$74,350
Prin. Invest.: M MALKAN
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13067 **UNIV OF CALIFORNIA - LOS ANGELES**
 SEARCH FOR WARM INFRARED EXCESS AROUND STARS WITH HIPPARCOS, IRAS PSC & FSC, MSX, AND 2MASS DATA
 03/12/2003 - 03/14/2005 FY03: \$45,694 Total: \$45,694
Prin. Invest.: I SONG
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13227 **UNIV OF CALIFORNIA - LOS ANGELES**
 LASER ABLATION OXYGEN ISOTOPE STUDIES OF CHONDRITE S-EVALUATING THE ROLE OF AQUEOUS FLUIDS IN THE EV
 04/02/2003 - 04/14/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: E YOUNG
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 13248 **UNIV OF CALIFORNIA - LOS ANGELES**
 APPLICATIONS OF REMOTE SENSING DATA AND A REGIONAL FORECASTS
 SYSTEM FOR IMPROVING FLASH FLOOD AND F
 04/03/2003 - 03/31/2006 FY03: \$203,964 Total: \$203,964
Prin. Invest.: J KIM
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 13399 **UNIV OF CALIFORNIA - LOS ANGELES**
 THEORETICAL ASTROPHYSICS OF ULTRAHIGH-ENERGY NEUTRINOS
 04/17/2003 - 04/14/2006 FY03: \$130,000 Total: \$130,000
Prin. Invest.: G GELMINI
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13461 **UNIV OF CALIFORNIA - LOS ANGELES**
 "NASA WORKING GROUP ON HYDROLOGIC PROCESSES OF RIVERS AND
 WETLAND"
 04/25/2003 - 04/30/2005 FY03: \$50,000 Total: \$50,000
Prin. Invest.: D E ALSDORF
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13506 **UNIV OF CALIFORNIA - LOS ANGELES**
 DETERMINING THE SOURCE OF HIGH ENERGY ELECTRONS IN THE INNER
 MAGNETOSPHERE
 05/07/2003 - 04/30/2006 FY03: \$196,042 Total: \$196,042
Prin. Invest.: D SCHRIVER
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13510 **UNIV OF CALIFORNIA - LOS ANGELES**
 THE STUDY OF THE CHANGING SOLAR INTERIOR USING GLOBAL AND
 LOCAL HELIOSEISMOLOGY
 05/02/2003 - 04/30/2006 FY03: \$11,290 Total: \$11,290
Prin. Invest.: E RHODES
Tech. Officer: GSFC/D SIEBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13667 **UNIV OF CALIFORNIA - LOS ANGELES**
 MT WILSON SOLAR PHOTOGRAPHIC ARCHIVE DIGITIZATION PROJECT
 09/30/2003 - 09/30/2006 FY03: \$79,861 Total: \$79,861
Prin. Invest.: R ULRICH
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13757 **UNIV OF CALIFORNIA - LOS ANGELES**
 LINKING THE SYNCHROTRON & COMPTON COMPONENT IN MKN 421
 W/SIMULTANEOUS, INTENSIVE X-RAY/TEV MONITORING
 09/25/2003 - 09/30/2004 FY03: \$19,000 Total: \$19,000
Prin. Invest.: R EDELSON
Tech. Officer: GSFC/J H SWANK
CASE Category: 11 – ASTRONOMY

NAG 5 13767 **UNIV OF CALIFORNIA - LOS ANGELES**
 X-RAY VARIABILITY & MASSES OF SEYFERT 1S & X-RAY BINARIES; LINK
 BETWEEN SUPERMASSIVE & STELLAR HOLE
 09/30/2003 - 09/30/2004 FY03: \$19,000 Total: \$19,000
Prin. Invest.: R EDELSON
Tech. Officer: GSFC/J H SWANK
CASE Category: 13 – PHYSICS

NAG 9 1020 **UNIV OF CALIFORNIA - LOS ANGELES**
 GENESIS DISCOVERY MISSION
 07/16/1998 - 03/04/2002 FY03: \$0 Total: \$213,600
Prin. Invest.: K D MCKEEGAN
Tech. Officer: JSC/E K STANSBERY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1252 **UNIV OF CALIFORNIA - LOS ANGELES**
 OPTICAL BIOSENSORS FOR IN FLIGHT MEASUREMENT OF HORMONES
 LEVELS
 08/15/2000 - 07/31/2003 FY03: \$86,855 Total: \$263,576
Prin. Invest.: B DUNN
Tech. Officer: JSC/C W LLOYD
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 4 00051 **UNIV OF CALIFORNIA - LOS ANGELES**
 FORMATION FLIGHT TECHNOLOGY
 09/18/2000 - 09/30/2003 FY03: \$0 Total: \$528,589
Prin. Invest.: J L SPEYER
Tech. Officer: DFRC/G L SPEYER
CASE Category: 41 – AERONAUTICAL ENGR

NAS 5 00247 **UNIV OF CALIFORNIA - LOS ANGELES**
 DESIGN, FABRICATION, & DELIVERY OF MAGNETOMETER SYSTEM FOR
 THE ST-5 MISSION.
 02/13/2001 - 08/31/2003 FY03: \$235,988 Total: \$730,499
Prin. Invest.: R J STRANGWAY
Tech. Officer: GSFC/A RUSSO
CASE Category: 41 – AERONAUTICAL ENGR

NAS 5 02100 **UNIV OF CALIFORNIA - LOS ANGELES**
 TIME HISTORY OF EVENTS & MACROSCALE INTERACTION DURING SUB-
 STORMS (THEMIS) MISSION PHASE A EFFORT
 07/03/2002 - 10/31/2003 FY03: \$10,000 Total: \$60,000
Prin. Invest.: E WRIGHT
Tech. Officer: GSFC/C SAVINELLI
CASE Category: 11 – ASTRONOMY

NAS 9 02036 **UNIV OF CALIFORNIA - LOS ANGELES**
 ADVANCED SECONDARY ION MASS SPECTROMETER FOR SOLAR WIND
 ANALYSIS
 04/09/2002 - 09/30/2004 FY03: \$217,247 Total: \$3,749,408
Prin. Invest.: K D MCKEEGAN
Tech. Officer: JSC/E STANSBERY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NASW 03006 **UNIV OF CALIFORNIA - LOS ANGELES**
 PRINCIPAL INVESTIGATOR FOR NASA'S "DAWN" DISCOVERY MISSION - THE
 STUDY OF 1 CERES AND 4 VESTA
 12/31/2002 - 09/30/2003 FY03: \$1,030,625 Total: \$1,030,625
Prin. Invest.: C RUSSELL
Tech. Officer: JPL/D JARRETT
CASE Category: 11 – ASTRONOMY

NCC 2 1050 **UNIV OF CALIFORNIA - LOS ANGELES**
 ASTROBIOLOGY UCLA AN INTEGRATED MULTIDISCIPLINARY APPROACH
 TO RESEARCH & EDUCATION
 08/19/1998 - 10/31/2003 FY03: \$1,139,867 Total: \$4,768,701
Prin. Invest.: E YOUNG
Tech. Officer: ARC/R A GRAYMES, ARC/W W DOLCI
CASE Category: 59 – LIFE SCIENCE, OTHER

CALIFORNIA

NASA'S UNIVERSITY PROGRAM

NCC 2 1364 **UNIV OF CALIFORNIA - LOS ANGELES**
 CENTER FOR CELL MIMETIC SPACE EXPLORATION CMISE
 09/23/2002 - 08/31/2007 FY03: \$2,000,000 Total: \$3,000,000
Prin. Invest.: C HO
Tech. Officer: ARC/H PARTRIDGE, ARC/M MEYYPAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 3 690 **UNIV OF CALIFORNIA - LOS ANGELES**
 ACOUSTICALLY FORCED CONDENSED PHASE FUEL COMBUSTION UNDER
 MICROGRAVITY CONDITIONS
 03/22/1999 - 12/31/2003 FY03: \$31,990 Total: \$470,249
Prin. Invest.: O I SMITH
Tech. Officer: GRC/K SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 4 121 **UNIV OF CALIFORNIA - LOS ANGELES**
 FLIGHT SYSTEMS RESEARCH CENTER
 02/17/1999 - 05/31/2003 FY03: \$0 Total: \$3,889,530
Prin. Invest.: A V BALAKRISHNAN
Tech. Officer: SSC/K W IIIFF, SSC/R R MEYER
CASE Category: 49 – ENGINEERING, OTHER

NCC 4 153 **UNIV OF CALIFORNIA - LOS ANGELES**
 FLIGHT SYSTEMS RESEARCH CENTER FLIGHT SYSTEMS RESEARCH
 CENTER
 02/28/2002 - 10/31/2002 FY03: \$0 Total: \$1,000,000
Prin. Invest.: A BALAKRISHNAN
Tech. Officer: DFRC/K ILIFF
CASE Category: 49 – ENGINEERING, OTHER

NCC 4 157 **UNIV OF CALIFORNIA - LOS ANGELES**
 FLIGHT SYSTEMS RESEARCH CENTER FLIGHT SYSTEMS RESEARCH
 CENTER
 01/24/2003 - 11/24/2003 FY03: \$957,299 Total: \$957,299
Prin. Invest.: A BALAKRISHNAN
Tech. Officer: DFRC/L RICHARDS
CASE Category: 49 – ENGINEERING, OTHER

NCC 4 160 **UNIV OF CALIFORNIA - LOS ANGELES**
 STUDIES IN AERO/STRUCTURAL DYNAMICS, SUPPORT GROUND & FLIGHT
 TESTS OF FIBER OPTIC SENSORS SYSTEMS
 04/29/2003 - 04/01/2004 FY03: \$139,735 Total: \$139,735
Prin. Invest.: A BALAKRISHNAN
Tech. Officer: DFRC/L RICHARDS
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 301 **UNIV OF CALIFORNIA - LOS ANGELES**
 EARTH PARTNERS' PRIVATE NETWORK
 04/03/1998 - 09/30/2003 FY03: \$75,000 Total: \$2,588,600
Prin. Invest.: R MUNTZ
Tech. Officer: GSFC/M MAIDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 624 **UNIV OF CALIFORNIA - LOS ANGELES**
 HIGH-PERFORMANCE ADAPTIVE SIMULATION FRAMEWORK FOR SPACE-
 WEATHER MODELING (SWMF)
 04/30/2002 - 04/29/2005 FY03: \$310,000 Total: \$550,000
Prin. Invest.: C MECHOSO
Tech. Officer: GSFC/J FISCHER
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 5 712 **UNIV OF CALIFORNIA - LOS ANGELES**
 CHARACTERIZING EAST ASIA SOURCE REGION AEROSOLS & DETERMIN-
 ING THEIR EFFECTS & BIOMASS-BURNING AEROSOL
 03/26/2003 - 03/31/2006 FY03: \$30,000 Total: \$30,000
Prin. Invest.: K N LIOU
Tech. Officer: GSFC/S TSAY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 726 **UNIV OF CALIFORNIA - LOS ANGELES**
 FAULT DETECTION, IDENTIFICATION, RECONSTRUCTION, & FAULT-
 TOLERANT ESTIMATION FOR A SATELLITE
 04/16/2003 - 06/30/2006 FY03: \$75,001 Total: \$75,001
Prin. Invest.: J SPEYER
Tech. Officer: GSFC/R CARPENTER
CASE Category: 42 – ASTRONAUTICAL ENGR

NGT 1 01039 **UNIV OF CALIFORNIA - LOS ANGELES**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) YR.2
 08/29/2001 - 06/30/2003 FY03: \$10,000 Total: \$46,000
Prin. Invest.: G CARMEN
Tech. Officer: LARC/R G BRYANT
CASE Category: 41 – AERONAUTICAL ENGR

NGT 2 52265 **UNIV OF CALIFORNIA - LOS ANGELES**
 EFFECT OF SIMULATED MICROGRAVITY ON NT-3 EXPRESSION IN PROP-
 RIOCEPTIVE AFFERENT NEURONS IN RATS
 07/14/2000 - 08/31/2002 FY03: \$0 Total: \$68,000
Prin. Invest.: V R EDGERTON, A J BIGBEE
Tech. Officer: ARC/R E GRINDELAND, ARC/E M HOLTON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 2 52289 **UNIV OF CALIFORNIA - LOS ANGELES**
 MARTIAN IMPACT CRATER LAKES: GEOPHYSICAL MODELING AND IN SITU
 INVESTIGATION OF TERRESTRIAL ANALOGS
 06/13/2002 - 08/31/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D A PAIGE
Tech. Officer: ARC/C P MCKAY
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 5 112 **UNIV OF CALIFORNIA - LOS ANGELES**
 DECENTRALIZED CONTROL OF DISTRIBUTED SATELLITE NETWORKS,
 GSRP TRAINING GRANT. STUDENT: GENE BELAN
 08/18/2000 - 08/31/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: J L SPEYER
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 117 **UNIV OF CALIFORNIA - LOS ANGELES**
 COMBINING SPACE AND GROUND BASED PLASMASPHERIC OBSERVA-
 TIONS FOR UNDERSTANDING PLASMA MASS DENSITY
 06/04/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: M MOLDWIN
Tech. Officer: GSFC/M S BURRELL
CASE Category: 13 – PHYSICS

NGT 5 143 **UNIV OF CALIFORNIA - LOS ANGELES**
 DECENTRALIZED CONTROL OF SATELLITE CLUSTERS UNDER LIMITED
 COMMUNICATION (STUDENT: GENE BELANGER)
 04/21/2003 - 08/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J L SPEYER
Tech. Officer: GSFC/M S BURRELL
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 30338 **UNIV OF CALIFORNIA - LOS ANGELES**
 ESTIMATION OF THE TERRESTRIAL CARBON POOL & HYDROLOGIC SENSITIVITY OF THE WEST SIBERIAN LOWLAND/STU
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: L SMITH
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30372 **UNIV OF CALIFORNIA - LOS ANGELES**
 AN INVEST. OF CLOUD FEATURES IN HIGH-RESOL. INFRARED EMISSION SPECTRA: UNDERSTANDING RADIATIVE EFF
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: A ELDERING
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30435 **UNIV OF CALIFORNIA - LOS ANGELES**
 MODELING OF ARCTIC RIVER ICE BREAKUP USING SAR IMAGERY. STUDENT: TAMLIN M. PAVELSKY
 08/16/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: L SMITH
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30499 **UNIV OF CALIFORNIA - LOS ANGELES**
 INVESTIGATIONS OF LINKS BETWEEN SUBTROPICAL STRATOCUMULUS AND MONSOONS STUDENT: SIMONA BORDONI
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: B STEVENS
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30525 **UNIV OF CALIFORNIA - LOS ANGELES**
 MAPPING ACTIVE FAULT ZONES IN SOUTHERN CALIFORNIA USING MASTER MULTISPECTRAL DATA (JANET HARVEY)
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D K HOOK
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50310 **UNIV OF CALIFORNIA - LOS ANGELES**
 PROXIMO-DISTAL PATTERNING IN MOLLUSCS AND ANNELIDS: IMPLICATIONS FOR LIMB EVOLUTION STUDENT: SHANNON
 07/07/2000 - 06/30/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: D K JACOBS
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50332 **UNIV OF CALIFORNIA - LOS ANGELES**
 A STUDY OF UNRESOLVED ISSUES REGARDING STRATOSPHERIC AEROSOL FORMATION, EVOLUTION & COMPOSITION BY
 08/17/2000 - 10/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: R TURCO
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50359 **UNIV OF CALIFORNIA - LOS ANGELES**
 CASSINI MEASUREMENT OF MAGNETIC FIELDS WITHIN 2 SOLAR RADII STUDENT: ELIZABETH JENSEN
 05/23/2001 - 08/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: C RUSSELLI
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50395 **UNIV OF CALIFORNIA - LOS ANGELES**
 DETECTION OF YOUNG SUBSTELLAR OBJECTS USING FLITECAM STUDENT: AMANDA MAINZER
 06/05/2002 - 06/30/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: I MCLEAN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1638 **UNIV OF CALIFORNIA - RIVERSIDE**
 MECHANISMS OF RADIATION INDUCED RECOMBINATION AND MUTAGENESIS
 06/16/2003 - 05/31/2007 FY03: \$349,698 Total: \$349,698
Prin. Invest.: A J GROSOVSKY
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 5116 **UNIV OF CALIFORNIA - RIVERSIDE**
 THE TIGRE INSTRUMENT FOR INTERMEDIATE - ENERGY GAMMA-RAY ASTRONOMY FROM 0.3 TO 100 MEV
 04/09/1997 - 10/31/2003 FY03: \$0 Total: \$2,156,528
Prin. Invest.: A D ZYCH
Tech. Officer: GSFC/H C NEEDLEMAN, GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5211 **UNIV OF CALIFORNIA - RIVERSIDE**
 ULDB COMPTON TELESCOPE MISSION ULDB COMPTON TELESCOPE MISSION
 09/17/1998 - 06/30/2002 FY03: -\$10,778 Total: \$59,289
Prin. Invest.: A D ZYCHE
Tech. Officer: WFF/A B MERRITT
CASE Category: 11 – ASTRONOMY

NAG 5 5288 **UNIV OF CALIFORNIA - RIVERSIDE**
 A HIGH RESOLUTION ALL-SKY X-RAY & GAMMA-RAY MONITOR (AXGAM)
 05/31/2000 - 05/17/2003 FY03: \$0 Total: \$119,400
Prin. Invest.: T O TUMER
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 9812 **UNIV OF CALIFORNIA - RIVERSIDE**
 NON-ENZYMATIC OLIGOMERIZATION OF MONONUCLEOTIDES USING NON-STANDARD OLIGONUCLEOTIDE TEMPLATES
 07/19/2000 - 07/14/2003 FY03: \$0 Total: \$205,940
Prin. Invest.: C Y SWITZER
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 10932 **UNIV OF CALIFORNIA - RIVERSIDE**
 PARTICLE ACCELERATION AND TRANSPORT
 05/30/2001 - 06/30/2004 FY03: \$133,639 Total: \$385,317
Prin. Invest.: G ZANK
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11393 **UNIV OF CALIFORNIA - RIVERSIDE**
 COMPOSITION AND ABUNDANCE RATIOS OF ANOMALOUS AND GALACTIC COSMIC RAYS: IMPLICATIONS OF ACE OBSERVATION
 11/13/2001 - 12/31/2001 FY03: \$0 Total: \$47,502
Prin. Invest.: G P ZANK
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

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NAG 5 11604 UNIV OF CALIFORNIA - RIVERSIDE
 THE HELIOSPERIC TERMINATION SHOCK STRUCTURE
 01/22/2002 - 01/31/2005 FY03: \$80,000 Total: \$157,000
Prin. Invest.: J LE ROUX
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11621 UNIV OF CALIFORNIA - RIVERSIDE
 THE INTERACTION OF THE SUN AND THE GALAXY
 01/22/2002 - 01/31/2005 FY03: \$111,000 Total: \$217,628
Prin. Invest.: G ZANK
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12382 UNIV OF CALIFORNIA - RIVERSIDE
 OUTREACH PROJECT FOR XMM
 07/25/2002 - 03/31/2004 FY03: \$36,829 Total: \$146,829
Prin. Invest.: C FOSTER
Tech. Officer: GSFC/N WHITE
CASE Category: 11 – ASTRONOMY

NAG 5 12390 UNIV OF CALIFORNIA - RIVERSIDE
 POSTLAUNCH: STATEMENT OF WORK U.S. OPTICAL MONITOR TEAM
 07/25/2002 - 07/31/2004 FY03: \$474,709 Total: \$1,031,603
Prin. Invest.: F CORDOVA
Tech. Officer: GSFC/N WHITE
CASE Category: 11 – ASTRONOMY

NAG 5 12903 UNIV OF CALIFORNIA - RIVERSIDE
 THE GLOBAL STRUCTURE OF THE HELIOSPHERE: BEYOND THE STANDARD MODEL
 02/11/2003 - 01/31/2006 FY03: \$115,595 Total: \$115,595
Prin. Invest.: G P ZANK
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12934 UNIV OF CALIFORNIA - RIVERSIDE
 THE STRUCTURE OF THE ACCRETION REGION IN AMHER TYPE BINARIES
 02/28/2003 - 02/29/2004 FY03: \$43,000 Total: \$43,000
Prin. Invest.: F A CORDOVA
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13451 UNIV OF CALIFORNIA - RIVERSIDE
 WAVES, TURBULENCE AND ENERGETIC PARTICLES IN THE HELIOSPHERE
 05/05/2003 - 05/14/2005 FY03: \$37,352 Total: \$37,352
Prin. Invest.: G M WEBB
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2044 UNIV OF CALIFORNIA - SAN DIEGO
 RADIATIVE CHARACTERISTICS OF THE SURFACE & CLOUDS IN THE ARCTIC
 USING RESEARCH AIRCRAFT--NRA-94-MTPE-04
 04/03/1998 - 03/31/2003 FY03: \$0 Total: \$418,823
Prin. Invest.: F P VALERO, S K POPE, P J FLATAU
Tech. Officer: LARC/D S MCDUGAL, LARC/J RAPER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02028 UNIV OF CALIFORNIA - SAN DIEGO
 MODELING COMPRESSIBILITY EFFECTS IN HIGH-SPEED TURBULENT FLOWS
 12/27/2001 - 11/30/2003 FY03: \$0 Total: \$38,500
Prin. Invest.: S SARKA
Tech. Officer: LARC/T B GATSKI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02092 UNIV OF CALIFORNIA - SAN DIEGO
 ULTRASONIC MEASUREMENT OF INTRACRANIAL PRESSURE WAVEFORMS
 05/01/2002 - 05/14/2004 FY03: \$35,000 Total: \$85,000
Prin. Invest.: A R HARGENS, T UENO
Tech. Officer: LARC/F H FARMER, LARC/W T YOST
CASE Category: 56 – MEDICL

NAG 2 1313 UNIV OF CALIFORNIA - SAN DIEGO
 THE DEVELOPMENT OF PILOT EXPERTISE IN THE AIRBUS A 320 AIRCRAFT
 04/01/1999 - 06/30/2002 FY03: \$0 Total: \$297,084
Prin. Invest.: E L HUTCHINS
Tech. Officer: ARC/S M CASNER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1376 UNIV OF CALIFORNIA - SAN DIEGO
 EVOLUTION OF NEURAL CREST & PLACODES: AMPHIOXUS AS A MODEL FOR THE ANCESTROOF THE VERTEBRATES
 08/17/1999 - 06/30/2003 FY03: \$0 Total: \$229,114
Prin. Invest.: L Z HOLLAND
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2117 UNIV OF CALIFORNIA - SAN DIEGO
 DYNAMICS OF ACCELERATED INTERFACES: PARAMETRIC EXCITATION AND FLUID SLOSHING IN CLOSED CONTAINERS A
 01/28/1998 - 12/18/2002 FY03: \$0 Total: \$233,000
Prin. Invest.: C POZRIKIDIS
Tech. Officer: GRC/J R SKARDA
CASE Category: 13 – PHYSICS

NAG 3 2465 UNIV OF CALIFORNIA - SAN DIEGO
 VIBRATORY DYNAMICS AND TRANSPORT OF GRANULAR MEDIA AT VARIOUS G LEVELS
 06/19/2000 - 11/30/2003 FY03: \$80,000 Total: \$286,000
Prin. Invest.: J D GODDARD
Tech. Officer: GRC/M E HILL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2554 UNIV OF CALIFORNIA - SAN DIEGO
 STRETCHED DIFFUSION FLAMES IN VON KARMAN SWIRLING FLOWS
 03/15/2001 - 11/30/2004 FY03: \$11,182 Total: \$31,148
Prin. Invest.: F WILLIAMS
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 4023 UNIV OF CALIFORNIA - SAN DIEGO
 ADVANCED GLOBAL ATMOSPHERIC GASES EXPERIMENT (AGAG)
 03/25/1997 - 12/31/2003 FY03: \$0 Total: \$2,847,606
Prin. Invest.: R F WEISS
Tech. Officer: GSFC/M J KURYLO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 4546 UNIV OF CALIFORNIA - SAN DIEGO
 NASA SPECIALIZED CENTER OF RESEARCH AND TRAINING IN THE CHEMISTRY OF EARLY SELF-REPLICATING SYSTEMS
 05/06/1997 - 03/31/2003 FY03: \$0 Total: \$4,716,000
Prin. Invest.: P L BADA
Tech. Officer: HQ/M MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 5266 **UNIV OF CALIFORNIA - SAN DIEGO**
 CRYOGENIC WHOLE AIR SAMPLING OF CARBON DIOXIDE IN THE UPPER
 ATMOSPHERE
 06/01/2000 - 05/24/2004 FY03: \$0 Total: \$164,600
Prin. Invest.: M H THIEMENS
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5287 **UNIV OF CALIFORNIA - SAN DIEGO**
 BALLOON-BORNE HIGH ENERGY X-RAY IMAGING SPECTROMETER (HEXIS)
 BASED ON CZT TECHNOLOGY
 05/31/2000 - 05/17/2003 FY03: \$0 Total: \$345,000
Prin. Invest.: J L MATTESON
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5332 **UNIV OF CALIFORNIA - SAN DIEGO**
 FULL FUNDING FOR THE 1ST YEAR, GRANT AMOUNT IS 70K , PI:LINGEN-
 FELTER TITLE: NEW THEORETICAL STUD
 05/30/2001 - 02/28/2004 FY03: \$70,000 Total: \$210,000
Prin. Invest.: D LINGENFELTER
Tech. Officer: WFF/B MERRITT
CASE Category: 11 – ASTRONOMY

NAG 5 5349 **UNIV OF CALIFORNIA - SAN DIEGO**
 POSITION-SENSITIVE CZT DETECTORS FOR GAMMA-RAY ASTROPHYSICS
 01/16/2002 - 01/07/2005 FY03: \$150,000 Total: \$350,000
Prin. Invest.: J MATTESON
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5386 **UNIV OF CALIFORNIA - SAN DIEGO**
 IDENTIFICATION OF THE IMPORTANT PARAMETERS DESCRIBING THE
 SHEAR STRESS ACTING ON THE BLOOD VESSEL
 09/12/2002 - 12/31/2003 FY03: \$0 Total: \$28,000
Prin. Invest.: D HUANG
Tech. Officer: WFF/S LONG
CASE Category: 33 – OCEANOGRAPHY

NAG 5 5397 **UNIV OF CALIFORNIA - SAN DIEGO**
 CZT-BASED CODED MASK IMAGER DEVELOPMENT
 01/23/2003 - 09/30/2005 FY03: \$100,000 Total: \$100,000
Prin. Invest.: R ROTHSCCHILD
Tech. Officer: GSFC/B MERRITT
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 6414 **UNIV OF CALIFORNIA - SAN DIEGO**
 MODELING UV-B EFFECTS ON PRIMARY PRODUCTION THROUGHOUT THE
 SOUTHERN OCEAN USING MULTI-SENSOR SA
 10/29/1997 - 10/31/2001 FY03: -\$60 Total: \$396,808
Prin. Invest.: D LUBIN
Tech. Officer: GSFC/K ARRIGO
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG 5 6466 **UNIV OF CALIFORNIA - SAN DIEGO**
 OPTICAL AND ANCILLARY MEASUREMENTS AT HIGH LATITUDES IN
 SUPPORT OF THE MODIS OCEAN VALIDATION
 11/04/1997 - 09/30/2002 FY03: \$0 Total: \$224,288
Prin. Invest.: D STRAMSKI
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 6497 **UNIV OF CALIFORNIA - SAN DIEGO**
 PREDICTABILITY OF THE CALIFORNIA CURRENT SYSTEM
 10/08/1997 - 10/14/2001 FY03: -\$42 Total: \$633,156
Prin. Invest.: D MILLER
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7096 **UNIV OF CALIFORNIA - SAN DIEGO**
 ANOMALOUS HEAT BUDGETS IN INTERIOR PACIFIC OCEAN ON SEASONAL
 TO INTERANNUAL TIMESCALES
 05/27/1998 - 09/30/2002 FY03: \$0 Total: \$379,886
Prin. Invest.: W WHITE
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 33 – OCEANOGRAPHY

NAG 5 7362 **UNIV OF CALIFORNIA - SAN DIEGO**
 ASCA PROPOSAL - ASCA AND HST OBSERVATIONS OF BL LA C 0236+164
 AND THE INTERVENING SYSTEM
 05/05/1998 - 04/30/2002 FY03: -\$287 Total: \$13,713
Prin. Invest.: R D COHEN
Tech. Officer: GSFC/N WHITE
CASE Category: 11 – ASTRONOMY

NAG 5 7612 **UNIV OF CALIFORNIA - SAN DIEGO**
 IMPROVED SPECTRAL CHARACTERIZATION OF THE GEOMAGNETIC FIELD
 (SENH98-0124)
 07/24/1998 - 05/31/2002 FY03: -\$1 Total: \$223,999
Prin. Invest.: R L PARKER
Tech. Officer: GSFC/H B FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7614 **UNIV OF CALIFORNIA - SAN DIEGO**
 FUNDING FOR "EARTH CONDUCTIVITY FROM SATELLITE MAGNETIC
 DATA" (SENH98-0123)
 07/24/1998 - 07/14/2002 FY03: -\$1 Total: \$253,999
Prin. Invest.: C G CONSTABLE
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7637 **UNIV OF CALIFORNIA - SAN DIEGO**
 CO2 BUDGET AND ATMOSPHERIC RECTIFICATION OVER NORTH AMERICA
 (CO2BAR)
 11/30/1998 - 11/30/2003 FY03: \$0 Total: \$65,000
Prin. Invest.: R F KEELING
Tech. Officer: GSFC/D E WICKLANS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8167 **UNIV OF CALIFORNIA - SAN DIEGO**
 FRAGMENTARY SOLAR SYSTEM HISTORY
 02/10/1999 - 01/31/2003 FY03: \$0 Total: \$359,000
Prin. Invest.: D MARTI
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8172 **UNIV OF CALIFORNIA - SAN DIEGO**
 ISOTOPIC, CHEMICAL AND MINERALOGICAL INVESTIGATIONS OF EXTRA-
 TERRESTRIAL MATERIALS
 02/24/1999 - 02/28/2003 FY03: \$0 Total: \$775,000
Prin. Invest.: G W LUNGMAIR
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

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NAG 5 8180 **UNIV OF CALIFORNIA - SAN DIEGO**
 ADVANCED GLOBAL ATMOSPHERIC GASES EXPERIMENT (AGAG E)
 02/12/1999 - 12/31/2003 FY03: \$0 Total: \$352,394
Prin. Invest.: R F WEISS
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8551 **UNIV OF CALIFORNIA - SAN DIEGO**
 ORGANIC CONSTITUENTS OF SHORT-PERIOD COMETS
 06/04/1999 - 05/31/2003 FY03: \$0 Total: \$221,052
Prin. Invest.: M N FOMENKOVA
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 8252 **UNIV OF CALIFORNIA - SAN DIEGO**
 ANTARCTIC ULTRAVIOLET RADIATION CLIMATOLOGY FROM THE TOTAL
 ZONE MAPPING SPECTROMETER
 02/19/1999 - 02/28/2004 FY03: \$0 Total: \$285,000
Prin. Invest.: D LUBIN
Tech. Officer: GSFC/J R HERMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8623 **UNIV OF CALIFORNIA - SAN DIEGO**
 NUMERICAL CLIMATE OBSERVING NETWORK DESIGN STUDY
 08/09/1999 - 08/31/2003 FY03: \$0 Total: \$439,898
Prin. Invest.: D STAMMER
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8272 **UNIV OF CALIFORNIA - SAN DIEGO**
 A SEARCH FOR EXTRASOLAR PLANETS IN OPEN CLUSTERS
 03/05/1999 - 02/28/2002 FY03: -\$210 Total: \$133,190
Prin. Invest.: D GUIRRENBACH
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8731 **UNIV OF CALIFORNIA - SAN DIEGO**
 ADVANCED CADMIUM-ZINC-TELLURIDE DETECTORS FOR RESEARCH IN
 ASTROPHYSICS
 08/17/1999 - 08/14/2003 FY03: \$0 Total: \$260,577
Prin. Invest.: J L MATTESON
Tech. Officer: GSFC/F A HERRERO
CASE Category: 11 – ASTRONOMY

NAG 5 8292 **UNIV OF CALIFORNIA - SAN DIEGO**
 SEASONAL ATMOSPHERIC AND OCEANIC PREDICTIONS
 02/25/1999 - 02/28/2003 FY03: \$0 Total: \$420,000
Prin. Invest.: J O ROADS
Tech. Officer: GSFC/M REINECKER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8768 **UNIV OF CALIFORNIA - SAN DIEGO**
 DYNAMIC HUMAN-CENTERED INTERFACES: MONITORING AND NATIONAL
 PROCESSES IN CONTROL OF CRITICAL SYSTEMS
 08/26/1999 - 08/31/2003 FY03: \$0 Total: \$315,345
Prin. Invest.: T JUNG
Tech. Officer: GSFC/R CROUCH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8322 **UNIV OF CALIFORNIA - SAN DIEGO**
 BAYESIAN HIERARCHICAL AIR-SEA INTERACTION MODELING: APPLICATION
 TO THE LABRADOR SEA
 04/13/1999 - 05/31/2002 FY03: -\$3 Total: \$62,571
Prin. Invest.: P NILER
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8901 **UNIV OF CALIFORNIA - SAN DIEGO**
 ESTIMATING THE OCEAN FLOW FIELD FROM COMBINED SEA SURFACE
 TEMPERATURE AND SEASURFACE HEIGHT DATA
 01/04/2000 - 01/14/2002 FY03: -\$4 Total: \$161,668
Prin. Invest.: D STAMMER
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8351 **UNIV OF CALIFORNIA - SAN DIEGO**
 THE APPLICATION OF JASON-1 MEASUREMENTS TO ESTIMATE THE
 GLOBAL NEAR SURFACE OCEAN CIRCULATION
 03/01/1999 - 09/30/2003 FY03: \$0 Total: \$429,000
Prin. Invest.: P P NILER
Tech. Officer: GSFC/C KOBLINSKY
CASE Category: 33 – OCEANOGRAPHY

NAG 5 9005 **UNIV OF CALIFORNIA - SAN DIEGO**
 ANALYSIS AND INTERPRETATION OF NEAR XGRS DATA
 01/27/2000 - 07/31/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: J R ARNOLD
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 8498 **UNIV OF CALIFORNIA - SAN DIEGO**
 THE HIGH ENERGY X-RAY IMAGING SURVEY (HEXIS)
 05/27/1999 - 05/31/2002 FY03: -\$162 Total: \$754,838
Prin. Invest.: R E ROTHSCHILD
Tech. Officer: GSFC/L KALUZIENSKI
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 9036 **UNIV OF CALIFORNIA - SAN DIEGO**
 MEASUREMENT OF ELECTRIC FIELDS WITH MULTIPLE SPREAD ELECTRON
 BEAMS
 02/10/2000 - 02/14/2002 FY03: -\$64 Total: \$92,436
Prin. Invest.: C MCILWAIN
Tech. Officer: GSFC/J SHARBER
CASE Category: 11 – ASTRONOMY

NAG 5 8504 **UNIV OF CALIFORNIA - SAN DIEGO**
 RECONSTRUCTION OF THE PLASMA DISTRIBUTION IN CORONA AND
 HELIOSPHERE
 05/11/1999 - 04/30/2003 FY03: \$0 Total: \$249,053
Prin. Invest.: B V JACKSON
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 9224 **UNIV OF CALIFORNIA - SAN DIEGO**
 COSMOLOGICAL PARAMETERS FROM THE LYMAN-ALPHA FOREST (LTS
 99)
 03/14/2000 - 03/14/2003 FY03: \$0 Total: \$267,893
Prin. Invest.: D TYTLER
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9423 **UNIV OF CALIFORNIA - SAN DIEGO**
 TOMOGRAPHIC ANALYSIS AND VISUALIZATION OF REMOTELY -SENSED
 HELIOSPHERIC DATA
 04/13/2000 - 10/31/2003 FY03: \$0 Total: \$297,000
Prin. Invest.: B V JACKSON
Tech. Officer: GSFC/P HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9623 **UNIV OF CALIFORNIA - SAN DIEGO**
 TOPOGRAPHIC RECOVERY FROM SPACEBORNE RADAR & LASED RANGING:
 VALIDATION & INVESTIGATION OF PLATE BOUNDARIES
 06/12/2000 - 05/31/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: D T SANDWELL
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9659 **UNIV OF CALIFORNIA - SAN DIEGO**
 MICRO-DETECTION SYSTEM FOR DETERMINATION OF THE BIOTIC OR
 ABIOTIC ORIGIN OF AMINO ACIDS
 05/31/2000 - 05/31/2002 FY03: \$0 Total: \$100,000
Prin. Invest.: J L BADA
Tech. Officer: GSFC/B BETTS
CASE Category: 11 – ASTRONOMY

NAG 5 9721 **UNIV OF CALIFORNIA - SAN DIEGO**
 A PHYSICALLY BASED APPROACH TO CONSTRUCTION OF A CLIMATE-
 QUALITY SST RECORD FROM COMPLEMENTARY SPATIAL DATA
 06/22/2000 - 06/30/2004 FY03: \$43,750 Total: \$485,000
Prin. Invest.: J J SIMPSON
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9788 **UNIV OF CALIFORNIA - SAN DIEGO**
 OCEAN CARBON FLUX: TRANSPORTS & BURIAL WITHIN THE WESTERN &
 EASTERN U.S. COASTAL ZONES
 07/28/2000 - 07/31/2003 FY03: \$0 Total: \$292,500
Prin. Invest.: A MILLER
Tech. Officer: GSFC/E LINSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10065 **UNIV OF CALIFORNIA - SAN DIEGO**
 INVESTIGATING THE GROUNDING ZONE & TIDAL RESPONSE OF THE
 AMERY ICE SHELF, EAST ANTARCTICA, USING REMOTE SENSING
 11/20/2000 - 11/30/2003 FY03: \$63,218 Total: \$190,858
Prin. Invest.: D SANDWELL
Tech. Officer: GSFC/K PARTINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10487 **UNIV OF CALIFORNIA - SAN DIEGO**
 ISOTOPIC FRACTIONATION PROCESSES DURING PRE-SOLAR GRAIN FOR-
 MATION
 02/27/2001 - 04/30/2004 FY03: \$35,000 Total: \$105,000
Prin. Invest.: M H THIEMENS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10644 **UNIV OF CALIFORNIA - SAN DIEGO**
 PENETRATION OF UV RADIATION IN THE EARTH'S OCEANS (YR 1 OF 3)
 03/21/2001 - 03/31/2004 FY03: \$0 Total: \$178,140
Prin. Invest.: G MITCHELL
Tech. Officer: GSFC/J R HERMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10667 **UNIV OF CALIFORNIA - SAN DIEGO**
 NITROGEN, CARBON AND PHOSPHATE IN THE OLDEST PRESERVED
 CRUST OF THE EARTH
 03/21/2001 - 03/31/2004 FY03: \$0 Total: \$264,900
Prin. Invest.: G ARRHENIUS
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 10691 **UNIV OF CALIFORNIA - SAN DIEGO**
 A UNIFORM STUDY OF X-RAY PULSAR MAGNETIC FIELDS
 04/09/2001 - 04/14/2004 FY03: \$0 Total: \$110,381
Prin. Invest.: W HEINDL
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10737 **UNIV OF CALIFORNIA - SAN DIEGO**
 TIME SERIES OF CONTINUOUS MEASUREMENTS OF ATMOSPHERIC CO₂
 AND CO₂ CONCENTRATIONS FOR ELUCIDATING CLIMATE CHANGE
 04/20/2001 - 04/30/2004 FY03: \$260,718 Total: \$783,826
Prin. Invest.: R KEELING
Tech. Officer: GSFC/J MARRA
CASE Category: 33 – OCEANOGRAPHY

NAG 5 10871 **UNIV OF CALIFORNIA - SAN DIEGO**
 NON-THERMAL PHENOMENA IN CLUSTERS OF GALAXIES (LTSA 2000)
 05/10/2001 - 05/31/2006 FY03: \$105,847 Total: \$267,635
Prin. Invest.: Y REPHAELI
Tech. Officer: GSFC/R OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 10874 **UNIV OF CALIFORNIA - SAN DIEGO**
 SOLAR WIND FLOWS FROM ACTIVE REGIONS
 05/14/2001 - 02/28/2003 FY03: \$0 Total: \$80,102
Prin. Invest.: P HICK
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10886 **UNIV OF CALIFORNIA - SAN DIEGO**
 STATE TRANSITIONS AND QPOs IN X-RAY TRANSIENTS (ADP 00)
 05/03/2001 - 11/30/2002 FY03: \$0 Total: \$37,558
Prin. Invest.: J TOMSICK
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10968 **UNIV OF CALIFORNIA - SAN DIEGO**
 THE RESPONSE TO CZT DETECTORS TO X-RAYS
 06/06/2001 - 06/14/2002 FY03: \$0 Total: \$51,827
Prin. Invest.: R E ROTHSCHILD
Tech. Officer: GSFC/F HERRERO
CASE Category: 11 – ASTRONOMY

NAG 5 11123 **UNIV OF CALIFORNIA - SAN DIEGO**
 MODEL HELIOSPHERIC DISTURBANCE PROPAGATION USING REMOTE
 SENSING OBSERVATIONS
 07/18/2001 - 07/14/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: B V JACKSON
Tech. Officer: GSFC/W J WAGNER
CASE Category: 31 – ATMOSPHERIC SCIENCE

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NAG 5 11217 **UNIV OF CALIFORNIA - SAN DIEGO**
 USE OF ATMOSPHERIC CO₂, VEGETATIVE INDEX, AND DAILY CLIMATIC
 DATA IN A COORDINATED DIAGNOSTIC INVE
 08/13/2001 - 08/31/2004 FY03: \$164,967 Total: \$488,632
Prin. Invest.: C KEELING
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11554 **UNIV OF CALIFORNIA - SAN DIEGO**
 FRAGMENTARY SOLAR SYSTEM HISTORY
 01/09/2002 - 04/14/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: K MARTI
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11563 **UNIV OF CALIFORNIA - SAN DIEGO**
 GEOPHYSICAL INVESTIGATIONS OF THE TERRESTRIAL PLANETS
 01/17/2002 - 02/28/2005 FY03: \$70,000 Total: \$140,000
Prin. Invest.: C L JOHNSON
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11599 **UNIV OF CALIFORNIA - SAN DIEGO**
 EVALUATION OF HYDROLOGIC REMOTE SENSING OBSERVATIONS FOR
 IMPROVED WEATHER PREDICTION.
 01/28/2002 - 01/31/2005 FY03: \$50,000 Total: \$120,000
Prin. Invest.: J ROADS
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11637 **UNIV OF CALIFORNIA - SAN DIEGO**
 RADIATION STUDIES IN SUPPORT OF THE CRYSTAL-FACE PROJECT
 01/23/2002 - 01/31/2004 FY03: \$141,055 Total: \$359,506
Prin. Invest.: F P VALERO
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11660 **UNIV OF CALIFORNIA - SAN DIEGO**
 METEORITIC SULPHUR AND OXYGEN ISOTOPIC ANALYSIS
 02/05/2002 - 02/28/2005 FY03: \$35,000 Total: \$70,000
Prin. Invest.: M H THIEMENS
Tech. Officer: GSFC/D NAVA
CASE Category: 11 – ASTRONOMY

NAG 5 11682 **UNIV OF CALIFORNIA - SAN DIEGO**
 ORBITAL, ROTATIONAL, AND CLIMATIC INTERACTIONS ON MARS.
 01/31/2002 - 02/14/2005 FY03: \$41,000 Total: \$82,000
Prin. Invest.: J A ORCUTT
Tech. Officer: GSFC/B BILLS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11716 **UNIV OF CALIFORNIA - SAN DIEGO**
 PARAMETERIZATION OF CLOUD WATER VARIABILITY FROM EOS OBSER-
 VATIONS AND ITS IMPACT ON GCM CLIMATE
 02/28/2002 - 02/28/2005 FY03: \$140,000 Total: \$294,815
Prin. Invest.: A VOGELMANN
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11731 **UNIV OF CALIFORNIA - SAN DIEGO**
 "IMPACT OF SYNOPTIC FORCING ON EXTRATROPICAL CLOUDINESS AND
 CLIMATE VARIABILITY"
 02/14/2002 - 02/28/2005 FY03: \$110,000 Total: \$220,000
Prin. Invest.: J NORRIS
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11738 **UNIV OF CALIFORNIA - SAN DIEGO**
 A GLOBAL RAPID INTEGRATED MONITORING SYSTEM FOR WATER CYCLE
 AND WATER RESOURCE ASSESSMENT (GLOBAL
 02/12/2002 - 02/14/2005 FY03: \$34,800 Total: \$72,500
Prin. Invest.: J ROADS
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11754 **UNIV OF CALIFORNIA - SAN DIEGO**
 COLLISIONLESS INTERACTION OF THE SOLAR WIND WITH THE EARTH'S
 MAGNETOSPHERE: THE GLOBAL NATURE
 02/27/2002 - 03/31/2005 FY03: \$346,084 Total: \$521,084
Prin. Invest.: H KARIMABADI
Tech. Officer: GSFC/J M GREBOWSKY
CASE Category: 13 – PHYSICS

NAG 5 11765 **UNIV OF CALIFORNIA - SAN DIEGO**
 STUDYING THE OCEAN FLOW FIELD FROM COMBINED ANALYSIS OF SEA
 SURFACE HEIGHT, SEA SURFACE TEMPERA
 02/21/2002 - 02/28/2005 FY03: \$147,610 Total: \$289,623
Prin. Invest.: D STAMMER
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11768 **UNIV OF CALIFORNIA - SAN DIEGO**
 ISOTOPIC, CHEMICAL & MINERALOGICAL INVESTIGATIONS OF EXTRATER-
 RESTRIAL MATERIALS
 02/22/2002 - 02/28/2005 FY03: \$309,999 Total: \$589,999
Prin. Invest.: G W LUGMAIR
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11824 **UNIV OF CALIFORNIA - SAN DIEGO**
 THREE DIMENSIONAL HYBRID SIMULATION OF RECONNECTION AT THE
 DAYSIDE MAGNETOPAUSE
 03/07/2002 - 03/14/2005 FY03: \$98,108 Total: \$191,926
Prin. Invest.: K B QUEST
Tech. Officer: GSFC/J SHARBER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11906 **UNIV OF CALIFORNIA - SAN DIEGO**
 DETERMINATION OF THE MASS AND ENERGY CONTENT OF CMES IN THE
 INNER HELIOSPHERE
 04/12/2002 - 04/14/2005 FY03: \$0 Total: \$91,834
Prin. Invest.: P P HICK
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 12139 **UNIV OF CALIFORNIA - SAN DIEGO**
 INTEGRATION OF A MICRO-CHIP ACID CHIRALITY DETECTOR INTO THE
 MOD INSTRUMENT CONCEPT
 05/06/2002 - 04/30/2004 FY03: \$144,100 Total: \$294,000
Prin. Invest.: J L BADA
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12190 **UNIV OF CALIFORNIA - SAN DIEGO**
 MEASUREMENT OF ELECTROMAGNETIC FIELDS VIA FLIGHT TIMES FROM
 SPREAD-BEAM ELECTRON SOURCES
 05/14/2002 - 05/14/2004 FY03: \$0 Total: \$93,376
Prin. Invest.: C E MCIWAIN
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12281 **UNIV OF CALIFORNIA - SAN DIEGO**
 LITHOSPHERIC THICKNESS ON VENUS FROM MAGELLAN GRAVITY AND
 TOPOGRAPHY DATA
 06/10/2002 - 03/31/2004 FY03: \$0 Total: \$120,752
Prin. Invest.: C L JOHNSON
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12312 **UNIV OF CALIFORNIA - SAN DIEGO**
 SOFTWARE FOR CONSTRAINED OPTIMIZATION
 06/26/2002 - 08/31/2003 FY03: \$0 Total: \$22,817
Prin. Invest.: P E GILL
Tech. Officer: GSFC/S P HUGHES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12345 **UNIV OF CALIFORNIA - SAN DIEGO**
 VARIATIONS IN THE HOT ISM (FUSE 00)
 08/06/2002 - 09/30/2004 FY03: \$0 Total: \$74,447
Prin. Invest.: C HOWK
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12388 **UNIV OF CALIFORNIA - SAN DIEGO**
 TOPOGRAPHY, TOPEX AND TIDES
 07/17/2002 - 07/14/2005 FY03: \$113,516 Total: \$170,087
Prin. Invest.: S G LLEWELLYN SMITH
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12397 **UNIV OF CALIFORNIA - SAN DIEGO**
 REMOTE SENSING OF PARTICULATE ORGANIC CARBON POOLS IN THE
 HIGH-LATITUDE OCEANS
 07/23/2002 - 07/31/2005 FY03: \$47,095 Total: \$76,959
Prin. Invest.: D STRAMSKI
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12465 **UNIV OF CALIFORNIA - SAN DIEGO**
 QUANTITATIVE ASSESSMENT OF THE INTEGRATED RESPONSE IN GLOBAL
 HEAT AND MOISTURE BUDGETS TO CHANGING
 08/15/2002 - 08/14/2005 FY03: \$125,157 Total: \$244,687
Prin. Invest.: W B WHITE
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12535 **UNIV OF CALIFORNIA - SAN DIEGO**
 INFLUENCE OF IRON AVAILABILITY ON PHYTOPLANKTON PRODUCTIVITY
 AND COMMUNITY STRUCTURE IN THE SOUTHERN
 09/11/2002 - 09/14/2005 FY03: \$0 Total: \$89,383
Prin. Invest.: K BARBEAU
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12703 **UNIV OF CALIFORNIA - SAN DIEGO**
 CONNECTIONS BETWEEN LINE EMISSION, RADIO JETS AND SPECTRAL
 STATES IN THE BLACK HOLE X-RAY TRANSIENT
 12/24/2002 - 12/31/2003 FY03: \$55,217 Total: \$55,217
Prin. Invest.: J A TOMSICK
Tech. Officer: GSFC/C SHRADER
CASE Category: 11 – ASTRONOMY

NAG 5 12806 **UNIV OF CALIFORNIA - SAN DIEGO**
 SIO FIELD OPS: ADVANCED GLOBAL ATMOSPHERIC GASES EXPERIMENT
 (AGAGE)
 01/29/2003 - 01/14/2007 FY03: \$106,823 Total: \$106,823
Prin. Invest.: R F WEISS
Tech. Officer: GSFC/M KURYLO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12807 **UNIV OF CALIFORNIA - SAN DIEGO**
 SIO LAB OPS: ADVANCED GLOBAL ATMOSPHERIC GASES EXPERIMENT
 (AGAGE)
 01/29/2003 - 01/14/2007 FY03: \$760,691 Total: \$760,691
Prin. Invest.: R F WEISS
Tech. Officer: GSFC/M KURYLO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12846 **UNIV OF CALIFORNIA - SAN DIEGO**
 HISTORICAL STUDIES ON EXTRATERRESTRIAL MATERIALS
 01/29/2003 - 01/31/2006 FY03: \$205,000 Total: \$205,000
Prin. Invest.: N OMIDI
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12849 **UNIV OF CALIFORNIA - SAN DIEGO**
 NASA SPECIALIZED CENTER OF RESEARCH AND TRAINING EXOBIOLOGY:
 THE CHEMISTRY OF EARLY-SELF REPLICATING
 01/30/2003 - 01/31/2004 FY03: \$65,804 Total: \$65,804
Prin. Invest.: J L BADA
Tech. Officer: GSFC/M MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 12851 **UNIV OF CALIFORNIA - SAN DIEGO**
 ASTROBIOLAB: A MOBILE IN SITU SUBSURFACE BIOTIC DETECTOR AND
 SOIL REACTIVITY
 02/27/2003 - 01/31/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: J BADA
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12870 **UNIV OF CALIFORNIA - SAN DIEGO**
 LOW FREQUENCY SEA LEVEL AND BOTTOM SIGNAL, IN RELATION TO
 OCEAN CIRCULATION AND CLIMATE.
 02/20/2003 - 02/14/2006 FY03: \$78,834 Total: \$78,834
Prin. Invest.: D STAMMER
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12946 **UNIV OF CALIFORNIA - SAN DIEGO**
 MAGNETOSPHERIC STRUCTURE AND INFLUENCE OF MAGNETOSPHERIC
 FAST AND SLOW SHOCKS
 02/27/2003 - 02/28/2006 FY03: \$89,248 Total: \$89,248
Prin. Invest.: N OMIDI
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12957 **UNIV OF CALIFORNIA - SAN DIEGO**
 BROAD BAND OBSERVATIONS OF CENTAURUS A WITH INTEGRAL/RXTE
 03/10/2003 - 03/14/2004 FY03: \$45,000 Total: \$45,000
Prin. Invest.: R E ROTHSCCHILD
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 12960 **UNIV OF CALIFORNIA - SAN DIEGO**
 UCSD PARTICIPATION IN INTEGRAL AND SPI MISSION OPERATIONS AND
 DATA ANALYSIS
 03/10/2003 - 12/14/2003 FY03: \$239,000 Total: \$239,000
Prin. Invest.: J MATTESON
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 12983 **UNIV OF CALIFORNIA - SAN DIEGO**
 FRAGMENTARY SOLAR SYSTEM HISTORY: VOLATILES IN MARS & ON
 ASTEROIDAL REGOLITHS--THEIR ORIGIN &
 03/12/2003 - 04/14/2004 FY03: \$100,000 Total: \$100,000
Prin. Invest.: K MARTI
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 13055 **UNIV OF CALIFORNIA - SAN DIEGO**
 X-RAY AND RADIO STUDIES OF BLACK HOLE X-RAY TRANSIENTS DURING
 OUTBURST DECAY
 03/12/2003 - 03/14/2004 FY03: \$47,000 Total: \$47,000
Prin. Invest.: J TOMSICK
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13113 **UNIV OF CALIFORNIA - SAN DIEGO**
 A NEW FRONTIER IN COSMOLOGY
 03/15/2003 - 03/14/2008 FY03: \$109,962 Total: \$109,962
Prin. Invest.: D TYTLER
Tech. Officer: GSFC/J HAYES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13269 **UNIV OF CALIFORNIA - SAN DIEGO**
 DEVELOPMENT OF A REAL-TIME GPS/SEISMIC DISPLACEMENT METER:
 APPLICATIONS TO CIVILIAN INFRASTRUCTURE
 04/10/2003 - 04/15/2006 FY03: \$189,470 Total: \$189,470
Prin. Invest.: Y BOCK
Tech. Officer: GSFC/H V FREY
CASE Category: 33 – OCEANOGRAPHY

NAG 5 13435 **UNIV OF CALIFORNIA - SAN DIEGO**
 NEW RESEARCH RETRIEVAL ALGORITHMS FOR GEOPHYSICAL PRODUCTS
 FROM GLI AND MODIS/DATA
 04/23/2003 - 04/30/2005 FY03: \$100,000 Total: \$100,000
Prin. Invest.: J SIMPSON
Tech. Officer: GSFC/J DODGE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13453 **UNIV OF CALIFORNIA - SAN DIEGO**
 HELIOSPHERIC DISTURBANCE PROPAGATION FROM REMOTE SENSING
 OBSERVATIONS- DATA ANALYSIS AND MODELING
 05/05/2003 - 05/14/2006 FY03: \$118,002 Total: \$118,002
Prin. Invest.: B JACKSON
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13485 **UNIV OF CALIFORNIA - SAN DIEGO**
 THE APPLICATION OF JASON-1 MEASUREMENTS TO ESTIMATE THE
 GLOBAL NEAR SURFACE OCEAN CIRCULATION
 05/01/2003 - 04/30/2004 FY03: \$37,500 Total: \$37,500
Prin. Invest.: P NIILER
Tech. Officer: GSFC/C J KOBLINSKY
CASE Category: 33 – OCEANOGRAPHY

NAG 5 13621 **UNIV OF CALIFORNIA - SAN DIEGO**
 NASA SPECIALIZED CENTER OF RESEARCH AND TRAINING IN EXOBIOLOGY
 08/27/2003 - 08/31/2004 FY03: \$5,000 Total: \$5,000
Prin. Invest.: J BADA
Tech. Officer: GSFC/M NEW
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 13673 **UNIV OF CALIFORNIA - SAN DIEGO**
 HIGH-RESOLUTION MARINE GRAVITY SEAFLOOR TOPOGRAPHY AND SEA-
 FLOOR ROUGHNESS FOR BASIC RESEARCH
 09/11/2003 - 09/14/2006 FY03: \$74,000 Total: \$74,000
Prin. Invest.: D SANDWELL
Tech. Officer: GSFC/H FREY
CASE Category: 13 – PHYSICS

NAG 5 13682 **UNIV OF CALIFORNIA - SAN DIEGO**
 OCEAN TIDE LOADING COMPUTATION
 09/12/2003 - 09/14/2006 FY03: \$32,128 Total: \$32,128
Prin. Invest.: D C AGNEW
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13747 **UNIV OF CALIFORNIA - SAN DIEGO**
 ELECTROMAGNETIC INDUCTION STUDIES FROM MULTIPLE SATELLITE
 CONFIGURATIONS
 09/26/2003 - 09/30/2006 FY03: \$120,901 Total: \$120,901
Prin. Invest.: C CONSTABLE
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13762 **UNIV OF CALIFORNIA - SAN DIEGO**
 THE EXTENDED GASEOUS HALOS OF THE CLOSEST GALAXIES
 09/26/2003 - 09/30/2004 FY03: \$28,000 Total: \$28,000
Prin. Invest.: C J HOWK
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1516 **UNIV OF CALIFORNIA - SAN DIEGO**
 VARIABILITY AND PREDICTABILITY OF LAND-ATMOSPHERE OBSERVA-
 TIONAL AND MODELING STUDIES
 05/12/1998 - 04/30/2002 FY03: \$0 Total: \$161,023
Prin. Invest.: J ROADS
Tech. Officer: MSFC/J ARNOLD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 8 1571 **UNIV OF CALIFORNIA - SAN DIEGO**
 CARTILAGE TISSUE ENGINEERING: CIRCUMFERENTIAL SEEDING OF
 CHONDROCYTES USING ROTATING BIOREACTORS
 01/12/1999 - 11/30/2002 FY03: \$0 Total: \$555,550
Prin. Invest.: R L SAH
Tech. Officer: JSC/D RISEN
CASE Category: 56 – MEDICAL

NAS 8 1589 **UNIV OF CALIFORNIA - SAN DIEGO**
 NOVEL STRATEGY FOR TRI-DIMENSIONAL IN VITRO BONE INDUCTION
 02/25/1999 - 11/30/2002 FY03: \$0 Total: \$362,650
Prin. Invest.: J A FRANGOS
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAS 8 1875 **UNIV OF CALIFORNIA - SAN DIEGO**
 FEEDBACK MECHANISMS AFFECTING INTERANNUAL VARIABILITY OF THE
 TROPICAL ENERGY BALANCE
 07/16/2002 - 07/31/2005 FY03: \$90,000 Total: \$138,000
Prin. Invest.: J O ROADS
Tech. Officer: MSFC/P ROBERTSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 9 1425 **UNIV OF CALIFORNIA - SAN DIEGO**
 EXERCISE WITHIN LBNP AS AN ARTIFICIAL GRAVITY COUNTER MEASURE
 05/24/2002 - 05/31/2005 FY03: \$271,050 Total: \$397,597
Prin. Invest.: A HARGENS
Tech. Officer: JSC/C LLYOD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 9 1573 **UNIV OF CALIFORNIA - SAN DIEGO**
 DETERMINATION OF OXYGEN BLANK & SUITABILITY OF DVD DIAMOND FOR
 CONCENTRATOR
 09/10/2003 - 09/09/2004 FY03: \$94,000 Total: \$94,000
Prin. Invest.: M THIEMENS
Tech. Officer: JSC/N G ROBERTSON
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 1 98141 **UNIV OF CALIFORNIA - SAN DIEGO**
 A STUDY OF CLOUD RADIATIVE FORCING AND FEEDBACK (CERES)
 10/30/1998 - 10/29/2003 FY03: \$358,139 Total: \$1,125,976
Prin. Invest.: V RAMANATHAN
Tech. Officer: LARC/B A WIELICKI, LARC/R L HUFFMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 00194 **UNIV OF CALIFORNIA - SAN DIEGO**
 SIMBIOS II - SATELLITE OCEAN COLOR VALIDATION USING
 01/23/2001 - 11/30/2003 FY03: \$290,083 Total: \$763,416
Prin. Invest.: R FROUIN
Tech. Officer: GSFC/C R MCCAIN
CASE Category: 33 – OCEANOGRAPHY

NAS 5 01002 **UNIV OF CALIFORNIA - SAN DIEGO**
 SIMBIOS II-BIO OPTICAL MEASUREMENT AND MODELING OF THE NORTH
 PACIFIC & SOUTHERN OCEANS
 01/23/2001 - 11/30/2003 FY03: \$204,577 Total: \$700,493
Prin. Invest.: B G MITCHELL
Tech. Officer: GSFC/C R MCCLAIN
CASE Category: 33 – OCEANOGRAPHY

NAS 5 30720 **UNIV OF CALIFORNIA - SAN DIEGO**
 HIGH ENERGY X-RAY TIMING EXPERIMENT FOR XTE PROJECT
 11/01/1989 - 09/30/2003 FY03: \$400,000 Total: \$31,481,564
Prin. Invest.: R E ROTHSCHILD
Tech. Officer: GSFC/W D DAVIS
CASE Category: 11 – ASTRONOMY

NAS 5 97121 **UNIV OF CALIFORNIA - SAN DIEGO**
 PULSE SHAPE DISCRIMINATOR FOR INTEGRAL SPECTROMETER (LETTER
 CONTRACT)
 01/24/1997 - 03/31/2003 FY03: \$256,905 Total: \$6,531,000
Prin. Invest.: J L MATTESON, R P LIN
Tech. Officer: GSFC/J P MURPHY
CASE Category: 11 – ASTRONOMY

NAS 5 99006 **UNIV OF CALIFORNIA - SAN DIEGO**
 GLAS SCIENCE TEAM LEADER.
 11/25/1998 - 09/30/2004 FY03: \$319,000 Total: \$1,512,000
Prin. Invest.: J B MINSTER
Tech. Officer: GSFC/G SMITH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 99120 **UNIV OF CALIFORNIA - SAN DIEGO**
 TRIANA SCIENCE INVESTIGATION
 12/09/1998 - 04/30/2004 FY03: \$0 Total: \$27,392,322
Prin. Invest.: F VALCRO
Tech. Officer: GSFC/J WATZIM, GSFC/C TOOLEY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 9 98124 **UNIV OF CALIFORNIA - SAN DIEGO**
 EFFECT OF EVA & LONG-TERM EXPOSURE TO MICROGRAVITY ON PUL-
 MONARY FUNCTION
 03/02/1999 - 06/30/2003 FY03: \$79,393 Total: \$1,890,346
Prin. Invest.: J B WEST
Tech. Officer: JSC/S M MCCULLUM
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 2 1133 **UNIV OF CALIFORNIA - SAN DIEGO**
 LOWER BODY NEGATIVE PRESSURE AS A COUNTERMEASURE FOR
 SPACEFLIGHT DECONDITIONING
 08/02/1999 - 09/30/2003 FY03: \$0 Total: \$704,576
Prin. Invest.: A R HARGENS
Tech. Officer: ARC/E M HOLTON
CASE Category: 56 – MEDICAL

NCC 2 1196 **UNIV OF CALIFORNIA - SAN DIEGO**
 NON-INVASIVE INTRACRANIAL PRESSURE MEASUREMENT FOR SPACE
 FLIGHT - SPACE PHYSIOLOGY & COUNTERMEASURE
 09/29/2000 - 04/30/2003 FY03: \$0 Total: \$154,000
Prin. Invest.: C ROGERS
Tech. Officer: ARC/E M HOLTON, ARC/B P DALTON
CASE Category: 56 – MEDICAL

NCC 2 5520 **UNIV OF CALIFORNIA - SAN DIEGO**
 DUST PROPERTIES IN COMETS AND PROTOPLANETARY DISKS
 08/29/2002 - 08/31/2004 FY03: \$24,700 Total: \$74,700
Prin. Invest.: D E HARKER
Tech. Officer: ARC/D H WOODEN, ARC/K R BELL
CASE Category: 11 – ASTRONOMY

NCC 3 693 **UNIV OF CALIFORNIA - SAN DIEGO**
 HIGH-PRESSURE COMBUSTION OF BINARY FUEL SPRAYS HIGH-
 PRESSURE COMBUSTION OF BINARY FUEL SPRAYS
 03/25/1999 - 05/31/2003 FY03: \$11,239 Total: \$178,168
Prin. Invest.: F A WILLIAMS
Tech. Officer: GRC/D L DIETRICH
CASE Category: 49 – ENGINEERING, OTHER

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NCC 3 695 **UNIV OF CALIFORNIA - SAN DIEGO**
 DYNAMICS OF DROPLETS EXTINCTION IN SLOW CONVECTIVE FLOWS
 03/25/1999 - 01/13/2003 FY03: \$0 Total: \$31,793
Prin. Invest.: F A WILLIAMS
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 769 **UNIV OF CALIFORNIA - SAN DIEGO**
 SCIENTIFIC SUPPORT FOR A PROPOSED SPACE SHUTTLE DR OPLET BURNING EXPERIMENT
 02/08/2000 - 08/31/2003 FY03: \$0 Total: \$341,337
Prin. Invest.: F A WILLIAMS
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 902 **UNIV OF CALIFORNIA - SAN DIEGO**
 STRUCTURAL ANALYSIS OF AN INTEGRAL DAMPED FAN STRUCTURAL ANALYSIS OF AN INTEGRAL DAMPED FAN
 07/13/2001 - 08/31/2003 FY03: \$0 Total: \$79,194
Prin. Invest.: D KOSMATKA
Tech. Officer: GRC/O MEHMED
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1071 **UNIV OF CALIFORNIA - SAN DIEGO**
 SCIENTIFIC SUPPORT FOR A PROPOSED SPACE SHUTTLE DROPLET BURNING EXPERIMENT
 06/05/2003 - 12/31/2003 FY03: \$119,944 Total: \$119,944
Prin. Invest.: F A WILLIAMS
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1097 **UNIV OF CALIFORNIA - SAN DIEGO**
 DYNAMICS OF DROPLET COMBUSTION AND EXTINCTION IN SLOW CONVECTIVE FLOWS (DDCE)
 09/30/2003 - 05/30/2007 FY03: \$14,999 Total: \$14,999
Prin. Invest.: F A WILLIAMS
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 585 **UNIV OF CALIFORNIA - SAN DIEGO**
 INTERNATIONAL SPACE STATION MIDDLE SCHOOL EDUC./ ISS EARTHKAM
 08/31/2001 - 08/31/2006 FY03: \$1,574,030 Total: \$2,652,922
Prin. Invest.: S RIDE
Tech. Officer: GSFC/P MOUNTJOY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 105 **UNIV OF CALIFORNIA - SAN DIEGO**
 CHARACTERIZATION OF AUTONOMIC FUNTION
 02/28/2000 - 02/20/2004 FY03: \$0 Total: \$56,668
Prin. Invest.: P J MILLS
Tech. Officer: JSC/J MECK
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 9 106 **UNIV OF CALIFORNIA - SAN DIEGO**
 CHARACTERIZATION OF AUTOMIC FUNCTION
 04/07/2000 - 03/31/2004 FY03: \$0 Total: \$335,188
Prin. Invest.: M G ZEIGLER
Tech. Officer: JSC/J MECK
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 9 168 **UNIV OF CALIFORNIA - SAN DIEGO**
 EFFECTS OF EVA & LONG TERM EXPOSURE TO MICROGRAVITY ON PULMONARY FUNCTION
 07/02/2003 - 12/31/2004 FY03: \$155,000 Total: \$155,000
Prin. Invest.: J WEST
Tech. Officer: JSC/S MCCULLOM
CASE Category: 56 – MEDICL

NGT 4 52429 **UNIV OF CALIFORNIA - SAN DIEGO**
 CONTROL ORIENTED MODELING AND VALIDATION OF AEROSE RVOELASTIC SYSTEMS
 07/20/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: R D CALLAFON
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 106 **UNIV OF CALIFORNIA - SAN DIEGO**
 THE INFLUENCES OF LIGHT ON PHYTOPLANKTON FLUORESCENCE AND PRODUCTIVITY (STUDENT: JESSICA NOLAN)
 05/30/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: B G MITCHELL
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 33 – OCEANOGRAPHY

NGT 5 30368 **UNIV OF CALIFORNIA - SAN DIEGO**
 NEAR-FIELD FAULT DEFORMATION IN SOUTHERN CALIFORNIA AND BAJA, MEXICO FROM THE GLOBAL POSITIONING
 08/13/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: M A TOLBERT
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30446 **UNIV OF CALIFORNIA - SAN DIEGO**
 CONCEPTUAL MODELING OF THE CLIMATIC ROLE OF AIRBORNE MINERAL DUST (STUDENT: KAREN M. SHELL)
 08/23/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R SOMERVILLE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30514 **UNIV OF CALIFORNIA - SAN DIEGO**
 BODY FORCE MODELS OF PLATE BOUNDARY DEFORMATION & THEIR IMPLICATIONS FOR EARTHQUAKE HAZARD (B. SMITH)
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D SANDWELL
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40007 **UNIV OF CALIFORNIA - SAN DIEGO**
 SUPPORT PROGRAMS AND FELLOWSHIPS UNDER THE NATIONAL COLLEGE AND FELLOWSHIP PROGRAM.
 01/24/1997 - 01/31/2002 FY03: \$0 Total: \$1,836,750
Prin. Invest.: J A ARNOLD
Tech. Officer: GSFC/L KEFFER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40085 **UNIV OF CALIFORNIA - SAN DIEGO**
 CALIFORNIA SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 02/12/2001 - 04/30/2005 FY03: \$515,750 Total: \$1,437,250
Prin. Invest.: W BERGER
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50479 **UNIV OF CALIFORNIA - SAN DIEGO**
 EXAMPLE-BASED SUPER-RESOLUTION FROM MULTIPLE IMAGE STUDENT
 NAME: KRISTIN BRANSON
 05/03/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S BELONGE
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1632 **UNIV OF CALIFORNIA - SAN FRANCISCO**
 HIGH LET RADIATION & NEUROGENESIS: IMPLICATION & MECHANISMS
 UNDERLYING COGNITIVE IMPAIRMENT
 06/10/2003 - 08/31/2007 FY03: \$228,507 Total: \$228,507
Prin. Invest.: C L LIMOLI
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1261 **UNIV OF CALIFORNIA - SAN FRANCISCO**
 TELOMERE REPAIR & CHROMOSOME INSTABILITY AFTER HIGH LINEAR
 ENERGY TRANSFER PARTICLE RADIATION
 09/25/2000 - 07/31/2003 FY03: \$0 Total: \$534,800
Prin. Invest.: J P MURNANE, B FOULADI
Tech. Officer: JSC/C W LLOYD
CASE Category: 56 – MEDICL

NAS 9 99055 **UNIV OF CALIFORNIA - SAN FRANCISCO**
 LIFE SCIENCE FLIGHT EXPERIMENT
 01/29/1999 - 12/31/2003 FY03: \$74,009 Total: \$487,419
Prin. Invest.: T LANG
Tech. Officer: JSC/D BAUMANN
CASE Category: 56 – MEDICL

NCC 2 1126 **UNIV OF CALIFORNIA - SAN FRANCISCO**
 MEMBRANE-BASED FUNCTIONS IN THE ORIGINS OF CELLULAR LIFE
 06/14/1999 - 12/31/2002 FY03: \$0 Total: \$302,075
Prin. Invest.: M A WILSON
Tech. Officer: ARC/M H NEW, ARC/M L FONDA
CASE Category: 12 – CHEMISTRY

NCC 2 1194 **UNIV OF CALIFORNIA - SAN FRANCISCO**
 DO INTEGRINS MEDIATE THE SKELETAL RESPONSES TO ALTERED
 LOADING IN VIVI? (SBUPROJECT A)
 08/28/2000 - 09/30/2004 FY03: \$24,708 Total: \$311,020
Prin. Invest.: C H DAMSKY
Tech. Officer: ARC/R K GLOBUS, ARC/E M HOLTON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1392 **UNIV OF CALIFORNIA - SAN FRANCISCO**
 MEMBRANE BASED FUNCTIONS IN THE ORIGINS OF CELLULAR LIFE
 02/07/2003 - 01/31/2004 FY03: \$61,911 Total: \$61,911
Prin. Invest.: M WILSON
Tech. Officer: ARC/D BLAKE, ARC/M SCHULTE
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5453 **UNIV OF CALIFORNIA - SAN FRANCISCO**
 RESEARCH IN COMPUTATIONAL ASTROBIOLOGY
 08/08/2001 - 07/31/2002 FY03: \$0 Total: \$56,780
Prin. Invest.: M A WILSON
Tech. Officer: ARC/M NEW, ARC/A POHORILLO
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 5509 **UNIV OF CALIFORNIA - SAN FRANCISCO**
 RESEARCH IN COMPUTATIONAL ASTROBIOLOGY
 08/02/2002 - 07/31/2003 FY03: \$0 Total: \$59,718
Prin. Invest.: M A WILSON
Tech. Officer: ARC/M H NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 5526 **UNIV OF CALIFORNIA - SAN FRANCISCO**
 STRUCTURE OF AN ATP BINDING PROTEIN
 01/29/2003 - 12/31/2004 FY03: \$73,535 Total: \$73,535
Prin. Invest.: M A WILSON
Tech. Officer: ARC/T HOEHLER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5551 **UNIV OF CALIFORNIA - SAN FRANCISCO**
 RESEARCH IN COMPUTATIONAL ASTROBIOLOGY
 09/11/2003 - 08/31/2004 FY03: \$73,040 Total: \$73,040
Prin. Invest.: M A WILSON
Tech. Officer: ARC/T HOEHLER, ARC/L S MATTOS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 1 01003 **UNIV OF CALIFORNIA - SANTA BARBARA**
 BIOMIMETIC, SELF-HEALING NANOCOMPOSITES FOR AEROSPACE APPLI-
 CATIONS: 1.UCSB COMPONENTS
 12/29/2000 - 09/30/2003 FY03: \$104,167 Total: \$375,000
Prin. Invest.: D E MORSE
Tech. Officer: LARC/E J SIOCHI
CASE Category: 12 – CHEMISTRY

NAG 3 2115 **UNIV OF CALIFORNIA - SANTA BARBARA**
 INTERACTION FORCES AND THE FLOW-INDUCED COALESCENCE OF
 DROPS AND BUBBLES
 02/19/1998 - 12/31/2002 FY03: \$0 Total: \$636,250
Prin. Invest.: L G LEAL
Tech. Officer: GRC/B S SINGH
CASE Category: 43 – CHEMICAL ENGR

NAG 3 2414 **UNIV OF CALIFORNIA - SANTA BARBARA**
 DIRECT NUMERICAL SIMULATION OF TURBULENT FLOWS WITH PHASE
 CHANGE IN MICROGRAVITY
 06/02/2000 - 11/30/2003 FY03: \$77,000 Total: \$237,650
Prin. Invest.: P BANERJEE
Tech. Officer: LARC/J H AGUI
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2439 **UNIV OF CALIFORNIA - SANTA BARBARA**
 GRADIENT DRIVEN FLUCTUATIONS GRADIENT DRIVEN FLUCTUATIONS
 04/20/2000 - 11/30/2003 FY03: \$236,000 Total: \$552,000
Prin. Invest.: D S CANNELL
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2466 **UNIV OF CALIFORNIA - SANTA BARBARA**
 THE DYNAMICS OF PARTICULATE DEPOSITIONED RESUSPENSION PRO-
 CESSES AT MODERATE TO HIGH REYNOLDS NUMBER
 06/20/2000 - 11/30/2003 FY03: \$29,195 Total: \$105,775
Prin. Invest.: E MEIBURG
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

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NAG 3 2493 UNIV OF CALIFORNIA - SANTA BARBARA
 THE DYNAMICS OF MISCIBLE INTERFACES: SIMULATIONS THE DYNAMICS
 OF MISCIBLE INTERFACES: SIMULATIONS
 10/11/2000 - 12/31/2001 FY03: \$0 Total: \$107,500
Prin. Invest.: E H MEIBURG
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2513 UNIV OF CALIFORNIA - SANTA BARBARA
 PROBLEMS IN MICROGRAVITY FLUID MECHANICS: G-JITTE R CONVECTION
 12/19/2000 - 11/30/2004 FY03: \$100,000 Total: \$345,250
Prin. Invest.: G M HOMSY
Tech. Officer: GRC/F P CHIARAMONTE III
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2761 UNIV OF CALIFORNIA - SANTA BARBARA
 THE LIMITS OF COOLABILITY IN THERMAL SYSTEMS FOR S PACE APPLI-
 CATIONS
 04/03/2002 - 11/30/2005 FY03: \$93,000 Total: \$178,000
Prin. Invest.: D THEOFANOUS
Tech. Officer: GRC/J B MCQUILLIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2785 UNIV OF CALIFORNIA - SANTA BARBARA
 THE DYNAMICS OF MISCIBLE INTERFACES: A SPACE FLIG HT EXPERIMENT
 06/07/2002 - 12/31/2004 FY03: \$106,000 Total: \$212,000
Prin. Invest.: E H MEIBURG
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2872 UNIV OF CALIFORNIA - SANTA BARBARA
 BOUNDARY EFFECTS ON TRANSPORT PROPERTIES AND DYNAMIC FINITE-
 SIZE SCALING NEAR THE SUPERFLUID
 04/03/2003 - 01/31/2007 FY03: \$170,000 Total: \$170,000
Prin. Invest.: G AHLERS
Tech. Officer: GRC/M C HICKS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2903 UNIV OF CALIFORNIA - SANTA BARBARA
 THE SUPERFLUID TRANSITION OF HE UNER UNUSUAL CONDI TIONS
 05/27/2003 - 04/30/2005 FY03: \$126,696 Total: \$126,696
Prin. Invest.: G AHLERS
Tech. Officer: GRC/M C HICKS
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3646 UNIV OF CALIFORNIA - SANTA BARBARA
 SOLAR SYSTEM PHYSICS
 02/25/1997 - 04/30/2003 FY03: \$0 Total: \$335,750
Prin. Invest.: S J PEALE
Tech. Officer: GSFC/D G SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 4629 UNIV OF CALIFORNIA - SANTA BARBARA
 PARAMETERIZATION OF CLOUD 3-D EFFECTS ON SURFACE S GET ESTI-
 MATED FROM SATELLITE MEASUREMENTS
 05/21/1997 - 11/30/2001 FY03: -\$188 Total: \$379,812
Prin. Invest.: C GAUTHIER
Tech. Officer: GSFC/R CAHALAN
CASE Category: 31 – ATMOSPHERICSIENCE

NAG 5 6120 UNIV OF CALIFORNIA - SANTA BARBARA
 THE EOS AMAZON PROJECT
 08/13/1997 - 06/30/2004 FY03: \$0 Total: \$623,394
Prin. Invest.: T DUNNE
Tech. Officer: GSFC/T JANETOS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 6434 UNIV OF CALIFORNIA - SANTA BARBARA
 BIO-OPTICS IN THE WESTERN ANTARCTIC PENINSULA REGI ON
 10/16/1997 - 06/30/2002 FY03: \$0 Total: \$492,438
Prin. Invest.: R C SMITH
Tech. Officer: GSFC/J A MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 6465 UNIV OF CALIFORNIA - SANTA BARBARA
 INVESTIGATION OF SNOW PROPERTIES USING MODIS AND A STER DATA
 10/24/1997 - 09/30/2001 FY03: -\$112 Total: \$309,941
Prin. Invest.: J SHI
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 6911 UNIV OF CALIFORNIA - SANTA BARBARA
 A REQUEST FOR SCIENCE READINESS FUNDS FOR THE OPTI CAL
 MONITOR PROGRAM OFHTE X-RAY MULTI-MIRROR MISS
 01/28/1998 - 10/31/2001 FY03: \$0 Total: \$201,479
Prin. Invest.: D CORDOVA
Tech. Officer: GSFC/R DONNELLY
CASE Category: 11 – ASTRONOMY

NAG 5 7075 UNIV OF CALIFORNIA - SANTA BARBARA
 DETAILED THEORETICAL MODELING OF THE SPECTRUM AND POLARIZA-
 TION OF ACCRETION DISKS IN ACTIVE GA
 02/25/1998 - 02/28/2003 FY03: \$0 Total: \$223,024
Prin. Invest.: O M BLAES
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7177 UNIV OF CALIFORNIA - SANTA BARBARA
 PROBABILITY OF DETECTING PLANETS WITH MICROLENSING
 03/16/1998 - 03/14/2003 FY03: \$0 Total: \$121,100
Prin. Invest.: S J PEALE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 7714 UNIV OF CALIFORNIA - SANTA BARBARA
 POSTLAUNCH: STATEMENT OF WORK U.S. OPTICAL MONITOR TEAM
 10/05/1998 - 07/31/2002 FY03: \$0 Total: \$891,694
Prin. Invest.: D A CORDOVA
Tech. Officer: GSFC/N E WHITE
CASE Category: 11 – ASTRONOMY

NAG 5 7940 UNIV OF CALIFORNIA - SANTA BARBARA
 OUTREACH PROJECT
 01/19/1999 - 07/31/2002 FY03: -\$36,829 Total: \$242,251
Prin. Invest.: D FOSTER
Tech. Officer: GSFC/N E WHITE
CASE Category: 11 – ASTRONOMY

NAG 5 8396 UNIV OF CALIFORNIA - SANTA BARBARA
 MESOSCALE EFFECTS OF CLIMATE AND LAND-COVER CHANGE ON RIVER-
 BASIN HYDROLOGY IN AMAZONIA
 04/01/1999 - 03/31/2004 FY03: \$0 Total: \$300,000
Prin. Invest.: T DUNNE
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8616 **UNIV OF CALIFORNIA - SANTA BARBARA**
EVALUATING USAGE OF SAR IN MEASURING SNOW PROPERTIES
06/14/1999 - 06/30/2002 FY03: \$0 Total: \$364,100
Prin. Invest.: J SHI
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8658 **UNIV OF CALIFORNIA - SANTA BARBARA**
ROTATIONAL INSTABILITIES AND NUCLEOSYNTHESIS IN ACCRETING NEUTRON STARS.
08/31/1999 - 06/30/2003 FY03: \$0 Total: \$117,680
Prin. Invest.: L BILDSTEN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 8669 **UNIV OF CALIFORNIA - SANTA BARBARA**
NANOSCALE BOLOMETERS AND EVAPORATIVE ELECTRONIC REFRIGERATION
07/09/1999 - 07/14/2002 FY03: \$0 Total: \$432,592
Prin. Invest.: A CLELAND
Tech. Officer: GSFC/G MUCKLOW
CASE Category: 13 – PHYSICS

NAG 5 8680 **UNIV OF CALIFORNIA - SANTA BARBARA**
ATMOSPHERIC MINERAL DUST AND CHLOROPHYLL BLOOMS
07/19/1999 - 07/14/2002 FY03: \$43,311 Total: \$393,690
Prin. Invest.: N M MAHOWALD
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9251 **UNIV OF CALIFORNIA - SANTA BARBARA**
BALLOON BORNE OBSERVATIONS OF THE POLARIZATION OF THE COSMIC MICROWAVE BACKGROUND
03/31/2000 - 08/31/2002 FY03: -\$243,960 Total: \$307,088
Prin. Invest.: J E RUHL
Tech. Officer: GSFC/J FROGEL
CASE Category: 11 – ASTRONOMY

NAG 5 9671 **UNIV OF CALIFORNIA - SANTA BARBARA**
THE ROLE OF NORTH AFRICAN MINERAL AEROSOLS IN CLIMATE AND BIOGEOCHEMISTRY
06/12/2000 - 05/31/2004 FY03: \$91,667 Total: \$785,000
Prin. Invest.: N M MAHOWALD
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9811 **UNIV OF CALIFORNIA - SANTA BARBARA**
GLOBALLY CONSISTENT TOPOGRAPHIC CHARACTERIZATION OF LARGE RIVER FLOODPLAINS BASED ON THE SRT
07/21/2000 - 07/31/2004 FY03: \$0 Total: \$236,998
Prin. Invest.: L K MERTES
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9818 **UNIV OF CALIFORNIA - SANTA BARBARA**
DEVELOPMENT AND APPLICATION OF THE NEXT GENERATION OF OCEAN COLOR MODELS FOR THE UNDERSTANDING OF MA
07/26/2000 - 08/31/2002 FY03: \$0 Total: \$200,000
Prin. Invest.: D A SIEGEL
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9844 **UNIV OF CALIFORNIA - SANTA BARBARA**
HYDROLOGY, HYDROCHEMICAL MODELING & REMOTE SENSING IN SEASONALLY SNOW-COVERED ALPINE DRAINAGE
08/07/2000 - 07/31/2003 FY03: \$0 Total: \$750,000
Prin. Invest.: J C DOZIER
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9971 **UNIV OF CALIFORNIA - SANTA BARBARA**
SPECTROSCOPY OF DIPS AND FLARES IN CIR X-1
09/13/2000 - 09/14/2003 FY03: \$0 Total: \$43,800
Prin. Invest.: R E SHIREY
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10299 **UNIV OF CALIFORNIA - SANTA BARBARA**
QUANTUM LTD.-TERAHERTZ DETECTION WITHOUT LIQUID CRYOGENS PROPOSAL #1138
01/31/2001 - 01/31/2004 FY03: \$213,278 Total: \$646,307
Prin. Invest.: M SHERWIN
Tech. Officer: GSFC/T DOIRON
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 10457 **UNIV OF CALIFORNIA - SANTA BARBARA**
REMOTE SENSING INFORMATION SCIENCE RESEARCH
02/26/2001 - 09/30/2002 FY03: \$0 Total: \$390,000
Prin. Invest.: J E ESTES
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10520 **UNIV OF CALIFORNIA - SANTA BARBARA**
TECTONIC-CLIMATE INTERACTIONS IN ACTIVE OROGENIC BELTS: QUANTIFICATION OF DYNAMIC TOPOGRAPHY WITH
03/30/2001 - 02/14/2004 FY03: \$0 Total: \$240,455
Prin. Invest.: D W BURBANK
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10671 **UNIV OF CALIFORNIA - SANTA BARBARA**
ESTIMATING SOIL MOISTURE CHANGES USING RADARSAT & ITS APPLICATION IN HYDROLOGICAL MODELING
03/27/2001 - 03/14/2004 FY03: \$0 Total: \$150,241
Prin. Invest.: J SHI
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11249 **UNIV OF CALIFORNIA - SANTA BARBARA**
MULTI-MEDIA FLUID MECHANICS: FLUIDS IN MICROGRAVITY
08/16/2001 - 08/31/2004 FY03: \$0 Total: \$150,000
Prin. Invest.: G HOMSY
Tech. Officer: GSFC/D SPEARS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11385 **UNIV OF CALIFORNIA - SANTA BARBARA**
FULLERENES: A NEW CARRIER-PHASE FOR NOBLE GASES IN METEORITES
11/05/2001 - 10/31/2004 FY03: \$40,000 Total: \$86,139
Prin. Invest.: L BECKER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

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NAG 5 11426 **UNIV OF CALIFORNIA - SANTA BARBARA**
 NANOBOLOMETERS AND SINGLE-ELECTRON READOUT AMPLIFIER
 12/03/2001 - 01/31/2005 FY03: \$254,999 Total: \$509,998
Prin. Invest.: A CLELAND
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12400 **UNIV OF CALIFORNIA - SANTA BARBARA**
 BEYOND CHLOROPHYLL: USING OCEAN TO STUDY ORGANIC MATTER
 CYCLING IN THE OCEAN
 07/23/2002 - 07/14/2005 FY03: \$0 Total: \$109,958
Prin. Invest.: N NELSON
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11560 **UNIV OF CALIFORNIA - SANTA BARBARA**
 INTERSTELLAR ORGANIC MOLECULES AND THE ORIGIN OF LIFE: THE
 ROLE OF EXOGENOUS DELIVERY
 01/15/2002 - 11/30/2004 FY03: \$90,249 Total: \$180,249
Prin. Invest.: L R BECKER
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13149 **UNIV OF CALIFORNIA - SANTA BARBARA**
 DYNAMICS AND ORIGIN OF EXTRASOLAR PLANETARY SYSTEMS
 03/24/2003 - 04/30/2006 FY03: \$65,000 Total: \$65,000
Prin. Invest.: S PEALE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11666 **UNIV OF CALIFORNIA - SANTA BARBARA**
 PLANETARY SYSTEM PHYSICS
 01/25/2002 - 04/30/2005 FY03: \$86,300 Total: \$172,600
Prin. Invest.: S J PEALE
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13277 **UNIV OF CALIFORNIA - SANTA BARBARA**
 CHROMOPHORIC DOM: AN IGNORED PHOTOACTIVE TRACER OF
 GEOCHEMICAL PROCESS
 04/05/2003 - 03/31/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: D SIEGEL
Tech. Officer: GSFC/C TREES
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11709 **UNIV OF CALIFORNIA - SANTA BARBARA**
 MULTI-SCALE CONVERGENCE OF COLD-LAND PROCESS REPRESENTATION
 IN LAND-SURFACE MODELS MICROWAVE RE
 02/06/2002 - 02/14/2005 FY03: \$76,503 Total: \$154,267
Prin. Invest.: J SHI
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13389 **UNIV OF CALIFORNIA - SANTA BARBARA**
 ARCADE PROJECT FIRST YEAR FUNDING FOR 3-YEAR
 05/07/2003 - 05/14/2006 FY03: \$104,733 Total: \$104,733
Prin. Invest.: P M LUBIN
Tech. Officer: GSFC/A J KOGUT
CASE Category: 13 – PHYSICS

NAG 5 11887 **UNIV OF CALIFORNIA - SANTA BARBARA**
 UCSB ARCADE BALLOON PROGRAM.
 04/03/2002 - 04/14/2004 FY03: \$0 Total: \$93,715
Prin. Invest.: P M LUBIN
Tech. Officer: GSFC/A J KOGUT
CASE Category: 13 – PHYSICS

NAG 5 13413 **UNIV OF CALIFORNIA - SANTA BARBARA**
 A RE-EXAMINATION OF NITROGEN HETEROCYCLIC COMPOUND IN EXTRA-
 TERRESTRIAL SAMPLES
 05/03/2003 - 09/14/2004 FY03: \$80,000 Total: \$80,000
Prin. Invest.: L BECKER
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12053 **UNIV OF CALIFORNIA - SANTA BARBARA**
 LARGE APERTURE BALLOON BORNE MILLIMETER AND SUBMILLIMETER
 OBSERVATIONS AND TECHNOLOGY DEVELOPMENT
 04/22/2002 - 02/14/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: P LUBIN
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13465 **UNIV OF CALIFORNIA - SANTA BARBARA**
 QUANTIFICATION OF THE EVOLUTIONARY FORCES SHAPING BIOGENIC
 MAGNETITE AND CRITERIA FOR DETECTING IT
 04/27/2003 - 04/30/2006 FY03: \$54,512 Total: \$54,512
Prin. Invest.: A NEWELL
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12087 **UNIV OF CALIFORNIA - SANTA BARBARA**
 DYNAMICS & ORIGIN OF EXTRA-SOLAR PLANETARY SYSTEMS & MICRO-
 LENSING DETECTION OF EXTRA-SOLAR PLANETS
 04/30/2002 - 04/30/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: S PEALE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 13548 **UNIV OF CALIFORNIA - SANTA BARBARA**
 THE HOT WINDS OF ULTRALUMINOUS INFRARED GALAXIES
 08/11/2003 - 08/14/2004 FY03: \$43,000 Total: \$43,000
Prin. Invest.: C L MARTIN
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12150 **UNIV OF CALIFORNIA - SANTA BARBARA**
 UNBIASED, IN-SITU LIFE DETECTION TECHNOLOGY BASED ON TERAHERTZ
 CIRCULAR DICHROISM SPECTROSCOPY
 05/10/2002 - 05/14/2004 FY03: \$0 Total: \$181,080
Prin. Invest.: K PLAXCO
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13758 **UNIV OF CALIFORNIA - SANTA BARBARA**
 TECTONIC CLIMATE INTERACTION IN ACTIVE ORGANIC BELTS: QUANTIFI-
 CATION OF THE APPROACH
 09/25/2003 - 09/30/2006 FY03: \$123,632 Total: \$123,632
Prin. Invest.: D W BURBANK
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1757 **UNIV OF CALIFORNIA - SANTA BARBARA**
 RESEARCH ENTITLED, THE SUPERFLUID TRANSITION OF HE UNDER
 UNUSUAL CONDITIONS
 04/26/2001 - 04/29/2005 FY03: \$42,313 Total: \$247,313
Prin. Invest.: G AHLERS
Tech. Officer: GSFC/D HUBBARD
CASE Category: 13 – PHYSICS

NAG 9 1329 **UNIV OF CALIFORNIA - SANTA BARBARA**
 QUANTITIVE MODELING OF HUMAN SACADIC TARGETING DUR ING VISUAL
 RESEARCH
 06/29/2001 - 12/23/2003 FY03: \$0 Total: \$313,071
Prin. Invest.: M ECKSTIEN
Tech. Officer: JSC/C LLOYD
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG13 99025 **UNIV OF CALIFORNIA - SANTA BARBARA**
 IMPLEMENTATION OF PREDICTIVE SOIL MODELING IN THE NATIONAL
 COOPERATIVE SOIL SURVEY
 08/27/1999 - 08/31/2003 FY03: \$0 Total: \$386,651
Prin. Invest.: O CHADWICK
Tech. Officer: JSC/R MCKELLIP
CASE Category: 32 – GEOLOGICAL SCIENCE

NAS 5 00196 **UNIV OF CALIFORNIA - SANTA BARBARA**
 SIMBIOS II-OPTIMIZATION OF OCEAN COLOR ALGORITHMS: APPLICATION
 TO SATELLITE & IN SITU DATA MERGING.
 01/10/2001 - 11/30/2003 FY03: \$144,950 Total: \$420,000
Prin. Invest.: S MARITORENA
Tech. Officer: GSFC/C R MCCLAIN
CASE Category: 33 – OCEANOGRAPHY

NAS 5 00200 **UNIV OF CALIFORNIA - SANTA BARBARA**
 SIMBIOS II - THE BERMUDA BIO-OPTICS PROJECT (BBPO) YEARS 9 THRU
 11.
 01/26/2001 - 11/30/2002 FY03: \$251,568 Total: \$729,130
Prin. Invest.: D A SIEGEL
Tech. Officer: GSFC/C R MCCLAIN
CASE Category: 33 – OCEANOGRAPHY

NAS 5 00201 **UNIV OF CALIFORNIA - SANTA BARBARA**
 SIMBIOS II - PLUMES & BLOOMS: OBSERVATIONS, ANALYSIS & MODELING
 FOR SIMBIOS.
 01/26/2001 - 11/30/2003 FY03: \$206,902 Total: \$618,212
Prin. Invest.: D A SIEGEL
Tech. Officer: GSFC/C R MCCLAIN
CASE Category: 33 – OCEANOGRAPHY

NAS 5 31370 **UNIV OF CALIFORNIA - SANTA BARBARA**
 EOS INVESTIGATION
 12/23/1991 - 12/14/2003 FY03: \$500,000 Total: \$5,364,402
Prin. Invest.: Z WAN
Tech. Officer: GSFC/H OSEROFF
CASE Category: 33 – OCEANOGRAPHY

NAS 5 31374 **UNIV OF CALIFORNIA - SANTA BARBARA**
 EOS INVESTIGATION - ATMOSPHERIC INFRARED SOUNDER (AIRS) TEAM
 MEMBER INVESTIGATION
 03/04/1992 - 12/14/2003 FY03: \$200,000 Total: \$2,145,000
Prin. Invest.: C GAUTIER
Tech. Officer: GSFC/E KRIENS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 1290 **UNIV OF CALIFORNIA - SANTA BARBARA**
 MECHANICAL PROPERTIES OF LIGHTWEIGHT CERAMIC ABLAT OR MATE-
 RIALS
 10/25/2001 - 10/14/2003 FY03: \$0 Total: \$112,067
Prin. Invest.: F MILSTEIN
Tech. Officer: ARC/C CZALAI
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 5 281 **UNIV OF CALIFORNIA - SANTA BARBARA**
 MULTI-SCALE ANALYSIS OF INUNDATION WITH MICROWAVE AND OPTICAL
 REMOTE SENSING IN THE AMAZON BASIN:
 06/16/1998 - 12/31/2003 FY03: \$0 Total: \$888,013
Prin. Invest.: J MELACK
Tech. Officer: GSFC/D DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 282 **UNIV OF CALIFORNIA - SANTA BARBARA**
 LAND-COVER CONVERSION IN AMAZONIA, THE ROLE OF ENV IRONMENT
 AND SUBSTRATECOMPOSITION IN MODIFYING SO
 06/12/1998 - 12/31/2002 FY03: \$0 Total: \$844,019
Prin. Invest.: O A CHADWICK
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 302 **UNIV OF CALIFORNIA - SANTA BARBARA**
 THE EARTH SYSTEM SCIENCE WORKBENCH: A SCALABLE INFRASTRUC-
 TURE FOR ESIPI'S
 04/09/1998 - 09/30/2003 FY03: \$150,000 Total: \$3,736,952
Prin. Invest.: J FREW
Tech. Officer: GSFC/M MAIDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 496 **UNIV OF CALIFORNIA - SANTA BARBARA**
 HYPERION APPLICATIONS & VALIDATION FOR FIRE HAZARD ASSESSMENT
 IN THE SANTA MONICA MOUNTAINS, CALIF
 04/19/2000 - 09/30/2003 FY03: \$0 Total: \$104,489
Prin. Invest.: D A ROBERTS
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 589 **UNIV OF CALIFORNIA - SANTA BARBARA**
 HYPERSPECTRAL ANALYSIS OF LAND-COVER IN RONDONIA
 09/20/2001 - 09/30/2004 FY03: \$75,792 Total: \$159,246
Prin. Invest.: D A ROBERTS
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 681 **UNIV OF CALIFORNIA - SANTA BARBARA**
 LAND COVER CONVERSION AND FOREST DEGRADATION IN AM AZONIA:
 EVALUATING ENVIRONMENTAL AND LAND USE CON
 12/31/2002 - 12/31/2005 FY03: \$145,332 Total: \$145,332
Prin. Invest.: D ROBERTS
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 691 **UNIV OF CALIFORNIA - SANTA BARBARA**
 LINKING VEGETATIVE COVER AND INUNDATION IN AMAZON WETLANDS
 WITH REGIONAL ANALYSES OF CARBON DYNAMICS
 01/13/2003 - 01/14/2006 FY03: \$205,431 Total: \$205,431
Prin. Invest.: J M MELACK
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

CALIFORNIA

NASA'S UNIVERSITY PROGRAM

NGT 4 52423 UNIV OF CALIFORNIA - SANTA BARBARA
 DEVELOPMENT OF THE EIGENVECTOR ORIENTATION METHOD FOR FLUT-
 TER PREDICTIONS
 06/02/2000 - 07/01/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: H T YANG
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 4 52427 UNIV OF CALIFORNIA - SANTA BARBARA
 DETERMINING MECHANICAL PROPERTIES OF NANO MATERIAL S USING
 NANOINDENTATION AND A FINITE ELEMENT METH
 06/20/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: H T YANG
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 4 52442 UNIV OF CALIFORNIA - SANTA BARBARA
 INVESTIGATION OF MESO-SCALE MACHINING USING THE FI NITE ELEMENT
 METHOD
 07/23/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: H T YANG
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 30194 UNIV OF CALIFORNIA - SANTA BARBARA
 A TOP-DOWN APPROACH TO UNDERSTANDING & PREDICTING DIMETHYL-
 SULFIDE VARIABILITY IN THE SARGASSO SEA
 08/18/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: D A SIEGEL, TOOLE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTALSCI, OTHER

NGT 5 30201 UNIV OF CALIFORNIA - SANTA BARBARA
 MONITORING POPULATION AND THE EXTENT OF HUMAN SETT LEMENT IN
 THE BRAZILIAN AMAZON WITH SYNTH
 08/24/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: K C CLARKE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30225 UNIV OF CALIFORNIA - SANTA BARBARA
 REGIONAL BIOGEOCHEMISTRY OF LAND USE CHANGE IN THE HUMID
 TROPICS: DETECTION & MODELING OF THE
 08/14/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: T DUNNE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30332 UNIV OF CALIFORNIA - SANTA BARBARA
 INTERACTIONS OF LAND COVER CHANGE & TOPOGRAPHY IN THE HYDRO-
 LOGIC RESPONSEOF MESOSCALE TROPIC
 08/14/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: T DUNNE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30357 UNIV OF CALIFORNIA - SANTA BARBARA
 THE ROLE OF TOPOGRAPHY & PROXIMITY TO BEDROCK IN DETERMINING
 NUTRIENT SUPPLY TO A SEASONAL AMAZONI
 08/22/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: O CHADWICK
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTALSCI, OTHER

NGT 5 30400 UNIV OF CALIFORNIA - SANTA BARBARA
 REMOTE SENSING OF ANTHROPOGENIC BIOMASS BURNING & FOREST
 DEGRADATION IN MADAGASCAR: THE DEVELOPMENT
 08/14/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: D ROBERTS
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30406 UNIV OF CALIFORNIA - SANTA BARBARA
 SATELLITE DETECTION OF TRICHODESMIUM SPP. AND ITS RELATION TO
 ATMOSPHERIC DUST DEPOSITIONS
 08/15/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: D SIEGEL
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30413 UNIV OF CALIFORNIA - SANTA BARBARA
 ROLES OF REGIONAL CLIMATOLOGY IN THE NORTH AFRICAN DESERT
 DUST. STUDENT:MASARU YOSHIOKA
 08/14/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: N MAHOWALD
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30436 UNIV OF CALIFORNIA - SANTA BARBARA
 ASSESSMENT OF AIRBORNE FINE SPATIAL RESOLUTION HYP ERSPEC-
 TRAL IMAGERY FORTHE MONITORING OF TROPICAL
 08/20/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D M CLARK
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30440 UNIV OF CALIFORNIA - SANTA BARBARA
 SATELLITE MEASUREMENT OF SURFACE OCEAN MIXING AND VENTILA-
 TION USING OPENOCEAN COLORED DISSOLVED ORGA
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: S A SIEGEL
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30528 UNIV OF CALIFORNIA - SANTA BARBARA
 GLOBAL REGIONALIZATION OF A SEMI-ANALYTICAL OCEAN COLOR ALGO-
 RITHM FOR CASE II ENVIRONMENTS
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D SIEGEL
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50269 UNIV OF CALIFORNIA - SANTA BARBARA
 B2K, AN EXPERIMENT TO MEASURE THE POLARIZATION OF THE CMB
 06/22/2000 - 06/30/2003 FY03: \$0 Total: \$52,000
Prin. Invest.: J RUHL
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50327 UNIV OF CALIFORNIA - SANTA BARBARA
 MAPPING WILDLAND FUELS USING COMBINED HYPERSPEC TRAL & SYN-
 THETIC APERTURERADAR FOR FIRE HAZARD
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D A ROBERTS
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50435 **UNIV OF CALIFORNIA - SANTA BARBARA**
 GENETIC ENGINEERING OF SILICATEIN ALPHA: BIOLOGY INSPIRED
 ROUTES TO NOVEL MATERIALS. GSRP STU
 04/16/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D MORSE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50468 **UNIV OF CALIFORNIA - SANTA BARBARA**
 HYDROGEN ISOTOPE IYSTEMATICS OF LIPID BIOMARKERS F ROM
 SULFATE-REDUCING BACTERIA (STUDENT: BRIAN CA
 05/01/2003 - 08/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D VALENTINE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50472 **UNIV OF CALIFORNIA - SANTA BARBARA**
 MULTI-ELEMENT MICROWAVE POLARIMETER AND POLARIZATI ON SENSI-
 TIVE TEMPERA- TURE ARRAY. GSRP STUDENT:
 05/05/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P LUBIN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1580 **UNIV OF CALIFORNIA - SANTA CRUZ**
 NANO/BIO/INFO TECHNOLOGY FUSION/ COLLABORATIVE RES EARCH PRO-
 POSAL
 09/04/2002 - 10/31/2005 FY03: \$225,540 Total: \$250,540
Prin. Invest.: W E BERRY
Tech. Officer: ARC/H PARTRIDGE, ARC/M MEYYAPPAN
CASE Category: 12 – CHEMISTRY

NAG 5 8128 **UNIV OF CALIFORNIA - SANTA CRUZ**
 THREE DIMENSIONAL MODELS FOR GAMMA-RAY BURSTS AND SUPERNO-
 VAE_ (ATP98)
 02/05/1999 - 02/14/2003 FY03: \$0 Total: \$273,606
Prin. Invest.: S E WOOSLEY
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8348 **UNIV OF CALIFORNIA - SANTA CRUZ**
 THE PROPERTIES OF INTERSTELLAR DUST GRAINS IN IRAS 'CIRRUS'
 CLOUDS (ADP98)
 03/01/1999 - 04/30/2002 FY03: \$0 Total: \$159,572
Prin. Invest.: P GUHATHAKURTA
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8409 **UNIV OF CALIFORNIA - SANTA CRUZ**
 EVOLUTION OF HOT GAS IN ELLIPTICAL GALAXIES (ATP 9 8)
 03/15/1999 - 03/31/2004 FY03: \$0 Total: \$121,622
Prin. Invest.: W G MATHEWS
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8750 **UNIV OF CALIFORNIA - SANTA CRUZ**
 MONITORING ECOSYSTEM CONDITION AND STRESS IN THE SAN PABLO
 BAY, CA REGION
 09/08/1999 - 09/14/2002 FY03: \$0 Total: \$190,492
Prin. Invest.: R KUDELA
Tech. Officer: GSFC/J W MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8855 **UNIV OF CALIFORNIA - SANTA CRUZ**
 COMPOUND REMOTE SENSING FOR THE DETERMINATION OF NEW PRI-
 MARY PRODUCTION IN COASTAL WATERS
 11/23/1999 - 11/30/2002 FY03: \$3,932 Total: \$161,081
Prin. Invest.: R KUDELA
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8914 **UNIV OF CALIFORNIA - SANTA CRUZ**
 SMALL BODIES ANE PLANETARY COLLISIONS
 01/27/2000 - 12/31/2003 FY03: \$0 Total: \$338,000
Prin. Invest.: E ASPHAUG
Tech. Officer: GSFC/J A GRANT
CASE Category: 11 – ASTRONOMY

NAG 5 9403 **UNIV OF CALIFORNIA - SANTA CRUZ**
 STRUCTURE AND FUNCTION OF ENCAPSULATED REPLICATING SYSTEMS
 04/06/2000 - 03/31/2004 FY03: \$0 Total: \$344,214
Prin. Invest.: D DEAMER
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 9526 **UNIV OF CALIFORNIA - SANTA CRUZ**
 MULTIDIMENSIONAL MODELING OF THE SOLAR NEBULA: A BETTER TOOL
 FOR UNDERSTANDING OBSERVATIONS
 04/28/2000 - 05/31/2003 FY03: \$0 Total: \$45,000
Prin. Invest.: P BODENHEIMER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9661 **UNIV OF CALIFORNIA - SANTA CRUZ**
 FORMATION AND EARLY EVOLUTION OF SOLAR AND EXTRA- SOLAR GIANT
 PLANETS
 06/01/2000 - 06/14/2004 FY03: \$0 Total: \$104,000
Prin. Invest.: P BODENHEIMER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9711 **UNIV OF CALIFORNIA - SANTA CRUZ**
 OBSERVATIONS OF ROTATION POWERED PULSARS IN SUPPORT OF GLAST
 06/15/2000 - 06/14/2004 FY03: \$0 Total: \$158,734
Prin. Invest.: D E THORSETT
Tech. Officer: GSFC/S LAMBROS
CASE Category: 11 – ASTRONOMY

NAG 5 9956 **UNIV OF CALIFORNIA - SANTA CRUZ**
 HOT GAS ENRICHMENT BY DRAWF GALAXIES IN THE 5044 GALAXY GROUP
 09/13/2000 - 09/14/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: W G MATHEWS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10053 **UNIV OF CALIFORNIA - SANTA CRUZ**
 THE X-RAY HALOS OF EXTREMELY LUMINOUS GIANT LSB & HSB DISK
 GALAXIES
 12/06/2000 - 12/14/2003 FY03: \$0 Total: \$13,526
Prin. Invest.: B J WEINER
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

CALIFORNIA

NASA'S UNIVERSITY PROGRAM

NAG 5 10232 **UNIV OF CALIFORNIA - SANTA CRUZ**
 THE IONIZATION HISTORY OF THE INTERGALACTIC MEDIUM
 01/24/2001 - 11/30/2002 FY03: \$0 Total: \$67,957
Prin. Invest.: P MADAU
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10612 **UNIV OF CALIFORNIA - SANTA CRUZ**
 GROWTH OF PLANETESIMALS IN A PROTOSTELLAR DISK ENVIRONMENT
 03/17/2001 - 03/14/2004 FY03: \$55,000 Total: \$165,000
Prin. Invest.: D LIN
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10683 **UNIV OF CALIFORNIA - SANTA CRUZ**
 PHYSICAL PROPERTIES OF A Z << 1 LYMAN LIMIT SYSTEM - FUSE 2000
 03/29/2001 - 03/31/2003 FY03: \$0 Total: \$2,250
Prin. Invest.: B J WEINER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10727 **UNIV OF CALIFORNIA - SANTA CRUZ**
 TIDAL INTERACTION BETWEEN SHORT-PERIOD PLANETS AND THEIR HOST STARS
 04/09/2001 - 04/14/2003 FY03: \$0 Total: \$80,000
Prin. Invest.: D LIN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11220 **UNIV OF CALIFORNIA - SANTA CRUZ**
 CONVECTION AND MAGNETIC FIELD GENERATION IN GIANT AND EXTRA-SOLAR PLANETS: NUMERICAL SIMULATIONS
 08/13/2001 - 08/31/2004 FY03: \$96,000 Total: \$203,000
Prin. Invest.: G A GLATZMAIER
Tech. Officer: GSFC/D J BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11513 **UNIV OF CALIFORNIA - SANTA CRUZ**
 EARLY GALAXIES
 01/03/2002 - 12/31/2005 FY03: \$112,081 Total: \$221,094
Prin. Invest.: P MADAU
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11521 **UNIV OF CALIFORNIA - SANTA CRUZ**
 POST IMPACT ASTEROIDS: GRAVITATIONAL INTERACTIONS, SPIN STATES, AND SHAPES
 12/31/2001 - 01/14/2004 FY03: \$25,200 Total: \$50,400
Prin. Invest.: D KORYCANSKY
Tech. Officer: GSFC/D SENSEKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11779 **UNIV OF CALIFORNIA - SANTA CRUZ**
 ORIGIN OF DYNAMICAL DIVERSITY IN EXTRASOLAR MULTIPLE PLANETARY SYSTEMS
 02/26/2002 - 02/28/2005 FY03: \$40,000 Total: \$80,000
Prin. Invest.: D LIN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12036 **UNIV OF CALIFORNIA - SANTA CRUZ**
 MULTI-DIMENSIONAL MODELS FOR GAMMA-RAY BURSTS, X-RAY BURSTS, AND SUPERNOVAE
 04/12/2002 - 04/14/2005 FY03: \$104,724 Total: \$226,284
Prin. Invest.: S E WOOSLEY
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12151 **UNIV OF CALIFORNIA - SANTA CRUZ**
 EVOLUTION OF MULTI-PHASE INTERSTELLAR MEDIUM IN YOUNG GALAXIES
 05/10/2002 - 05/14/2005 FY03: \$64,653 Total: \$150,684
Prin. Invest.: D C LIN
Tech. Officer: GSFC/M SALOMON
CASE Category: 11 – ASTRONOMY

NAG 5 12326 **UNIV OF CALIFORNIA - SANTA CRUZ**
 STUDYING GALAXY FORMATION AND EVOLUTION WITH NEW DATA, MODELS, AND METHODS
 06/27/2002 - 06/30/2005 FY03: \$94,536 Total: \$281,476
Prin. Invest.: J R PRIMACK
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12379 **UNIV OF CALIFORNIA - SANTA CRUZ**
 POSSIBLE NEAR-FUTURE RETREAT OF THE ROSS ICE SHELF DUE TO DECREASING ICE DISCHARGE FROM THE ROSS ICE
 07/12/2002 - 07/14/2005 FY03: \$0 Total: \$25,428
Prin. Invest.: S TULACZK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12496 **UNIV OF CALIFORNIA - SANTA CRUZ**
 IDENTIFYING THE PHYSICAL NATURE OF LOW Z OVI ABSORBERS.
 08/29/2002 - 08/31/2004 FY03: \$0 Total: \$93,900
Prin. Invest.: J X PROCHASKA
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12574 **UNIV OF CALIFORNIA - SANTA CRUZ**
 DECELERATION OF ICE STREAM A AND WHILLANS ICE STREAM (B), WEST ANTARCTICA
 09/16/2002 - 09/14/2005 FY03: \$0 Total: \$50,322
Prin. Invest.: S TULACZYK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12622 **UNIV OF CALIFORNIA - SANTA CRUZ**
 MODELING THE GEOLOGY OF IMPACTS ON EROS AND MATHILDE
 10/01/2002 - 09/30/2004 FY03: \$104,200 Total: \$104,200
Prin. Invest.: E ASPHAUG
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12743 **UNIV OF CALIFORNIA - SANTA CRUZ**
 PHYSICAL PROPERTIES OF A Z<<1 LYMAN LIMIT SYSTEM - FUSE 2000
 01/22/2003 - 01/31/2004 FY03: \$27,003 Total: \$27,003
Prin. Invest.: J X PROCHASKA
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13177 **UNIV OF CALIFORNIA - SANTA CRUZ**
 TIDAL INTERACTIONS BETWEEN SHORT-PERIOD PLANETS AND THEIR
 HOST STARS
 03/26/2003 - 04/14/2006 FY03: \$40,000 Total: \$40,000
Prin. Invest.: D LIN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13275 **UNIV OF CALIFORNIA - SANTA CRUZ**
 HOT GAS IN ELLIPTICAL GALAXIES AND ENVIRONS
 04/04/2003 - 03/31/2006 FY03: \$83,210 Total: \$83,210
Prin. Invest.: W MATHEWS
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13285 **UNIV OF CALIFORNIA - SANTA CRUZ**
 FORMATION OF GIANT PLANETS BY CORE ACCRETION--GAS CAPTURE
 04/04/2003 - 06/14/2006 FY03: \$51,000 Total: \$51,000
Prin. Invest.: P BODENHEIMER
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 11 – ASTRONOMY

NAG 5 13338 **UNIV OF CALIFORNIA - SANTA CRUZ**
 SMALL BODIES AND PLANETARY COLLISIONS
 04/10/2003 - 04/14/2004 FY03: \$85,000 Total: \$85,000
Prin. Invest.: E ASPHAUG
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13448 **UNIV OF CALIFORNIA - SANTA CRUZ**
 PRECISION RADIAL VELOCITY SPECTROMETER FOR THE UCO /LICK
 OBSERVATORY AUTOMATED PLANET FINDER FAC
 05/01/2003 - 04/30/2005 FY03: \$1,100,000 Total: \$1,100,000
Prin. Invest.: S VOGT
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTINTERDISCIPL, OTHER

NAG 5 13576 **UNIV OF CALIFORNIA - SANTA CRUZ**
 MONITORING BLACK HOLE CANDIDATES
 08/21/2003 - 08/14/2004 FY03: \$23,640 Total: \$23,640
Prin. Invest.: D M SMITH
Tech. Officer: GSFC/J H SWANK
CASE Category: 13 – PHYSICS

NAG 5 13659 **UNIV OF CALIFORNIA - SANTA CRUZ**
 MAPPING GALACTIC 60FE SYNTHESIS IN CEN-CIR
 09/24/2003 - 09/14/2004 FY03: \$1,500 Total: \$1,500
Prin. Invest.: S WOOSLEY
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 2 03144 **UNIV OF CALIFORNIA - SANTA CRUZ**
 UNIV AFFILIATED RESEARCH CONTRACT (UARC)
 09/16/2003 - 09/15/2013 FY03: \$405,000 Total: \$405,000
Prin. Invest.: W F BERRY
Tech. Officer: ARC/M L MERRIAM, ARC/H PARTRIDGE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1037 **UNIV OF CALIFORNIA - SANTA CRUZ**
 (NAS) AMES EDUCATION ASSOCIATES PROGRAM
 05/08/1998 - 06/30/2002 FY03: \$0 Total: \$3,668,475
Prin. Invest.: D L STANSBURY
Tech. Officer: ARC/S . PARKHUST, ARC/R G O'BRIEN III
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1081 **UNIV OF CALIFORNIA - SANTA CRUZ**
 STAR & PLANET FORMATION
 01/15/1999 - 02/28/2002 FY03: \$0 Total: \$365,165
Prin. Invest.: P H BODENHEIMER
Tech. Officer: ARC/D J HOLLENBACH, ARC/P CASSEN
CASE Category: 11 – ASTRONOMY

NCC 2 1260 **UNIV OF CALIFORNIA - SANTA CRUZ**
 COMPARING & UNDERSTANDING DATA DISTRIBUTIONS IN EOS APPLICA-
 TIONS
 04/26/2001 - 02/29/2004 FY03: \$165,434 Total: \$372,735
Prin. Invest.: A PANG
Tech. Officer: ARC/D L KAO, ARC/V R WATSON
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5370 **UNIV OF CALIFORNIA - SANTA CRUZ**
 COLLABORATIVE RESEARCH ON MICROBIAL MAT NITROGEN CYCLING
 03/16/2000 - 09/14/2002 FY03: \$0 Total: \$190,000
Prin. Invest.: J P ZEHR
Tech. Officer: ARC/B N BEBOUT
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5418 **UNIV OF CALIFORNIA - SANTA CRUZ**
 GIANT MOLECULAR CLOUD STRUCTURE & EVOLUTION
 02/01/2001 - 02/28/2003 FY03: \$0 Total: \$118,110
Prin. Invest.: P BODENHEIMER
Tech. Officer: ARC/D J HOLLENBACH, LARC/G LAUGHLIN
CASE Category: 11 – ASTRONOMY

NCC 2 5436 **UNIV OF CALIFORNIA - SANTA CRUZ**
 ORIGINS & STRUCTURES OF PLANETARY & SATELLITE SYSTEMS
 05/18/2001 - 04/30/2004 FY03: \$8,475 Total: \$108,723
Prin. Invest.: P BODENHEIMER, A R DOBROVOLSKI
Tech. Officer: ARC/J J LISSAUR
CASE Category: 11 – ASTRONOMY

NCC 2 5456 **UNIV OF CALIFORNIA - SANTA CRUZ**
 C/C VARIATIONS IN AQUATIC PHOTOAUTOTROPHS: THE POSSIBLE CON-
 TRIBUTION OF PHOTORESPIRATORY CARBON EX
 08/15/2001 - 10/31/2003 FY03: \$33,074 Total: \$93,918
Prin. Invest.: G H RAU
Tech. Officer: ARC/D DESMARAIS, ARC/L JAHNKE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 5480 **UNIV OF CALIFORNIA - SANTA CRUZ**
 METEOROID AIRBURSTS AND IMPACT GENERATED TSUNAMIS
 02/08/2002 - 01/31/2004 FY03: \$0 Total: \$84,560
Prin. Invest.: E ASPHAUGH
Tech. Officer: ARC/K ZAHNLE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 5483 **UNIV OF CALIFORNIA - SANTA CRUZ**
 MOLECULAR APPROACHES TO THE IDENTIFICATION OF NITROGEN FIXING
 MICROORGANISMS IN MICROBIAL MATS
 02/20/2002 - 02/14/2004 FY03: \$4,163 Total: \$94,999
Prin. Invest.: J ZEHR
Tech. Officer: ARC/B BEBOUT, ARC/L BEBOUT
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5501 **UNIV OF CALIFORNIA - SANTA CRUZ**
 THE EVOLUTION & DESPERAL OF PROTOSTELLAR DISKS
 07/16/2002 - 06/30/2004 FY03: \$0 Total: \$13,333
Prin. Invest.: G LAUGHLIN
Tech. Officer: ARC/D HOLLENBACH, ARC/K R BELL
CASE Category: 11 – ASTRONOMY

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NCC 2 5523 UNIV OF CALIFORNIA - SANTA CRUZ
 THE INTERACTION OF EXTRASOLAR PLANETS WITH MHD-TUR BULENT ACCRETION DISKS AND MAGETOPHERES
 11/04/2002 - 10/31/2003 FY03: \$39,200 Total: \$39,200
Prin. Invest.: P BODENHEIMER
Tech. Officer: ARC/D HOLLENBACH, ARC/K R BELL
CASE Category: 11 – ASTRONOMY

NCC 2 5530 UNIV OF CALIFORNIA - SANTA CRUZ
 MOLECULAR APPROACHES TO THE IDENTIFICATION OF MICR OORGAN- ISMS IN MICROBIAL MATS
 03/03/2003 - 02/28/2004 FY03: \$79,405 Total: \$79,405
Prin. Invest.: J ZERH
Tech. Officer: ARC/L PRUFERT-BEBOUT
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5537 UNIV OF CALIFORNIA - SANTA CRUZ
 DUST IN THE ATMOSPHERE OF ACCRETING AND YOUNG EXTR ASOLAR GIANT PLANETS
 07/16/2003 - 05/14/2005 FY03: \$54,282 Total: \$54,282
Prin. Invest.: P BODENHEIMER
Tech. Officer: ARC/M MARLEY
CASE Category: 11 – ASTRONOMY

NCC 2 5543 UNIV OF CALIFORNIA - SANTA CRUZ
 ANALYTICAL AND ECOLOGICAL STUDIES OF CARBON TRANSF ORMATIONS IN BENTHIC MICROBIAL ECOSYSTEMS AN APPR
 07/30/2003 - 07/14/2005 FY03: \$39,457 Total: \$39,457
Prin. Invest.: G H RAU
Tech. Officer: ARC/D DESMARAIS, ARC/L JAHNKE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 5545 UNIV OF CALIFORNIA - SANTA CRUZ
 PREDICTING THE SIGNATURE OF IMPACTS AT SATURNS RIN GS FOR CASSINI UVIS OBSERVATIONS
 08/08/2003 - 07/31/2005 FY03: \$36,546 Total: \$36,546
Prin. Invest.: E A ASPHAUG
Tech. Officer: ARC/I CUZZI
CASE Category: 11 – ASTRONOMY

NCC 2 5546 UNIV OF CALIFORNIA - SANTA CRUZ
 A STUDY OF PROTOSTELLAR DISK DISPERSAL AND ITS EFF ECTS ON PLANET FORMATION
 08/07/2003 - 07/14/2004 FY03: \$13,333 Total: \$13,333
Prin. Invest.: G LAUGHLIN
Tech. Officer: ARC/D HOLLENBACH
CASE Category: 11 – ASTRONOMY

NCC 2 5552 UNIV OF CALIFORNIA - SANTA CRUZ
 QUANTITATIVE AND QUALITVE CHARECTERIZATION OF NOT ROGENESE GENE EXPRESSION IN MICROBIAL MATS
 09/15/2003 - 08/14/2005 FY03: \$86,721 Total: \$86,721
Prin. Invest.: J ZEHR
Tech. Officer: ARC/B BEBOUT
CASE Category: 51 – BIOLOGY (EXCLUDINGENVIR)

NGT 2 52296 UNIV OF CALIFORNIA - SANTA CRUZ
 FROM COWS TO CORAL REEFS: ECOSYSTEMS CONNECTIVITY AND POTENTIAL DOWNSTREAM RESPONSES TO LAND USE INT
 08/07/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D POTTS
Tech. Officer: ARC/B J COLLINS, ARC/L S GUILD
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 2 52299 UNIV OF CALIFORNIA - SANTA CRUZ
 QUANTITATIVE LACUSTRINE GEOMORPHOLOGY ON MARS AND TITAN
 08/07/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: E ASPHAUG
Tech. Officer: ARC/B J COLLINS, ARC/J M MOORE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 108 UNIV OF CALIFORNIA - SANTA CRUZ
 MULTI-WAVELENGTH STUDY OF GRBS USING BATSE, HETE II & MILAGRO (STUDENT: MIGUEL MORALES)
 06/12/2000 - 06/30/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: D A WILLIAMS
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 13 – PHYSICS

NGT 5 30415 UNIV OF CALIFORNIA - SANTA CRUZ
 MODELING REEF ACCRETION RATES USING HYPERSPECTRAL REMOTE SENSING AND FIELD MEASUREMENTS IN THE NO
 08/16/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: D POTTS
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11366 UNIV OF REDLANDS
 SCIENCE AND MATHEMATICS BUILDING PROJECT
 09/28/2001 - 09/30/2004 FY03: \$0 Total: \$1,831,000
Prin. Invest.: J R APPLETON
Tech. Officer: GSFC/M V PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12538 UNIV OF REDLANDS
 SCIENCE AND MATHEMATICS BUILDING PROJECT
 09/19/2002 - 09/14/2004 FY03: \$0 Total: \$2,990,000
Prin. Invest.: J R APPLETON
Tech. Officer: HQ/M PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13303 UNIV OF REDLANDS
 MUTUAL OCCULTATIONS BETWEEN THE GALILEAN SATELLITE S: TWO DIMENSIONAL IMAGING OF LONIAN VOLCANOES
 04/15/2003 - 04/14/2005 FY03: \$20,000 Total: \$20,000
Prin. Invest.: J RATHBUN
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10049 UNIV OF SAN DIEGO
 INNOVATIVE CURRICULAR REVISION & RESEARCH IN FIELD OF EARTH-SYSTEM & SPACE SCIENCE
 10/13/2000 - 06/30/2003 FY03: \$0 Total: \$458,000
Prin. Invest.: S LOWERY
Tech. Officer: GSFC/M PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11590 UNIV OF SAN DIEGO
 BUILDING SUPPORT OF INNOVATIVE CURRICULAR REVISION AND RESEARCH IN THE FIELDS OF EARTH-SYSTEM AND
 01/28/2002 - 12/31/2003 FY03: \$0 Total: \$961,132
Prin. Invest.: F M LAZARUS
Tech. Officer: GSFC/M PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1354 **UNIV OF SAN DIEGO**
 FABRICATION AND GROWTH OF ENGINEERED TISSUES: ARTICULAR CAR-
 TILAGE W/BIOLOGICAL FUNCTIONAL STRAT
 08/17/2001 - 09/30/2004 FY03: \$208,000 Total: \$475,000
Prin. Invest.: R SAH, A HOGER, S N BHATIA
Tech. Officer: JSC/D RISIN
CASE Category: 56 – MEDICL

NCC 5 308 **UNIV OF SAN DIEGO**
 CREATIVE & INNOVATIVE WORKING PHOTOTYPE EARTH SCIENCE INFOR.
 PARTNERSHIP IN SUPPORT OF EARTH
 01/15/1998 - 06/30/2003 FY03: \$65,000 Total: \$1,505,000
Prin. Invest.: J J SIMPSON
Tech. Officer: GSFC/M MAIDEN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 1282 **UNIV OF SAN FRANCISCO**
 DOES GRAVITY INFLUENCE MATRIX SURVIVAL SIGNALING
 09/10/2001 - 01/31/2005 FY03: \$13,281 Total: \$26,302
Prin. Invest.: C H DAMSKY
Tech. Officer: ARC/E A ALMEIDA, ARC/E M HOLTON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 1 1996 **UNIV OF SOUTHERN CALIFORNIA**
 TURBULENCE EFFECTS ON VERY LARGE FLIGHT VEHICLES.
 01/23/1998 - 01/31/2002 FY03: -\$462 Total: \$220,058
Prin. Invest.: P B LISSAMAN
Tech. Officer: LARC/J R CURZ
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1489 **UNIV OF SOUTHERN CALIFORNIA**
 INVESTIGATING TEAMWORK AMONG SPACECRAFT (NEWAMES)
 06/28/2001 - 04/30/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: M TAMBE
Tech. Officer: ARC/C J PLAUNT, ARC/J BRESINA
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2124 **UNIV OF SOUTHERN CALIFORNIA**
 STRUCTURE OF FLAME BALLS IN LOW LEWIS NUMBER STRUCTURE OF
 FLAME BALLS IN LOW LEWIS NUMBER
 02/10/1998 - 04/30/2003 FY03: \$81,000 Total: \$1,114,809
Prin. Invest.: P D RONNEY
Tech. Officer: GRC/K J WEILAND
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2125 **UNIV OF SOUTHERN CALIFORNIA**
 THE DYNAMICS OF MISCIBLE INTERFACES: A SPACE FLIG HT EXPERIMENT
 02/25/1998 - 06/30/2003 FY03: \$0 Total: \$605,847
Prin. Invest.: T MAXWORTHY, E H MEIBURG
Tech. Officer: GRC/B SIGH
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2478 **UNIV OF SOUTHERN CALIFORNIA**
 THE DYNAMICS OF PARTICULATE DEPOSITION AND RESUSPE NSION
 PROCESSES AT MODERATE TO HIGH REYNOLDS NUMB
 08/09/2000 - 11/30/2003 FY03: \$77,572 Total: \$241,668
Prin. Invest.: D MAXWORTHY
Tech. Officer: GRC/F P CHARIAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2559 **UNIV OF SOUTHERN CALIFORNIA**
 INTEGRATED MICROPHONIC RECEIVER FOR KA-BAND INTEGRATED MICR-
 PHONIC RECEIVER FOR KA-BAND
 03/10/2001 - 03/09/2004 FY03: \$90,624 Total: \$549,999
Prin. Invest.: A LEVI
Tech. Officer: GRC/J POUCH
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2776 **UNIV OF SOUTHERN CALIFORNIA**
 THE DYNAMICS OF MISCIBLE INTERFACES: A SPACE FLIG HT EXPERIMENT
 05/07/2002 - 12/31/2003 FY03: \$154,000 Total: \$248,000
Prin. Invest.: T MAXWORTHY
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2887 **UNIV OF SOUTHERN CALIFORNIA**
 STRUCTURE OF FLAME BALLS IN LOW LEWIS NUMBER STRUCTURE OF
 FLAME BALLS IN LOW LEWIS NUMBER
 05/09/2003 - 07/31/2004 FY03: \$159,000 Total: \$159,000
Prin. Invest.: P D RONNEY
Tech. Officer: GRC/K J WEILAND
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 5333 **UNIV OF SOUTHERN CALIFORNIA**
 FIRST OF 3 YEAR EFFORT IN BASIC SCIENTIFIC RESEARCH WITH USC
 06/25/2001 - 06/18/2004 FY03: \$299,641 Total: \$884,757
Prin. Invest.: D JUDGE
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 6512 **UNIV OF SOUTHERN CALIFORNIA**
 OPTICAL AND ANCILLARY MEASUREMENTS AT HIGH LATITUD ES IN
 SUPPORT OF THE MODIS OCEAN VALIDATION PROG
 12/05/1997 - 09/30/2002 FY03: \$17,777 Total: \$328,149
Prin. Invest.: M STRAMSKA
Tech. Officer: GSFC/D O STARR
CASE Category: 19 – PHYSICALSCIENCE, OTHER

NAG 5 8274 **UNIV OF SOUTHERN CALIFORNIA**
 PHOTON ABSORPTION STUDIES OF ATMOSPHERIC GASES UND ER IN-SITU
 CONDITIONS
 04/06/1999 - 12/31/2001 FY03: -\$59 Total: \$154,396
Prin. Invest.: D JUDGE
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 8545 **UNIV OF SOUTHERN CALIFORNIA**
 STUDIES OF TEMPORAL CHANGES IN SOLAR INTERNAL STRUCTURE &
 DYNAMICS USING OBSERVATIONS OF INTERM
 05/13/1999 - 04/30/2003 FY03: \$0 Total: \$505,430
Prin. Invest.: E J RHODES
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 8939 **UNIV OF SOUTHERN CALIFORNIA**
 OUTER PLANET UPPER ATMOSHPERE/MAGNETOSPHERE RESEARCH
 01/14/2000 - 01/14/2003 FY03: \$0 Total: \$220,650
Prin. Invest.: D SHEMANSKY
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

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NAG 5 8978 **UNIV OF SOUTHERN CALIFORNIA**
 OBSERVATION OF THE ACCRETION-DRIVEN BIPOLAR FLOWS IN THE
 INTERACTING BINARIES TTHYA & V356 SGR FUSE
 01/24/2000 - 01/31/2003 FY03: \$0 Total: \$29,000
Prin. Invest.: G J PETERS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9124 **UNIV OF SOUTHERN CALIFORNIA**
 CIRCUMSTELLAR MATERIAL & STELLAR COMPONENTS IN HR 2142, A
 MASSIVE INTERACTING BINARY IN A LATE EVOLU
 03/07/2000 - 03/14/2004 FY03: \$0 Total: \$29,378
Prin. Invest.: G PETERS
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10399 **UNIV OF SOUTHERN CALIFORNIA**
 MICROSCALE, MILLIWATT VACUUM PUMPS FOR SAMPLING INSTRUMENTA-
 TION
 02/13/2001 - 02/29/2004 FY03: \$205,185 Total: \$556,865
Prin. Invest.: G SHIFLETT
Tech. Officer: GSFC/M DUTTA
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10930 **UNIV OF SOUTHERN CALIFORNIA**
 INVESTIGATING THE EXCITATION MECHANISM FOR COMETARY X-RAY, EUV,
 & FUV EMISSIONS (FUSE 2000)
 05/17/2001 - 06/30/2002 FY03: \$0 Total: \$10,000
Prin. Invest.: D E SHEMANSKY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10989 **UNIV OF SOUTHERN CALIFORNIA**
 EXPLORATION OF THE HELIOSPHERIC INTERFACE BY SOLAR BACKSCAT-
 TERED LYMAN ALPHA RADIATION: INTERPREATIO
 06/05/2001 - 11/30/2003 FY03: \$0 Total: \$174,744
Prin. Invest.: P K GANGOPADHAY
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11001 **UNIV OF SOUTHERN CALIFORNIA**
 IMPLEMENTATION OF A NEW METHOD FOR THE COMPUTATION OF THE
 FREQUENCIES & FREQUENCY SPLITTINGS OF THE
 06/06/2001 - 05/31/2004 FY03: \$101,000 Total: \$288,000
Prin. Invest.: E J RHODES
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11042 **UNIV OF SOUTHERN CALIFORNIA**
 TEMPERATURE-DEPENDENT CROSS SECTION MEASUREMENT OF LIGHT
 HYDROCARBONS, IN SUPPORT OF OUTER PLANET
 06/13/2001 - 06/14/2004 FY03: \$59,000 Total: \$169,000
Prin. Invest.: C WU
Tech. Officer: GSFC/D J BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11304 **UNIV OF SOUTHERN CALIFORNIA**
 MICROGRAVITY TRANSPORT PROCESSES IN FLUID, THERMAL MATERIALS
 AND BIOL- GICAL SCIENCES CONFERENCE
 08/30/2001 - 08/31/2002 FY03: \$0 Total: \$15,000
Prin. Invest.: S SADHAL
Tech. Officer: GSFC/D SPEARS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11582 **UNIV OF SOUTHERN CALIFORNIA**
 HIGH-DEGREE P-MODE STRUCTURE AND DYNAMIC STUDIES
 01/17/2002 - 03/31/2005 FY03: \$81,000 Total: \$160,000
Prin. Invest.: E J RHODES
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11802 **UNIV OF SOUTHERN CALIFORNIA**
 HEAVY ELEMENT ABUNDANCES IN EARLY B STARS
 02/28/2002 - 03/31/2004 FY03: \$61,271 Total: \$109,769
Prin. Invest.: G PETERS
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11807 **UNIV OF SOUTHERN CALIFORNIA**
 MICRO-LIGHT XRAY TO FAR ULTRAVIOLET(FUV) SPECTRO- METER FOR
 ATMOSPHERE SCIENCE
 02/28/2002 - 02/28/2004 FY03: \$128,000 Total: \$334,000
Prin. Invest.: D L JUDGE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12239 **UNIV OF SOUTHERN CALIFORNIA**
 HEAVY ELEMENT ABUNDANCES IN TWO B0-B0.5 MAIN SEQUE NCE STARS
 IN THE SMALLMAGELLANIC CLOUD
 06/04/2002 - 06/14/2004 FY03: \$0 Total: \$41,100
Prin. Invest.: G J PETERS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12253 **UNIV OF SOUTHERN CALIFORNIA**
 A STUDY OF THE HIGH TEMPERATURE POLAR PLASMA IN B- TYPE
 INTERACTING BINARIES
 06/12/2002 - 06/14/2004 FY03: \$0 Total: \$22,900
Prin. Invest.: G J PETERS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12396 **UNIV OF SOUTHERN CALIFORNIA**
 REMOTE SENSING OF PARTICULATE ORGANIC CARBON POOLS IN THE
 HIGH LATITUDES
 07/23/2002 - 07/31/2005 FY03: \$55,419 Total: \$104,447
Prin. Invest.: M STRAMSKA
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12779 **UNIV OF SOUTHERN CALIFORNIA**
 IMAGING THE 3-D SOLAR WIND AND THE HELIOPAUSE
 01/27/2003 - 01/31/2005 FY03: \$160,474 Total: \$160,474
Prin. Invest.: M GRUNTMAN
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13212 **UNIV OF SOUTHERN CALIFORNIA**
 FE ABUNDANCES IN MAGELLANIC CLOUD B STARS (FUSE 4)
 04/01/2003 - 03/31/2004 FY03: \$45,800 Total: \$45,800
Prin. Invest.: G J PETERS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13443 **UNIV OF SOUTHERN CALIFORNIA**
 GEOBIOLOGY OF NON-SALINE HYPERALKALINE SPRINGS: A NOVEL EXTREME ENVIRONMENT
 04/29/2003 - 04/30/2004 FY03: \$80,000 Total: \$80,000
Prin. Invest.: R RYE
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13516 **UNIV OF SOUTHERN CALIFORNIA**
 RECONFIGURABLE HARDWARE IN ORBIT (RHINO)
 05/09/2003 - 05/14/2006 FY03: \$595,602 Total: \$595,602
Prin. Invest.: B SCHOTT
Tech. Officer: GSFC/T P FLATLEY
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 13538 **UNIV OF SOUTHERN CALIFORNIA**
 THE STUDY OF THE CHANGING SOLAR INTERIOR GLOBAL AND LOCAL HELIOSEISMOLOGY
 07/14/2003 - 04/30/2006 FY03: \$96,000 Total: \$96,000
Prin. Invest.: E RHODES
Tech. Officer: GSFC/D SIBECK
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13734 **UNIV OF SOUTHERN CALIFORNIA**
 OUTER PLANET UPPER ATMOSPHERE/MAGNETOSPHERE RESEARCH
 09/16/2003 - 09/14/2004 FY03: \$56,000 Total: \$56,000
Prin. Invest.: D SHEMANSKY
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1663 **UNIV OF SOUTHERN CALIFORNIA**
 NON-INTRUSIVE MEASUREMENT OF THERMOPHYSICAL PROPERTIES OF LIQUIDS BY ELECTROSTATIC LEVITATION
 06/16/2000 - 11/30/2003 FY03: \$90,000 Total: \$480,500
Prin. Invest.: S SADHAL
Tech. Officer: MSFC/P DOTY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1701 **UNIV OF SOUTHERN CALIFORNIA**
 EXTINCTION AND INSTABILITY MECHANISMS OF POLYMERIZATION FRONTS
 07/19/2000 - 11/30/2003 FY03: \$100,000 Total: \$335,000
Prin. Invest.: P RONNEY
Tech. Officer: MSFC/P DOTY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1165 **UNIV OF SOUTHERN CALIFORNIA**
 AUGMENTED REALITY FOR SPACE FLIGHT
 12/07/1999 - 03/09/2003 FY03: \$0 Total: \$587,204
Prin. Invest.: U NEUMANN
Tech. Officer: JSC/B J WOOLFORD
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1444 **UNIV OF SOUTHERN CALIFORNIA**
 SKILL LEARNING BY PRIMITIVES - BASED DEMONSTRATION AND IMITATIONS
 08/05/2002 - 07/31/2004 FY03: \$125,000 Total: \$165,000
Prin. Invest.: M J MATARIC
Tech. Officer: JSC/R T SAVELY
CASE Category: 22 – COMPUTER SCIENCE

NAS 2 00091 **UNIV OF SOUTHERN CALIFORNIA**
 OPERATION / MGMT OF NASA FAR WEST RTTC
 12/21/2000 - 12/31/2003 FY03: \$1,348,356 Total: \$3,756,001
Prin. Invest.: K DOZIER
Tech. Officer: ARC/E ROBINSON, ARC/C CASTELLANO
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 2 1224 **UNIV OF SOUTHERN CALIFORNIA**
 BIOLOGICAL ASPECTS OF COMPUTION
 04/05/2001 - 02/29/2004 FY03: \$562,823 Total: \$960,126
Prin. Invest.: L ADLEMAN
Tech. Officer: ARC/T R GOVINDAN, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1242 **UNIV OF SOUTHERN CALIFORNIA**
 ROBUST SPEECH RECOGNITION USING DYNAMIC SYNAPSE NEURAL NETWORKS
 04/25/2001 - 02/29/2004 FY03: \$70,000 Total: \$334,000
Prin. Invest.: T W BERGER
Tech. Officer: ARC/L STONE, ARC/M SHAFTO
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5420 **UNIV OF SOUTHERN CALIFORNIA**
 CARBON NANOTUBE MOLECULAR ELECTROCHROMISMS
 02/09/2001 - 06/30/2003 FY03: \$0 Total: \$189,998
Prin. Invest.: C ZHOU
Tech. Officer: ARC/M MEYYAPPAN, ARC/H PARTRIDGE
CASE Category: 13 – PHYSICS

NCC 2 5454 **UNIV OF SOUTHERN CALIFORNIA**
 MOLECULAR WIRES AND TRANSISTORS
 08/08/2001 - 10/14/2003 FY03: \$75,000 Total: \$190,000
Prin. Invest.: C ZHOU
Tech. Officer: ARC/M MEYYAPPAN, ARC/H PARRISAGE
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 671 **UNIV OF SOUTHERN CALIFORNIA**
 TRANSPORT AND CHEMICAL EFFECTS ON CONCURRENT AND OPPOSED-FLOW FLAME SPREAD AT MICROGRAVITY
 02/12/1999 - 04/03/2003 FY03: \$40,000 Total: \$646,500
Prin. Invest.: P D RONNEY
Tech. Officer: GRC/S A GOKOGLU
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 678 **UNIV OF SOUTHERN CALIFORNIA**
 QUANTITATIVE STUDIES ON THE PROPAGATION AND EXTINCTION OF NEAR-LIMIT FLAMES UNDER NORMAL AND MICROGRAVITY
 03/01/1999 - 11/30/2003 FY03: \$0 Total: \$390,000
Prin. Invest.: F N EGOLFOPOLUOS
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 827 **UNIV OF SOUTHERN CALIFORNIA**
 ACOUSTIC BUBBLE REMOVAL FROM BOILING SURFACES AND ITS OPTIMIZATION
 09/29/2000 - 11/30/2003 FY03: \$54,000 Total: \$189,249
Prin. Invest.: K OHSAKA
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 834 **UNIV OF SOUTHERN CALIFORNIA**
 DETAILED STUDIES ON THE STRUCTURE AND DYNAMICS OF REACTING
 DUSTY FLOWS AT NORMAL- AND MICRO-GRAVITY
 12/18/2000 - 10/31/2004 FY03: \$109,500 Total: \$309,498
Prin. Invest.: P N EGOLFOPOULOS
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 841 **UNIV OF SOUTHERN CALIFORNIA**
 HIGH PRESSURE TRANSPORT PROPERTIES OF FLUIDS: THE OXY AND
 DATA FROM LEVITATED DROPS AT COMBUSTION-R
 12/22/2000 - 11/30/2003 FY03: \$20,000 Total: \$110,000
Prin. Invest.: K OHSAKA
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 854 **UNIV OF SOUTHERN CALIFORNIA**
 DETERMINATION OF COOL FLAME QUENCHING DISTANCES AT MICRO-
 GRAVITY
 01/24/2001 - 11/30/2004 FY03: \$0 Total: \$58,201
Prin. Invest.: H PEARLMAN
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 871 **UNIV OF SOUTHERN CALIFORNIA**
 THE HIGH-LEWIS NUMBER DIFFUSIVE-THERMAL INSTABILITY IN PREMIXED
 GAS COMBUSTION AND LOW TEMPERATURE
 03/01/2001 - 11/30/2004 FY03: \$0 Total: \$193,413
Prin. Invest.: H PEARLMAN
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1056 **UNIV OF SOUTHERN CALIFORNIA**
 RADIATIVE ENHANCEMENT EFFECTS ON FLAME SPREAD (REE FS): A
 SPACE FLIGHT EXPERIMENT PROPOSAL
 05/22/2003 - 01/03/2007 FY03: \$130,000 Total: \$130,000
Prin. Invest.: P D RONNEY
Tech. Officer: GRC/S A GOKOGHU
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 50447 **UNIV OF SOUTHERN CALIFORNIA**
 RADIATION-INDUCED FLOWS AND TRANSPORT (RIFT) (STUDENT: DAVID
 CLAYTON)
 04/24/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P RONNEY
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

COLORADO

NAG 5 9684 **COLORADO SCHOOL OF MINES**
 LUNAR DATA ANALYSIS PROGRAM PROPOSAL: ECONOMIC EVALUATION
 OF POLAR REGIONS USING LUNAR PROSPECT
 06/29/2000 - 06/30/2003 FY03: \$0 Total: \$99,000
Prin. Invest.: M B DUKE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12754 **COLORADO SCHOOL OF MINES**
 PROPERTIES OF SUBSURFACE WATER ON MARS WITH MAGNETIC
 MINERALS AND CARBONDIOXIDE CLATHRATE HYDRATES
 01/16/2003 - 01/14/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: G OLSHOEFF
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12971 **COLORADO SCHOOL OF MINES**
 MULTI-SPECTRAL IMAGING SPECTROMETER USING FIBER OPTIC SPATIAL
 DECOMPOSITION
 03/10/2003 - 03/14/2005 FY03: \$160,955 Total: \$160,955
Prin. Invest.: C DREYER
Tech. Officer: GSFC/S NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1207 **COLORADO SCHOOL OF MINES**
 EXTRACTION OF VOLATILES FROM LUNAR AND MARTIAN REGOLITHS
 03/01/2000 - 02/28/2003 FY03: \$0 Total: \$229,997
Prin. Invest.: M B DUKE
Tech. Officer: JSC/D MCKAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1364 **COLORADO SCHOOL OF MINES**
 A NOVEL COLLOIDAL MICROFILM PLATFORM FOR SPACE BORNE
 MICRO TOTAL
 07/27/2001 - 09/30/2004 FY03: \$162,000 Total: \$397,000
Prin. Invest.: D W. M. MARR
Tech. Officer: JSC/D RISIN
CASE Category: 56 – MEDICAL

NAG 9 1447 **COLORADO SCHOOL OF MINES**
 SURFACE REFERENCE MISSIONS FOR HUMAN EXPLORATION OF THE
 MOON
 11/08/2002 - 11/10/2003 FY03: \$17,231 Total: \$17,231
Prin. Invest.: M B DUKE
Tech. Officer: JSC/B L WARD
CASE Category: 22 – COMPUTER SCIENCE

NAG 9 1535 **COLORADO SCHOOL OF MINES**
 STUDY ON TRANSPORTATION ARCHITECTURE BASED ON ISRU SUPPLIED
 RESOURCES
 06/12/2003 - 06/12/2004 FY03: \$211,306 Total: \$211,306
Prin. Invest.: M B DUKE
Tech. Officer: JSC/R S BAIRD
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 659 **COLORADO SCHOOL OF MINES**
 A FUNDAMENTAL STUDY OF THE COMBUSTION SYNTHESIS OF CERAMIC-
 METAL COMPOSITE MATERIALS UNDER MICROGRAVITY
 01/05/1999 - 11/11/2003 FY03: \$0 Total: \$475,750
Prin. Invest.: D J MOORE
Tech. Officer: GRC/S A GOKOGLU
CASE Category: 49 – ENGINEERING, OTHER

NCC 8 238 **COLORADO SCHOOL OF MINES**
 PROMOTE COMMERCIALY FUNDED RESEARCH AND TECH DEV. IN THE
 FIELD OF SPACE COMBUSTION
 02/05/2002 - 10/30/2003 FY03: \$4,311,510 Total: \$8,611,510
Prin. Invest.: F D SCHOWENGERDT
Tech. Officer: MSFC/J SAMS
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 2247 **COLORADO STATE UNIV**
 RETRIEVAL OF PROPERTIES OF HIGH CLOUDS FROM LITE DATA
 10/21/1999 - 09/30/2002 FY03: -\$1 Total: \$218,143
Prin. Invest.: G STEPHENS
Tech. Officer: LARC/V DELNORE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02008 **COLORADO STATE UNIV**
 COMPARISON OF CLOUD RESOLVING MODEL SIMULATIONS TO REMODE
 SENSING DATA
 11/19/2001 - 11/30/2003 FY03: \$87,662 Total: \$171,887
Prin. Invest.: D A RANDALL
Tech. Officer: LARC/G G GIBSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 3 1801 **COLORADO STATE UNIV**
 ADVANCED ELECTRIC PROPULSION RESEARCH
 01/23/1996 - 09/30/2003 FY03: \$20,000 Total: \$286,147
Prin. Invest.: P J WILBUR
Tech. Officer: GRC/V K RAWLIN
CASE Category: 13 – PHYSICS

NAG 5 4646 **COLORADO STATE UNIV**
 TITLE: USING MULTI-SENSOR DATA TO MODEL FACTORS L IN GLOBAL ARID
 & SEMIARID LANDS
 06/17/1997 - 05/31/2002 FY03: -\$884 Total: \$2,211,896
Prin. Invest.: D OJIMA
Tech. Officer: GSFC/G C GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7717 **COLORADO STATE UNIV**
 IMPROVING TRMM GV & FC GOALS USING POLARIMETRIC RA DAR
 ANALYSES W/IN-SITUGROUND-BASED AND AIRCRAFT P
 10/27/1998 - 10/31/2003 FY03: \$0 Total: \$306,488
Prin. Invest.: V N BRINGI
Tech. Officer: GSFC/O W THIELE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9642 **COLORADO STATE UNIV**
 ANALYSIS OF DATA FROM TRMM/LBA TO VALIDATE TRMM SATELLITE
 ALGORITHMS & MODELS
 06/19/2000 - 11/30/2003 FY03: \$64,939 Total: \$580,923
Prin. Invest.: S A RUTLEDGE
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9647 **COLORADO STATE UNIV**
 USE OF TRMM DATA TO TEST AN IMPROVED PARAMETERIZATION OF
 STRATIFORM PRECIPITATION
 06/20/2000 - 11/30/2003 FY03: \$0 Total: \$597,432
Prin. Invest.: D A RANDALL
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9655 **COLORADO STATE UNIV**
 TRMM PRECIPITATION RADAR AND MICROPHYSICS: INTERPRETATION AND
 PRECIPITATION ESTIMATION
 06/09/2000 - 11/30/2003 FY03: \$57,976 Total: \$387,215
Prin. Invest.: V CHANDRASEKAR
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9665 **COLORADO STATE UNIV**
 TRMM SOUNDING STUDIES
 06/06/2000 - 06/14/2003 FY03: \$0 Total: \$332,000
Prin. Invest.: R H JOHNSON
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10076 **COLORADO STATE UNIV**
 TWO-BEAM SODIUM LIDAR OBSERVATION OF TEMPERATURE & WINDS &
 PASSIVE OPTICAL MEASUREMENT CLUSTER IN TH
 10/24/2000 - 04/30/2004 FY03: \$0 Total: \$270,600
Prin. Invest.: C SHE
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10482 **COLORADO STATE UNIV**
 THE EFFECTS OF CLIMATE REGIME ON TRMM RETRIEVALS
 03/01/2001 - 05/31/2003 FY03: \$0 Total: \$221,000
Prin. Invest.: W K BERG
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10593 **COLORADO STATE UNIV**
 AN INTEGRATED MULTI-SCALE INVESTIGATION OF GRASS- LAND MAN-
 AGEMENT: IMPLICATIONS FOR CARBON CYCLING
 03/22/2001 - 02/28/2004 FY03: \$98,705 Total: \$343,855
Prin. Invest.: R CONANT
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11010 **COLORADO STATE UNIV**
 OBSERVATIONAL, THEORETICAL, AND MODELING RESEARCH IN SUPPORT
 OF CAMEX
 06/06/2001 - 06/14/2004 FY03: \$90,000 Total: \$264,100
Prin. Invest.: W H SCHUBERT
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11018 **COLORADO STATE UNIV**
 VALIDATE SATELLITE MEASUREMENTS OF UV RADIATION BY TOMS
 06/21/2001 - 06/14/2003 FY03: \$0 Total: \$142,527
Prin. Invest.: J SLUSSER
Tech. Officer: GSFC/J R HERMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11073 **COLORADO STATE UNIV**
 LAND-USE CHANGE IN TEMPERATE EAST ASIA: LAND COVER CHANGES
 IMPACTS ON CARBON FLUXES AND LAND PRODUCT
 07/19/2001 - 08/14/2004 FY03: \$0 Total: \$174,156
Prin. Invest.: D OJIMA
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11109 **COLORADO STATE UNIV**
 VALIDATION AND ENHANCEMENT OF AMSR-E CLOUD AND PRECIPITATION
 PRODUCTS AQUA-0070-0047
 07/13/2001 - 08/31/2004 FY03: \$121,535 Total: \$340,075
Prin. Invest.: G L STEPHENS
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

COLORADO

NASA'S UNIVERSITY PROGRAM

NAG 5 11140 **COLORADO STATE UNIV**
 ENERGY & WATER CYCLES WITHIN HURRICANES DETERMINED FROM
 HIGH-RESOLUTIONS SIMULATIONS
 08/08/2001 - 08/14/2004 FY03: \$48,824 Total: \$140,570
Prin. Invest.: M T MONTGOMERY
Tech. Officer: GSFC/A J NEGRI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11189 **COLORADO STATE UNIV**
 THE EXTENSION OF THE TRMM MICROWAVE RAINFALL AND VERTICAL
 STRUCTURE ALGORITHM TO OTHER RADIOMETER
 08/07/2001 - 08/14/2004 FY03: \$20,000 Total: \$573,617
Prin. Invest.: C D KUMMEROW
Tech. Officer: GSFC/R L LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11280 **COLORADO STATE UNIV**
 MARS SOIL MECHANICS INVESTIGATION
 08/20/2001 - 12/31/2002 FY03: \$0 Total: \$59,200
Prin. Invest.: H PERKON
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11370 **COLORADO STATE UNIV**
 ENSEMBLE SIMULATIONS OF REGIONAL CLIMATE INCORPORATING EXPLICIT
 VEGETATION DYNAMICS & TERRESTRIAL
 10/18/2001 - 10/31/2004 FY03: \$0 Total: \$213,333
Prin. Invest.: R A PIELKE
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11475 **COLORADO STATE UNIV**
 TOWARD UNDERSTANDING THE LIFE-CYCLE OF TROPICAL CIRRUS
 12/19/2001 - 12/31/2003 FY03: \$108,000 Total: \$218,000
Prin. Invest.: G L STEPHENS
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11476 **COLORADO STATE UNIV**
 UPPER TROPOSPHERIC ICE NUCLEI MEASUREMENTS IN CRYSTAL-FACE
 12/19/2001 - 12/31/2003 FY03: \$164,422 Total: \$306,396
Prin. Invest.: P J DEMOTT
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11507 **COLORADO STATE UNIV**
 CUMULONIMBUS/CIRRUS INTERACTIONS IN THE SUB-TROPICS
 01/03/2002 - 12/31/2003 FY03: \$115,100 Total: \$225,100
Prin. Invest.: W R COTTON
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11710 **COLORADO STATE UNIV**
 MULTI-SCALE CONVERGENCE OF COLD-LAND PROCESS REPRESENTATION
 IN LAND-SURFACE MODELS, MICROWAVE R
 02/06/2002 - 02/14/2005 FY03: \$87,199 Total: \$177,085
Prin. Invest.: G LISTON
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11737 **COLORADO STATE UNIV**
 VARIATIONS OF CAPE ON DECADEAL TIME SCALES
 02/12/2002 - 02/14/2005 FY03: \$140,000 Total: \$280,000
Prin. Invest.: D RANDALL
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11816 **COLORADO STATE UNIV**
 RISK MITIGATION STUDIES FOR EVOLVING DATA AND INFORMATION
 SYSTEMS RELATED TO RAINFALL MISSION
 03/08/2002 - 03/14/2005 FY03: \$235,000 Total: \$416,834
Prin. Invest.: C KUMMEROW
Tech. Officer: GSFC/E F STOCKER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12105 **COLORADO STATE UNIV**
 FELLOWSHIPS FOR GRADUATE STUDENTS AS PART OF THE CENTER FOR
 EARTH ATMOSPHERE STUDIES
 05/06/2002 - 06/30/2005 FY03: \$17,354 Total: \$67,354
Prin. Invest.: C KUMMEROW
Tech. Officer: GSFC/V V SALOMONSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12273 **COLORADO STATE UNIV**
 RAINFALL AND CONVECTIVE RAIN SYSTEM STRUCTURE DEDUCED FROM
 AMSR OBSERVATIONS
 06/07/2002 - 06/14/2005 FY03: \$300,000 Total: \$490,000
Prin. Invest.: C D KUMMEROW
Tech. Officer: GSFC/R ADLER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12275 **COLORADO STATE UNIV**
 CIRA DEVELOPMENT OF A PARALLEL COUPLED OCEAN-ICE FORECAST
 MODEL
 06/14/2002 - 09/14/2002 FY03: \$0 Total: \$30,000
Prin. Invest.: C MATSUMOTO
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12655 **COLORADO STATE UNIV**
 DESIGN, DEVELOPMENT AND MAINTENANCE OF THE GLOBE PROGRAM
 WEBSITE AND DATABASE
 10/31/2002 - 10/31/2004 FY03: \$900,000 Total: \$900,000
Prin. Invest.: R BRUMMER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13562 **COLORADO STATE UNIV**
 ANALYSIS OF PRECIPITATION VARIABILITY AS OBSERVED BY EMERGING
 SATELLITE SYSTEMS
 09/04/2003 - 08/31/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: D A RANDALL
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13567 **COLORADO STATE UNIV**
 OBSERVATIONS OF SODIUM LIDAR FOR MESOPAUSE REGION TEMPERATURE
 AND WINDS ALONG WITH IMAGERS FOR WAVES
 08/12/2003 - 07/31/2005 FY03: \$134,999 Total: \$134,999
Prin. Invest.: C SHE
Tech. Officer: GSFC/M MELLOTT
CASE Category: 13 – PHYSICS

NAG 5 13623 **COLORADO STATE UNIV**
 PHYSICALLY-BASED OBSERVATIONAL STUDIES OF TRMM AND CONCEPT
 DEVELOPMENT FOR GPM VALIDATION
 08/26/2003 - 08/31/2006 FY03: \$70,000 Total: \$70,000
Prin. Invest.: S RUTLEDGE
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13637 **COLORADO STATE UNIV**
 A NEW APPROACH TO QUANTIFYING BOTH RANDOM ERRORS & SYSTEM-
 ATIC CLIMATE REGIME BIASES IN TRMM RAINFALL
 09/09/2003 - 09/14/2006 FY03: \$90,000 Total: \$90,000
Prin. Invest.: W BERG
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13640 **COLORADO STATE UNIV**
 COMBINED ACTIVE/PASSIVE RETRIEVAL OF SNOWBALL
 09/09/2003 - 09/14/2006 FY03: \$75,000 Total: \$75,000
Prin. Invest.: R T AUSTIN
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13694 **COLORADO STATE UNIV**
 A NEXT GENERATION MICROWAVE RAINFALL RETRIEVAL ALGORITHM FOR
 USE BY TRMM AND GPM
 09/26/2003 - 09/30/2006 FY03: \$75,000 Total: \$75,000
Prin. Invest.: C KUMMEROW
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13712 **COLORADO STATE UNIV**
 TRMM GLOBAL OBSERVATIONS AND PRECIPITATION MICRO- PHYSICS:
 INTERPRETATION, PRECIPITATION, ESTIMATION
 09/24/2003 - 09/30/2006 FY03: \$62,500 Total: \$62,500
Prin. Invest.: V CHANDRASEKAR
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 45 – ELECTRICAL ENGR

NAG 8 1801 **COLORADO STATE UNIV**
 MINI-MAGNETOSPHERIC PLASMA PROPULSION FOR PLANETARY EXPLO-
 RATION
 04/25/2001 - 02/14/2004 FY03: \$0 Total: \$172,915
Prin. Invest.: P J WILBUR
Tech. Officer: GRC/V K RAWLIN
CASE Category: 13 – PHYSICS

NAG 9 1516 **COLORADO STATE UNIV**
 HZE RADIATION: MODULATION OF GENETIC EFFECTS BY RNA INTERFER-
 ENCE OF NHEJ
 05/15/2003 - 05/31/2004 FY03: \$330,393 Total: \$330,393
Prin. Invest.: S BAILEY
Tech. Officer: JSC/J DARDANO
CASE Category: 56 – MEDICL

NAG 9 1569 **COLORADO STATE UNIV**
 RADIATION LEUKEMOGENESIS
 09/17/2003 - 09/30/2008 FY03: \$600,000 Total: \$600,000
Prin. Invest.: R ULLRICH
Tech. Officer: JSC/N AVAILABLE
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG13 02005 **COLORADO STATE UNIV**
 APPLICATION OF REMOTELY SENSED IMAGERY TO ASSESSING PROBABILI-
 TIES AND CARBON CONSEQUENCES OF FIRE
 12/03/2001 - 12/03/2004 FY03: \$354,561 Total: \$465,105
Prin. Invest.: I BURKE
Tech. Officer: SSC/C DEL CASTILLO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 1 98125 **COLORADO STATE UNIV**
 CLOUDS AND THE EARTH'S ENERGY SYSTEM (CERES) SCIENTIFIC INVES-
 TIGATION
 10/28/1998 - 10/31/2003 FY03: \$300,826 Total: \$1,318,410
Prin. Invest.: D A RANDALL
Tech. Officer: LARC/B A WIELICKI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 1 99103 **COLORADO STATE UNIV**
 ALGORITHM AND INSTRUMENT SUPPORT ACTIVITIES FOR PICASSO-CENA
 05/17/1999 - 05/16/2004 FY03: \$175,000 Total: \$512,425
Prin. Invest.: G L STEPHENS, C PLATT
Tech. Officer: LARC/G GIBSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 99237 **COLORADO STATE UNIV**
 CLOUDSAT MISSION AS A PART OF EARTH SYSTEM SCIENCE PATHFINDER
 (ESSP) PROJECT.
 12/17/1999 - 03/31/2005 FY03: \$535,400 Total: \$2,458,927
Prin. Invest.: G STEPHENS
Tech. Officer: GSFC/D LEWIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 1099 **COLORADO STATE UNIV**
 AN EXTENDED ANALYSIS OF SCIENCE OUTREACH PROGRAMS IN THE
 SPACE LIFE SCIENCES IMPLEMENTED NASA IN PAR
 03/16/1999 - 06/30/2003 FY03: \$0 Total: \$2,409,201
Prin. Invest.: G VOGT
Tech. Officer: ARC/S POTTER, ARC/M M AVERNER
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 2 1268 **COLORADO STATE UNIV**
 NASA WORKSHOP: WHEN ECOLOGIES COLLIDE? PLANETARY PROTEC-
 TION ISSUES IN THE HUMAN EXPLOARTION OF MARS
 05/31/2001 - 02/28/2002 FY03: -\$1 Total: \$53,049
Prin. Invest.: M CRISWELL
Tech. Officer: ARC/M FONDA, ARC/M L FONDA
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 5 284 **COLORADO STATE UNIV**
 SPATIAL INTEGRATION OF REGIONAL CARBON BALANCE IN AMAZONIA
 06/25/1998 - 12/31/2002 FY03: \$0 Total: \$1,194,803
Prin. Invest.: A DENNING
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 621 **COLORADO STATE UNIV**
 GLOBAL AND REGIONAL CARBON FLUX ESTIMATION USING A TMO SPHERIC
 CO2 MEASUREMENTS FROM SPACEBORN
 01/09/2002 - 12/31/2004 FY03: \$0 Total: \$417,665
Prin. Invest.: A DENNING
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 707 **COLORADO STATE UNIV**
 SPATIAL INTEGRATION OF REGIONAL CARBON BALANCE IN AMAZONIA
 03/11/2003 - 03/14/2006 FY03: \$201,600 Total: \$201,600
Prin. Invest.: A DENNING
Tech. Officer: GSFC/D WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30218 **COLORADO STATE UNIV**
 LIGHTNING & RADAR OBSERVATIONS FROM GROUND-BASED & SPACE-
 BORNE PLATFORMS: APPLICATIONS FOR TRMM
 08/24/1999 - 02/28/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: S A RUTLEDGE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30344 **COLORADO STATE UNIV**
 THE RESPONSE OF THE NORTH AMERICAN MONSON TO BOUND ARY AND
 REGIONAL FORCING MECHANISMS AS SIMULAR
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: R PIELKE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30421 **COLORADO STATE UNIV**
 SPACEBORNE OBSERVATIONS OF PRECIPITATION USING NAS A/TRMM AND
 GPM MISSION(STUDENT: KONRAD GOJARA)
 09/07/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: V CHANDRAEKAR
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30438 **COLORADO STATE UNIV**
 ENVIRONMENTAL AND LAND-USE CONTROLS OF CHEATGRASS INVASION
 (STUDENT: JOHN BRADFORD)
 08/20/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: W LAUENROTH
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30458 **COLORADO STATE UNIV**
 DETERMINATION OF THE ROLS OF TROPICAL THIN CIRRUS CLOUDS IN
 CLIMATE FEEDBACKS THROUGH AN IMPROVE
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: G STEPHENS
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30527 **COLORADO STATE UNIV**
 SENSITIVITY OF THE ARCTIC CLIMATE TO CHANGES IN SHRUB STATURE &
 DISTRIBUTION STUDENT: JOHN STRACK
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R PIELKE
Tech. Officer: GSFC/M WEI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 5 50164 **COLORADO STATE UNIV**
 PROPERTIES OF COMET MANTLE DUST
 06/03/1999 - 06/30/2002 FY03: -\$239 Total: \$65,761
Prin. Invest.: J NELSON
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50486 **COLORADO STATE UNIV**
 LABORATORY INVESTIGATIONS OF THE LINKS BETWEEN MINERAL DUST &
 CLOUD FORMATION (KIRSTEN KOEHLER)
 09/30/2003 - 09/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M ATELLA
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2165 **UNIV OF COLORADO - BOULDER**
 COMPARISONS OF THREE DIMENSIONAL NUMERICAL SIMULATIONS OF
 AMBIENT AND VOLOCANIC STRATOSPHERIC
 04/28/1999 - 11/30/2002 FY03: -\$1 Total: \$256,471
Prin. Invest.: O B TOON
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01053 **UNIV OF COLORADO - BOULDER**
 APPLICATION OF LES TO UNDERSTANDING AND PARAMET- ERIZING THE
 ARCTIC CLOUDY BOUNDARY LAYER
 03/30/2001 - 04/30/2002 FY03: \$0 Total: \$155,000
Prin. Invest.: J A CURRY, C A GELLILAN, R R REEDER
Tech. Officer: LARC/V E DELNORE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01074 **UNIV OF COLORADO - BOULDER**
 ADVANCED CROSS ENTERPRISE TECHNOLOGY DEVELOPMENT FOR NASA
 MISSIONS
 06/07/2001 - 01/31/2004 FY03: \$162,600 Total: \$718,600
Prin. Invest.: A BETY
Tech. Officer: LARC/C MOORE
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 1 01081 **UNIV OF COLORADO - BOULDER**
 ESTIMATES OF NUMBER OF YEARS TO DETECT FUTURE CHANGES IN
 CLOUDS AND RADIATION
 05/15/2001 - 04/30/2003 FY03: \$0 Total: \$130,672
Prin. Invest.: E C
Tech. Officer: LARC/B A WIELICKI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 1 02009 **UNIV OF COLORADO - BOULDER**
 NUM:INTEGRATED MEMBRANOUS-MICROELEMENT STRUCTURES TECH-
 NOLOGY
 11/26/2001 - 11/25/2004 FY03: \$92,074 Total: \$174,780
Prin. Invest.: K C PARK
Tech. Officer: LARC/W K BELVIN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 1 02046 **UNIV OF COLORADO - BOULDER**
 TERRAIN AWARENESS FOR SMALL AIRCRAFT USING GPS BISTATIC RADAR,
 DIGITAL ELEVATION MAPS, AND GIS
 01/31/2002 - 01/31/2005 FY03: \$93,038 Total: \$155,634
Prin. Invest.: C AXELROD
Tech. Officer: LARC/K SUTTON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02079 **UNIV OF COLORADO - BOULDER**
 ELECTRONICALLY ACTUATED ARTIFICIAL MUSCLE COMPOSED OF A NEM-
 ATIC LIQUID CRYSTAL ELASTOMER
 04/12/2002 - 05/31/2004 FY03: \$0 Total: \$24,904
Prin. Invest.: D M WALBA
Tech. Officer: LARC/D L THOMSEN
CASE Category: 12 – CHEMISTRY

NAG 1 02116 **UNIV OF COLORADO - BOULDER**
 AIRFRAME NOISE MODELING AND CONTROL
 09/30/2002 - 09/30/2006 FY03: \$55,983 Total: \$106,310
Prin. Invest.: O V VASILYEV
Tech. Officer: LARC/M R KHORRANI, LARC/C L STREETT
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02118 **UNIV OF COLORADO - BOULDER**
 SUPERSONIC AIRCRAFT SHAPING TECHNOLOGY FOR A CONST RAINED
 SHOCK PRESSURE RISE
 09/30/2002 - 09/30/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: C FARHAT, K MAUTE, B ARGROW
Tech. Officer: LARC/P G COEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03003 **UNIV OF COLORADO - BOULDER**
 VERY LARGE EFFICIENT SPACE STRUCTURES
 11/01/2002 - 10/31/2005 FY03: \$50,000 Total: \$50,000
Prin. Invest.: M M MIKULAS
Tech. Officer: LARC/W K BELVIN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 1 03066 **UNIV OF COLORADO - BOULDER**
 DOPPLAR LIDAR WIND MEASUREMENT REQUIREMENTS
 05/15/2003 - 05/14/2004 FY03: \$32,000 Total: \$32,000
Prin. Invest.: R FREHLICH
Tech. Officer: LARC/S ISMAIL, LARC/T J REAVIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1506 **UNIV OF COLORADO - BOULDER**
 APPLICATIONS OF THE AEROSONDE TO CAMEX-4
 07/17/2001 - 12/31/2002 FY03: \$0 Total: \$566,807
Prin. Invest.: G J HOLLAND
Tech. Officer: ARC/C P SCOFIELD, ARC/R S HIPSKIND
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1561 **UNIV OF COLORADO - BOULDER**
 STRESSA DN COGNITION: A COGNITIVE PYSCHOLOGICAL PE RSPECTIVE
 05/24/2002 - 02/28/2003 FY03: \$14,510 Total: \$39,510
Prin. Invest.: L E BOURNE
Tech. Officer: ARC/I BARSHI, ARC/R DISMUKES
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 1575 **UNIV OF COLORADO - BOULDER**
 BALLOON BORNE SOUNDINGS OF WATER VAPOR OZONE AND T EMPERA-
 TURE IN THE UPPER TROPSPEREAND LOWER STRAT
 08/06/2002 - 11/30/2003 FY03: \$0 Total: \$112,963
Prin. Invest.: H VOEMEL, S J OLTMANS
Tech. Officer: ARC/C P SCOFIELD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1607 **UNIV OF COLORADO - BOULDER**
 MECHANOTRANSDUCTION IN PLANT GRAVITY SENSING PROBE D BY
 TWEEZERS AND ELECTRON MICROSCOPY
 12/16/2002 - 11/30/2003 FY03: \$173,302 Total: \$173,302
Prin. Invest.: L A STAEHELIN
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1641 **UNIV OF COLORADO - BOULDER**
 DETAILED ANALYSES OF PILOT INTERACTIONS WITH AUTOF LIGHT SYS-
 TEM INTERFACES
 07/22/2003 - 11/14/2003 FY03: \$40,000 Total: \$40,000
Prin. Invest.: P POLSON
Tech. Officer: ARC/M FEARY, ARC/M MATESSA
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 3 2116 **UNIV OF COLORADO - BOULDER**
 THERMOCAPILLARY-INDUCED PHASE SEPARATION OF DISPER SED SYS-
 TEMS WITH COALESCENCE
 01/28/1998 - 12/31/2002 FY03: \$0 Total: \$296,250
Prin. Invest.: R H DAVIS
Tech. Officer: GRC/B S SINGH
CASE Category: 43 – CHEMICAL ENGR

NAG 3 2136 **UNIV OF COLORADO - BOULDER**
 DUSTY PLASMA DYNAMICS NEAR SURFACES IN SPACE. DUSTY PLASMA
 DYNAMICS NEAR SURFACESIN SAPCE.
 03/05/1998 - 09/05/2002 FY03: \$0 Total: \$395,000
Prin. Invest.: J E COLWELL, S ROBERTSON, M HORANYI
Tech. Officer: GRC/H K NAHRA
CASE Category: 13 – PHYSICS

NAG 3 2220 **UNIV OF COLORADO - BOULDER**
 COMBUSTION OF METALS IN REDUCED-GRAVITY AND EXTRAT ERRES-
 TRIAL ENVIRONMENTS
 12/29/1998 - 09/11/2003 FY03: \$23,953 Total: \$438,958
Prin. Invest.: M C BRANCH
Tech. Officer: GRC/R FRIEDMAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2267 **UNIV OF COLORADO - BOULDER**
 COLLISIONS INTO DUST EXPERIMENT II COLLISIONS INTO DUST EXPERI-
 MENT II
 05/14/1999 - 04/30/2003 FY03: \$0 Total: \$113,579
Prin. Invest.: J E COLWELL
Tech. Officer: GRC/B J MOTIL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2400 **UNIV OF COLORADO - BOULDER**
 PHYSICS OF REGOLITH IMPACTS IN MICROGRAVITY EXPERIMENT (PRIME)
 04/19/2000 - 11/30/2003 FY03: \$100,000 Total: \$330,500
Prin. Invest.: J E COLWELL
Tech. Officer: GRC/B J MOTIL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2402 **UNIV OF COLORADO - BOULDER**
 STRATIFIED TAYLOR-OUETTE FLOW WITH RADIAL BUOYANC Y
 04/19/2000 - 11/30/2003 FY03: \$100,000 Total: \$320,000
Prin. Invest.: J E HART
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2457 **UNIV OF COLORADO - BOULDER**
 STRUCTURE AND DYNAMICS OF FREELY SUSPENDED LIQUID CRYSTALS
 06/07/2000 - 11/30/2003 FY03: \$119,200 Total: \$423,046
Prin. Invest.: N A CLARK
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2587 UNIV OF COLORADO - BOULDER
 MULTI-BEAM ANTENNA ARRAYS FOR SATELITE COMMUNICATI ONS
 04/04/2001 - 10/14/2003 FY03: \$15,000 Total: \$200,000
Prin. Invest.: Z POPOVIC
Tech. Officer: GRC/R Q LEE
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2643 UNIV OF COLORADO - BOULDER
 VIRTUAL MISSION OPERATIONS USING INTERNET PROTOCOL S
 08/23/2001 - 07/31/2004 FY03: \$0 Total: \$188,000
Prin. Invest.: E HANSEN
Tech. Officer: GRC/D CAREK
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2651 UNIV OF COLORADO - BOULDER
 NEW MATERIALS FOR PROTON-CONDUCTING MEMBRANES NEW MATERI-
 ALS FOR PROTON-CONDUCTINGMEMBRANES
 09/27/2001 - 08/31/2002 FY03: \$0 Total: \$118,608
Prin. Invest.: J MICHL
Tech. Officer: GRC/P L LOYSELLE
CASE Category: 12 – CHEMISTRY

NAG 3 2716 UNIV OF COLORADO - BOULDER
 DYNAMICS OF CHARGED DUST NEAR SURFACES IN SPACE DYNAMICS OF
 CHARGED DUST NEAR SURFACES IN SPACE
 02/27/2002 - 11/30/2005 FY03: \$125,469 Total: \$212,444
Prin. Invest.: D E COLWELL
Tech. Officer: GRC/B J MOTIL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2783 UNIV OF COLORADO - BOULDER
 MASS AND MOMENTUM TRANSPORT IN CELL SUSPENSION CUL TURES
 05/24/2002 - 09/30/2004 FY03: \$15,000 Total: \$47,495
Prin. Invest.: P KLAUS
Tech. Officer: GRC/D S NELSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2877 UNIV OF COLORADO - BOULDER
 FUNDING GENERATION OF FRAGILE AND STRONGLY CORRELATED QUAN-
 TUM STATES IN BOSE-EINSTEIN CONDENSED GA
 05/02/2003 - 11/30/2007 FY03: \$50,000 Total: \$50,000
Prin. Invest.: M HOLLAND
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2920 UNIV OF COLORADO - BOULDER
 MULTI-BEAM SPACE-FED LENS ANTENNA ARRAYS MULTI-BEAM SPACE-FED
 LENS ANTENNA ARRAYS
 07/02/2003 - 05/31/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: Z POPOVIC
Tech. Officer: GRC/R Q LEE
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 3394 UNIV OF COLORADO - BOULDER
 CHARACTERIZING AND QUANTIFYING THE X-RAY VARIABLE SKY
 09/06/1996 - 09/14/2003 FY03: \$0 Total: \$205,188
Prin. Invest.: G S STRINGFELLOW
Tech. Officer: GSFC/D WEST
CASE Category: 11 – ASTRONOMY

NAG 5 3438 UNIV OF COLORADO - BOULDER
 ENHANCED ANTARCTIC RESEARCH WITH LANDSAT: ICE SHEE T DYNAM-
 ICS, HISTORY AND CARTOGRAPHY
 10/07/1996 - 06/30/2002 FY03: \$0 Total: \$263,523
Prin. Invest.: T SCAMBOS
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 3794 UNIV OF COLORADO - BOULDER
 LIQUID CRYSTAL FOCAL-PLANE SHUTTERS
 03/25/1997 - 07/31/2002 FY03: -\$885 Total: \$58,056
Prin. Invest.: P T STOCKE
Tech. Officer: GSFC/H HASAN
CASE Category: 11 – ASTRONOMY

NAG 5 3949 UNIV OF COLORADO - BOULDER
 LOWER IONOSPHERE THERMOSPHERE EXPLORER
 02/21/1997 - 12/31/2001 FY03: -\$545 Total: \$199,232
Prin. Invest.: D C SOLOMON
Tech. Officer: GSFC/R HOWARD
CASE Category: 13 – PHYSICS

NAG 5 4804 UNIV OF COLORADO - BOULDER
 A UNIFIED ANALYSIS OF NON-RADIATIVE HEATING AND WI
 07/30/1997 - 07/31/2003 FY03: \$0 Total: \$497,100
Prin. Invest.: G HARPER
Tech. Officer: GSFC/D WEST
CASE Category: 11 – ASTRONOMY

NAG 5 5027 UNIV OF COLORADO - BOULDER
 ENERGY TRANSFER IN THE THERMOSPHERE AND MESOSPHERE FUNDING
 FOR A ONE-YEAR EFFORT IN BASIC RESEARCH
 03/03/1995 - 02/29/2004 FY03: \$0 Total: \$383,148
Prin. Invest.: S SOLOMON
Tech. Officer: GSFC/L EARLY
CASE Category: 13 – PHYSICS

NAG 5 5028 UNIV OF COLORADO - BOULDER
 TIDES, PLANNETARY WAVES, AND EDDY FORCING OF THE MEAN MLT
 CIRCULATION FOR THE TIMED SCIENCE...
 03/03/1995 - 03/05/2005 FY03: \$290,000 Total: \$1,479,576
Prin. Invest.: J FORBES
Tech. Officer: GSFC/L J EARLY, GSFC/R H PLESS
CASE Category: 13 – PHYSICS

NAG 5 5096 UNIV OF COLORADO - BOULDER
 HIGH RESOLUTION SPECTROSCOPY IN THE FAR AND EXTREME ULTRA-
 VIOLET
 12/02/1996 - 02/28/2004 FY03: \$200,000 Total: \$2,975,978
Prin. Invest.: E WILKINSON
Tech. Officer: GSFC/W JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5274 UNIV OF COLORADO - BOULDER
 FUNDING FOR PHASE 1 AWARD OF THE OWLS/MARE PROJECT UNES
 06/21/2000 - 04/13/2006 FY03: \$0 Total: \$370,000
Prin. Invest.: W EMERY
Tech. Officer: WFF/D L PIERCE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5331 **UNIV OF COLORADO - BOULDER**
 YEAR 1 OF A 3 YEAR GRANT IN BASIC SCIENTIFIC RESEARCH WITH U OF
 COLORADO FOR X-RAY
 04/18/2001 - 12/31/2004 FY03: \$350,000 Total: \$650,000
Prin. Invest.: D CASH
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 6048 **UNIV OF COLORADO - BOULDER**
 LATE STAGES OF ACCRETION OF URANUS AND NEPTUNE
 07/25/1997 - 06/30/2002 FY03: -\$17 Total: \$164,453
Prin. Invest.: D STEWART
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 6134 **UNIV OF COLORADO - BOULDER**
 QUANTIFYING GRASSLAND-TO-WOODLAND TRANSITIONS AND CARBON
 AND NITROGEN DYNAMICS IN THE SOUTHWEST UNIT
 09/08/1997 - 01/31/2004 FY03: \$0 Total: \$548,190
Prin. Invest.: D A WESSMAN
Tech. Officer: GSFC/A C JANETOS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 6337 **UNIV OF COLORADO - BOULDER**
 X-RAY REPROCESSING IN ACTIVE GALACTIC NUCLEI
 10/30/1997 - 06/30/2004 FY03: \$0 Total: \$530,700
Prin. Invest.: M BEGELMAN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 6462 **UNIV OF COLORADO - BOULDER**
 VALIDATION STUDIES AND SENSITIVITY ANALYSES FOR RE TRIEVALS OF
 SNOW ALBEDO & SNOWCOVERED AREA FROM
 10/14/1997 - 12/31/2002 FY03: -\$47,504 Total: \$285,409
Prin. Invest.: A NOLIN
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 6629 **UNIV OF COLORADO - BOULDER**
 STUDIES OF TROPICAL/MID-LATITUDE EXCHANGE USING UA RS OBSER-
 VATIONS
 11/18/1997 - 11/30/2001 FY03: -\$371 Total: \$159,718
Prin. Invest.: D AVALLONE
Tech. Officer: GSFC/A DOUGLASS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 6758 **UNIV OF COLORADO - BOULDER**
 LABORATORY STUDIES OF THE VISIBLE SPECTROSCOPY AND CHEMISTRY
 OF POLYCYCLIC AROMATIC HYDROCARBON (PA
 12/24/1997 - 12/31/2002 FY03: \$0 Total: \$494,662
Prin. Invest.: T P SNOW
Tech. Officer: GSFC/H HASAN
CASE Category: 11 – ASTRONOMY

NAG 5 6900 **UNIV OF COLORADO - BOULDER**
 INVESTIGATIONS OF CLOUDS AND AEROSOLS ON MARS AND VENUS
 01/21/1998 - 03/31/2003 FY03: \$0 Total: \$379,039
Prin. Invest.: O TOON
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 7128 **UNIV OF COLORADO - BOULDER**
 PRECISION MEASUREMENT OF LARGE SCALE STRUCTURE-ATP
 03/24/1998 - 02/14/2002 FY03: \$0 Total: \$207,289
Prin. Invest.: A J HAMILTON
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7223 **UNIV OF COLORADO - BOULDER**
 A SEARCH FOR CORONAL EMISSION AT THE BOTTOM OF THE MAIN-
 SEQUENCE
 04/09/1998 - 04/14/2003 FY03: \$0 Total: \$9,920
Prin. Invest.: G S STRINGFELLOW
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 7262 **UNIV OF COLORADO - BOULDER**
 THE INTERGALACTIC MEDIUM AND QSO ABSORPTION SYSTEM S_ (L TSA -
 NEW)
 04/28/1998 - 04/30/2004 FY03: \$0 Total: \$542,200
Prin. Invest.: J SHULL
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 7465 **UNIV OF COLORADO - BOULDER**
 NARROW BAND IMAGING WITH HOLOGRAPHIC TELESCOPES
 11/25/1998 - 12/31/2002 FY03: \$0 Total: \$182,810
Prin. Invest.: D WILKINSON
Tech. Officer: GSFC/H HASAN
CASE Category: 11 – ASTRONOMY

NAG 5 7543 **UNIV OF COLORADO - BOULDER**
 INVESTIGATING DOWNSCALING METHODS AND EVALUATING C LIMATE
 MODELS FOR USE IN ESTIMATING REGIONAL WATE
 06/23/1998 - 07/31/2003 FY03: \$0 Total: \$268,571
Prin. Invest.: A FREI
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7679 **UNIV OF COLORADO - BOULDER**
 CLOUD STRUCTURE RECONSTRUCTION AND SHORTWAVE RADIA TIVE
 TRANSFER MODELING FOR ARMYEAR 1 OF A 3 YEAR
 09/17/1998 - 02/28/2002 FY03: -\$1,243 Total: \$141,757
Prin. Invest.: K EVANS
Tech. Officer: GSFC/W WISCOMBE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7703 **UNIV OF COLORADO - BOULDER**
 FUNDING FOR 'TEMPORAL VARIATIONS OF THE GEOPOTENTI AL' (SENH98-
 0102)
 09/23/1998 - 09/30/2003 FY03: \$0 Total: \$286,000
Prin. Invest.: J M WAHR
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7723 **UNIV OF COLORADO - BOULDER**
 THE DISK WIND MODEL OF THE BROAD LINE REGIONS IN A CTIVE
 GALACTIC NUCLEI AND CATAclysmic VARI
 09/23/1998 - 09/30/2002 FY03: \$0 Total: \$174,047
Prin. Invest.: M C BEGELMAN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7760 UNIV OF COLORADO - BOULDER
 CHARACTERIZING THE SIPLE COAST ICE STREAM SYSTEM USING
 SATELLITE IMAGES, IMPROVED TOPOGRAPHY, AND IN
 12/21/1998 - 12/31/2002 FY03: \$0 Total: \$119,876
Prin. Invest.: T A SCAMBOS
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 8096 UNIV OF COLORADO - BOULDER
 ULTRAVIOLET STUDIES OF JUPITER'S HYDROCARBONS AND AEROSOLS
 FROM GALILEO
 01/29/1999 - 06/30/2003 FY03: \$0 Total: \$110,000
Prin. Invest.: D R PRYOR
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 - ASTRONOMY

NAG 5 8108 UNIV OF COLORADO - BOULDER
 THE YOUNGEST STARS - LTSA 98
 02/11/1999 - 02/14/2004 FY03: \$105,183 Total: \$502,064
Prin. Invest.: J BALLY
Tech. Officer: GSFC/D K WEST
CASE Category: 11 - ASTRONOMY

NAG 5 8127 UNIV OF COLORADO - BOULDER
 "INFRARED OPTICAL CONSTANTS OF PARTICLES IN THE LOWER STRATO-
 SPHERE AND UPPER TROPOSPHERE"
 02/04/1999 - 03/31/2002 FY03: -\$34 Total: \$336,943
Prin. Invest.: M A TOLBERT
Tech. Officer: GSFC/M D KING
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 5 8133 UNIV OF COLORADO - BOULDER
 GLOBAL MODELS OF SOLAR CONVECTION, ROTATION AND MAGNETIC
 ACTIVITY
 03/02/1999 - 04/30/2003 FY03: \$0 Total: \$896,788
Prin. Invest.: J TOOMRE
Tech. Officer: GSFC/J M GREBOWSKY
CASE Category: 11 - ASTRONOMY

NAG 5 8236 UNIV OF COLORADO - BOULDER
 SN1987A: THE BIRTH OF A SUPERNOVA REMNANT (ATP 98)
 02/25/1999 - 02/28/2003 FY03: \$0 Total: \$299,308
Prin. Invest.: R A MCCRAY
Tech. Officer: GSFC/D K WEST
CASE Category: 11 - ASTRONOMY

NAG 5 8256 UNIV OF COLORADO - BOULDER
 JOVIAN AURORAL CHEMISTRY
 02/11/1999 - 02/14/2003 FY03: \$0 Total: \$35,304
Prin. Invest.: W PRYOR
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 - ASTRONOMY

NAG 5 8259 UNIV OF COLORADO - BOULDER
 MULTISPECTRAL MAPPING OF THE MARTIAN POLAR ICE CAPS
 02/16/1999 - 02/28/2003 FY03: \$0 Total: \$217,000
Prin. Invest.: A W NOLIN
Tech. Officer: HQ/J BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 8311 UNIV OF COLORADO - BOULDER
 THE DIURNAL CYCLE OF CONVECTION AND ITS INTERACTION WITH THE
 LARGE SCALE CIRCULATION
 03/12/1999 - 02/28/2002 FY03: -\$612 Total: \$159,157
Prin. Invest.: M L SALBY
Tech. Officer: GSFC/J R CURRAN
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 5 8338 UNIV OF COLORADO - BOULDER
 PHOTOMETRIC ANALYSIS OF THE JOVIAN RING SYSTEM AND MODELING
 OF RING ORIGIN AND EVOLUTION
 03/23/1999 - 04/30/2003 FY03: \$0 Total: \$122,874
Prin. Invest.: L W ESPOSITO
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 - ASTRONOMY

NAG 5 8538 UNIV OF COLORADO - BOULDER
 SUPERCONDUCTING MIXERS FOR FAR INFRARED SPECTROSCOPY
 OF ARCTIC PERMAFROST
 08/11/1999 - 08/14/2002 FY03: \$0 Total: \$203,000
Prin. Invest.: A L BETZ
Tech. Officer: GSFC/F HERRERO
CASE Category: 11 - ASTRONOMY

NAG 5 8615 UNIV OF COLORADO - BOULDER
 APPLICATION OF SATELLITE SAR IMAGERY IN MAPPING THE ACTIVE LAYER
 OF ARCTIC PERMAFROST
 06/14/1999 - 09/30/2002 FY03: -\$344 Total: \$101,359
Prin. Invest.: T ZHANG
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 8709 UNIV OF COLORADO - BOULDER
 LAND USE IMPACTS ON SUBTROPICAL BIOGEOCHEMICAL CYCLES: AN
 INTEGRATED FIELD-PROCESSING MODELING-REMO
 07/29/1999 - 07/31/2003 FY03: \$0 Total: \$366,582
Prin. Invest.: G ASNER
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 8755 UNIV OF COLORADO - BOULDER
 INTERCALIBRATION OF MESOSPHERE/LOWER THERMOSPHERE WINDS
 FROM SPACE-BASED & GROUND-BASED MEASUREMENTS
 08/12/1999 - 08/14/2003 FY03: \$0 Total: \$46,500
Prin. Invest.: J M FORBES
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 8923 UNIV OF COLORADO - BOULDER
 LABORATORY STUDIES OF LOW TEMPERATURE RATE COEFFICIENTS:
 THE ATMOSPHERIC CHEMISTRY OF THE OUTER PLANETS
 01/06/2000 - 06/30/2003 FY03: \$0 Total: \$324,208
Prin. Invest.: D R LEONE
Tech. Officer: GSFC/R B BEEBE
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 5 9007 UNIV OF COLORADO - BOULDER
 SATELLITE ATMOSPHERE & IONOSPHERE OBSERVATIONS
 01/28/2000 - 01/31/2004 FY03: \$0 Total: \$295,475
Prin. Invest.: N M SCHNEIDER
Tech. Officer: GSFC/T H MORGAN
CASE Category: 11 - ASTRONOMY

NAG 5 9010 **UNIV OF COLORADO - BOULDER**
 FUV SPECTRA OF EVOLVED LATE-K AND M STARS: MASS LOSS REVISITED
 AND STELLAR ACTIVITY - FUSE
 02/02/2000 - 01/31/2003 FY03: -\$27 Total: \$66,973
Prin. Invest.: G HARPER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9026 **UNIV OF COLORADO - BOULDER**
 SIMULATION & THEORETICAL MODELING OF OBSERVATIONS OF BIPOLAR
 STRUCTURE & LOW FREQUENCY WAVES IN THE
 02/03/2000 - 02/29/2004 FY03: \$0 Total: \$259,115
Prin. Invest.: M V GOLDMAN
Tech. Officer: GSFC/M MELLOTT
CASE Category: 11 – ASTRONOMY

NAG 5 9041 **UNIV OF COLORADO - BOULDER**
 STELLAR WINDS, HYDROGEN WALLS, AND THE LOCAL INTER STELLAR
 MEDIUM_L TSA99
 02/22/2000 - 02/29/2004 FY03: \$0 Total: \$228,346
Prin. Invest.: B WOOD
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9043 **UNIV OF COLORADO - BOULDER**
 CLIMATOLOGY OF ARCTIC CANADA
 02/22/2000 - 08/31/2003 FY03: \$0 Total: \$113,472
Prin. Invest.: K STEFFEN
Tech. Officer: GSFC/W ABDALATI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9092 **UNIV OF COLORADO - BOULDER**
 ION ETCHED HOLOGRAPHIC GRATINGS
 02/17/2000 - 01/31/2004 FY03: \$0 Total: \$255,360
Prin. Invest.: J GREEN
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 9114 **UNIV OF COLORADO - BOULDER**
 PHASE-A AND BRIDGE PHASE STUDY OF STEREO/WAVES ACCOMMODA-
 TION
 03/01/2000 - 12/31/2002 FY03: \$0 Total: \$58,206
Prin. Invest.: R ERGUN
Tech. Officer: GSFC/M L KAISER
CASE Category: 11 – ASTRONOMY

NAG 5 9172 **UNIV OF COLORADO - BOULDER**
 DUSTY PLASMAS IN PLANETARY MAGNETOSPHERES
 03/08/2000 - 02/29/2004 FY03: \$0 Total: \$225,820
Prin. Invest.: M HORANYI
Tech. Officer: GSFC/J SHARBER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9304 **UNIV OF COLORADO - BOULDER**
 CLOSEOUT OF "LABORATORY STUDIES OF THE NUCLEATION, COMPOSI-
 TION & REACTIVITY OF AIRCRAFT CONDENSATION
 03/22/2000 - 03/31/2002 FY03: -\$19 Total: \$154,217
Prin. Invest.: D A TOLBERT
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9336 **UNIV OF COLORADO - BOULDER**
 INVESTIGATION OF RADIO TOMOGRAPHY IMAGING OF THE MAGNETO-
 SPHERE
 03/27/2000 - 02/28/2003 FY03: \$0 Total: \$232,800
Prin. Invest.: R ERGUN
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9404 **UNIV OF COLORADO - BOULDER**
 GLOBAL & REGIONAL IMPACTS OF MESOSCALE VARIABILITY IN AIR-SEA
 FLUXES
 04/10/2000 - 04/30/2004 FY03: \$114,666 Total: \$1,074,512
Prin. Invest.: P J WEBSTER
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9412 **UNIV OF COLORADO - BOULDER**
 STANDARD GLOBAL SNOW COVER PRODUCTS FROM SATELLITE REMOTE
 SENSING
 05/08/2000 - 05/14/2004 FY03: \$44,426 Total: \$402,694
Prin. Invest.: R ARMSTRONG
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9421 **UNIV OF COLORADO - BOULDER**
 ENERGIZATION AND LOSS OF OUTER RADIATION BELT ELECTONS
 04/11/2000 - 04/30/2003 FY03: \$0 Total: \$137,578
Prin. Invest.: X LI
Tech. Officer: GSFC/J SHARBER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9448 **UNIV OF COLORADO - BOULDER**
 KLE ANALYSIS OF SCIGN GPS DATA
 04/12/2000 - 04/14/2004 FY03: \$0 Total: \$120,000
Prin. Invest.: J B RUNDLE
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9450 **UNIV OF COLORADO - BOULDER**
 USE OF SATELLITE GRAVIMETRY TO DEVELOP AND TEST A LAND WATER-
 AND ENERGY-BALANCE MODEL
 04/12/2000 - 04/30/2004 FY03: \$44,332 Total: \$116,598
Prin. Invest.: J WAHR
Tech. Officer: GSFC/P HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9474 **UNIV OF COLORADO - BOULDER**
 THERMOSPHERIC OXYGEN MAPPER (TOM)
 04/17/2000 - 04/30/2004 FY03: \$0 Total: \$542,076
Prin. Invest.: A L BETZ
Tech. Officer: GSFC/B BETTS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9477 **UNIV OF COLORADO - BOULDER**
 ADVANCING GLACIOLOGICAL APPLICATIONS OF REMOTE SENSING WITH
 EO-1
 04/24/2000 - 04/30/2003 FY03: \$0 Total: \$117,810
Prin. Invest.: T SCAMBOS
Tech. Officer: GSFC/R BINDSCHADLER
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9491 **UNIV OF COLORADO - BOULDER**
 LITHOSPHERIC DYNAMICS OF MARS: WATER, FLOW, AND FAILURE
 05/17/2000 - 12/31/2003 FY03: \$0 Total: \$127,830
Prin. Invest.: R E GRIMM
Tech. Officer: GSFC/J A GRANT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9537 **UNIV OF COLORADO - BOULDER**
 FORMATION OF MAGNETIC STRUCTURES AT THE BASE OF THE SOLR
 CONVECTION ZONE
 05/04/2000 - 05/14/2004 FY03: \$0 Total: \$283,234
Prin. Invest.: N H BRUMMELL
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 9568 **UNIV OF COLORADO - BOULDER**
 REGIONAL INTEGRATED MONITORING SYSTEM FOR THE HYDR OLOGY OF
 THE PAN-ARCTIC LAND MASS
 05/17/2000 - 05/31/2004 FY03: \$60,464 Total: \$535,762
Prin. Invest.: M SERREZE
Tech. Officer: GSFC/P HAUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9631 **UNIV OF COLORADO - BOULDER**
 MULTI-DECADE OBSERVATIONS OF MARTIAN SURFACE VARIA BILITY &
 SEDIMENT TRANSPORT: INTEGRATED ANALYSES
 05/26/2000 - 05/31/2004 FY03: \$0 Total: \$180,000
Prin. Invest.: S W LEE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9694 **UNIV OF COLORADO - BOULDER**
 ATMOSPHERIC MODELING AND INFRARED OBSERVATIONS OF A TRANSIT-
 ING EXTRA-SOLAR PLANET
 06/27/2000 - 09/30/2003 FY03: \$8,519 Total: \$62,255
Prin. Invest.: L W ESPOSITO
Tech. Officer: GSFC/L D DEMING
CASE Category: 11 – ASTRONOMY

NAG 5 9722 **UNIV OF COLORADO - BOULDER**
 GLOBAL LAND ICE MEASUREMENTS FROM SPACE
 06/22/2000 - 01/31/2004 FY03: \$40,100 Total: \$360,300
Prin. Invest.: G R SCHARFEN
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9753 **UNIV OF COLORADO - BOULDER**
 RETRIEVAL OF HYDROMETER SIZE DISTRIBUTIONS FROM TRMM FIELD
 CAMPAIGN PROFILER DOPPLER VELOCITY SPEC
 06/23/2000 - 06/30/2003 FY03: \$30,826 Total: \$209,982
Prin. Invest.: C R WILLIAMS
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9779 **UNIV OF COLORADO - BOULDER**
 ORIGIN OF MAGNETIC LINEATIONS ON MARS
 07/10/2000 - 06/30/2002 FY03: \$0 Total: \$100,500
Prin. Invest.: R E GRIMM
Tech. Officer: GSFC/J BOYCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9861 **UNIV OF COLORADO - BOULDER**
 IMPROVING THE SIMULATION OF SEA ICE LEAD CONDITION & TURBULENT
 FLUXES USING RGPS PRODUCTS & MERGED
 08/09/2000 - 07/31/2003 FY03: \$0 Total: \$354,310
Prin. Invest.: J MASLANIK
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10106 **UNIV OF COLORADO - BOULDER**
 STUDENT NITRIC OXIDE EXPERIEMNT (SNOE) - EXTENDED MISSION
 11/24/2000 - 12/31/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: C A BARTH
Tech. Officer: GSFC/C P HOLMES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10155 **UNIV OF COLORADO - BOULDER**
 SMALL-SCALE POLYGONS AND THE HISTORY OF GROUND ICE ON MARS
 12/18/2000 - 12/31/2002 FY03: \$0 Total: \$127,198
Prin. Invest.: M T MELLON
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10211 **UNIV OF COLORADO - BOULDER**
 ABSOLUTE GRAVITY/GPS MEASUREMENTS IN GREENLAND
 01/03/2001 - 12/31/2002 FY03: \$0 Total: \$19,278
Prin. Invest.: J WAHR
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10213 **UNIV OF COLORADO - BOULDER**
 FAR INFRARED FOCAL PLANE ARRAYS
 01/04/2001 - 01/14/2004 FY03: \$316,000 Total: \$913,000
Prin. Invest.: A L BETZ
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10259 **UNIV OF COLORADO - BOULDER**
 STUDIES FOR IMPROVED GRAVITATIONAL WAVE SENSITIVIT Y
 01/09/2001 - 12/31/2002 FY03: \$0 Total: \$90,000
Prin. Invest.: P L BENDER
Tech. Officer: GSFC/P CRANE
CASE Category: 13 – PHYSICS

NAG 5 10265 **UNIV OF COLORADO - BOULDER**
 DISTRUBUTION OF NEAR-SURFACE GROUND ICE ON MARS
 01/09/2001 - 12/31/2003 FY03: \$67,000 Total: \$198,000
Prin. Invest.: M MELLON
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10288 **UNIV OF COLORADO - BOULDER**
 IMPROVING THE ACCURACY OF SATELLITE SEA SURFACE TEMPERATURE
 MEASUREMENTS BY EXPLICITLY ACCOUNTING
 01/29/2001 - 01/31/2002 FY03: \$0 Total: \$125,000
Prin. Invest.: W EMERY
Tech. Officer: GSFC/J C DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10309 **UNIV OF COLORADO - BOULDER**
 STUDY OF THE INFLUENCE OF SMALL SCALE E-FIELD VARI ABILITY ON THE
 DISTRIBUTION OFGEOMAGENTIC
 01/24/2001 - 04/30/2003 FY03: \$0 Total: \$41,000
Prin. Invest.: M CODRESCU
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10319 **UNIV OF COLORADO - BOULDER**
 EXCITATION AND ABUNDANCIES IN N132D - FUSE.
 01/29/2001 - 01/31/2004 FY03: \$0 Total: \$25,500
Prin. Invest.: J A MORSE
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10325 **UNIV OF COLORADO - BOULDER**
 THE UNUSUAL WOLF-RAYET STAR EZ CMA
 01/31/2001 - 01/31/2003 FY03: \$0 Total: \$25,328
Prin. Invest.: S L SKINNER
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10326 **UNIV OF COLORADO - BOULDER**
 DECIPHERING THE X-RAY EMISSION OF THE NEAREST HERBIG AE STAR
 01/31/2001 - 01/31/2004 FY03: \$0 Total: \$27,203
Prin. Invest.: S L SKINNER
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10339 **UNIV OF COLORADO - BOULDER**
 FUV SPECTRA OF EVOLVED LATE-K & M STARS: MASS LOSS REVISITED &
 STELLAR ACTIVITY -FUSE
 02/05/2001 - 08/14/2003 FY03: \$0 Total: \$56,500
Prin. Invest.: G HARPER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10362 **UNIV OF COLORADO - BOULDER**
 X-RAY EMISSION IN WOLF-RAYET STARS: XMM REVEALS THE SHOCKING
 TRUTH
 02/06/2001 - 02/14/2003 FY03: \$0 Total: \$28,078
Prin. Invest.: S L SKINNER
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10368 **UNIV OF COLORADO - BOULDER**
 WIDELY TUNABLE OPTICAL LOCAL OSCILLATORS WITH 1 E-15 STABILITY:
 ULTRASTABLE LASER SYSTEMS
 02/12/2001 - 02/14/2004 FY03: \$317,134 Total: \$996,085
Prin. Invest.: J L HALL
Tech. Officer: GSFC/W HEAPS
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 10413 **UNIV OF COLORADO - BOULDER**
 REMOTE SENSING OF PLANETARY SURFACES
 02/14/2001 - 02/14/2002 FY03: \$0 Total: \$45,000
Prin. Invest.: B JAKOSKY
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10418 **UNIV OF COLORADO - BOULDER**
 GEOMORPHOLOGY AND GEODYNAMICS AT CRUSTAL BOUNDARIE S
 WITHIN ASIA AND AFRICA.
 02/22/2001 - 02/29/2004 FY03: \$0 Total: \$80,000
Prin. Invest.: R G BILHAM
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10474 **UNIV OF COLORADO - BOULDER**
 SOLAR WIND FLUCTUATIONS & THEIR CONSEQUENCES ON THE MAG-
 NETOSPHERE
 02/27/2001 - 02/28/2004 FY03: \$88,815 Total: \$255,737
Prin. Invest.: X LI
Tech. Officer: GSFC/J SPANN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10508 **UNIV OF COLORADO - BOULDER**
 DYNAMICS OF PLANETESIMALS AND PLANETARY ACCRETION
 03/05/2001 - 02/28/2003 FY03: \$0 Total: \$162,000
Prin. Invest.: G R STEWART
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10556 **UNIV OF COLORADO - BOULDER**
 INVESTIGATION OF THE ASSIMILATION OF ICE MOTION DATA IN SEA ICE
 MODELS
 03/12/2001 - 03/14/2004 FY03: \$0 Total: \$187,241
Prin. Invest.: T ARBETTER
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10581 **UNIV OF COLORADO - BOULDER**
 HIGH-RESOLUTION THERMAL INERTIA OF MARS
 03/19/2001 - 02/28/2004 FY03: \$70,000 Total: \$228,000
Prin. Invest.: M MELON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10600 **UNIV OF COLORADO - BOULDER**
 ASSESSMENT OF GREENLAND OUTLET GLACIER ALBEDO VARIABILITY
 03/14/2001 - 06/30/2003 FY03: \$0 Total: \$46,013
Prin. Invest.: J STROEVE
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10601 **UNIV OF COLORADO - BOULDER**
 COMPARISON OF INTERSTELLAR & INTERPLANETARY GRAINS
 03/19/2001 - 02/28/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: T SNOW
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10616 **UNIV OF COLORADO - BOULDER**
 PHYSICAL PROPERTIES OF POTENTIAL MARS LANDING SITE S
 03/16/2001 - 03/14/2004 FY03: \$39,000 Total: \$117,000
Prin. Invest.: B JAKOSKY
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10763 **UNIV OF COLORADO - BOULDER**
 COSMOLOGICAL PARAMETERS FROM LARGE SCALE STRUCTURE (ATP
 2000)
 04/23/2001 - 04/30/2004 FY03: \$82,293 Total: \$249,314
Prin. Invest.: A J HAMILTON
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10790 **UNIV OF COLORADO - BOULDER**
 DETERMINING THE STRUCTURE OF LOW-LEVEL JETS IN MARITIME STORMS USING QUIKSCAT
 04/25/2001 - 04/30/2004 FY03: \$157,579 Total: \$439,995
Prin. Invest.: O PERSSON
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10791 **UNIV OF COLORADO - BOULDER**
 INFARED AND PASSIVE MICROWAVE RADIOMETRIC SSTS AND THEIR RELATIONSHIPS TO ATMOSPHERIC FORCING
 04/25/2001 - 04/30/2004 FY03: \$197,824 Total: \$528,035
Prin. Invest.: W EMERY
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10797 **UNIV OF COLORADO - BOULDER**
 CONCEPT STUDY FOR THE "JUPITER MAGNETOSPHERIC EXPLORER" (JMEX) MISSION AO-99-OSS-05
 04/30/2001 - 04/30/2002 FY03: \$0 Total: \$423,472
Prin. Invest.: D M SCHNEIDER
Tech. Officer: GSFC/J R BYRD
CASE Category: 11 – ASTRONOMY

NAG 5 10857 **UNIV OF COLORADO - BOULDER**
 VARIABILITY AND FORCING OF CLIMATIC PARAMETERS ON THE GREENLAND ICE SHEET: GREENLAND CLIMATE NETWORK
 05/03/2001 - 04/30/2005 FY03: \$185,123 Total: \$533,286
Prin. Invest.: K STEFFEN
Tech. Officer: GSFC/N AVAILABLE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10892 **UNIV OF COLORADO - BOULDER**
 HARD X-RAY, SPECTROSCOPIC MICROWAVE, AND H-ALPHA LINEAR POLARIZATION STUDIES WITH HARD X-RAY OBSERV
 05/10/2001 - 05/31/2004 FY03: \$76,150 Total: \$225,228
Prin. Invest.: A KIPLINGER
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10917 **UNIV OF COLORADO - BOULDER**
 SPATIAL VARIATION OF HELIOSEISMIC FREQUENCY SHIFTS
 05/14/2001 - 05/31/2004 FY03: \$90,710 Total: \$262,849
Prin. Invest.: B HINDMAN
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10937 **UNIV OF COLORADO - BOULDER**
 LWS PROPOSAL TO PROVIDE SCIENTIFIC GUIDANCE AND MODELING SUPPORT FOR THE IONOSPHERIC MAPPER MISSION
 05/15/2001 - 05/14/2004 FY03: \$174,735 Total: \$513,804
Prin. Invest.: T FULLER-ROWELL
Tech. Officer: GSFC/J F SPANN
CASE Category: 99 – MULTIDISCIPL, OTHER

NAG 5 10948 **UNIV OF COLORADO - BOULDER**
 MOLECULE FORMATION AT HIGH EXTINCTION AND LOW METALLICITY IN THE MAGELLANIC CLOUDS - FUSE 2000
 05/24/2001 - 05/31/2003 FY03: \$0 Total: \$62,500
Prin. Invest.: J SHULL
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10950 **UNIV OF COLORADO - BOULDER**
 FOSSIL FUEL IN THE LOCAL GROUP (FUSE 00)
 05/24/2001 - 05/31/2003 FY03: \$0 Total: \$26,500
Prin. Invest.: J SHULL
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10954 **UNIV OF COLORADO - BOULDER**
 SCALING AND ALLOMETRY IN RIVER NETWORKS: COUPLING RAINFALL, TOPOGRAPHY, AND VEGETATION WITH HYDROLOG
 05/18/2001 - 05/31/2004 FY03: \$90,483 Total: \$274,339
Prin. Invest.: V GUPTA
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10983 **UNIV OF COLORADO - BOULDER**
 PRODUCT DISTRIBUTION FOR THE RAMP AMM-1 VERSION 2 AT THE NATIONAL SNOW AND ICE DATA CENTER
 06/12/2001 - 09/14/2002 FY03: -\$1,772 Total: \$17,859
Prin. Invest.: T SCAMBOS
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTIDISCIPL, OTHER

NAG 5 11022 **UNIV OF COLORADO - BOULDER**
 A STUDY OF UNCERTAINTIES FOR MODIS CLOUD RETRIEVAL OF OPTICAL THICKNESS & EFFECTIVE RADIUS
 06/07/2001 - 03/31/2003 FY03: \$0 Total: \$49,408
Prin. Invest.: D PINCUS
Tech. Officer: GSFC/D STARR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11028 **UNIV OF COLORADO - BOULDER**
 CONTINUATION OF THE SCIENCE ANALYSIS AND DATA VALIDATION OF THE UARS SOLSTICE.
 06/25/2001 - 09/30/2002 FY03: \$0 Total: \$188,845
Prin. Invest.: G J ROTTMAN
Tech. Officer: GSFC/C JACKSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11069 **UNIV OF COLORADO - BOULDER**
 INVESTIGATIONS OF DESERT DUST & SMOKE IN THE NORTH ATLANTIC IN SUPPORT OF THE TOMS INSTRUMENT.
 07/20/2001 - 07/14/2004 FY03: \$100,000 Total: \$300,000
Prin. Invest.: O B TOON
Tech. Officer: GSFC/P K BHARTIA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11107 **UNIV OF COLORADO - BOULDER**
 VALIDATION OF AMSR-E SNOW PRODUCTS AQUA-0090-0026 / NRA-00-OES-07/24/2001 - 08/31/2004 FY03: \$113,370 Total: \$245,466
Prin. Invest.: R L ARMSTRONG
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11110 **UNIV OF COLORADO - BOULDER**
 BALLOON BORNE SOUNDINGS FOR VALIDATION OF UPPER TROPOSPHERIC HUMIDITY AND TEMPERATURE (NRA-00-OES-07/12/2001 - 08/31/2004 FY03: \$199,180 Total: \$498,937
Prin. Invest.: H W VOEMEL
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11167 **UNIV OF COLORADO - BOULDER**
 DENSITY STRUCTURES IN THE THERMOSPHERE OF MARS: ASSIMILATIVE
 ANALYSES OF MGS ACCELEROMETER AND TES
 08/07/2001 - 08/14/2004 FY03: \$0 Total: \$90,000
Prin. Invest.: J FORBES
Tech. Officer: GSFC/J M BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11177 **UNIV OF COLORADO - BOULDER**
 ANALYSIS OF MGS MAGNETOMETER DATA & COMPARISONS WITH MODELS
 OF MARS' MAGNETIC FIELD & SOLAR WIND
 08/13/2001 - 08/14/2003 FY03: \$0 Total: \$170,000
Prin. Invest.: F BAGENAL
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11192 **UNIV OF COLORADO - BOULDER**
 MEASUREMENT & INTERPRETATION ON TEMPORAL VARIATION OF THE
 EARTH'S GRAVITY FIELD USING GPS & SLR DATA
 08/30/2001 - 02/28/2003 FY03: \$0 Total: \$60,236
Prin. Invest.: S R NEREM
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11205 **UNIV OF COLORADO - BOULDER**
 DETECTING FUTURE TRENDS IN OZONE-LOOKING FOR INITIAL SIGNS OF
 RECOVERY IN TOMS AND SBUV/2 RECORDS
 08/09/2001 - 08/14/2004 FY03: \$40,000 Total: \$120,915
Prin. Invest.: E WEATHERHEAD
Tech. Officer: GSFC/R MCPETERS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11224 **UNIV OF COLORADO - BOULDER**
 INVESTIGATING THE FORMATION OF THE THARSIS RISE AND CRUSTAL
 DICHOTOMY BY MODELING THE MGS DATA AND M
 08/13/2001 - 08/14/2004 FY03: \$39,000 Total: \$150,000
Prin. Invest.: S ZHONG
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11238 **UNIV OF COLORADO - BOULDER**
 REGIONAL NPP & CARBON STOCKS IN SW USA RANGELANDS: LAND USE
 IMPACTS ON THE GRASSLAND-WOODLAND BALANCE
 09/17/2001 - 08/31/2004 FY03: \$304,938 Total: \$775,089
Prin. Invest.: C WESSMAN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11243 **UNIV OF COLORADO - BOULDER**
 THEORETICAL INVESTIGATIONS OF CLOUDS AND AEROSOLS IN THE
 STRATOSPHERE AND UPPER TROPOSPHERE
 08/16/2001 - 08/31/2004 FY03: \$134,164 Total: \$273,324
Prin. Invest.: O B TOON
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11279 **UNIV OF COLORADO - BOULDER**
 OVERSIGHT AND DEVELOPMENT OF A COMM MONTE CARLO RADIATIVE
 ONE YEAR GRANT
 08/21/2001 - 02/28/2003 FY03: \$0 Total: \$22,635
Prin. Invest.: R PINCUS
Tech. Officer: GSFC/R CAHALAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11292 **UNIV OF COLORADO - BOULDER**
 QUALITY DATA VISUALIZATION TOOL FOR MODIS
 08/22/2001 - 02/28/2003 FY03: \$0 Total: \$77,600
Prin. Invest.: R L WEAVER
Tech. Officer: GSFC/K L MOE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 11294 **UNIV OF COLORADO - BOULDER**
 SIMPLE MODELS OF THE SPATIAL DISTRIBUTION OF CLOUD RADIATIVE
 PROPERTIES FOR REMOTE SENSING STUDIES
 08/22/2001 - 09/30/2003 FY03: \$0 Total: \$42,593
Prin. Invest.: R PINCUS
Tech. Officer: GSFC/W WISCOMBE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11308 **UNIV OF COLORADO - BOULDER**
 ICE SHELVES AND LANDFAST ICE ON THE ANTARCTIC PERI METER:
 CHARACTERISTICS AND THE EFFECTS OF CLIMATE
 08/30/2001 - 08/31/2004 FY03: \$58,768 Total: \$119,400
Prin. Invest.: T SCAMBOS
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11369 **UNIV OF COLORADO - BOULDER**
 VALIDATION OF AMAR-E POLAR OCEAN PRODUCTS USING A COMBINATION
 OF OBSERVATIONS AND MODELLING.
 10/30/2001 - 10/31/2004 FY03: \$98,975 Total: \$230,970
Prin. Invest.: J MASLANIK
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11391 **UNIV OF COLORADO - BOULDER**
 NEW GRANT TIMAS OPERATIONS AND DATA ANALYSIS
 12/12/2001 - 12/14/2004 FY03: \$271,115 Total: \$621,115
Prin. Invest.: W PETERSON
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11408 **UNIV OF COLORADO - BOULDER**
 TIMED PHASE E SEE EXPERIMENT - WOODS
 12/10/2001 - 12/31/2005 FY03: \$500,250 Total: \$1,089,750
Prin. Invest.: T N WOODS
Tech. Officer: GSFC/B A CAMPBELL
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11421 **UNIV OF COLORADO - BOULDER**
 GPS MODELING AND ANALYSIS
 01/08/2002 - 01/14/2003 FY03: \$0 Total: \$83,545
Prin. Invest.: P AXELROD
Tech. Officer: GSFC/J A LEITNER
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 11430 **UNIV OF COLORADO - BOULDER**
 INTENSIVE AIRBORNE FLASK MEASUREMENTS OF O₂/N₂, AR/N₂, 13C, 18O,
 AND OTHER SPECIES DURING COBRA
 12/03/2001 - 11/30/2004 FY03: \$163,370 Total: \$229,511
Prin. Invest.: J B MILLER
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11463 UNIV OF COLORADO - BOULDER
 CHARACTERIZATION OF UV WINDOW PHOSPHORESCENCE
 12/10/2001 - 12/14/2004 FY03: \$60,000 Total: \$121,000
Prin. Invest.: S OSTERMAN
Tech. Officer: GSFC/P CRANE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11512 UNIV OF COLORADO - BOULDER
 NASA COLD LAND PROCESSES FIELD EXPERIMENT PLAN
 01/07/2002 - 12/31/2004 FY03: \$73,500 Total: \$147,000
Prin. Invest.: R L ARMSTRONG
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11473 UNIV OF COLORADO - BOULDER
 MEASUREMENTS OF "TOTAL WATER" AND CARBON DIOXIDE FROM THE
 NASA WB-57 DURING CRYSTAL-FACE
 12/19/2001 - 12/31/2003 FY03: \$62,539 Total: \$186,888
Prin. Invest.: L M AVALLONE
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11562 UNIV OF COLORADO - BOULDER
 DYNAMICAL MODELS OF SOLAR SYSTEM FORMATION AND EVOLUTION
 01/17/2002 - 02/28/2005 FY03: \$49,000 Total: \$98,000
Prin. Invest.: G R STEWART
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11474 UNIV OF COLORADO - BOULDER
 INFLUENCE OF NUCLEATION MECHANISMS ON THE RADIATIVE PROPERTIES
 OF DEEP CONVECTIVE CLOUDS AND SUBVIL
 12/19/2001 - 12/31/2004 FY03: \$110,172 Total: \$235,068
Prin. Invest.: O B TOON
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11576 UNIV OF COLORADO - BOULDER
 FOLLOW ON TO NAG5-8247--GGS CEPPAD
 01/09/2002 - 01/14/2005 FY03: \$75,000 Total: \$150,000
Prin. Invest.: D BAKER
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11487 UNIV OF COLORADO - BOULDER
 GAS-PHASE CHEMISTRY OF MOLECULES AND MOLECULAR IONS OF
 ASTROPHYSICAL INTEREST
 12/19/2001 - 12/31/2004 FY03: \$150,000 Total: \$300,000
Prin. Invest.: T P SNOW
Tech. Officer: GSFC/H HASAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11612 UNIV OF COLORADO - BOULDER
 VARIABILITY AND FORCING OF CLIMATIC PARAMETERS ON THE
 GREENLAND ICE SHEET: GREENLAND CLIMATE NE
 01/16/2002 - 01/31/2003 FY03: \$0 Total: \$35,127
Prin. Invest.: K STEFFEN
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11490 UNIV OF COLORADO - BOULDER
 CO/H2 IN TRANSLUCENT CLOUDS
 12/27/2001 - 12/31/2003 FY03: \$0 Total: \$51,037
Prin. Invest.: J C GREEN
Tech. Officer: GSFC/R J OLIVESREN
CASE Category: 11 – ASTRONOMY

NAG 5 11616 UNIV OF COLORADO - BOULDER
 CHARACTERISTICS AND CONSEQUENCES OF FAULTING ON GANYMEDE
 AND EUROPA
 01/17/2002 - 01/31/2004 FY03: \$70,000 Total: \$140,000
Prin. Invest.: R PAPPALARDO
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 11498 UNIV OF COLORADO - BOULDER
 DYNAMICAL EVOLUTION OF RING-SATELLITE SYSTEMS
 12/28/2001 - 12/31/2004 FY03: \$50,800 Total: \$100,800
Prin. Invest.: K OHTSUKI
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 11648 UNIV OF COLORADO - BOULDER
 REMOTE SENSING & GEOCHEMISTRY OF PLANETARY SURFACE
 01/25/2002 - 01/31/2004 FY03: \$60,700 Total: \$120,500
Prin. Invest.: B M JAKOSKY
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11501 UNIV OF COLORADO - BOULDER
 RETRIEVAL AND VALIDATIONS OF CIRRUS CLOUD PROPERTIES WITH THE
 FAR-INFRARED SENSOR FOR CIRRUS
 12/27/2001 - 12/31/2004 FY03: \$79,097 Total: \$163,464
Prin. Invest.: K F EVANS
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11659 UNIV OF COLORADO - BOULDER
 MOVING SPECTROSCOPIC REMOTE SENSING TECHNIQUES FOR THE
 IDENTIFICATION OF SWELLING POTENTIAL OF EXPAN
 02/14/2002 - 02/28/2005 FY03: \$380,536 Total: \$656,905
Prin. Invest.: A GOETZ
Tech. Officer: GSFC/T GUBBELS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11506 UNIV OF COLORADO - BOULDER
 HIERARCHICAL MODELING STUDY OF THE INTERACTIONS AMONG
 TURBULENCE, CLOUD MICROPHYSICS, AND RADIATIVE
 01/02/2002 - 12/31/2003 FY03: \$0 Total: \$98,843
Prin. Invest.: J A CURRY
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11686 UNIV OF COLORADO - BOULDER
 CLOUDY RADIATIVE TRANSFER MODELING AND CLOSURE STUDIES FOR
 ARM
 02/01/2002 - 08/31/2005 FY03: \$0 Total: \$74,792
Prin. Invest.: K EVANS
Tech. Officer: GSFC/W WISCOMBE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11736 **UNIV OF COLORADO - BOULDER**
 ACCRETION DISK OUTFLOWS IN CATAclysmic VARIABLES (LTSA 2001)
 02/13/2002 - 02/14/2005 FY03: \$102,334 Total: \$197,438
Prin. Invest.: D PROGA
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11766 **UNIV OF COLORADO - BOULDER**
 EVOLUTION OF PROTOPLANETARY DISKS NEAR THE SNOW- LINE
 02/25/2002 - 02/28/2005 FY03: \$40,000 Total: \$80,000
Prin. Invest.: G R STEWART
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11848 **UNIV OF COLORADO - BOULDER**
 CORONAL IRON
 04/02/2002 - 04/14/2004 FY03: \$0 Total: \$73,300
Prin. Invest.: T AYRES
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11850 **UNIV OF COLORADO - BOULDER**
 DEVELOPMENT AND TEST OF OFF-PLANE GRATINGS FOR CON
 STELLATION-X
 03/15/2002 - 10/31/2004 FY03: \$293,000 Total: \$455,000
Prin. Invest.: W CASH
Tech. Officer: GSFC/D CONTENT
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11879 **UNIV OF COLORADO - BOULDER**
 ASPECTS OF THE GLOBAL SOLAR DYNAMIC MAGNETOHYDRODY NAMIC
 MODELS OF DEEP CONVECTION AND THE TAC
 03/19/2002 - 04/30/2005 FY03: \$371,000 Total: \$731,000
Prin. Invest.: J TOOMRE
Tech. Officer: GSFC/J M GREBOWSKY
CASE Category: 13 – PHYSICS

NAG 5 11890 **UNIV OF COLORADO - BOULDER**
 HIGH RESOLUTION X-RAY PROPERTIES OF BL LACS: AN XM M SURVEY
 04/09/2002 - 04/14/2004 FY03: \$0 Total: \$2,543
Prin. Invest.: J STOCKE
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11895 **UNIV OF COLORADO - BOULDER**
 ORIGIN AND EVOLUTION OF IRREGULAR SATELLITES
 03/19/2002 - 03/31/2005 FY03: \$25,000 Total: \$50,000
Prin. Invest.: K OHTSUKI
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11907 **UNIV OF COLORADO - BOULDER**
 OBSERVATIONS OF EXORS WITH THE INFRARED SPACE OBSE RVATORY
 04/12/2002 - 04/14/2004 FY03: \$31,927 Total: \$134,257
Prin. Invest.: G S STRINGFELLOW
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11911 **UNIV OF COLORADO - BOULDER**
 SPECTROMETER TECHNOLOGY DEVELOPMENT FOR FAR- INFRARED LINE
 SURVEYS
 03/21/2002 - 03/31/2005 FY03: \$100,000 Total: \$196,992
Prin. Invest.: J GLENN
Tech. Officer: GSFC/P CRANE
CASE Category: 13 – PHYSICS

NAG 5 11920 **UNIV OF COLORADO - BOULDER**
 EXPLORING DYNAMICAL IMPLICATIONS OF SOLAR SUBSURFA CE
 WEATHER
 03/25/2002 - 03/14/2005 FY03: \$162,513 Total: \$319,899
Prin. Invest.: D HABER
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 11924 **UNIV OF COLORADO - BOULDER**
 CUSP DYNAMICS-PARTICLE ACCELERATION BY ALFVEN WAVE
 03/27/2002 - 03/31/2005 FY03: \$93,189 Total: \$182,754
Prin. Invest.: J SU
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11950 **UNIV OF COLORADO - BOULDER**
 MIRA'S COMPANION IN THE FUV
 04/02/2002 - 04/14/2004 FY03: \$0 Total: \$31,100
Prin. Invest.: B E WOOD
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11963 **UNIV OF COLORADO - BOULDER**
 MULTIWAVELENGTH OBSERVATION OF CLASSICAL NOVAC
 04/04/2002 - 03/31/2005 FY03: \$115,000 Total: \$233,000
Prin. Invest.: G S STRINGFELLOW
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12002 **UNIV OF COLORADO - BOULDER**
 INVESTIGATION OF H+ & O+ OUTFLOWS FROM THE EARTH'S IONOSPHERE
 04/12/2002 - 04/14/2004 FY03: \$75,000 Total: \$150,000
Prin. Invest.: W K PETERSON
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12026 **UNIV OF COLORADO - BOULDER**
 MODELING OF PARALLEL ELECTRIC FIELDS IN THE AURORA
 04/22/2002 - 04/30/2005 FY03: \$95,512 Total: \$185,758
Prin. Invest.: R E ERGUN
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12029 **UNIV OF COLORADO - BOULDER**
 PROBING THE REIONIZATION HISTORY OF THE UNIVERSE
 04/12/2002 - 05/31/2005 FY03: \$55,328 Total: \$128,252
Prin. Invest.: N GNEDIN
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12035 **UNIV OF COLORADO - BOULDER**
 DEFEATING THE EDDINGTON LIMIT: THE NONLINEAR DEVELOPMENT OF
 PHOTON BUBBLE INSTABILITY
 04/12/2002 - 04/14/2005 FY03: \$72,416 Total: \$168,229
Prin. Invest.: M C BEGELMAN
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12075 **UNIV OF COLORADO - BOULDER**
 ASSESSMENT OF BASAL MELT OF PETERMANN GLETSCHER IN NW
 GREENLAND
 04/23/2002 - 04/14/2005 FY03: \$22,284 Total: \$54,311
Prin. Invest.: K STEFFEN
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12188 **UNIV OF COLORADO - BOULDER**
 PRE-FORMULATION FOR THE LASER INTERFEROMETER SPACE ANTENNA
 (LISA) PROJECT
 05/14/2002 - 05/14/2003 FY03: \$0 Total: \$130,000
Prin. Invest.: P L BENDER
Tech. Officer: GSFC/R T STEBBINS
CASE Category: 13 – PHYSICS

NAG 5 12288 **UNIV OF COLORADO - BOULDER**
 SUPPORT FOR THE INTERNATIONAL WORKSHOP ON MULTI- ANGULAR
 MEASUREMENTS AND MODELING (IWMMM-3)
 06/17/2002 - 12/31/2003 FY03: \$0 Total: \$20,798
Prin. Invest.: A NOLIN
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12194 **UNIV OF COLORADO - BOULDER**
 UARS SOLSTICE CONTINUED OPERATIONS
 05/23/2002 - 09/30/2004 FY03: \$150,000 Total: \$200,000
Prin. Invest.: G ROTTMAN
Tech. Officer: GSFC/C JACKMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12349 **UNIV OF COLORADO - BOULDER**
 AN INVESTIGATION OF THE EFFECT OF SOLAR VARIABILITY AND PARTICLE
 IONIZATION ON THE EARTH'S M
 08/20/2002 - 08/14/2005 FY03: \$0 Total: \$96,547
Prin. Invest.: D W RUSCH
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12197 **UNIV OF COLORADO - BOULDER**
 SOLAR ACTIVITY AND LONG-TERM TRENDS IN THE IONO- SPHERE (SALT):
 A HISTORIC-DATA ANALYSIS AND MODEL
 05/15/2002 - 06/30/2005 FY03: \$164,737 Total: \$324,314
Prin. Invest.: R A AKMAEV
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12372 **UNIV OF COLORADO - BOULDER**
 ESTIMATION OF ARCTIC MELT POND COVERAGE ON SEA ICE USING EOS
 DATA: ALGORITHM DEVELOPMENT & RET
 07/22/2002 - 07/31/2005 FY03: \$29,209 Total: \$48,226
Prin. Invest.: J MASLANIK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12210 **UNIV OF COLORADO - BOULDER**
 CHROMOSPHERIC ACTIVITY IN POPULATION II GIANTS.
 06/04/2002 - 06/30/2004 FY03: \$0 Total: \$38,600
Prin. Invest.: G HARPER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12380 **UNIV OF COLORADO - BOULDER**
 MASS IMBALANCE IN ANTARCTICA AND GREENLAND
 07/12/2002 - 07/14/2005 FY03: \$54,416 Total: \$106,729
Prin. Invest.: J WAHR
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12233 **UNIV OF COLORADO - BOULDER**
 CORONAL DYNAMICS AND COMPLETE ENERGY BUDGET FOR THE M
 DWARF AD LEO.
 06/06/2002 - 06/14/2004 FY03: \$0 Total: \$42,300
Prin. Invest.: A BROWN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12381 **UNIV OF COLORADO - BOULDER**
 GREENLAND ICE SHEET MELT CLIMATOLOGY BASED ON PASSIVE AND
 ACTIVE SATELLITE DATA: COMBINING
 07/15/2002 - 07/14/2005 FY03: \$0 Total: \$56,099
Prin. Invest.: K STEFFAN
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12240 **UNIV OF COLORADO - BOULDER**
 PROBING THE REVERSE SHOCK IN AN OXYGEN-RICH SUPER- NOVA
 REMNANT - FUSE 2001
 06/06/2002 - 06/30/2004 FY03: \$0 Total: \$12,000
Prin. Invest.: J A MORSE
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12394 **UNIV OF COLORADO - BOULDER**
 JUPITER MEETING BOOK PUBLISHING
 07/19/2002 - 07/31/2003 FY03: \$0 Total: \$45,000
Prin. Invest.: F BAGENAL
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12260 **UNIV OF COLORADO - BOULDER**
 AEROSOL-CLOUD-CLIMATE INTERACTIONS.
 07/18/2002 - 05/31/2003 FY03: \$0 Total: \$89,574
Prin. Invest.: K STEFFEN
Tech. Officer: GSFC/J ZWALLY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12432 **UNIV OF COLORADO - BOULDER**
 SPATIAL AND TEMPORAL PATTERNS & VARIABILITY OF SEA & ICE SURFACE
 TEMPERATURES IN THE SEASONA
 08/01/2002 - 07/31/2005 FY03: \$53,729 Total: \$107,458
Prin. Invest.: J MASLANIK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12279 **UNIV OF COLORADO - BOULDER**
 COSMIC ORIGINS SPECTROGRAPH GTO
 07/09/2002 - 09/30/2008 FY03: \$1,050,000 Total: \$2,196,900
Prin. Invest.: D GREEN
Tech. Officer: GSFC/J JELETIC
CASE Category: 11 – ASTRONOMY

NAG 5 12438 **UNIV OF COLORADO - BOULDER**
 EVOLVED LATE-TYPE STARR FUV SPECTRA: MASS LOSS AND FLUORESC-
 CENCE
 08/06/2002 - 08/14/2004 FY03: \$12,000 Total: \$87,400
Prin. Invest.: G HARPER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12491 **UNIV OF COLORADO - BOULDER**
 DEVELOPING RAPID HELIOSEISMIC MAPPING OF EVOLVING SOLAR SUB-
 SURFACE WEATHER AND MAGNETIC STRUCTURE
 08/20/2002 - 08/14/2005 FY03: \$172,523 Total: \$339,435
Prin. Invest.: B W HINDMAN
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12495 **UNIV OF COLORADO - BOULDER**
 ANALYSIS OF NAVIGATION ALGORITHM AND MEASUREMENTS FOR FOR-
 MATION FLYING SATELLITES, IN HIGH EARTH OR
 08/29/2002 - 08/31/2004 FY03: \$15,000 Total: \$36,836
Prin. Invest.: P AXELRAD
Tech. Officer: GSFC/R J CARPENTER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12533 **UNIV OF COLORADO - BOULDER**
 GREENLAND: REANALYSIS OF THE ENERGY BUDGET OF THE ICE SHEET
 08/28/2002 - 08/31/2005 FY03: \$0 Total: \$83,901
Prin. Invest.: J CASSANO
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12598 **UNIV OF COLORADO - BOULDER**
 KNOWLEDGE DISCOVERY FOR GEOPHYSICAL DATA ANALYSIS
 09/24/2002 - 09/14/2005 FY03: \$0 Total: \$99,982
Prin. Invest.: J MENNIS
Tech. Officer: GSFC/M WEI
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12654 **UNIV OF COLORADO - BOULDER**
 GLOBE TEACHERS GUIDE AND PHOTOGRAPHIC DATA ON THE WEB
 10/28/2002 - 10/31/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: D KOWAL
Tech. Officer: GSFC/M WEI
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12698 **UNIV OF COLORADO - BOULDER**
 AM-CVN STARS: STRUCTURE AND EVOLUTION OF ULTRA- SHORT PERIOD
 INTERACTING BINARIES (FUSE 2001)
 01/17/2003 - 08/14/2004 FY03: \$21,300 Total: \$21,300
Prin. Invest.: C FRONING
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12788 **UNIV OF COLORADO - BOULDER**
 FAR-INFRARED SPECTROMETER TECHNOLOGY DEVELOPMENT
 01/22/2003 - 03/31/2005 FY03: \$110,000 Total: \$110,000
Prin. Invest.: J GLENN
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12810 **UNIV OF COLORADO - BOULDER**
 ELECTRIC FIELD WIRE BOOMS AND SENSORS
 01/28/2003 - 01/31/2006 FY03: \$180,291 Total: \$180,291
Prin. Invest.: R ERGUN
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12813 **UNIV OF COLORADO - BOULDER**
 STELLER OCCULTATION MEASUREMENTS
 01/28/2003 - 01/31/2005 FY03: \$113,341 Total: \$113,341
Prin. Invest.: D RUSCH
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12815 **UNIV OF COLORADO - BOULDER**
 FRAMEWORK TO INTERPRET SOLAR SUBSURFACE WEATHER: GLOBAL
 SIMULATIONS OF TURBULENT DYNAMICS IN THE
 01/24/2003 - 01/31/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: J TOOMRE
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12867 **UNIV OF COLORADO - BOULDER**
 UNIFICATION OF QUASAR AND SEYFERT OUTFLOWS (LTS 2 001)
 03/06/2003 - 06/30/2006 FY03: \$162,885 Total: \$162,885
Prin. Invest.: N ARAV
Tech. Officer: GSFC/R J OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 12951 **UNIV OF COLORADO - BOULDER**
 PLASMAS IN PLANETARY MAGNETOSPHERE: EARTH, JUPITER AND SAT-
 URN
 03/03/2003 - 02/29/2004 FY03: \$39,000 Total: \$39,000
Prin. Invest.: M HORANYI
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12978 **UNIV OF COLORADO - BOULDER**
 MESOSPHERIC AEROSOL PARTICLE SPECTROMETER
 03/05/2003 - 02/14/2006 FY03: \$102,780 Total: \$102,780
Prin. Invest.: S ROBERTSON
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12990 **UNIV OF COLORADO - BOULDER**
 KINETIC STUDIES ON NONLINEAR WAVE STRUCTURES AND TRANSITION
 LAYERS IN THE AURORALIONOSPHERE
 03/06/2003 - 02/28/2006 FY03: \$98,914 Total: \$98,914
Prin. Invest.: D NEWMAN
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12994 **UNIV OF COLORADO - BOULDER**
 MASS AND ENERGY FLOW THROUGH THE IO PLASMA TORUS
 03/06/2003 - 02/28/2006 FY03: \$89,459 Total: \$89,459
Prin. Invest.: F BAGENAL
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13004 **UNIV OF COLORADO - BOULDER**
 WEIGHING THE LOW-REDSHIFT LYMAN-ALPHA FOREST
 03/11/2003 - 03/14/2004 FY03: \$49,700 Total: \$49,700
Prin. Invest.: J SHULL
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13011 **UNIV OF COLORADO - BOULDER**
 FLUORESCENCE AND EXCITATION OF MOLECULAR HYDROGEN IN THE
 CIRCUMSTELLAR ENVIRONMENT OF PMS STARS FU
 03/11/2003 - 03/14/2004 FY03: \$27,600 Total: \$27,600
Prin. Invest.: J L LINSKY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13012 UNIV OF COLORADO - BOULDER
 GLIMMERS OF LIFE IN THE CORONAL GRAVEYARD? FUSE 0 1
 03/11/2003 - 03/14/2004 FY03: \$59,400 Total: \$59,400
Prin. Invest.: T R AYRES
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13139 UNIV OF COLORADO - BOULDER
 DETECTING THE SUN IN 2-GYR OLD OPEN CLUSTERS
 03/20/2003 - 03/31/2004 FY03: \$10,200 Total: \$10,200
Prin. Invest.: R FRODEMAN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13013 UNIV OF COLORADO - BOULDER
 INTERGALACTIC IONIZED HELIUM ABSORPTION TOWARD THE UV-
 BRIGHTEST HIGH-Z QUASAR HS 1140+2711 FUSE 0
 03/13/2003 - 03/14/2004 FY03: \$57,800 Total: \$57,800
Prin. Invest.: J SHULL
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13172 UNIV OF COLORADO - BOULDER
 GEOPHYSICS OF MARTIAN PERIGLACIAL PROCESSES
 03/24/2003 - 03/31/2006 FY03: \$64,200 Total: \$64,200
Prin. Invest.: M MELLON
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13018 UNIV OF COLORADO - BOULDER
 DYNAMICS OF PLANETESIMALS AND PLANETARY ACCRETION
 03/15/2003 - 03/14/2004 FY03: \$54,000 Total: \$54,000
Prin. Invest.: G R STEWART
Tech. Officer: GSFC/D J LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13183 UNIV OF COLORADO - BOULDER
 INFLUENCE OF LAND-ATMOSPHERE INTERACTIONS ON VARIABILITY OF
 THE NORTH AMERICAN MONSOON
 03/25/2003 - 04/30/2004 FY03: \$68,414 Total: \$68,414
Prin. Invest.: E E SMALL
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13039 UNIV OF COLORADO - BOULDER
 NEW DIRECTIONS IN THE EARTH SCIENCES AND THE HUMANITIES:
 IMPLEMENTING WIDE INTERDISCIPLINARITY
 03/17/2003 - 03/31/2004 FY03: \$20,000 Total: \$20,000
Prin. Invest.: R FRODEMAN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13190 UNIV OF COLORADO - BOULDER
 STELLAR ACTIVITY AND MASS LOSS FROM A AND F SUPERGIANTS (FUSE
 4)
 03/29/2003 - 03/31/2004 FY03: \$54,600 Total: \$54,600
Prin. Invest.: A BROWN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13043 UNIV OF COLORADO - BOULDER
 FORMATION AND DYNAMICAL EVOLUTION OF PLANETS
 03/17/2003 - 03/31/2006 FY03: \$30,000 Total: \$30,000
Prin. Invest.: K OHTSUKI
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13191 UNIV OF COLORADO - BOULDER
 FE II FLUORESCENCE IN ALPHA 1 HER (M51B-II) (FUSE 4)
 03/29/2003 - 06/30/2004 FY03: \$31,400 Total: \$31,400
Prin. Invest.: G HARPER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13058 UNIV OF COLORADO - BOULDER
 EXPANDING THE HORIZONS OF STELLAR ACTIVITY BEYOND THE SOLAR
 NEIGHBORHOOD QUANTIFYING PHYSICAL PROCESSES
 03/12/2003 - 05/31/2008 FY03: \$109,000 Total: \$109,000
Prin. Invest.: T AYRES
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13207 UNIV OF COLORADO - BOULDER
 POPULATION SYNTHESIS OF EXTRASOLAR PLANETARY SYSTEMS
 03/31/2003 - 03/31/2006 FY03: \$40,000 Total: \$40,000
Prin. Invest.: P ARMITAGE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13096 UNIV OF COLORADO - BOULDER
 MICRO PHYSICS OF THE DOWNWARD CURRENT REGION OF THE AURORA
 03/17/2003 - 06/30/2006 FY03: \$95,184 Total: \$95,184
Prin. Invest.: L ANDERSON
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13386 UNIV OF COLORADO - BOULDER
 VALIDATION OF AMSR SEA ICE PRODUCTS IN THE SOUTHERN HEMI-
 SPHERE
 04/28/2003 - 04/30/2004 FY03: \$53,221 Total: \$53,221
Prin. Invest.: K STEFFEN
Tech. Officer: GSFC/J COSMO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13135 UNIV OF COLORADO - BOULDER
 RADIAL TRANSPORT AND PRECIPITATION LOSS OF OUTER BELT ELECTRO-
 TRONS
 03/19/2003 - 03/31/2004 FY03: \$23,000 Total: \$23,000
Prin. Invest.: X LI
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13424 UNIV OF COLORADO - BOULDER
 ACQUISITION OF A GAS CHROMATOGRAPH/MASS SPECTROMETER SYS-
 TEM FOR LABORATORY STUDY OF ORGANIC
 04/26/2003 - 04/30/2004 FY03: \$71,821 Total: \$71,821
Prin. Invest.: T MCCOLLOM
Tech. Officer: GSFC/S NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13456 **UNIV OF COLORADO - BOULDER**
 EXPERIMENTAL STUDY OF GEOCHEMICAL PROCESSING OF PR EBIOTIC
 ORGANIC COMPOUNDS ON THE EARLY EARTH
 04/25/2003 - 04/14/2005 FY03: \$105,802 Total: \$105,802
Prin. Invest.: T MCCOLLOM
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13497 **UNIV OF COLORADO - BOULDER**
 A MISSION TO VERY EARLY EARTH: WHEN DID CONDITIONS SUITABLE
 FOR LIFE EMERGE?
 05/05/2003 - 04/30/2006 FY03: \$160,000 Total: \$160,000
Prin. Invest.: S MOJISIS
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13511 **UNIV OF COLORADO - BOULDER**
 SOLAR-INDUCED VARIATIONS IN POLAR MESOSPHERIC CLOUDS
 05/02/2003 - 04/30/2006 FY03: \$90,615 Total: \$90,615
Prin. Invest.: G THOMAS
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13518 **UNIV OF COLORADO - BOULDER**
 DYNAMICS OF RADIATION BELT ELECTRONS ASSOCIATED WITH SOLAR
 WIND VARIATIONS
 05/05/2003 - 04/30/2006 FY03: \$76,505 Total: \$76,505
Prin. Invest.: X LI
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13520 **UNIV OF COLORADO - BOULDER**
 ASSESSING INTERACTIONS BETWEEN SOLAR SUBSURFACE WEATHER &
 MAGNETISM
 05/05/2003 - 04/30/2006 FY03: \$263,777 Total: \$263,777
Prin. Invest.: J TOOMRE
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13528 **UNIV OF COLORADO - BOULDER**
 AEROSOL-CLOUD-CLIMATE INTERACTIONS.
 05/08/2003 - 05/31/2004 FY03: \$62,338 Total: \$62,338
Prin. Invest.: K STEFFEN
Tech. Officer: GSFC/J ZWALLY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13540 **UNIV OF COLORADO - BOULDER**
 SHOCK DYNAMICS OF THE NEWBORN SUPERNOVA REMNANT SNR1987A
 07/24/2003 - 07/31/2004 FY03: \$53,400 Total: \$53,400
Prin. Invest.: R MCCRAY
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13672 **UNIV OF COLORADO - BOULDER**
 UNRAVELING THE RECORD OF SEA LEVEL CHANGE IN THE NORTHEAST-
 ERN U.S. USING GPS & TIDE GAUGE DATA
 09/10/2003 - 09/14/2006 FY03: \$81,000 Total: \$81,000
Prin. Invest.: R NEREM
Tech. Officer: GSFC/H V FREY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13677 **UNIV OF COLORADO - BOULDER**
 A STUDY OF THE MIDDLE-AGED SUN: BETA COMAL
 09/23/2003 - 09/14/2004 FY03: \$9,000 Total: \$9,000
Prin. Invest.: S L SKINNER
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13689 **UNIV OF COLORADO - BOULDER**
 NEW FUZE STELLAR OBSERVATIONS IN THE LARGE MAGELLANIC CLOUD
 09/23/2003 - 09/30/2004 FY03: \$15,000 Total: \$15,000
Prin. Invest.: C DANFORTH
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13691 **UNIV OF COLORADO - BOULDER**
 UPDATING RESULTS OF GLACIER CONTRIBUTIONS TO SEA LEVEL CHANGE
 09/12/2003 - 07/31/2004 FY03: \$44,242 Total: \$44,242
Prin. Invest.: M DYURGEROV
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13695 **UNIV OF COLORADO - BOULDER**
 A FUZE SURVEY OF DISK-ACCRETING CATAclysmic VARIABLES
 09/23/2003 - 09/30/2004 FY03: \$52,000 Total: \$52,000
Prin. Invest.: C S FRONING
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13705 **UNIV OF COLORADO - BOULDER**
 STELLAR PARAMETERS AND WINDS OF RED SUPERGIANTS IN BINARIES
 09/24/2003 - 09/30/2004 FY03: \$30,600 Total: \$30,600
Prin. Invest.: P BENNET
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13709 **UNIV OF COLORADO - BOULDER**
 IO TORUS OBSERVATIONS AND SATELLITE ATMOSPHERE
 09/17/2003 - 09/14/2004 FY03: \$35,000 Total: \$35,000
Prin. Invest.: N SCHNEIDER
Tech. Officer: GSFC/L JOHNSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13718 **UNIV OF COLORADO - BOULDER**
 CONNECTING THE X-RAY AND UV IONIZED ABSORBERS IN MRK 279
 09/24/2003 - 09/30/2004 FY03: \$14,000 Total: \$14,000
Prin. Invest.: N ARAV
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13721 **UNIV OF COLORADO - BOULDER**
 FREEZE-THAWING CYCLES OF SOILS AT LOCAL, REGIONAL, AND GLOBAL
 SCALE
 09/26/2003 - 09/30/2006 FY03: \$96,880 Total: \$96,880
Prin. Invest.: T ZHANG
Tech. Officer: GSFC/P R HOUSER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13725 **UNIV OF COLORADO - BOULDER**
 FAR ULTRAVIOLET SPECTROSCOPIC SURVEY OF RS CVN BINARY SYS-
 TEMS
 09/26/2003 - 09/30/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: J LINSKY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13745 UNIV OF COLORADO - BOULDER
 A RETROSPECTIVE ANALYSIS OF GLOBAL GPS TRACKING DATA
 09/26/2003 - 09/30/2006 FY03: \$83,000 Total: \$83,000
Prin. Invest.: E LEULIETTE
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1209 UNIV OF COLORADO - BOULDER
 MULTI WAVELENGTH ANALYSIS OF ASTEROIDS
 03/01/2000 - 12/31/2002 FY03: -\$19 Total: \$14,861
Prin. Invest.: A R HENDRIX
Tech. Officer: JSC/F VILAS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1438 UNIV OF COLORADO - BOULDER
 VIRTUAL ENVIRONMENTS FOR PREFLIGHT ADAPTATION
 07/12/2002 - 08/31/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: K STROUD
Tech. Officer: JSC/D HARM
CASE Category: 41 – AERONAUTICAL ENGR

NAG 9 1555 UNIV OF COLORADO - BOULDER
 INTERACTION & SYNERGISM OF MICROBIAL FUEL CELL BACTERIA WITH
 METHANOGENESIS CONSORTIA
 07/28/2003 - 08/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D KLAUS
Tech. Officer: JSC/C LIN
CASE Category: 44 – CIVIL ENGR

NAS 1 03009 UNIV OF COLORADO - BOULDER
 DEVELOPMENT & VERIFICATION OF TECHNOLOGY FOR AN EARTH OBSERVING
 DEPLOYED LIDAR TELESCOPE
 03/07/2003 - 03/06/2004 FY03: \$502,363 Total: \$502,363
Prin. Invest.: L PETERSON
Tech. Officer: LARC/W C EDWARDS
CASE Category: 13 – PHYSICS

NAS 5 02140 UNIV OF COLORADO - BOULDER
 "EXTREME ULTRAVIOLET VARIABILITY EXPERIMENT (EVE) FOR THE SOLAR
 DYNAMICS OBSERVATORY(SDO)
 10/02/2002 - 10/10/2003 FY03: \$2,160,416 Total: \$2,160,416
Prin. Invest.: T WOODS
Tech. Officer: GSFC/T ANDERSON
CASE Category: 13 – PHYSICS

NAS 5 03086 UNIV OF COLORADO - BOULDER
 THE CONTRACTOR SHALL INVESTIGATE TECHNIQUES USING LASER
 INTERFEROMETRY TO IMPROVE THE ACCURACY
 08/19/2003 - 08/19/2004 FY03: \$600,000 Total: \$600,000
Prin. Invest.: R S NEREM
Tech. Officer: GSFC/K ANDERSON, JPL/W FOLKNER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 03099 UNIV OF COLORADO - BOULDER
 SERVICES IN SUPPORT OF THE SNOW AND ICE DISTRIBUTED ACTIVE
 ARCHIVE CENTER FOR EARTH OBSERVING
 05/30/2003 - 05/30/2008 FY03: \$2,286,000 Total: \$2,286,000
Prin. Invest.: R WEAVER
Tech. Officer: GSFC/J BEHNKE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 97045 UNIV OF COLORADO - BOULDER
 EXTENSION OF SOLSTICE PHASE B EFFORT
 02/21/1997 - 07/31/2007 FY03: \$8,114,308 Total: \$82,817,704
Prin. Invest.: G ROTTMAN
Tech. Officer: GSFC/V GRIFFIN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAS 5 97046 UNIV OF COLORADO - BOULDER
 LETTER CONTRACT FOR HIRDIS PHASE C/D/E
 01/17/1997 - 03/31/2008 FY03: \$4,292,100 Total: \$86,026,670
Prin. Invest.: J GILLE
Tech. Officer: GSFC/L MILAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 97145 UNIV OF COLORADO - BOULDER
 MISSION OPERATIONS, DATA ANALYSIS, AND ALGORITHM MAINTENANCE
 FOR UARS SOLSTICE
 03/31/1997 - 11/30/2002 FY03: \$0 Total: \$1,558,799
Prin. Invest.: G J ROTTMAN
Tech. Officer: GSFC/C H JACKMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 98043 UNIV OF COLORADO - BOULDER
 SCIENCE MANAGEMENT FOR COS
 03/04/1998 - 11/30/2004 FY03: \$2,003,496 Total: \$17,666,096
Prin. Invest.: J GREEN
Tech. Officer: GSFC/L FEINBERG
CASE Category: 11 – ASTRONOMY

NAS 5 98070 UNIV OF COLORADO - BOULDER
 OPERATION OF SNOW AND ICE DISTRIBUTED ACTIVE ARCHIVE
 01/29/1998 - 05/31/2003 FY03: \$2,966,200 Total: \$21,854,545
Prin. Invest.: R G BARRY, V TROISI
Tech. Officer: GSFC/Q A BARKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 8 38779 UNIV OF COLORADO - BOULDER
 MECHANICS OF GRANULAR MATERIALS MICROGRAVITY
 09/24/1992 - 10/31/2004 FY03: \$583,000 Total: \$5,203,513
Prin. Invest.: S STURE
Tech. Officer: MSFC/B V GUYNES
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 01048 UNIV OF COLORADO - BOULDER
 EVA & ROBOTIC ASSEMBLY OF LARGE SPACE STRUCTURES
 08/20/2001 - 12/19/2002 FY03: \$0 Total: \$20,000
Prin. Invest.: E C WEATHERHEAD
Tech. Officer: LARC/B A WIELICKI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 1052 UNIV OF COLORADO - BOULDER
 CENTER FOR ASTROBIOLOGY
 08/28/1998 - 10/31/2003 FY03: \$780,222 Total: \$3,646,237
Prin. Invest.: B JAKOSKI
Tech. Officer: ARC/R A GRAYES, ARC/W W DOLCI
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 2 1104 UNIV OF COLORADO - BOULDER
 A COMPREHENSIVE-BASED ANALYSIS OF SHARED CONCEPTUAL MODELS
 OF AVIONICS SYSTEMS
 04/02/1999 - 10/31/2002 FY03: \$0 Total: \$271,533
Prin. Invest.: P POISON
Tech. Officer: ARC/E A PALMER, ARC/N SMITH
CASE Category: 21 – MATHEMATICS

NCC 2 1145 **UNIV OF COLORADO - BOULDER**
 THE APPLICATION OF ADVANCED CULTIVATION TECHNIQUES IN THE LONG
 TERM MAINTENANCE OF SPACE FLIGHT...
 12/01/1999 - 02/14/2003 FY03: \$10,940 Total: \$270,976
Prin. Invest.: G HEYENGA
Tech. Officer: ARC/M KLISS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1310 **UNIV OF COLORADO - BOULDER**
 COMPREHENSION OF NAVIGATION DIRECTIONS
 02/13/2002 - 02/28/2005 FY03: \$70,325 Total: \$115,325
Prin. Invest.: A F HEALY
Tech. Officer: ARC/I BARSHI
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 1340 **UNIV OF COLORADO - BOULDER**
 ASTROBIOLOGICAL AND GEOLOGICAL IMPLICATIONS OF CONVECTIVE
 TRANSPORT IN ICY OUTERPLANET SATELLITES
 05/23/2002 - 05/31/2005 FY03: \$33,964 Total: \$70,291
Prin. Invest.: R PAPPALARDO
Tech. Officer: ARC/M FONDA, ARC/S ZHONG
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1395 **UNIV OF COLORADO - BOULDER**
 IMPLEMENTATION OF ADVANCED CULTURING TECHNIQUES FOR LONG
 TERM PLANT GROWTH STUDIES ON THE INTERNATI
 03/04/2003 - 02/28/2006 FY03: \$117,286 Total: \$117,286
Prin. Invest.: G HEYENGA
Tech. Officer: ARC/M KLISS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5401 **UNIV OF COLORADO - BOULDER**
 THE PROPERTIES OF CLOUDS IN THE ATMOSPHERES OF EARLY EARTH,
 MARS, & TITAN
 09/29/2000 - 01/31/2003 FY03: \$0 Total: \$188,623
Prin. Invest.: O B TOON
Tech. Officer: ARC/R E YOUNG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5519 **UNIV OF COLORADO - BOULDER**
 PARTICLES IN REDUCING ATMOSPHERES APPLICATIONS TO EARLY
 EARTH AND TITAN
 08/28/2002 - 10/31/2004 FY03: \$95,000 Total: \$110,833
Prin. Invest.: O B TOON
Tech. Officer: ARC/R YOUNG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 3 796 **UNIV OF COLORADO - BOULDER**
 SURFACE COLLISIONS INVOLVING PARTICLES AND MOISTURE (SCIPM)
 05/16/2000 - 05/30/2004 FY03: \$140,000 Total: \$306,000
Prin. Invest.: R H DAVIS
Tech. Officer: GRC/F P CHARIAMONTE 111
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 458 **UNIV OF COLORADO - BOULDER**
 EO-1 EVALUATION & VERIFICATION FOR APPLICATION TO LAND-USE
 CHANGE: ATMOSPHERIC CORRECTION, SOIL &
 02/25/2000 - 03/31/2003 FY03: \$0 Total: \$553,177
Prin. Invest.: A F GOETZ
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 480 **UNIV OF COLORADO - BOULDER**
 ANALYSIS OF EO-1, LANDSAT 7, AND AVIRIS FOR ESTIMATING VEGETATION
 STRUCTURE AND FUNCTION IN ARID EC
 03/20/2000 - 12/31/2001 FY03: -\$1,348 Total: \$86,572
Prin. Invest.: G P ASNER
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 721 **UNIV OF COLORADO - BOULDER**
 ASSESSMENT OF INTERSATELLITE MEASUREMENTS FOR PRECISION
 RELATIVE NAVIGATION OF HEOSATELLITE
 04/14/2003 - 05/31/2006 FY03: \$59,992 Total: \$59,992
Prin. Invest.: P AXELRAD
Tech. Officer: GSFC/M MOREAU
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 8 242 **UNIV OF COLORADO - BOULDER**
 PROMOTE COMMERCIAL FUNDING R & D AND TECHNOLOGY DEV IN THE
 FIELD OF BIOSERVE SPACE TECHNOLOGIES
 01/10/2002 - 10/31/2003 FY03: \$2,681,981 Total: \$4,931,981
Prin. Invest.: L STODIECK
Tech. Officer: MSFC/J R WEST
CASE Category: 49 – ENGINEERING, OTHER

NGT 1 01023 **UNIV OF COLORADO - BOULDER**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/06/2001 - 06/30/2004 FY03: -\$10,696 Total: \$25,304
Prin. Invest.: T O MANN
Tech. Officer: LARC/W K BELVIN
CASE Category: 42 – ASTRONAUTICAL ENGR

NGT 1 02022 **UNIV OF COLORADO - BOULDER**
 GRADUATE STUDENT RESEARCHER PROGRAM
 08/02/2002 - 06/30/2003 FY03: \$10,000 Total: \$24,000
Prin. Invest.: O VASILOV, D GOLDSTEIN
Tech. Officer: LARC/T B GATSKI
CASE Category: 46 – MECHANICAL ENGR

NGT 1 03002 **UNIV OF COLORADO - BOULDER**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 05/09/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: K C PARK
Tech. Officer: LARC/K BELVEN
CASE Category: 41 – AERONAUTICAL ENGR

NGT 2 52264 **UNIV OF COLORADO - BOULDER**
 MODELING AEROSOL NUCLEATION IN THE PRESENCE OF CLOUDS
 06/23/2000 - 12/31/2002 FY03: \$0 Total: \$44,000
Prin. Invest.: O TOON
Tech. Officer: ARC/A S ACKERMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 2 52270 **UNIV OF COLORADO - BOULDER**
 HYDROCARBON NUCLEATION ON THOLINS: APPLICATIONS TO TITAN
 08/29/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: M A TOLBERT
Tech. Officer: ARC/C P MCKAY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NGT 2 52279 **UNIV OF COLORADO - BOULDER**
 COLD SALINE SPRINGS IN PERMAFROST ON EARTH AND MARS
 06/22/2001 - 06/30/2003 FY03: \$0 Total: \$46,000
Prin. Invest.: B TOON
Tech. Officer: ARC/C P MCKAY
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 2 52287 UNIV OF COLORADO - BOULDER
 MODELING THE ENVIRONMENT EFFECTS OF LARGE IMPACTS ON MARS
 06/03/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: O B TOON
Tech. Officer: ARC/B J COLLINS, ARC/C MCKAY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 2 52300 UNIV OF COLORADO - BOULDER
 AN ANALYSIS OF LINE PROFILES IN THE DIFFUSE INTERSTELLAR BANDS
 08/26/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: T P SNOW
Tech. Officer: ARC/B J COLLINS, ARC/F SALAMA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 3 52386 UNIV OF COLORADO - BOULDER
 COMPUTATIONAL MODELING OF EXTRACELLULAR MASS TRANSPORT
 08/22/2002 - 08/31/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D KLAUS
Tech. Officer: GRC/F J MONTEGANO
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 80 UNIV OF COLORADO - BOULDER
 THE STRUCTURE AND DEVELOPMENT OF SUPERNOVA REMNANT 1987A
 (STUDENT): ELI MICHAEL
 05/12/1999 - 06/30/2002 FY03: -\$31 Total: \$65,969
Prin. Invest.: R MCCRAY
Tech. Officer: GSFC/M S BURRELL
CASE Category: 13 – PHYSICS

NGT 5 123 UNIV OF COLORADO - BOULDER
 INVESTIGATION OF GPS BISTATIC RADAR FOR SOIL MOISTURE REMOTE
 SENSING (STUDENT): DALLAS MASTERS
 06/07/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: D AXELRAD
Tech. Officer: GSFC/M S BURRELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 132 UNIV OF COLORADO - BOULDER
 SPACE WEATHER FORECASTING: PREDICTING RADIATION BELT ELECTRONS
 USING ADAPTIVE ARMA FILTERS & DATA
 06/04/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D BAKER
Tech. Officer: GSFC/M S BURRELL
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 133 UNIV OF COLORADO - BOULDER
 ANALYSIS OF TEMPORAL VARIATIONS OF THE EARTH'S GRAVITY FIELD
 FROM CHAMP & GRACE SATELLITE DATA.
 06/04/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R NEREM
Tech. Officer: GSFC/M S BURRELL
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 140 UNIV OF COLORADO - BOULDER
 GALAXY CLUSTERS AT HIGH REDSHIFT; PROBING THE HISTORY AND
 EVOLUTION OF THE INTRA-CLUSTER MEDIUM, G
 07/09/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: E ELLINGSON
Tech. Officer: GSFC/M S BURRELL
CASE Category: 13 – PHYSICS

NGT 5 154 UNIV OF COLORADO - BOULDER
 PROBING THE LOCAL UNIVERSE WITH THE LOW REDSHIFT LY-ALPHA
 FOREST (STUDENT: BRIAN KEENEY)
 08/15/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J STOCKE
Tech. Officer: GSFC/M S BURRELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 155 UNIV OF COLORADO - BOULDER
 OZONE FLUXES INTO SNOWPACKS AND THEIR ROLE IN THE TROPOSPHERIC
 OZONE BUDGET (STUDENT: URSULA RICK)
 08/15/2003 - 08/14/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D HELMIG
Tech. Officer: GSFC/M S BURRELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30155 UNIV OF COLORADO - BOULDER
 COMPARISONS OF THREE-DIMENSIONAL GENERAL CIRCULATION MODEL
 SIMULATIONS OF THE DESERT AEROSOL LIFE
 08/28/1998 - 08/31/2002 FY03: -\$15 Total: \$65,985
Prin. Invest.: B TOON, COLARCO
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30180 UNIV OF COLORADO - BOULDER
 SPATIAL AND TEMPORAL RESPONSE TO ANTHROPOGENIC NITROGEN
 DEPOSITION IN A HETEROGENEOUS ROCKY MOUNTAIN
 08/12/1999 - 08/31/2002 FY03: -\$58 Total: \$65,942
Prin. Invest.: C A WESSMAN
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30209 UNIV OF COLORADO - BOULDER
 IN SITU MEASUREMENTS OF CARBON DIOXIDE IN THE UPPER TROPOSPHERE
 & LOWER STRATOSPHERE/STUDENT GAT
 08/18/1999 - 12/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: L M AVALLONE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30345 UNIV OF COLORADO - BOULDER
 LINKING LANDSAT TM DATA & EVAPOTRANSPIRATION IN TWO HUMID
 TROPICAL WATERSHEDS IN PANAMA/STUDENT AL
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: G ASNER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30348 UNIV OF COLORADO - BOULDER
 REGIONAL IMPACTS OF WOODLAND EXPANSION ON NITROGEN OXIDE
 EMISSIONS FROM TEXAS SAVANNAS: COMBINING
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: G ASNER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30363 UNIV OF COLORADO - BOULDER
 LABORATORY STUDIES OF ICE NUCLEATION FROM INTERNALLY MIXED
 SULFURIC ACID/MINERAL AEROSOL PARTICLES
 08/24/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: M A TOLBERT
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30376 **UNIV OF COLORADO - BOULDER**
 A HIGH-RESOLUTION ABLATION STUDY NEAR JAKOBHAVN ON THE
 GREENLAND ICE SHEET/TODD H. ALBERT
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: K STEFFEN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30394 **UNIV OF COLORADO - BOULDER**
 IMPROVEMENTS IN THE ESTIMATION OF THE EARTH'S GRAVITY FIELD
 USING GRACE MISSION DATA (STUDENT: DON
 08/14/2001 - 08/31/2004 FY03: \$0 Total: \$22,000
Prin. Invest.: S NEREM
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30399 **UNIV OF COLORADO - BOULDER**
 CLIMATIC VARIABILITY, HUMAN AGENCY & ENVIRONMENTAL CHANGE
 ACROSS AN ALTITUDINAL TRANSECT, ANDES-AMAZ
 08/14/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: R BARRY
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30416 **UNIV OF COLORADO - BOULDER**
 SNOW SLOPE STABILITY: MODELING AND INVESTIGATIONS
 (STUDENT:HANS-PETER MARSHA
 08/17/2001 - 08/31/2005 FY03: \$24,000 Total: \$57,317
Prin. Invest.: T PFEFFER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30422 **UNIV OF COLORADO - BOULDER**
 HETEROGENEOUS N2O5 HYDROLYSIS ON MIXED (NH4)2SO4/ORGANIC
 THIN FILMS REPRESENTATIVE OF TROPOSPHERE
 09/07/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: M A TOLBERT
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30464 **UNIV OF COLORADO - BOULDER**
 SPECTROSCOPY AND PHOTOREACTIVITY OF HYDRATED COMPLEXES:
 RELEVANCE TO ATMOSPHERIC CHEMISTRY AND CLIMATE
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: V VAIDA
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30470 **UNIV OF COLORADO - BOULDER**
 A MULTI-SENSOR APPROACH FOR ASSESSMENT OF CUMULATIVE IMPACTS
 AND ENVIRONMENTAL CHANGE ON THE ALASKA
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: J MASLANIK
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30507 **UNIV OF COLORADO - BOULDER**
 DERIVATION OF OZONE PHOTOCHEMICAL LOSS BY COMBINING SATELLITE
 DATA & 3-D CHEMICAL TRANSPORT
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C RANDELL
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30515 **UNIV OF COLORADO - BOULDER**
 REGIONAL SCALING OF BIOGEOCHEMISTRY IN A LARREA TRIDENTATA
 ECOTONE:
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C WESSMAN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30516 **UNIV OF COLORADO - BOULDER**
 DEVELOPMENT AND APPLICATION OF A SIZE AND CHEMICAL
 COMPOSITION-RESOLVED AEROSOL FLUX MEASUREMENT
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J JIMENEZ
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30519 **UNIV OF COLORADO - BOULDER**
 TOPOGRAPHIC FORCINGS ON CLIMATE STUDENT: KATHERINE DAYEM
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P MOLNAR
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40072 **UNIV OF COLORADO - BOULDER**
 COLORADO SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 02/09/2001 - 01/31/2005 FY03: \$580,750 Total: \$1,590,868
Prin. Invest.: E R HANSEN
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50232 **UNIV OF COLORADO - BOULDER**
 TIDES AND ZONAL MEAN FROM SATELLITE-BASED MEASUREMENTS:
 ANALYSIS TECHNIQUES
 05/27/1999 - 06/30/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: J FORBES
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50241 **UNIV OF COLORADO - BOULDER**
 PROBING CORONAL STRUCTURE & VARIABILITY IN ACTIVE BINARY
 SYSTEMS
 06/03/1999 - 06/30/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: A BROWN
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50242 **UNIV OF COLORADO - BOULDER**
 MAPPING THE DETAILED STRUCTURE OF THE LOCAL INTERSTELLAR
 MEDIUM
 06/03/1999 - 06/30/2002 FY03: -\$1,171 Total: \$64,829
Prin. Invest.: J LINSKY
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50273 **UNIV OF COLORADO - BOULDER**
 ATMOSPHERIC MODELING AND INFRARED OBSERVATIONS OF TRANSITING
 EXTRASOLAR PLANET/STUDENT: L. JEREMY RI
 06/08/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: L ESPOSITO
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50294 UNIV OF COLORADO - BOULDER
 DUST DYNAMICS IN PHOTOELECTRON LAYERS NEAR SURFACE IN SPACE/STUDENT: AMANDA SICKAFOOSE
 06/26/2000 - 06/30/2003 FY03: \$0 Total: \$64,000
Prin. Invest.: J E COLDWELL
Tech. Officer: GSFC/L SMITH
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50320 UNIV OF COLORADO - BOULDER
 SATELLITE GRAVITY & LARGE-SCALE HYDROLOGY/STUDENT: SEAN SWENSON
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: J WAHR
Tech. Officer: GSFC/M WEI
 CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50337 UNIV OF COLORADO - BOULDER
 ASTROBIOLOGICAL AND GEOLOGICAL IMPLICATIONS OF DIAPIRIC TRANSPORT WITHIN EUROPA AND GANYMEDE
 05/04/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: R RAPPALARDO
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50340 UNIV OF COLORADO - BOULDER
 A NARROW BAND FAR ULTRAVIOLET IMAGING SPECTROGRAPH FOR INTERSTELLAR SHOCKS (STUDENT: MATTHEW BEASLEY)
 05/14/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J GREEN
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50341 UNIV OF COLORADO - BOULDER
 NEW METHODS FOR HYPERSPECTRAL IMAGING IN THE VACCUM ULTRAVIOLET STUDENT: NATHANIEL CUNNINGHAM
 05/14/2001 - 07/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J GREEN
Tech. Officer: GSFC/K E BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50345 UNIV OF COLORADO - BOULDER
 ELECTROSTATIC DISCHARGES NEAR THE MARIAN SURFACE (STUDENT: CORINNE KRAUSS)
 05/14/2001 - 07/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: M HORANYI
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50350 UNIV OF COLORADO - BOULDER
 NUMERICAL ALGORITHMS FOR ALGORITHMS COMPUTING STUDENT: JULIA ZUEV
 05/08/2001 - 06/30/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: E ZWEIBEL
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50352 UNIV OF COLORADO - BOULDER
 PLANETARY-SCALE WAVES AND IONOSPHERE 'WEATHER' (STUDENT: GILBERT LICHSTEIN)
 05/09/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J FORBES
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50380 UNIV OF COLORADO - BOULDER
 PRODUCTION AND ANALYSIS OF EARLY EARTH THOLINS (STUDENT: MELISSA TRAINER)
 05/21/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: M A TOLBERT
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50384 UNIV OF COLORADO - BOULDER
 BOLOCAM MILLIMETER-WAVE GALAXY SURVEY STUDENT: GLENN LAURENT
 05/23/2002 - 05/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: J GLENN
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50389 UNIV OF COLORADO - BOULDER
 THE PHYSICS OF STRUCTURES IN SELF-GRAVITATING, COLLISIONAL RINGS (STUDENT: JOHN WEISS)
 06/03/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: G STEWART
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50397 UNIV OF COLORADO - BOULDER
 NEW STUDIES IN X-RAY OPTICS: INTERFEROMETRY AND DIFFUSE SPECTROSCOPY STUDENT: RANDALL MCENTAFFE
 06/12/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: W CASH
Tech. Officer: HQ/K BLANDING
 CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NGT 5 50416 UNIV OF COLORADO - BOULDER
 SIMULATIONS OF TURBULENT CONVECTION IN THE SUN: EXAMINING SUB-GRID-SCALE TURBULENCE STUDENT: M
 08/06/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: J TOOMRE
Tech. Officer: GSFC/W WAGNER
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50426 UNIV OF COLORADO - BOULDER
 VIRTUAL ENVIRONMENTS FOR PREFLIGHT ADAPTATION TO SPACE FLIGHT (STUDENT: KENNETH STROUD)
 08/14/2002 - 10/31/2002 FY03: -\$24,000 Total: \$0
Prin. Invest.: D KLAUS
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50442 UNIV OF COLORADO - BOULDER
 PARTICLE TRANSPORT IN MICROFLUIDIC DEVICES
 04/19/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R DAVIS
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50451 UNIV OF COLORADO - BOULDER
 INTERFEROMETRIC TECHNIQUES FOR THE LASER INTERFEROMETER SPACE ANTENNA (STUDENT: JASON PITT)
 04/29/2003 - 05/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P BENDER
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50475 **UNIV OF COLORADO - BOULDER**
 ATMOSPHERIC DYNAMICS OF EARTH AND MARS: A COMPARATIVE MODELING STUDY. GSRP STUDENT: NIRANJAN SHA
 05/05/2003 - 04/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J FORBES
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50478 **UNIV OF COLORADO - BOULDER**
 Z-SPEC: A COMPACT WAVEGUIDE SPECTROMETER FOR MEASURING REDSHIFTS OF LUMINOUS SUBMILLIMETER
 05/06/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J GLENN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52936 **UNIV OF COLORADO - BOULDER**
 4200012204 "PALEOCLIMATIC VARIABILITY AND THE HUMAN RESPONSE"
 07/01/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P SHEETS
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 71 – ANTHROPOLOGY

NGT 9 67 **UNIV OF COLORADO - BOULDER**
 DEVELOPMENT OF ULTRASONIC PHYSIOLOGICAL MEASUREMENT DEVICE & TECHNIQUES APPROPRIATE FOR SPACEFLIGHT
 02/14/2003 - 08/31/2003 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D M KLAUS
Tech. Officer: JSC/M C GREENISEN
CASE Category: 59 – LIFE SCIENCE, OTHER

NGT10 52624 **UNIV OF COLORADO - BOULDER**
 GRADUATE STUDENT RESEARCH PROGRAM GRADUATE STUDENT RESEARCH PROGRAM
 07/19/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D HOEHN
Tech. Officer: KSC/R WHEELER
CASE Category: 41 – AERONAUTICAL ENGR

NGT 2 52291 **UNIV OF COLORADO - DENVER**
 THE ROLE OF ANNEXIN II IN OSTEOBLASTIC DIFFERENTIATION
 06/24/2002 - 09/14/2003 FY03: -\$24,000 Total: \$0
Prin. Invest.: S NIELSON-PREISS
Tech. Officer: ARC/B J COLLINS, ARC/R GLOBUS
CASE Category: 59 – LIFE SCIENCE, OTHER

NGT 2 52301 **UNIV OF COLORADO - DENVER**
 THE ROLE OF ANNEXIN II IN OSTEOBLASTIC DIFFERENTIATION
 08/26/2003 - 08/31/2004 FY03: \$48,000 Total: \$48,000
Prin. Invest.: S NIELSEN-PREISS
Tech. Officer: ARC/B J COLLINS, ARC/R K GLOBUS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1176 **UNIV OF COLORADO AT COLORADO SPRINGS**
 DEVELOPMENT OF THE PSEUDO PILOTED AIRCRAFT SIMULATION (PPAS)
 05/05/2000 - 07/31/2002 FY03: \$0 Total: \$165,979
Prin. Invest.: P J GORDOR
Tech. Officer: ARC/T F ROMER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1297 **UNIV OF DENVER**
 IN SITU AEROSOL SIZE DISTRIBUTION MEASUREMENTS FROM THE ER-2 SAGE III VALIDATION & STUDIES OF OZONE
 03/09/1999 - 03/31/2004 FY03: \$0 Total: \$647,824
Prin. Invest.: J C WILSON
Tech. Officer: ARC/C P SCOFIELD, ARC/S S HIPSKIND
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1391 **UNIV OF DENVER**
 INFRARED REMOTE SENSING OF ATMOSPHERIC CONSTITUENTS
 01/19/2000 - 12/31/2002 FY03: \$0 Total: \$1,131,482
Prin. Invest.: F MURCRAE
Tech. Officer: ARC/E CONDON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1578 **UNIV OF DENVER**
 MEASURING AEROSOL SIZE DISTRIBUTION FROM THE NASA DC08 IN SOLVE II
 08/23/2002 - 12/14/2003 FY03: \$0 Total: \$153,583
Prin. Invest.: J M REEVES, J M WILSON
Tech. Officer: ARC/C P SCOFIELD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1616 **UNIV OF DENVER**
 LONG TERM INFRARED MEASUREMENTS OF ATMOSPHERIC CONSTITUENTS
 02/14/2003 - 02/14/2004 FY03: \$398,307 Total: \$398,307
Prin. Invest.: F J MURCRAE
Tech. Officer: ARC/R S HIPSKIND, ARC/C P SCOFIELD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11531 **UNIV OF DENVER**
 MEASUREMENTS OF PARTICLE COMPOSITION FROM 30 TO 2,000 NM ABOARD THE TWIN OTTER FOR THE CRYSTAL-1
 01/03/2002 - 12/14/2003 FY03: \$52,896 Total: \$132,377
Prin. Invest.: J M REEVES
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11533 **UNIV OF DENVER**
 IN SITU MEASUREMENT OF AEROSOL SIZE DISTRIBUTIONS AND COLLECTION OF PARTICLES FOR TEM ANALYSIS I
 01/03/2002 - 12/14/2003 FY03: \$121,613 Total: \$223,911
Prin. Invest.: J C WILSON
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 1 01061 **UNIV OF DENVER**
 COLLABORATIVE STUDY FOR ANALYSIS OF HIGH RESOLUTION INFRARED ATMOSPHERIC SPECTRA BETWEEN LARC & U DENVER
 09/10/2001 - 09/14/2003 FY03: \$55,000 Total: \$109,000
Prin. Invest.: A GOLDMAN
Tech. Officer: LARC/C P RINSLAND
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 506 **UNIV OF DENVER**
 "THE LENA INSTRUMENT ABOARD THE IMAGE SATELLITE"
 07/20/2000 - 07/31/2003 FY03: \$30,973 Total: \$81,979
Prin. Invest.: T M STEPHEN
Tech. Officer: GSFC/T MOORE
CASE Category: 11 – ASTRONOMY

CONNECTICUT

NASA'S UNIVERSITY PROGRAM

NCC 8 176 **UNIV OF DENVER**
INTERNATIONAL SPACE STATION METEOROID/ORBITAL DEBRIS HAZARD
ASSESSMENT AND SOFTWARE DEVELOPMENT.
12/22/1998 - 12/31/2002 FY03: \$0 Total: \$800,798
Prin. Invest.: J E WILLIAMSEN
Tech. Officer: MSFC/G D OLSEN
CASE Category: 42 – ASTRONAUTICAL ENGR

NGT 8 52894 **UNIV OF DENVER**
TEMPERATURE EFFECTS ON METEOROID DEBRIS PROTECTIVE STRUC-
TURES
08/29/2000 - 08/31/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: R AMME
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 11 – ASTRONOMY

NGT 9 71 **UNIV OF DENVER**
MICROGRAVITY TISSUE ENGINEERING
09/02/2003 - 11/30/2004 FY03: \$17,250 Total: \$17,250
Prin. Invest.: K MCALPINE
Tech. Officer: JSC/J DARDANO
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

CONNECTICUT

NAG 5 8650 **FAIRFIELD UNIV**
OPTIMIZING PERFORMANCE OF FAR-INFRARED PHOTOCONDUCTORS:
NEW APPROACH FOR INTERPRETATION & CALIBRATION
07/29/1999 - 01/31/2002 FY03: -\$121 Total: \$151,025
Prin. Invest.: N HAEGEL
Tech. Officer: GSFC/G MUCKLOW
CASE Category: 11 – ASTRONOMY

NAG 2 1434 **UNIV. OF CONNECTICUT HEALTH CENTER**
USE OF GFP TRANSGENES TO ASSESS OSTEOGENESIS PROGRESSION
IN INTACT BONE
08/29/2000 - 08/31/2004 FY03: \$87,500 Total: \$516,250
Prin. Invest.: D W ROWE
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5470 **UNIV. OF CONNECTICUT HEALTH CENTER**
HIGH THROUGHPUT METABOLIC PROFILING BY HETERONUCLEAR NMR
10/24/2001 - 06/30/2004 FY03: \$69,301 Total: \$135,301
Prin. Invest.: Z Y PENG
Tech. Officer: ARC/S LIANG, ARC/B A BIEGEL
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 1 01113 **UNIV OF CONNECTICUT**
PREDICTIONS OF FATIGUE LIFE AND DELAMINATION IN LIGHTWEIGHT
AEROSPACE COMPONENTS
08/16/2001 - 08/31/2003 FY03: \$0 Total: \$17,000
Prin. Invest.: K D MURPHY
Tech. Officer: LARC/J H ROBINSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1544 **UNIV OF CONNECTICUT**
DEVELOPMENT OF A LABORATORY FOR IMPROVING COMMUNICATION
BETWEEN AIR TRAFFIC CONTROLLERS AND PILOTS
03/29/2002 - 09/30/2003 FY03: \$530,320 Total: \$1,496,899
Prin. Invest.: A BRAMMER
Tech. Officer: ARC/E WENZEL
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1635 **UNIV OF CONNECTICUT**
MULTI LAYER MODEL BASED REASONING AND OPTIMIZATION TECHNIQUES
FOR INTEGRATED VEHICLE HEALTH MANAGEMENT
06/10/2003 - 05/31/2006 FY03: \$150,000 Total: \$150,000
Prin. Invest.: K R PATTIPATI
Tech. Officer: ARC/A PATTERSON-HINE, ARC/S LAU
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2880 **UNIV OF CONNECTICUT**
QUANTUM OPTICS STYLE THEORY FOR DEGENERATE BOSE AND FERMION
GASES
04/08/2003 - 11/30/2007 FY03: \$40,000 Total: \$40,000
Prin. Invest.: J JAVANAINEN
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 7915 **UNIV OF CONNECTICUT**
DECIPHERING THE MOLECULAR RECORD OF EARLY EVOLUTION
12/09/1998 - 07/31/2002 FY03: \$0 Total: \$147,100
Prin. Invest.: P J GOGARTEN
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 8602 **UNIV OF CONNECTICUT**
DEVELOPMENT OF PLANETARY REMOTE SENSING TECHNOLOGY FOR
APPLICATIONS TO TELEFORENSICS
06/21/1999 - 12/14/2001 FY03: -\$14 Total: \$140,606
Prin. Invest.: J S SCHWEITZER
Tech. Officer: GSFC/J I TROMBKA
CASE Category: 11 – ASTRONOMY

NAG 5 8636 **UNIV OF CONNECTICUT**
UNDERSTANDING THE ERROR CHARACTERISTICS OF PRECIPITATION
ESTIMATES FROM SPACE-BASED OBSERVING SYSTEMS
07/10/1999 - 09/30/2002 FY03: \$0 Total: \$326,864
Prin. Invest.: E N ANAGOSTOU
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9639 **UNIV OF CONNECTICUT**
INVESTIGATING THE ADEQUACY OF TRMM PRECIPITATION RADAR OBSER-
VATIONS FOR CALIBRATING GROUND-BASED WEATHER
06/02/2000 - 11/30/2003 FY03: \$0 Total: \$392,207
Prin. Invest.: E N ANAGOSTOU
Tech. Officer: GSFC/R J LAWRENECE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10599 **UNIV OF CONNECTICUT**
NASA PLANNING GRANT: LEARNING COMM OF TODAY & TOMORROW
03/14/2001 - 06/15/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: D MOSS
Tech. Officer: GSFC/M PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11143 **UNIV OF CONNECTICUT**
DEPLOYMENT OF A MOBILE POLARIMETRIC X-BAND RADAR & IN SITU
INSTRUMENTATION TO SUPPORT QPE...STUDIES
08/01/2001 - 07/31/2004 FY03: \$90,000 Total: \$225,000
Prin. Invest.: E N ANAGOSTOU
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11307 **UNIV OF CONNECTICUT**
 CREATION OF AN EARTH GRANT GEOSPATIAL TECHNOLOGY EXTENSION
 PROGRAM (ENVIRONMENTAL RESEARCH INS
 08/30/2001 - 08/31/2004 FY03: \$25,000 Total: \$50,000
Prin. Invest.: D CIVCO
Tech. Officer: GSFC/E SHEFFNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11470 **UNIV OF CONNECTICUT**
 USE OF SIMULATED SEQUENCE EVOLUTION IN AN ITERATIVE PARAMETRIC
 BOOTSTRAP ALGORITHM TO ASCERTAIN LONG
 12/14/2001 - 12/14/2004 FY03: \$43,700 Total: \$86,800
Prin. Invest.: J P GOGARTEN
Tech. Officer: GSFC/M MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 11527 **UNIV OF CONNECTICUT**
 MULTI-SENSOR PRECIPITATION ESTIMATION AND INVESTIGATING IMPROVEMENTS
 ON WEATHER AND CLIMATE ANALYSIS
 01/14/2002 - 01/31/2005 FY03: \$31,997 Total: \$126,997
Prin. Invest.: E N ANAGNOSTOU
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11713 **UNIV OF CONNECTICUT**
 DETECTION OF GUNPOWDER RESIDUE & BODY FLUIDS USING PORTABLE
 X-RAY FLUORESCENCE SYSTEMS
 02/26/2002 - 04/30/2003 FY03: \$0 Total: \$135,000
Prin. Invest.: J S SCHWEITZER
Tech. Officer: GSFC/J I TROMBKA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12367 **UNIV OF CONNECTICUT**
 HORIZONTAL GENE TRANSFER IN THERMOPHILIC BACTERIA: OCCURRENCE
 AND FUNCTIONAL IMPLICATIONS
 07/09/2002 - 06/30/2005 FY03: \$120,144 Total: \$233,907
Prin. Invest.: J GOGARTEN
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13390 **UNIV OF CONNECTICUT**
 DETECTION OF GUNPOWDER RESIDUE & BODY FLUIDS USING PORTABLE
 X-RAY FLUORESCENCE SYSTEMS
 05/13/2003 - 05/14/2005 FY03: \$121,500 Total: \$121,500
Prin. Invest.: J S SCHWEITZER
Tech. Officer: GSFC/J I TROMBKA
CASE Category: 13 – PHYSICS

NAG 5 13440 **UNIV OF CONNECTICUT**
 PHYLOGENETIC DIVERSITY AND COMPARATIVE PHYSIOLOGY OF
 INDEPENDENTLY-EVOLVEVISED LINEAGES OF DESERT G
 04/29/2003 - 04/30/2006 FY03: \$150,000 Total: \$150,000
Prin. Invest.: L LEWIS
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1428 **UNIV OF CONNECTICUT**
 BOSE-EINSTEIN CONDENSATE AND ATOM LASER: COHERENCE AND OPTICAL
 PROPERTIES
 02/02/1998 - 01/31/2003 FY03: \$0 Total: \$354,750
Prin. Invest.: J JAVANAINEN
Tech. Officer: MSFC/D HUBBARD
CASE Category: 13 – PHYSICS

NAG 9 1512 **UNIV OF CONNECTICUT**
 FORMALDEHYDE ANALYSIS
 05/01/2003 - 10/30/2003 FY03: \$30,059 Total: \$30,059
Prin. Invest.: T FILBURN
Tech. Officer: JSC/J GRAF
CASE Category: 44 – CIVIL ENGR

NAG10 329 **UNIV OF CONNECTICUT**
 BIOLOGICAL AND PHYSICAL CONSTRAINTS ON SEED DEVELOPMENT IN
 MICROGRAVITY
 05/19/2003 - 04/03/2006 FY03: \$25,010 Total: \$25,010
Prin. Invest.: M E MUSGRAVE
Tech. Officer: KSC/F AHMAY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG13 99001 **UNIV OF CONNECTICUT**
 BETTER LAND USE PLANNING FOR SUBURBANIZING NE, CREATING NETWORK
 OF GEOSPATIAL INFORMATION
 02/19/1999 - 02/18/2002 FY03: \$0 Total: \$1,099,576
Prin. Invest.: D CIVCO
Tech. Officer: SSC/C HILL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1067 **UNIV OF CONNECTICUT**
 PRODUCTION & CONSUMPTION OF BIOGENIC GASES IN MICROBIAL MATS
 07/17/2000 - 09/30/2002 FY03: \$0 Total: \$150,026
Prin. Invest.: P T VISSCHER
Tech. Officer: ARC/B M BEBOUT, ARC/D J DES MARIAS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5481 **UNIV OF CONNECTICUT**
 MICROBIAL SIGNATURES OF LIFE: BIOGENIC GASES AND MINERAL
 PRECIPITATES AS PARAMETERS TO ASSESS BACTER
 02/13/2002 - 02/29/2004 FY03: \$59,998 Total: \$99,996
Prin. Invest.: P T VISSCHER
Tech. Officer: ARC/D J DESMARAIS, ARC/B M BEBOUT
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 3 789 **UNIV OF CONNECTICUT**
 HEAT TRANSFER IN ROTATING THIN LIQUID FILMS INCLUDING NUCLEATE
 BOILING
 04/07/2000 - 11/30/2004 FY03: \$100,000 Total: \$330,000
Prin. Invest.: D FAGHRI
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NGT 1 01025 **UNIV OF CONNECTICUT**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/22/2001 - 06/30/2004 FY03: \$0 Total: \$22,000
Prin. Invest.: K D MURPHY
Tech. Officer: LARC/W K BELVIN
CASE Category: 42 – ASTRONAUTICAL ENGR

NGT 5 30369 **UNIV OF CONNECTICUT**
 INVESTIGATION OF CONTINUOUS THUNDERSTORM MONITORING OVER
 LARGE REGIONS USING SATELLITE INFRARED OBS
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: E ANAGNOSTOU
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

CONNECTICUT

NASA'S UNIVERSITY PROGRAM

NGT 5 30437 **UNIV OF CONNECTICUT**
 INVESTIGATING FLOOD PREDICTION UNCERTAINTY OF HYDROLOGIC
 MODELS DRIVEN BY SATELLITE RAINFALL DATABASE
 08/20/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: E N ANAGNOSTOU
Tech. Officer: GSFC/M WEI
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NGT10 52645 **UNIV OF CONNECTICUT**
 SELF-ASSEMBLY OF INORGANIC OXIDES
 08/01/2003 - 08/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S L SUIB
Tech. Officer: KSC/C F PARRISH
CASE Category: 12 - CHEMISTRY

NCC 5 601 **UNIV OF HARTFORD**
 CONNECTICUT NASA EPSCOR PROGRAM
 11/29/2001 - 11/30/2004 FY03: \$441,842 Total: \$757,788
Prin. Invest.: C SAHAY
Tech. Officer: GSFC/D DEYTROYE
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NGT 5 40093 **UNIV OF HARTFORD**
 CONNECTICUT SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/28/2001 - 06/30/2005 FY03: \$218,250 Total: \$704,456
Prin. Invest.: C SAJAY
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 4821 **WESLEYAN UNIV**
 PHOTOMETRIC STUDIES OF T TAURI STARS
 06/18/1997 - 08/31/2002 FY03: \$0 Total: \$254,400
Prin. Invest.: D HERBST
Tech. Officer: GSFC/DNAVA
CASE Category: 11 - ASTRONOMY

NAG 5 9064 **WESLEYAN UNIV**
 MEASURING THE GALACTIC POTENTIAL WITH NASA'S SPACE INTERFER-
 OMETRY MISSION - LTSA 99
 02/29/2000 - 02/14/2005 FY03: \$33,840 Total: \$144,380
Prin. Invest.: K V JOHNSTON
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 21 - MATHEMATICS

NAG 5 12001 **WESLEYAN UNIV**
 AUTONOMOUS MINERAL DETECTORS FOR MARS ROVERS AND LANDERS
 04/17/2002 - 04/14/2005 FY03: \$73,375 Total: \$116,778
Prin. Invest.: M S GILMORE
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 12502 **WESLEYAN UNIV**
 PHOTOMETRIC STUDIES OF T TAURI STARS
 08/27/2002 - 08/31/2005 FY03: \$74,000 Total: \$114,000
Prin. Invest.: W HERBST
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 - ASTRONOMY

NAG 2 1433 **YALE UNIV**
 EFFECTS OF SPACE FLIGHT ON DROSOPHILA NEURAL DEVELOPMENT
 08/29/2000 - 09/30/2002 FY03: \$0 Total: \$209,415
Prin. Invest.: H S KESHISHIAN
Tech. Officer: ARC/D R BUBENHEIM, ARC/M F VASQUEZ
CASE Category: 51 - BIOLOGY (EXCLUDING ENVIR)

NAG 3 2262 **YALE UNIV**
 COMPUTATIONAL AND EXPERIMENTAL STUDY OF ENERGETIC MATERIALS
 IN A COUNTERFLOW MICROGRAVITY ENVIRONMENT
 04/27/1999 - 04/06/2004 FY03: \$22,497 Total: \$304,051
Prin. Invest.: M D SMOOKE
Tech. Officer: GRC/D L URBAN
CASE Category: 49 - ENGINEERING, OTHER

NAG 3 2377 **YALE UNIV**
 STUDIES OF THE DYNAMIC CONTROL AND EVAPORATION OF THREE
 DIMENSIONAL DROPLET ARRAYS
 04/07/2000 - 05/31/2003 FY03: \$0 Total: \$217,000
Prin. Invest.: R E APFEL
Tech. Officer: GRC/R ROGERS
CASE Category: 49 - ENGINEERING, OTHER

NAG 3 2477 **YALE UNIV**
 FLOWS OF WET FOAMS AND CONCENTRATED EMULSIONS FLOWS OF WET
 FOAMS AND CONCENTRATED EMULSIONS
 07/24/2000 - 11/30/2003 FY03: \$105,000 Total: \$332,000
Prin. Invest.: D LOEWENBERG
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 - ENGINEERING, OTHER

NAG 3 2704 **YALE UNIV**
 DROP COALESCENCE: DRAINAGE AND STABILIZATION OF THIN LIQUID
 FILMS
 02/12/2002 - 11/30/2005 FY03: \$67,053 Total: \$135,917
Prin. Invest.: D BLAWZDZIEWICZ
Tech. Officer: GRC/M HASAN
CASE Category: 49 - ENGINEERING, OTHER

NAG 3 2722 **YALE UNIV**
 BUBBLE-SCALE MODELING OF FOAM DRAINAGE BUBBLE-SCALE MODEL-
 ING OF FOAM DRAINAGE
 03/05/2002 - 12/31/2005 FY03: \$72,150 Total: \$135,897
Prin. Invest.: D LOEWENBERG
Tech. Officer: GRC/D F CHAO
CASE Category: 49 - ENGINEERING, OTHER

NAG 5 5255 **YALE UNIV**
 X-RAY SINGLE-PHOTON SPECTROMETERS X-RAY SINGLE-PHOTON SPEC-
 TROMETERS
 02/18/2000 - 02/03/2003 FY03: \$0 Total: \$515,000
Prin. Invest.: D E PROBER
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 - PHYSICS

NAG 5 6404 **YALE UNIV**
 OBSERVATIONAL STUDIES OF DYNAMICAL EFFECTS IN GLOBAL CLUS-
 TERS
 11/04/1997 - 08/31/2003 FY03: \$0 Total: \$541,000
Prin. Invest.: C BAILYN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 8406 **YALE UNIV**
 MODELING CONVECTION IN STARS; IMPROVING STELLAR MODELS FOR
 STELLAR POPULATION SYNTHESIS (ATP-
 03/15/1999 - 03/14/2003 FY03: \$0 Total: \$298,261
Prin. Invest.: P F DEMARQUE
Tech. Officer: GSFC/D K WEST
CASE Category: 11 - ASTRONOMY

NAG 5 8589 **YALE UNIV**
 PHOTON-COUNTING DETECTORS FOR SUBMILLIMETER IMAGING AND SPECTROSCOPY.
 07/08/1999 - 07/14/2002 FY03: \$0 Total: \$505,559
Prin. Invest.: R J SCHOELKOPF
Tech. Officer: GSFC/G MUCKLOW
CASE Category: 11 – ASTRONOMY

NAG 5 9316 **YALE UNIV**
 LANDSCAPE CHANGES IN THE MIDDLE EAST: A REGIONAL ASSESSMENT USING REMOTE SENSING
 03/28/2000 - 03/31/2004 FY03: \$131,667 Total: \$1,160,000
Prin. Invest.: R SMITH
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9437 **YALE UNIV**
 CHARACTERIZATION OF HUMID-FOREST & SAVANNA ECOREGIONS OF WEST & CENTRAL AFRICA USING SATELLITE SENSING
 04/13/2000 - 04/30/2004 FY03: \$58,748 Total: \$571,593
Prin. Invest.: M ASHTON
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9554 **YALE UNIV**
 RNA MODIFYING ENZYMES: DETERMINANTS OF DESIGN AND EVOLUTION OF BIOLOGICAL INFORMATION PROCESSING
 05/04/2000 - 04/30/2003 FY03: \$110,000 Total: \$323,620
Prin. Invest.: D SOLL
Tech. Officer: GSFC/M MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 9839 **YALE UNIV**
 INVESTIGATIONS OF THE TROPICAL TROPOPAUSE REGION
 11/16/2000 - 12/31/2003 FY03: \$73,027 Total: \$411,813
Prin. Invest.: S SHERWOOD
Tech. Officer: GSFC/M R SCHOEBERL
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10439 **YALE UNIV**
 DEVELOPMENT OF AN ATOM INTERFEROMETER GRAVITY GRADIENT METER FOR SPACE FLIGHT, PROPOSAL 1258
 03/13/2001 - 12/31/2002 FY03: -\$151,205 Total: \$322,970
Prin. Invest.: P KASEVICH
Tech. Officer: GSFC/N J DENNEHY
CASE Category: 13 – PHYSICS

NAG 5 10755 **YALE UNIV**
 FABRICATION AND CHARACTERIZATION OF SUBMILLIMETER SINGLE-PHOTON COUNTERS
 04/20/2001 - 04/30/2003 FY03: \$0 Total: \$175,000
Prin. Invest.: R J SCHOELKOPF
Tech. Officer: GSFC/F HERRERO
CASE Category: 13 – PHYSICS

NAG 5 10912 **YALE UNIV**
 RING-DIAGRAM ANALYSIS OF THE SOLAR SURFACE LAYERS
 05/14/2001 - 05/31/2004 FY03: \$51,042 Total: \$157,358
Prin. Invest.: S BASU
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11335 **YALE UNIV**
 CHANGES INFLUENCE OF HUMANS, CLIMATE, AND FIRE ON FOREST ECOSYSTEMS AND CARBON DYNAMICS IN INDONESIA
 09/06/2001 - 09/14/2004 FY03: \$275,099 Total: \$549,632
Prin. Invest.: L M CURRAN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11425 **YALE UNIV**
 PHOTO-COUNTING DETECTORS FOR SUBMILLIMETER IMAGING AND SPECTROSCOPY
 12/03/2001 - 12/31/2004 FY03: \$240,000 Total: \$470,000
Prin. Invest.: R J SCHOELKOPF
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 13 – PHYSICS

NAG 5 12056 **YALE UNIV**
 INVESTIGATION OF DEEP CUMULUS FORMATION DURING CRYSTALLIZATION
 04/19/2002 - 04/30/2004 FY03: \$0 Total: \$14,952
Prin. Invest.: S SHERWOOD
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12689 **YALE UNIV**
 GRANT TITLE P/F/E, AN AQUAMARKER FOR MARS
 12/09/2002 - 11/30/2004 FY03: \$40,000 Total: \$40,000
Prin. Invest.: J GREENWOOD
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12873 **YALE UNIV**
 THE PHYSICS OF THE INNER JETS IN RADIO-LOUD AGN (LTA 99)
 02/20/2003 - 06/30/2005 FY03: \$147,129 Total: \$147,129
Prin. Invest.: C URRY
Tech. Officer: GSFC/R J OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 13299 **YALE UNIV**
 3D SIMULATIONS OF STELLAR CONVECTION: APPLICATIONS TO ASTEROSEISMOLOGY AND STELLAR EVOLUTION
 04/05/2003 - 03/31/2006 FY03: \$95,098 Total: \$95,098
Prin. Invest.: P DEMARQUE
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13336 **YALE UNIV**
 LIGHTCURVES OF SOFT X-RAY TRANSIENTS (ADP 2001)
 04/10/2003 - 04/14/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: C D BAILYN
Tech. Officer: GSFC/R J OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 13369 **YALE UNIV**
 COLLABORATIVE: ROTATION PERIODS AND OPPOSITION SURFACES OF SMALL ICY BODIES IN THE OUTER SOLAR SYSTEM
 04/17/2003 - 04/14/2006 FY03: \$50,000 Total: \$50,000
Prin. Invest.: D RABINOWITZ
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

DELAWARE

NASA'S UNIVERSITY PROGRAM

NAG 5 13530 **YALE UNIV**
 PARTICIPATION IN X-RAY ASTRONOMY PROGRAM
 05/13/2003 - 05/14/2005 FY03: \$65,000 Total: \$65,000
Prin. Invest.: A SZYMKOWIAK
Tech. Officer: GSFC/R L KELLEY
CASE Category: 13 – PHYSICS

NAG 5 13777 **YALE UNIV**
 OPTICAL-TRIGGERED OBSERVATIONS OF THE EARLY STAGES OF AN
 OUTBURST OF A SOFT X-RAY TRANSIENT
 09/30/2003 - 09/30/2004 FY03: \$19,000 Total: \$19,000
Prin. Invest.: C D BAILYN
Tech. Officer: GSFC/J H SWANK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1443 **YALE UNIV**
 R/S ATOM INTERFEROMETRY IN A MICROGRAVITY ENVIRONMENT
 02/06/1998 - 01/31/2003 FY03: \$0 Total: \$470,000
Prin. Invest.: M A KASEVICH
Tech. Officer: MSFC/D HUBBARD
CASE Category: 13 – PHYSICS

NAG 8 1767 **YALE UNIV**
 ATOM INTERFEROMETER TEST OF THE EQUIVALENCE PRINCIPLE
 05/14/2001 - 05/13/2005 FY03: \$0 Total: \$310,000
Prin. Invest.: M A KASEVICH, L MALEKI
Tech. Officer: MSFC/D HUBBARD
CASE Category: 13 – PHYSICS

NCC 2 1229 **YALE UNIV**
 DOMAIN-SPECIFIC SELF-ADAPTIVE SOFTWARE
 03/26/2001 - 08/31/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: P HUDAK
Tech. Officer: ARC/R MORRIS
CASE Category: 22 – COMPUTER SCIENCE

NCC 3 691 **YALE UNIV**
 COMBUSTION OF INDIVIDUAL BUBBLES AND SUBMERGED GAS JETS IN
 LIQUID FUELS
 03/24/1999 - 06/30/2003 FY03: \$0 Total: \$401,800
Prin. Invest.: D E ROSNER
Tech. Officer: GRC/K SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 121 **YALE UNIV**
 NOISE & SENSITIVITY OF SQPC SUBMILLIMETER DETECTORS/STUDENT:
 JOHN D. TEUFEL
 05/31/2001 - 06/30/2004 FY03: \$37,872 Total: \$83,872
Prin. Invest.: D SCHOELKOPF
Tech. Officer: GSFC/M S BURRELL
CASE Category: 13 – PHYSICS

NGT 5 30371 **YALE UNIV**
 ENVIRONMENTAL ASSESSMENT OF HUMAN HEALTH RISK: SPATIAL AND
 TEMPORAL MODELS OF LYME DISEASE
 08/14/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: D FISH
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30457 **YALE UNIV**
 IMPLICATIONS OF FEEDBACK BETWEEN ENSO & ANTHROPOGENIC
 DISTURBANCE ON ECOSYSTEM FUNCTION AND RESILIENCE
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: L M CURRAN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50287 **YALE UNIV**
 GLOBAL CLUSTER SYSTEMS AS PROBES OF GALAXY FORMATION
 (STUDENT: KATHERINE RHODE)
 06/22/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: C E BAILYN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50467 **YALE UNIV**
 2ND YEAR DOCTORAL CANDIDATE (STUDENT: MATTHEW REES E)
 05/01/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D PROBER
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

DELAWARE

NAG 5 5221 **UNIV OF DELAWARE**
 GRANT NAG5-5221 BALLOON AIR CHERENKOV (BACH) PI PROF PAUL
 EVENSON
 03/16/1999 - 03/11/2004 FY03: \$0 Total: \$475,000
Prin. Invest.: P A EVENSON
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5390 **UNIV OF DELAWARE**
 "ANITA: ANTARCTIC IMPULSIVE TRANSIENT ANTENNA" FIRST YEAR OF
 FIVE YEAR GRANT
 04/04/2003 - 09/30/2008 FY03: \$175,000 Total: \$175,000
Prin. Invest.: D SECKEL
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 9116 **UNIV OF DELAWARE**
 MARS GLOBAL SURVEYOR DATA ANALYSIS AND INTERPRETATION
 02/28/2000 - 08/31/2002 FY03: \$0 Total: \$20,000
Prin. Invest.: N F NESS
Tech. Officer: GSFC/M H ACUNA
CASE Category: 13 – PHYSICS

NAG 5 10911 **UNIV OF DELAWARE**
 COMPARATIVE STUDY OF INTERPLANETARY MAGNETIC FIELD TURBU-
 LENCE
 05/11/2001 - 05/31/2004 FY03: \$99,230 Total: \$286,105
Prin. Invest.: C W SMITH
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10919 **UNIV OF DELAWARE**
 HIGHEST ENERGY COSMIC RAYS
 05/17/2001 - 05/31/2004 FY03: \$93,561 Total: \$274,521
Prin. Invest.: T STANLEY
Tech. Officer: GSFC/RJ OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11095 **UNIV OF DELAWARE**
 FUV DIAGNOSTICS OF STRUCTURE IN HOT-STAR WINDS (FUSE 1999)
 07/24/2001 - 07/31/2004 FY03: \$0 Total: \$20,750
Prin. Invest.: S P OWOCKI
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11228 **UNIV OF DELAWARE**
 MAGNETIC FIELDS ON OB STARS (ATP 2000)
 08/15/2001 - 08/14/2004 FY03: \$10,655 Total: \$31,965
Prin. Invest.: D MULLAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11232 **UNIV OF DELAWARE**
 THE SPACE INFORMATION NETWORKING ARCHITECTURE FOR FUTURE
 NASA SCIENCE MISSIONS
 08/15/2001 - 01/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: C SHEN
Tech. Officer: GSFC/J RASH
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 11452 **UNIV OF DELAWARE**
 A HYBRID APPROACH FOR EVALUATING AND PREDICTING IN TERACTIONS
 BETWEEN THE SEASONAL SNOW PACK AND THE
 12/27/2001 - 12/31/2004 FY03: \$0 Total: \$90,126
Prin. Invest.: D J LEATHERS
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11522 **UNIV OF DELAWARE**
 SEARCH FOR SHOCK-METAMORPHOSED GRAINS IN PRECAMBRIAN SPE-
 RULE LAYERS
 12/31/2001 - 01/14/2004 FY03: \$38,800 Total: \$85,200
Prin. Invest.: B P GLASS
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11603 **UNIV OF DELAWARE**
 INTERPLANETARY TURBULENCE AND PARTICLE TRANSPORT
 01/22/2002 - 01/31/2005 FY03: \$87,501 Total: \$176,873
Prin. Invest.: W MATHAEUS
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11630 **UNIV OF DELAWARE**
 OBSERVATIONAL STUDIES OF THE SOLAR CORONA
 02/19/2002 - 04/30/2002 FY03: \$0 Total: \$5,376
Prin. Invest.: D MULLAN
Tech. Officer: GSFC/J DAVILA
CASE Category: 11 – ASTRONOMY

NAG 5 11773 **UNIV OF DELAWARE**
 APPLICATION OF SATELLITE ALTIMETER DATA TO STUDIES OF SURFACE
 HEAT FLUX AND UPPER OCEAN PROCESSES
 02/26/2002 - 02/28/2003 FY03: \$0 Total: \$80,545
Prin. Invest.: X YAN
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11886 **UNIV OF DELAWARE**
 THE PHYSICAL CONDITIONS IN GRAND DESIGN STELLAR WIND VARIABIL-
 ITY.
 03/27/2002 - 03/31/2004 FY03: \$0 Total: \$34,900
Prin. Invest.: S P OWOCKI
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12323 **UNIV OF DELAWARE**
 DB WHITE DWARFS (FUSE 01)
 08/07/2002 - 08/14/2004 FY03: \$0 Total: \$27,170
Prin. Invest.: J L PROVENCAL
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12628 **UNIV OF DELAWARE**
 MODELING THE INTERACTION OF STELLAR WINDS AND PLAN ETARY
 NEBULAE WITH A PARTIALLY IONIZED INTERSTEL
 10/07/2002 - 09/30/2005 FY03: \$4,700 Total: \$4,700
Prin. Invest.: H MUELLER
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12745 **UNIV OF DELAWARE**
 VARIABILITY OF MONSOON AND OCEAN RESPONSE IN THE SOUTH CHINA
 SEA: A MULTI-SENSOR AND NUMERICAL STUD
 01/24/2003 - 01/31/2006 FY03: \$146,182 Total: \$146,182
Prin. Invest.: X YAN
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NAG 8 1427 **UNIV OF DELAWARE**
 DROPLETS OF 3HE-4HE MIXTURES
 02/11/1998 - 01/31/2003 FY03: \$0 Total: \$424,000
Prin. Invest.: S T CHUI
Tech. Officer: MSFC/J W POE
CASE Category: 13 – PHYSICS

NAG 8 1830 **UNIV OF DELAWARE**
 SUFACTANT STRUCTURES GUIDE MEMBRANE PROTEIN CRYSTALLIZATION
 10/10/2001 - 11/30/2004 FY03: \$97,000 Total: \$413,000
Prin. Invest.: E W KALER, C ROBINSON, M LENHOFF
Tech. Officer: MSFC/B GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 01923 **UNIV OF DELAWARE**
 4200011697 SYNTHESIS, CHARACTERIZATION AND PRO- CESSING OF
 GENETICALLY ENGINEERED POLYMERS
 05/23/2003 - 05/31/2007 FY03: \$110,977 Total: \$110,977
Prin. Invest.: J F RABOLT, R D HOLSTEN
Tech. Officer: MSFC/B V GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 3 843 **UNIV OF DELAWARE**
 SOOT FORMATION IN PURELY-CURVED PREMIXED FLAMES AN D LAMINAR
 FLAME SPEEDS OF SOOT-FORMING FLAMES
 12/28/2000 - 11/30/2004 FY03: \$35,000 Total: \$96,500
Prin. Invest.: D WANG
Tech. Officer: GRC/K R SACKSTER
CASE Category: 49 – ENGINEERING, OTHER

DISTRICT OF COLUMBIA

NASA'S UNIVERSITY PROGRAM

NGT 5 50367 **UNIV OF DELAWARE**
 SENSOR DESIGN AND CONTROL FOR THE REAL-TIME OPTIMIZATION OF
 CULTURING CONDITIONS, ANALYSIS AND CONT
 06/12/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: P DHUJATI
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 3530 **UNIV OF DELAWARE - BARTOL RESEARCH INST**
 MULTI-SPECTRAL DIAGNOSTICS AND DYNAMICAL MODELLING STAR
 WINDS
 12/13/1996 - 11/30/2002 FY03: \$0 Total: \$489,078
Prin. Invest.: S P OWOCKI
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8014 **UNIV OF DELAWARE - BARTOL RESEARCH INST**
 GROUND-LEVEL SOLAR COSMIC RAY DATA FROM SOLAR CYCLE 19
 01/13/1999 - 12/31/2001 FY03: -\$1,684 Total: \$20,816
Prin. Invest.: R PYLE
Tech. Officer: GSFC/J H BREDEKAMP
CASE Category: 11 – ASTRONOMY

NAG 5 8134 **UNIV OF DELAWARE - BARTOL RESEARCH INST**
 RESEARCH IN "TURBULENCE AND TRANSPORT PROCESSES" THIS IS THE
 FIRST YEAR OF A 3-YEAR FUNDING CYCLE.
 02/04/1999 - 02/14/2004 FY03: \$0 Total: \$601,954
Prin. Invest.: W H MATTAEUS
Tech. Officer: GSFC/J GREBOWSKY
CASE Category: 13 – PHYSICS

NAG 5 8827 **UNIV OF DELAWARE - BARTOL RESEARCH INST**
 PARTICIPATION IN NASA-GSFC MAGNETOMETER EXPERIMENT ON MARS
 GLOBAL SURVEYOR
 09/07/1999 - 11/30/2002 FY03: \$0 Total: \$28,836
Prin. Invest.: N F NESS
Tech. Officer: GSFC/M H ACUNA
CASE Category: 13 – PHYSICS

NGT 5 40122 **UNIV OF DELAWARE - BARTOL RESEARCH INST**
 DELAWARE SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 03/26/2001 - 03/31/2005 FY03: \$305,463 Total: \$963,448
Prin. Invest.: N F NESS
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

DISTRICT OF COLUMBIA

NAG 2 1456 **GEORGE WASHINGTON UNIV**
 ADAPTIVE UNSTRUCTURED GRID PARALLEL BENCHMARK
 02/05/2001 - 04/30/2002 FY03: \$0 Total: \$48,665
Prin. Invest.: M MYERS
Tech. Officer: ARC/R BISWAS, ARC/J YAN
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 5353 **GEORGE WASHINGTON UNIV**
 THE SHAPE OF A STATICALLY DETERMINATE PRESSURIZED PUMPKIN
 BALLOON AND THE ANALYSIS OF RELATED UNDE
 01/16/2002 - 12/31/2004 FY03: \$82,915 Total: \$141,175
Prin. Invest.: F BAGINSKI
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 8068 **GEORGE WASHINGTON UNIV**
 IMPROVED NUMERICAL MODELING OF LOW-DENSITY ATMOSPHERIC
 FLOW ON IO
 01/29/1999 - 06/30/2002 FY03: -\$958 Total: \$72,898
Prin. Invest.: D A LEVIN
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 8287 **GEORGE WASHINGTON UNIV**
 MARS GLOBAL SURVEYOR ACCELEROMETER EXPERIMENT: STUDY OF
 MARS THERMOSPHERE AND COUPLING
 02/22/1999 - 03/31/2002 FY03: \$0 Total: \$146,500
Prin. Invest.: G M KEATING
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9550 **GEORGE WASHINGTON UNIV**
 PRECIPITATION STUDIES USING THE TRMM MICROWAVE LINK FACILITY
 05/30/2000 - 12/31/2003 FY03: \$40,833 Total: \$292,467
Prin. Invest.: R H LANG
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10417 **GEORGE WASHINGTON UNIV**
 DETECTION OF GUNPOWDER RESIDUE USING X-RAY FLUORESCENCE
 AND ELECTRON MICROSCOPY.
 02/21/2001 - 06/30/2002 FY03: -\$879 Total: \$31,036
Prin. Invest.: D A ROWLEY
Tech. Officer: GSFC/J I TROMBKA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10539 **GEORGE WASHINGTON UNIV**
 SOCIOECONOMIC BENEFITS OF NASA'S EARTH SCIENCE AND APPLICA-
 TIONS RESEARCH. PROPOSAL, JAUP, C
 03/16/2001 - 06/30/2002 FY03: \$0 Total: \$182,761
Prin. Invest.: D A WILLIAMSON
Tech. Officer: GSFC/E TORREZ-MARTINEZ
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 11101 **GEORGE WASHINGTON UNIV**
 PARALLEL DIMENSION REDUCTION OF HYPERSPECTRAL DATA
 07/26/2001 - 07/31/2004 FY03: \$30,000 Total: \$105,967
Prin. Invest.: T EL-GHAZAWI
Tech. Officer: GSFC/J LE MOIGNE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 11175 **GEORGE WASHINGTON UNIV**
 DATA ANALYSIS OF MGS ACCELEROMETER EXPERIMENT TO CHARACTER-
 IZE THE MARS ATMOSPHERE AT AEROBRAKING A
 08/30/2001 - 03/14/2004 FY03: \$0 Total: \$120,000
Prin. Invest.: G KEATING
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11317 **GEORGE WASHINGTON UNIV**
 SCIENCE AND ENGINEERING APPRENTICESHIP PROGRAM
 10/01/2001 - 09/30/2004 FY03: \$77,426 Total: \$110,468
Prin. Invest.: M PHILLIPS
Tech. Officer: GSFC/G BLANEY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NASA'S UNIVERSITY PROGRAM

DISTRICT OF COLUMBIA

NAG 5 11343 **GEORGE WASHINGTON UNIV**
 DEVELOPMENT OF INDIVIDUALLY ADDRESSABLE MICRO-MIRR OR ARRAYS
 FOR SPACE APPLICATIONS
 09/27/2001 - 09/30/2002 FY03: -\$1,948 Total: \$51,738
Prin. Invest.: M ZAGHLOUL
Tech. Officer: GSFC/M DUTTA
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 11593 **GEORGE WASHINGTON UNIV**
 SOCIOECONOMIC BENEFITS OF NASA'S EARTH SCIENCE AND APPLICA-
 TIONS RESEARCH
 01/16/2002 - 02/28/2003 FY03: \$0 Total: \$96,373
Prin. Invest.: R WILLIAMSON
Tech. Officer: GSFC/E TORRES-MARTINEZ
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 11834 **GEORGE WASHINGTON UNIV**
 ANALYSIS OF LONG-TERM DECLINE IN THERMOSPHERIC DEN SITIES AND
 INTERPRETATION OF RESULTS
 03/07/2002 - 02/28/2005 FY03: \$0 Total: \$77,287
Prin. Invest.: G M KEATING
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11951 **GEORGE WASHINGTON UNIV**
 UNVEILING THE NATURE OF SOFT GAMMA REPEATERS AND M AGNETARS
 04/08/2002 - 10/14/2002 FY03: \$0 Total: \$9,141
Prin. Invest.: W PARKE
Tech. Officer: GSFC/J SWANK
CASE Category: 11 – ASTRONOMY

NAG 5 12264 **GEORGE WASHINGTON UNIV**
 MICROWAVE REMOTE SENSING OF SOIL MOISTURE UNDER CO RN.
 06/11/2002 - 12/31/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: R LANG
Tech. Officer: GSFC/P E O'NEIL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12594 **GEORGE WASHINGTON UNIV**
 DEVELOPMENT OF INDIVIDUALLY ADDRESSABLE MICRO-MIRR ORS AR-
 RAYS FOR SPACE APPLICATION
 09/27/2002 - 09/30/2003 FY03: \$0 Total: \$56,205
Prin. Invest.: M ZAGHLOUL
Tech. Officer: GSFC/M LI
CASE Category: 13 – PHYSICS

NAG 5 12805 **GEORGE WASHINGTON UNIV**
 UNVEILING THE NATURE OF SOFT GAMMA REPEATERS AND MAGNETARS,
 PART II
 02/26/2003 - 06/14/2003 FY03: \$8,568 Total: \$8,568
Prin. Invest.: W PARKE
Tech. Officer: GSFC/J SWANK
CASE Category: 11 – ASTRONOMY

NAG 5 13168 **GEORGE WASHINGTON UNIV**
 BENEFITING THE NATION THRU EARTH SCIENCE RESEARCH AND APPLI-
 CATIONS
 03/25/2003 - 03/31/2004 FY03: \$318,719 Total: \$318,719
Prin. Invest.: R A WILLIAMSON
Tech. Officer: GSFC/E TORRES
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 13186 **GEORGE WASHINGTON UNIV**
 SPECTRAL AND TEMPORAL SIGNATURES OF MAGNETARS
 03/28/2003 - 12/14/2003 FY03: \$38,242 Total: \$38,242
Prin. Invest.: W PARKE
Tech. Officer: GSFC/J SWANK
CASE Category: 11 – ASTRONOMY

NAG 5 13629 **GEORGE WASHINGTON UNIV**
 AIR FORCE ACADEMY ALUMNI GRADUATE EDUCATION IN SYSTEMS ENGI-
 NEERING AT GEORGE WASHINGTON UNIV
 08/28/2003 - 08/31/2004 FY03: \$70,318 Total: \$70,318
Prin. Invest.: S SARKANI
Tech. Officer: GSFC/M R BROWN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 13740 **GEORGE WASHINGTON UNIV**
 SEARCH FOR SPECTRAL SIGNATURES OF MAGNETARS
 09/25/2003 - 09/30/2004 FY03: \$14,500 Total: \$14,500
Prin. Invest.: W C PARKE
Tech. Officer: GSFC/J H SWANK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1185 **GEORGE WASHINGTON UNIV**
 DEVELOP TUNABLE DIODE LASER/CAVITY RING-DOWN SENSO R
 01/11/2000 - 03/09/2003 FY03: \$0 Total: \$223,534
Prin. Invest.: J H MILLER
Tech. Officer: NMO/D JAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1480 **GEORGE WASHINGTON UNIV**
 DEVELOPMENT OF CAVITY RING DOWN SENSOR FOR MEASURE ING
 SPACECRAFT AIR CONTAMINNTS
 01/13/2003 - 01/17/2006 FY03: \$0 Total: \$0
Prin. Invest.: J H MILLER
Tech. Officer: JSC/D JAN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 01480 **GEORGE WASHINGTON UNIV**
 DEVELOPMENT OF CAVITY RING DOWN SENSOR FOR MEASURE ING
 SPACECRAFT AIR CONTAMINNTS
 01/13/2003 - 01/17/2006 FY03: \$86,334 Total: \$86,334
Prin. Invest.: J H MILLER
Tech. Officer: NMO/D JAN
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 1 326 **GEORGE WASHINGTON UNIV**
 A PROGRAM OF RESEARCH IN FLIGHT DYNAMICS IN JIAFS
 01/27/1999 - 12/31/2002 FY03: -\$1 Total: \$346,103
Prin. Invest.: V KLEIN
Tech. Officer: LARC/J G BATTERSON
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 331 **GEORGE WASHINGTON UNIV**
 A COOPERATIVE PROGRAM OF RESEARCH & EDUCATION IN AEROSPACE
 VEHICLE MECHANICS AT JIAFS
 03/22/1999 - 12/31/2002 FY03: \$0 Total: \$1,203,563
Prin. Invest.: R H TOLSON
Tech. Officer: LARC/R W BUCHAN
CASE Category: 42 – ASTRONAUTICAL ENGR

DISTRICT OF COLUMBIA

NASA'S UNIVERSITY PROGRAM

NCC 1 370 **GEORGE WASHINGTON UNIV**
 EXPERIMENTS IN THE FLUID AND THERMAL SCIENCES
 02/10/2000 - 12/31/2002 FY03: \$13,803 Total: \$379,186
Prin. Invest.: A D CUTLER
Tech. Officer: LARC/A A AUSTENDER, LARC/M W SMITH
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 374 **GEORGE WASHINGTON UNIV**
 AEROACOUSTICS RESEARCH PROGRAM JIAFS
 02/15/2000 - 12/31/2002 FY03: -\$1 Total: \$232,827
Prin. Invest.: M K MYERS
Tech. Officer: LARC/C A POWELL
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 384 **GEORGE WASHINGTON UNIV**
 A RESEARCH PROGRAM IN FLIGHT SCIENCES AT THE NASA LANGLEY
 RESEARCH CENTER - JIAFS
 03/07/2000 - 12/31/2002 FY03: \$0 Total: \$505,505
Prin. Invest.: J L WHITESIDES
Tech. Officer: LARC/E WAGGONER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 387 **GEORGE WASHINGTON UNIV**
 A PROGRAM OF RESEARCH AND EDUCATION IN AERO-SPACE VEHICLE
 DESIGN, SYNTHESIS, AND OPTIMIZATION
 03/13/2000 - 12/31/2002 FY03: \$0 Total: \$500,127
Prin. Invest.: R R SANDUSKY
Tech. Officer: LARC/M D MOORE
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 01017 **GEORGE WASHINGTON UNIV**
 PROGRAM OF RESEARCH AND EDUCATION IN AEROSPACE STRUCTURES
 AT THE JOINT INST FORADVANCEMENT
 01/18/2001 - 12/31/2002 FY03: \$71,800 Total: \$710,793
Prin. Invest.: P A COOPER, R H TOLSON
Tech. Officer: LARC/K L BRINKLEY
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 1 01020 **GEORGE WASHINGTON UNIV**
 A CORE PROGRAM IN JIAFS
 02/02/2001 - 08/31/2003 FY03: \$0 Total: \$266,745
Prin. Invest.: J WHITESIDES
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 03003 **GEORGE WASHINGTON UNIV**
 AEROACOUSTICS RESEARCH PROGRAM
 04/04/2003 - 12/31/2003 FY03: \$59,159 Total: \$59,159
Prin. Invest.: M K MYERS
Tech. Officer: LARC/C A POWELL, LARC/F V HUTCHESON
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 03004 **GEORGE WASHINGTON UNIV**
 PROGRAM OF RESEARCH IN FLIGHT DYNAMICS
 04/01/2003 - 12/31/2003 FY03: \$82,145 Total: \$82,145
Prin. Invest.: V KLEIN
Tech. Officer: LARC/P C MURPHY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 03006 **GEORGE WASHINGTON UNIV**
 RESEARCH & EDUCATION TO ADVANCE DESIGN, SYNTHESIS AND OPTIMI-
 ZATION OF AEROSPACE SYSTEMS CONCEPTS
 03/03/2003 - 12/31/2003 FY03: \$165,863 Total: \$165,863
Prin. Invest.: R R SANDUSKY
Tech. Officer: LARC/R E MCKINLEY, LARC/W M KIMMEL
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 03008 **GEORGE WASHINGTON UNIV**
 RESEARCH & EDUCATION IN AEROSPACE STRUCTURES
 03/03/2003 - 12/31/2003 FY03: \$368,473 Total: \$368,473
Prin. Invest.: P A COOPER
Tech. Officer: LARC/L W JOHANSEN
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 1 03011 **GEORGE WASHINGTON UNIV**
 EXPERIMENTS IN THE THERMAL AND FLUID SCIENCES
 03/25/2003 - 12/31/2003 FY03: \$152,356 Total: \$152,356
Prin. Invest.: A D CUTLER
Tech. Officer: LARC/A H AUSLENDER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 03024 **GEORGE WASHINGTON UNIV**
 PROGRAM OF RESEARCH & EDUCATION IN AEROSPACE VEHICLE ME-
 CHANICS
 05/07/2003 - 12/31/2003 FY03: \$295,005 Total: \$295,005
Prin. Invest.: R H TOLSON, R C BLANCHARD
Tech. Officer: LARC/J W PAULSON
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 2 1323 **GEORGE WASHINGTON UNIV**
 ADAPTIVE UNSTRUCTURED GRID PARALLEL BENCHMARK
 03/12/2002 - 02/28/2003 FY03: \$0 Total: \$28,890
Prin. Invest.: M K MYERS
Tech. Officer: ARC/R BISWAS, ARC/B BIEGEL
CASE Category: 22 – COMPUTER SCIENCE

NCC 4 156 **GEORGE WASHINGTON UNIV**
 INFRARED THERMOGRAPHY FLIGHT EXPERIMENTATIONS INFRARED
 THERMOGRAPHY FLIGHT EXPERIMENTATIONS
 05/13/2002 - 04/30/2003 FY03: \$0 Total: \$25,446
Prin. Invest.: R C BLANCHARD
Tech. Officer: DFRC/D W BANKSE
CASE Category: 41 – AERONAUTICAL ENGR

NCC 5 436 **GEORGE WASHINGTON UNIV**
 PROGRAM FOR RESEARCH AND EDUCATION IN SPACE TECHNOLOGY
 (PREST)
 10/04/1999 - 01/31/2002 FY03: \$0 Total: \$192,253
Prin. Invest.: S A SARKANI
Tech. Officer: GSFC/D ASATO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 13476 **GEORGETOWN UNIV**
 ANALYSIS OF MARS ODYSSEY ACCELEROMETER DATA AT AER OBRAGING
 ALTITUDES AND COMPARISONS WITH MGS ACCELE
 05/01/2003 - 04/30/2005 FY03: \$72,000 Total: \$72,000
Prin. Invest.: G KEATING
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

<p>NAG 9 1366 GENE EXPRESSION OF HUMAN COLORECTAL CARCINOMA IN MICROGRAVITY 08/29/2001 - 09/30/2004 FY03: \$170,000 Total: \$380,000 <i>Prin. Invest.:</i> J M JESSUP <i>Tech. Officer:</i> JSC/D RISIN <i>CASE Category:</i> 43 – CHEMICAL ENGR</p>	<p>GEORGETOWN UNIV</p>	<p>NAG 5 10675 SUPPLEMENT TO THE CENTER FOR THE STUDY OF TERRESTRIAL AND EXTRATERRESTRIAL ATMOSPHERES (CSTEA) 03/27/2001 - 03/14/2002 FY03: \$0 Total: \$200,000 <i>Prin. Invest.:</i> A N THORPE <i>Tech. Officer:</i> GSFC/C PERSON <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>	<p>HOWARD UNIV</p>
<p>NCC 1 03025 RESEARCH PROGRAM IN FLIGHT SCIENCES 05/05/2003 - 12/31/2003 FY03: \$184,840 Total: \$184,840 <i>Prin. Invest.:</i> J L WHITESIDES <i>Tech. Officer:</i> LARC/E G WAGGONER <i>CASE Category:</i> 41 – AERONAUTICAL ENGR</p>	<p>GEORGETOWN UNIV</p>	<p>NAG 5 10838 PUBLIC SERVICE INTERN PROGRAM 05/11/2001 - 05/31/2002 FY03: \$0 Total: \$73,700 <i>Prin. Invest.:</i> M C WOODARD <i>Tech. Officer:</i> GSFC/D MENCHAN <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>	<p>HOWARD UNIV</p>
<p>NCC 2 5538 THE DEVELOPMENT OF A PROBABILISTIC RISK ANALYSIS MODEL TO SUPPORT THE INTEGRITY PROGRAMS GOAL OF RE 08/04/2003 - 12/31/2003 FY03: \$27,805 Total: \$27,805 <i>Prin. Invest.:</i> R DILLON-MERRILL <i>Tech. Officer:</i> ARC/H JONES, ARC/J LEVRI <i>CASE Category:</i> 49 – ENGINEERING, OTHER</p>	<p>GEORGETOWN UNIV</p>	<p>NAG 5 11118 TECHNOLOGY ASSESSMENT AND RELIABILITY CHARACTERIZATION OF III-V SEMICONDUCTOR MODFET DEVICE 08/07/2001 - 08/14/2003 FY03: \$0 Total: \$50,000 <i>Prin. Invest.:</i> D MOHAMMAD <i>Tech. Officer:</i> GSFC/A SHARMA <i>CASE Category:</i> 45 – ELECTRICAL ENGR</p>	<p>HOWARD UNIV</p>
<p>NAG 1 2019 STRUCTURE-FUNCTION RELATIONSHIPS OF IMPACT-MODIFIED CYANATE ESTER RESINS 03/13/1998 - 03/15/2002 FY03: \$0 Total: \$300,000 <i>Prin. Invest.:</i> W E COLLINS <i>Tech. Officer:</i> LARC/H L BELVIN, LARC/J W CONNELL <i>CASE Category:</i> 43 – CHEMICAL ENGR</p>	<p>HOWARD UNIV</p>	<p>NAG 5 12021 NASA/HBCU RENEWABLE ENERGY AND TEACHING UTILIZATION PROJECT 04/22/2002 - 04/30/2004 FY03: \$500,000 Total: \$1,067,166 <i>Prin. Invest.:</i> A THORPE <i>Tech. Officer:</i> GSFC/C PERSON <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>	<p>HOWARD UNIV</p>
<p>NAG 1 2148 CONTRIBUTION OF FLAP-SIDE EDGE VORTEX BURSTING TO AIRFRAME NOISE (NRA 98-LARC-5) 02/05/1999 - 11/04/2001 FY03: \$0 Total: \$217,274 <i>Prin. Invest.:</i> S T SMITH <i>Tech. Officer:</i> LARC/R R ANTOLIFF <i>CASE Category:</i> 41 – AERONAUTICAL ENGR</p>	<p>HOWARD UNIV</p>	<p>NAG 5 12110 MAGNETIC PROPERTIES OF PRIMITIVE CHONDRITES 05/14/2002 - 05/14/2004 FY03: \$0 Total: \$75,000 <i>Prin. Invest.:</i> A N THORPE <i>Tech. Officer:</i> GSFC/D MENCHAN <i>CASE Category:</i> 13 – PHYSICS</p>	<p>HOWARD UNIV</p>
<p>NAG 2 1526 A SEARCH FOR PORPHYRINS & METALLOPORPHYRINS IN THE MURCHISON METEORITE USING MALDI-TOF MASS SPECTRO 09/27/2001 - 09/30/2003 FY03: \$0 Total: \$60,778 <i>Prin. Invest.:</i> P HAMBRIGHT <i>Tech. Officer:</i> ARC/G COOPER, ARC/B J COLLINS <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>	<p>HOWARD UNIV</p>	<p>NAG 5 12172 NASA/GODDARD PUBLIC SERVICE INTERN PROGRAM 05/10/2002 - 04/30/2003 FY03: \$0 Total: \$53,600 <i>Prin. Invest.:</i> D WOODARD <i>Tech. Officer:</i> GSFC/D MENCHAN <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>	<p>HOWARD UNIV</p>
<p>NAG 3 2621 DETECTION, DIAGNOSIS, LOCATION AND RECOMMENDATION OF REMEDIAL ACTIONS FOR CORONA/SOFT FAULTS 05/24/2001 - 04/05/2004 FY03: \$93,517 Total: \$191,034 <i>Prin. Invest.:</i> D A MOMOH <i>Tech. Officer:</i> GRC/R M BUTTON <i>CASE Category:</i> 45 – ELECTRICAL ENGR</p>	<p>HOWARD UNIV</p>	<p>NAG 5 12241 DEVELOPMENT OF HYBRID BEO/WULF/APPLE MACINTOSH OPERATING SYSTEM X CLUSTER 05/28/2002 - 05/31/2003 FY03: \$0 Total: \$15,000 <i>Prin. Invest.:</i> T E SHURN <i>Tech. Officer:</i> GSFC/M G REPH <i>CASE Category:</i> 22 – COMPUTER SCIENCE</p>	<p>HOWARD UNIV</p>
<p>NAG 5 10371 NANOCOMPOSITE-BASED COMPACT THERMOMAGNETIC CRYOCOO LERS NRA PROPOSAL#1319 02/09/2001 - 02/14/2004 FY03: \$133,505 Total: \$369,677 <i>Prin. Invest.:</i> T HUBER <i>Tech. Officer:</i> GSFC/J TUTTLE <i>CASE Category:</i> 13 – PHYSICS</p>	<p>HOWARD UNIV</p>	<p>NAG 5 12674 EVALUATING IR RADIATIVE TRANSFER 11/18/2002 - 11/14/2005 FY03: \$99,983 Total: \$99,983 <i>Prin. Invest.:</i> E JOSEPH <i>Tech. Officer:</i> GSFC/W R HOEGY <i>CASE Category:</i> 11 – ASTRONOMY</p>	<p>HOWARD UNIV</p>
<p>NAG 5 13407 PUBLIC SERVICE INTERNSHIP PROGRAM 05/02/2003 - 04/30/2006 FY03: \$53,600 Total: \$53,600 <i>Prin. Invest.:</i> D WOODARD <i>Tech. Officer:</i> GSFC/D MENCHAN <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>	<p>HOWARD UNIV</p>		<p>HOWARD UNIV</p>

DISTRICT OF COLUMBIA

NASA'S UNIVERSITY PROGRAM

NAG 5 13653 **HOWARD UNIV**
 HOWARD UNIV WEST AFRICA RAINFALL ANALYSIS
 09/09/2003 - 09/15/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: E JOSEPH
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 00214 **HOWARD UNIV**
 HIERARCHICAL ALGORITHMS & THEIR EMBEDDED COMPUTATIONAL REAL-
 IZATION IN RECONFIGURABLE H/W.
 09/29/2000 - 09/28/2003 FY03: \$234,475 Total: \$708,344
Prin. Invest.: C GLOTZER
Tech. Officer: GSFC/J STEPHENS
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 184 **HOWARD UNIV**
 TERRESTRIAL AND EXTRATERRESTRIAL ATMOSPHERES
 03/12/1997 - 12/31/2002 FY03: \$0 Total: \$5,997,706
Prin. Invest.: A N THORPE
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 420 **HOWARD UNIV**
 CSTE A-HBCU ACACEMIC AND RESEARCH CONSORTIUM (CHARC)
 08/30/1999 - 08/31/2002 FY03: \$0 Total: \$1,125,000
Prin. Invest.: A THORPE
Tech. Officer: GSFC/W HOEGY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 556 **HOWARD UNIV**
 GODDARD SPACE FLIGHT CENTER/HOWARD UNIV FELL OWSHIP IN ATMO-
 SPHERIC SCIENCE (GOHFA S)
 05/24/2001 - 04/30/2004 FY03: \$220,000 Total: \$735,000
Prin. Invest.: S T SMITH
Tech. Officer: GSFC/W R HOEGY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 656 **HOWARD UNIV**
 HOWARD/GSFC METEORITIC CRATERS AND METEORITES PROJ ECT
 09/13/2002 - 09/14/2004 FY03: \$0 Total: \$35,938
Prin. Invest.: D N THORPE
Tech. Officer: GSFC/J L HARRINGTON
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 5 113 **HOWARD UNIV**
 SUPPORT OF THE 2001 ASEE-NASA SUMMER FACULTY FELLOWSHIP
 PROGRAM (AERONAUTICS & SPACE RESEA
 04/13/2001 - 03/31/2003 FY03: \$0 Total: \$354,000
Prin. Invest.: J B HALPERN
Tech. Officer: GSFC/M S BURRELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30505 **HOWARD UNIV**
 IMPACT OF SOIL MOISTURE INITIALIZATION ON SEASONAL PRECIPITATION
 FORECASTS IN WEST AFRICA
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: E JOSEPH
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 60004 **HOWARD UNIV**
 SUPPORT OF THE 2003 ASEE-NASA FACULTY FELLOWSHIP PROGRAM
 05/01/2003 - 04/30/2004 FY03: \$380,000 Total: \$380,000
Prin. Invest.: J B HALPERN
Tech. Officer: GSFC/M S BURRELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12500 **SOUTHEASTERN UNIV**
 PROJECT ESCAPE (EAGER STUDENT COMM ACTIVISM F OR PLANET
 EARTH)
 09/30/2002 - 09/30/2005 FY03: \$98,168 Total: \$195,907
Prin. Invest.: G GRANTHAM
Tech. Officer: GSFC/D MENCHAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 482 **THE AMERICAN UNIV**
 DEVELOPMENT OF STATE-OF-THE-ART SOLID STATE LASERS FOR ALTIM-
 ETRY & OTHER LIDAR APPLICATIONS
 03/23/2000 - 02/28/2003 FY03: \$0 Total: \$343,682
Prin. Invest.: R B KAY
Tech. Officer: GSFC/J L BUFTON
CASE Category: 13 – PHYSICS

NCC 5 630 **THE AMERICAN UNIV**
 OCILLATOR ARCHITECTURE
 02/12/2002 - 02/14/2005 FY03: \$163,404 Total: \$323,404
Prin. Invest.: R KAY
Tech. Officer: GSFC/M M MATSUMURA
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 708 **THE AMERICAN UNIV**
 VCL LASER TRANSMITTER: CONFIGURATION AND ASSEMBLY RESEARCH.
 03/10/2003 - 03/14/2004 FY03: \$92,000 Total: \$92,000
Prin. Invest.: R KAY
Tech. Officer: GSFC/T CAZEAU
CASE Category: 41 – AERONAUTICAL ENGRN

NGT 5 40068 **THE AMERICAN UNIV**
 DISTRICT OF COLUMBIA/NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP
 PROGRAM
 03/29/2000 - 09/30/2003 FY03: -\$68,634 Total: \$567,866
Prin. Invest.: R BERENDZEN
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40124 **THE AMERICAN UNIV**
 DISTRICT OF COLUMBIA/NASA SPACE GRANT PROGRAM
 05/12/2003 - 05/31/2005 FY03: \$363,105 Total: \$363,105
Prin. Invest.: R BERENDZEN
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01066 **THE CATHOLIC UNIV OF AMERICA**
 REAL-TIME ADAPTIVE AUTOMATION OF FLIGHT TASKS
 04/18/2001 - 12/31/2001 FY03: -\$455 Total: \$38,382
Prin. Invest.: R PARASURAMAN
Tech. Officer: LARC/L J PRINZEL
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 5 3378 **THE CATHOLIC UNIV OF AMERICA**
OBSERVATIONS AND ANALYSIS OF DATA OBTAINED BY THE SPACE TELESCOPE IMAGING SPECTROGRAPH
08/28/1996 - 09/30/2002 FY03: \$2,395 Total: \$658,565
Prin. Invest.: A BOGGESS
Tech. Officer: GSFC/T R GULL
CASE Category: 11 – ASTRONOMY

NAG 5 4103 **THE CATHOLIC UNIV OF AMERICA**
OBSERVATIONS AND ANALYSIS OF SEYFERT GALAXIES WITH THE SPACE TELESCOPE IMAGING SPECTROGRAPH
03/31/1997 - 08/31/2002 FY03: \$0 Total: \$837,607
Prin. Invest.: S KRAEMER
Tech. Officer: GSFC/T GULL
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 4362 **THE CATHOLIC UNIV OF AMERICA**
SPATIAL-SPECTRAL MAPPING OF CO EMISSION IN COMETS HALE-BOPP, AND COMPARISON WITH OTHER ORGANICS
04/21/1997 - 09/30/2001 FY03: -\$51 Total: \$89,714
Prin. Invest.: D DISANTI
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 4940 **THE CATHOLIC UNIV OF AMERICA**
INTERPRETIVE TOOLS FOR ANALYSIS OF CORONAL IMAGES
06/23/1997 - 03/31/2004 FY03: \$0 Total: \$192,800
Prin. Invest.: O C ST.CYR
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 6139 **THE CATHOLIC UNIV OF AMERICA**
NEAR-SURFACE MANIFESTATIONS OF GEO-EFFECTIVE SOLAR
09/08/1997 - 09/14/2002 FY03: \$0 Total: \$198,827
Prin. Invest.: D GOPALSWAMY
Tech. Officer: GSFC/W J WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 6239 **THE CATHOLIC UNIV OF AMERICA**
A STUDY OF PHYSICAL PROCESSES IN THE ATMOSPHERE OF
09/08/1997 - 09/30/2002 FY03: \$0 Total: \$268,375
Prin. Invest.: R D ROBINSON
Tech. Officer: GSFC/K G CARPENTER
CASE Category: 11 – ASTRONOMY

NAG 5 7753 **THE CATHOLIC UNIV OF AMERICA**
QUANTITATIVE ANALYSIS OF ETHANE AND METHANE IN COMETS HYAKUTAKE AND HALE-BOPP: DETERMINATION OF
12/08/1998 - 12/31/2001 FY03: \$0 Total: \$98,174
Prin. Invest.: N RUSSO
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 8018 **THE CATHOLIC UNIV OF AMERICA**
INTERPRETATION OF SOHO/LASCO/EIT, UVCS OBSERVATIONS USING A MULTI-DIMENSIONAL MHD MODEL
01/06/1999 - 12/31/2002 FY03: \$0 Total: \$172,276
Prin. Invest.: M GUATHAKURTA
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8276 **THE CATHOLIC UNIV OF AMERICA**
RADIATIVE ACCELERATION CALCULATIONS FOR B STAR ENV ELOPES AND ATMOSPHERES(ATP 98)
02/19/1999 - 02/29/2004 FY03: \$0 Total: \$157,491
Prin. Invest.: C R PROFFITT
Tech. Officer: GSFC/R K OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 8508 **THE CATHOLIC UNIV OF AMERICA**
EXPERIMENTAL STUDIES OF IGNEOUS PROCESSES IN ENSTATITE METEORITES
05/21/1999 - 04/30/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: T DICKINSON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8761 **THE CATHOLIC UNIV OF AMERICA**
HUMAN BIOLOGY-BASED ADAPTIVE SYSTEMS IN SUPPORT OF SPACE EXPLORATION
09/03/1999 - 08/31/2003 FY03: \$0 Total: \$628,282
Prin. Invest.: R D PARASURAMAN
Tech. Officer: GSFC/R CROUCH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8793 **THE CATHOLIC UNIV OF AMERICA**
ULTRAVIOLET DIAGNOSTICS OF MAGNETIC AND RELATED ACTIVITY IN MAIN SEQUENCE B STARS (ADP 98)
09/07/1999 - 11/30/2002 FY03: \$0 Total: \$65,760
Prin. Invest.: M SMITH
Tech. Officer: GSFC/D WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8968 **THE CATHOLIC UNIV OF AMERICA**
CORONAL EMISSION AND MASS LOSS IN THE HOTTEST STAR OF THE H-R DIAGRAM - FUSE
01/24/2000 - 01/31/2002 FY03: \$0 Total: \$48,100
Prin. Invest.: F C BRUHWEILER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 8977 **THE CATHOLIC UNIV OF AMERICA**
PHASE RESOLVED STUDIES OF THE MAGNETIC A-STAR 17 COM A (HD 108662)- FUSE
01/24/2000 - 01/31/2004 FY03: \$0 Total: \$16,500
Prin. Invest.: C R PROFFITT
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 8998 **THE CATHOLIC UNIV OF AMERICA**
THE DRIVERS OF CORONAL AND INTERPLANETARY SHOCKS.
02/02/2000 - 02/14/2002 FY03: -\$24,640 Total: \$85,360
Prin. Invest.: N GOPALSWAMY
Tech. Officer: GSFC/M L KAISER
CASE Category: 11 – ASTRONOMY

NAG 5 9502 **THE CATHOLIC UNIV OF AMERICA**
GLOBAL MEASUREMENT OF SOLAR WIND SPEED AND TEMPERATURE IN THE SUN'S CORONA USING GROUND-BASED VISIBL
06/06/2000 - 06/14/2004 FY03: \$67,240 Total: \$482,059
Prin. Invest.: J BROSIUS
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 9539 **THE CATHOLIC UNIV OF AMERICA**
 ABUNDANCES OF VERY HEAVY ELEMENTS IN LATE-B AND EARLY-A STARS
 (ADP 99)
 05/09/2000 - 05/14/2004 FY03: \$0 Total: \$91,693
Prin. Invest.: G W WAHLGREN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9600 **THE CATHOLIC UNIV OF AMERICA**
 MICROWAVE ENHANCEMENT IN CORONAL HOLES: STRUCTURE, VARIABILITY & MAGNETIC NATURE
 05/19/2000 - 09/14/2002 FY03: -\$433 Total: \$21,567
Prin. Invest.: N GOPALSWAMY
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 9696 **THE CATHOLIC UNIV OF AMERICA**
 HOT POPULATIONS IN NEARBY ELLIPTICAL GALAXIES - FUSE
 07/18/2000 - 07/31/2003 FY03: \$0 Total: \$58,879
Prin. Invest.: T BROWN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9888 **THE CATHOLIC UNIV OF AMERICA**
 A SPECTROSCOPIC STUDY OF ION MOTIONS IN CORONAL HOLES USING SOHO/SUMER OBSERVATIONS
 08/24/2000 - 08/31/2003 FY03: \$0 Total: \$99,686
Prin. Invest.: T MORAN
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 10006 **THE CATHOLIC UNIV OF AMERICA**
 LARGE-SCALE STRUCTURE IN THE DISTANT UNIVERSE
 09/22/2000 - 09/30/2002 FY03: \$0 Total: \$91,366
Prin. Invest.: F C BRUHWEILER
Tech. Officer: GSFC/B WOODGATE
CASE Category: 11 – ASTRONOMY

NAG 5 10013 **THE CATHOLIC UNIV OF AMERICA**
 RESEARCH EXPERIENCES FOR UNDERGRADUATES IN THE LABORATORY FOR ASTRONOMY & SOLARPHYSICS
 09/25/2000 - 09/30/2005 FY03: \$163,343 Total: \$436,203
Prin. Invest.: F C BRUHWEILER
Tech. Officer: GSFC/C CRANNEL
CASE Category: 11 – ASTRONOMY

NAG 5 10095 **THE CATHOLIC UNIV OF AMERICA**
 DEVELOPMENT OF IR ARRAY SPECTROMETERS FOR GROUND- BASED & SPACE-BORNE PLANETARYASTRONOMY.
 11/28/2000 - 12/31/2003 FY03: \$121,406 Total: \$332,154
Prin. Invest.: F C BRUHWEILER
Tech. Officer: GSFC/D C REUTER
CASE Category: 11 – ASTRONOMY

NAG 5 10130 **THE CATHOLIC UNIV OF AMERICA**
 SOLAR WIND ELECTRON DATA ANALYSES
 12/06/2000 - 06/14/2002 FY03: -\$37 Total: \$63,963
Prin. Invest.: Y WHANG
Tech. Officer: GSFC/K W OGILVIE
CASE Category: 13 – PHYSICS

NAG 5 10231 **THE CATHOLIC UNIV OF AMERICA**
 THE DRIVERS OF CORONAL AND INTERPLANETARY SHOCKS
 01/22/2001 - 02/14/2004 FY03: \$105,490 Total: \$304,040
Prin. Invest.: N GOPALSWAMY
Tech. Officer: GSFC/M L KAISER
CASE Category: 11 – ASTRONOMY

NAG 5 10307 **THE CATHOLIC UNIV OF AMERICA**
 DEVELOPMENT OF INSTRUMENTATION & MISSION OPERATION CONCEPTS FOR THE SOLAR TERRESTRIAL RELATIONS OBSE
 01/31/2001 - 01/31/2005 FY03: \$97,011 Total: \$356,725
Prin. Invest.: D ST. CYR
Tech. Officer: GSFC/D ORWIG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10382 **THE CATHOLIC UNIV OF AMERICA**
 MONITORING THE VARIABLE ABSORPTION IN THE SEYFERT 1 GALAXY NGC 3783 WITH FUSE, HST, AND CHANDRA
 02/06/2001 - 02/14/2003 FY03: \$0 Total: \$85,600
Prin. Invest.: D CRENSHAW
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10492 **THE CATHOLIC UNIV OF AMERICA**
 CONTINUED MAPPING OF HIGH-ALTITUDE OZONE & SEARCH FOR NIGHT-GLOW ON MARS
 02/27/2001 - 02/28/2004 FY03: \$65,000 Total: \$187,800
Prin. Invest.: V KRASNOPOLSKY
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10575 **THE CATHOLIC UNIV OF AMERICA**
 CORRELATIVE PHOTOCHEMICAL STUDY OF THE IRTF-CSHELL MAPS OF O3, CO & H2O & THE MGS TES OBSERVATIONS O
 03/13/2001 - 03/14/2004 FY03: \$55,000 Total: \$165,000
Prin. Invest.: V KRASNOPOLSKY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10680 **THE CATHOLIC UNIV OF AMERICA**
 DARK CLUSTERS AS GRAVITATIONAL LENSES
 04/02/2001 - 09/30/2003 FY03: \$0 Total: \$24,020
Prin. Invest.: G WILLIGER
Tech. Officer: GSFC/D KAZANAS
CASE Category: 11 – ASTRONOMY

NAG 5 10795 **THE CATHOLIC UNIV OF AMERICA**
 GROUND-BASED INFRARED SPECTROSCOPY OF WATER IN COMETS: FLUORESCENCE MODELING AND QUANTITATIVE AN
 04/25/2001 - 04/30/2004 FY03: \$45,000 Total: \$130,900
Prin. Invest.: N D RUSSO
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10837 **THE CATHOLIC UNIV OF AMERICA**
 PROPAGATION OF CMES THROUGH THE INTERPLANETARY MEDIUM: INTERACTIONS WITH THE SOLAR WIND
 04/27/2001 - 04/30/2002 FY03: \$0 Total: \$50,880
Prin. Invest.: N GOPALSWAMY
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10867 **THE CATHOLIC UNIV OF AMERICA**
 X-RAY & MICROWAVE MODELS IN SUPPORT OF HESSI SOLAR FLARE
 OBSERVATIONS.
 05/07/2001 - 05/14/2002 FY03: -\$296 Total: \$20,504
Prin. Invest.: L OFMAN
Tech. Officer: GSFC/G D HOLMAN
CASE Category: 11 – ASTRONOMY

NAG 5 10870 **THE CATHOLIC UNIV OF AMERICA**
 RXTE FLARES ON PROX CEN (ADP 00)
 05/07/2001 - 05/14/2003 FY03: \$0 Total: \$11,941
Prin. Invest.: R D ROBINSON
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10944 **THE CATHOLIC UNIV OF AMERICA**
 JUST WHAT IS ETA CARINAE - FUSE 00
 05/24/2001 - 05/31/2003 FY03: \$0 Total: \$23,500
Prin. Invest.: R IPING
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11131 **THE CATHOLIC UNIV OF AMERICA**
 EVOLUTION OF THE BASTILLE DAY SHOCK AND MERGED INTERACTION
 REGION
 07/24/2001 - 10/31/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: Y C WHANG
Tech. Officer: GSFC/L F BURLAGA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11137 **THE CATHOLIC UNIV OF AMERICA**
 CIRCUMSTELLAR ENVIRONMENTS OF EVOLVED STARS AND THEIR INTER-
 ACTION WITH THE INTERSTELLAR MEDIUM
 07/20/2001 - 07/31/2004 FY03: \$120,526 Total: \$354,263
Prin. Invest.: F C BRUHWEILER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11162 **THE CATHOLIC UNIV OF AMERICA**
 CONSEQUENCES OF CME INTERACTION IN THE INTERPLANETARY ME-
 DIUM
 08/07/2001 - 08/14/2003 FY03: \$0 Total: \$60,000
Prin. Invest.: J W BROSIUS
Tech. Officer: GSFC/M ACUNA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11225 **THE CATHOLIC UNIV OF AMERICA**
 SOLAR WIND INTERACTION WITH THE MARTIAN CRUSTAL MAGNETIC
 FIELDS AND THE IMPLICATIONS FOR THE EVOLUTION
 08/13/2001 - 08/14/2003 FY03: \$0 Total: \$115,000
Prin. Invest.: D CRIDER
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11327 **THE CATHOLIC UNIV OF AMERICA**
 DEVELOPMENT OF GOSSAMER CLASS TELESCOPE MIRRORS
 09/18/2001 - 03/31/2002 FY03: \$0 Total: \$35,303
Prin. Invest.: P C CHEN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11342 **THE CATHOLIC UNIV OF AMERICA**
 NEW MODEL ATMOSPHERES AND SPECTRAL ENERGY DISTRIBUTIONS
 FOR STARS IN THE UPPER H-R DIAGRAM
 09/24/2001 - 09/30/2003 FY03: \$0 Total: \$70,615
Prin. Invest.: F C BRUHWEILER
Tech. Officer: GSFC/S HEAP
CASE Category: 11 – ASTRONOMY

NAG 5 11377 **THE CATHOLIC UNIV OF AMERICA**
 THREE DIMENSIONAL MHD MODELING OF THE SOLAR WIND
 10/26/2001 - 10/31/2002 FY03: \$0 Total: \$22,602
Prin. Invest.: L OFMAN
Tech. Officer: GSFC/A ROBERTS
CASE Category: 13 – PHYSICS

NAG 5 11395 **THE CATHOLIC UNIV OF AMERICA**
 REDUCTION AND SCIENTIFIC ANALYSIS OF INFRARED DATA OBTAINED
 WITH THE NEAR INFRARED SPECTROMETER
 11/20/2001 - 05/31/2003 FY03: \$0 Total: \$24,104
Prin. Invest.: F C BRUHWEILER
Tech. Officer: GSFC/M M FREUND
CASE Category: 11 – ASTRONOMY

NAG 5 11705 **THE CATHOLIC UNIV OF AMERICA**
 ANALYSIS OF RXTE AO5 DATA OF GAMMA CAS (ADP 2001)
 02/07/2002 - 06/30/2004 FY03: \$0 Total: \$28,513
Prin. Invest.: M A SMITH
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11757 **THE CATHOLIC UNIV OF AMERICA**
 USING CDS, EIT, AND COORDINATED GROUND-BASED OBSERVATIONS TO
 MEASURE CORONAL MAGNETIC FIELDS AND
 03/04/2002 - 07/14/2005 FY03: \$115,517 Total: \$211,917
Prin. Invest.: J W BROSIUS
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11815 **THE CATHOLIC UNIV OF AMERICA**
 INTERPRETATION OF SOHO/LASCO, EIT, UVCS OBSERVATIONS USING A
 MULTIDIMENSIONAL MHD MODEL
 03/06/2002 - 03/14/2005 FY03: \$29,109 Total: \$58,731
Prin. Invest.: L OFMAN
Tech. Officer: GSFC/E SITTLER
CASE Category: 13 – PHYSICS

NAG 5 11841 **THE CATHOLIC UNIV OF AMERICA**
 MAGNETOHYDRODYNAMIC PROCESSES IN THE SOLAR CORONA AND THE
 SOLAR WIND.
 03/11/2002 - 03/31/2003 FY03: \$0 Total: \$65,464
Prin. Invest.: L OFMAN
Tech. Officer: GSFC/J DAVILA
CASE Category: 11 – ASTRONOMY

NAG 5 11877 **THE CATHOLIC UNIV OF AMERICA**
 MULTI-FLUID AND HYBRID MODELS OF WAVES IN CORONAL STRUCTURES
 03/15/2002 - 03/14/2005 FY03: \$93,157 Total: \$183,207
Prin. Invest.: L OFMAN
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 11883 **THE CATHOLIC UNIV OF AMERICA**
 RESEARCH PROGRAM: SOLAR WIND ELECTRON DATA ANALYSE S
 03/20/2002 - 06/14/2003 FY03: \$9,145 Total: \$40,775
Prin. Invest.: Y WHANG
Tech. Officer: GSFC/R FITZENREITER
CASE Category: 13 – PHYSICS

NAG 5 12071 **THE CATHOLIC UNIV OF AMERICA**
 EXPERIMENTAL STUDIES OF IGENOUS PROCESSES IN ENSTA TITE METE-
 ORITES
 04/19/2002 - 04/30/2004 FY03: \$0 Total: \$10,000
Prin. Invest.: T DICKINSON
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 12121 **THE CATHOLIC UNIV OF AMERICA**
 A FUSE DETERMINATION OF THE GRAVITATIONAL REDSHIFT AND SPEC-
 TROSCOPIC MASS OF SIRUS B
 04/29/2002 - 04/30/2003 FY03: \$0 Total: \$2,500
Prin. Invest.: M SAHU
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12178 **THE CATHOLIC UNIV OF AMERICA**
 MONITORING THE VARIABLE ABSORPTION IN THE SEYFERT 1 GALAXY NGC
 3783 WITHFUSE, HST, AND CHANDRA_ - FU
 06/28/2002 - 06/14/2004 FY03: \$0 Total: \$55,000
Prin. Invest.: D CRENSHAW
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12208 **THE CATHOLIC UNIV OF AMERICA**
 PRODUCTION AND EXCITATION OF COMETARY CO EMISSION, AND COM-
 PARISON WITH OTHER ORGANIC VOLATILES
 06/03/2002 - 10/31/2002 FY03: -\$18,158 Total: \$31,642
Prin. Invest.: M A DISANTI
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12235 **THE CATHOLIC UNIV OF AMERICA**
 EFFECTS OF CRUSTAL MAGNETIZATION ON THE STRUCTURE OF THE
 MARTIAN IONOSPHERE
 05/29/2002 - 07/31/2005 FY03: \$42,333 Total: \$84,666
Prin. Invest.: D CRIDER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12265 **THE CATHOLIC UNIV OF AMERICA**
 HST AND GROUND-BASED OBSERVATIONS OF ASTRONOMICAL SOURCES
 06/24/2002 - 06/30/2007 FY03: \$97,405 Total: \$412,464
Prin. Invest.: F C BRUHWEILER
Tech. Officer: GSFC/T GULL
CASE Category: 11 – ASTRONOMY

NAG 5 12285 **THE CATHOLIC UNIV OF AMERICA**
 QUANTITATIVE INFRARED DATA ANALYSIS OF ETHANE AND RELATED
 ORGANICS IN COMETS: OBTAINING CLUES TO THE
 06/11/2002 - 06/14/2005 FY03: \$30,900 Total: \$60,600
Prin. Invest.: N DELLA RUSSO
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTIINTERDISCIPL, OTHER

NAG 5 12331 **THE CATHOLIC UNIV OF AMERICA**
 SUPPORT FOR THE SYMPOSIUM: INTERSTELLAR TRAVEL AND MULTI-
 GENERATION SPACE SHIPS
 07/08/2002 - 06/30/2003 FY03: \$0 Total: \$10,000
Prin. Invest.: F BRUHWEILER
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12347 **THE CATHOLIC UNIV OF AMERICA**
 IONIZATION STRUCTURE OF NGC 7009
 08/15/2002 - 08/31/2004 FY03: \$0 Total: \$51,035
Prin. Invest.: R IPING
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12389 **THE CATHOLIC UNIV OF AMERICA**
 THE ORIGIN AND EARLY PROPAGATION OF ERUPTIONS IN THE SUN'S
 CORONA
 07/17/2002 - 07/14/2003 FY03: \$7,453 Total: \$56,374
Prin. Invest.: D C WANG
Tech. Officer: GSFC/B THOMPSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12529 **THE CATHOLIC UNIV OF AMERICA**
 RADIAL EVOLUTION OF BASTILLE DAY FLOWS
 08/28/2002 - 08/31/2004 FY03: \$0 Total: \$50,000
Prin. Invest.: Y C WHANG
Tech. Officer: GSFC/L F BURLAGA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12575 **THE CATHOLIC UNIV OF AMERICA**
 SOLAR IR MAGNETIC FIELD MEASUREMENTS WITH THE CELE STE GRAT-
 ING SPECTROGRAPH.
 09/16/2002 - 09/30/2005 FY03: \$28,000 Total: \$53,000
Prin. Invest.: T MORAN
Tech. Officer: GSFC/D E JENNINGS
CASE Category: 11 – ASTRONOMY

NAG 5 12591 **THE CATHOLIC UNIV OF AMERICA**
 CRYOGENIC LABORATORY INFRARED SPECTROSCOPY FOR REM OTE
 SENSING OF ATMOSPHERES
 09/24/2002 - 09/30/2007 FY03: \$0 Total: \$74,278
Prin. Invest.: D W STEYERT
Tech. Officer: GSFC/D C REUTER
CASE Category: 13 – PHYSICS

NAG 5 12626 **THE CATHOLIC UNIV OF AMERICA**
 XRS DETECTOR CALIBRATION AND ANALYSIS OF EROS X-RAY SPECTRA
 10/02/2002 - 09/30/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: R STARR
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12734 **THE CATHOLIC UNIV OF AMERICA**
 POST DOC FOR ANALYSIS OF NEAR-UV HUBBLE SPACE TELE
 SCOPE/WFPC2 IMAGERY WITHIN THE HIGH-LATITUDE ACS
 02/11/2003 - 02/14/2005 FY03: \$79,060 Total: \$79,060
Prin. Invest.: F C BRUHWEILER
Tech. Officer: GSFC/J GARDNER
CASE Category: 11 – ASTRONOMY

NAG 5 12825 **THE CATHOLIC UNIV OF AMERICA**
 A STUDY OF CORRELATIONS BETWEEN CME SPEEDS AND MAGNETIC FIELD CHARACTERISTICS OF CME SOURCE REGIONS
 01/29/2003 - 01/31/2004 FY03: \$20,000 Total: \$20,000
Prin. Invest.: T G MORAN
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12869 **THE CATHOLIC UNIV OF AMERICA**
 ENERGY DISSIPATION AND MOMENTUM DEPOSITION OF MHD WAVES IN STELLAR ATMOSPHERES
 02/20/2003 - 12/31/2003 FY03: \$24,903 Total: \$24,903
Prin. Invest.: V S AIRAPETIAN
Tech. Officer: GSFC/K G CARPENTER
CASE Category: 11 – ASTRONOMY

NAG 5 12888 **THE CATHOLIC UNIV OF AMERICA**
 TESTING RELATIVISTIC ELECTRON ENERGIZATION MECHANISMS IN THE EARTH'S RADIATION BELTS USING
 02/11/2003 - 02/14/2006 FY03: \$77,469 Total: \$77,469
Prin. Invest.: S KANEKAL
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12964 **THE CATHOLIC UNIV OF AMERICA**
 NGC 6164-5 & ROSETTE NEBULA FUSE 2001
 03/13/2003 - 03/14/2004 FY03: \$31,000 Total: \$31,000
Prin. Invest.: F BRUHWEILER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12993 **THE CATHOLIC UNIV OF AMERICA**
 PETROLOGIC AND EXPERIMENTAL STUDIES OF IGNEOUS PROCESSES IN METEORITES
 03/07/2003 - 04/30/2006 FY03: \$10,000 Total: \$10,000
Prin. Invest.: T DICKINSON
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 13014 **THE CATHOLIC UNIV OF AMERICA**
 THE HOT ISM OF THE ANTENNAE - THE NEAREST GALAXY MERGER FUSE 2001
 03/11/2003 - 03/14/2004 FY03: \$95,400 Total: \$95,400
Prin. Invest.: R IPING
Tech. Officer: GSFC/R J OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 13049 **THE CATHOLIC UNIV OF AMERICA**
 FUSE OBSERVATIONS OF THE DWARF SEYFERT NUCLEUS OF NGC 4395
 03/11/2003 - 03/14/2004 FY03: \$36,900 Total: \$36,900
Prin. Invest.: S B KRAEMER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13109 **THE CATHOLIC UNIV OF AMERICA**
 FAR-UV CONSTRAINTS OF THE INTRINSIC ABSORBERS IN SEYFERT GALAXIES
 03/14/2003 - 03/14/2006 FY03: \$48,758 Total: \$48,758
Prin. Invest.: S KRAEMER
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13200 **THE CATHOLIC UNIV OF AMERICA**
 EVOLUTION OF MERGED INTERACTIONS
 04/01/2003 - 03/31/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: Y C WHANG
Tech. Officer: GSFC/L F BURLAGA
CASE Category: 11 – ASTRONOMY

NAG 5 13321 **THE CATHOLIC UNIV OF AMERICA**
 CALIBRATION, ANALYSIS, AND INTERPRETATION OF SERTS AND EUNIS OBSERVATION
 04/15/2003 - 04/14/2006 FY03: \$21,238 Total: \$21,238
Prin. Invest.: J W BROSIUS
Tech. Officer: GSFC/D M RABIN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 13334 **THE CATHOLIC UNIV OF AMERICA**
 EUVE SPECTROSCOPY OF MARS, VENUS, AND COMETS: DATA ANALYSIS AND MODELING
 04/14/2003 - 04/14/2006 FY03: \$69,000 Total: \$69,000
Prin. Invest.: V KRASNOPOLSKY
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13405 **THE CATHOLIC UNIV OF AMERICA**
 MAGNETIC CHARACTERIZATION OF MICRO SHUTTERS
 04/22/2003 - 04/30/2004 FY03: \$19,810 Total: \$19,810
Prin. Invest.: G KLETETSCHKA
Tech. Officer: GSFC/P WASILEWSKI
CASE Category: 13 – PHYSICS

NAG 5 13419 **THE CATHOLIC UNIV OF AMERICA**
 DEVELOPMENT OF A REFERENCE MODEL OF THE MAGNETIC FIELD AND PLASMA STRUCTURE WITHIN THE MARTIA
 04/23/2003 - 05/31/2006 FY03: \$65,829 Total: \$65,829
Prin. Invest.: D CRIDER
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13599 **THE CATHOLIC UNIV OF AMERICA**
 SAMPEX DATA SERVER: A TEST BED FOR LWS
 08/13/2003 - 08/14/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: S KANEKAL
Tech. Officer: GSFC/T KUCERA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13647 **THE CATHOLIC UNIV OF AMERICA**
 QUANTITATIVE INFRARED SPECTROSCOPY FOR STUDIES OF BROWN DWARFS AND EXTRASOLAR GIANT PLANETS
 09/12/2003 - 02/26/2004 FY03: \$57,000 Total: \$57,000
Prin. Invest.: D W STEYERT
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1247 **THE CATHOLIC UNIV OF AMERICA**
 HUMAN FACTORS IN DISTRIBUTED AIR-GROUND TRAFFIC MANAGEMENT
 03/26/2001 - 03/31/2003 FY03: \$0 Total: \$30,082
Prin. Invest.: R PARASURAMAN
Tech. Officer: ARC/R MOGFORD, ARC/P SNYDER
CASE Category: 41 – AERONAUTICAL ENGR

FLORIDA

NASA'S UNIVERSITY PROGRAM

NCC 5 380 THE CATHOLIC UNIV OF AMERICA
 INVESTIGATION OF X-RAY AND GAMMA-RAYS FROM SOLAR FLARES AND
 PLANETARY TYPE BODIES
 02/12/1999 - 03/31/2003 FY03: \$0 Total: \$1,014,985
Prin. Invest.: R D STARR
Tech. Officer: GSFC/L ORWIG
CASE Category: 11 – ASTRONOMY

NCC 5 445 THE CATHOLIC UNIV OF AMERICA
 INFRARED SPECTROSCOPY OF COMETS: AN OBSERVATIONAL AND EX-
 PERIMENTAL STUDY OF COMETARY COMPOSITION AND
 04/20/2000 - 05/31/2003 FY03: \$10,505 Total: \$93,025
Prin. Invest.: N DELLO RUSSO
Tech. Officer: GSFC/M J MUMMA
CASE Category: 13 – PHYSICS

NCC 5 452 THE CATHOLIC UNIV OF AMERICA
 CHEMICAL/PHYSICAL PROPERTIES OF PLANETARY & ASTRO- PHYSICAL
 MOLECULES
 02/03/2000 - 04/30/2005 FY03: \$310,751 Total: \$1,111,252
Prin. Invest.: T THORN
Tech. Officer: GSFC/J E ALLEN
CASE Category: 12 – CHEMISTRY

NCC 5 504 THE CATHOLIC UNIV OF AMERICA
 SPATIAL-SPECTRAL MAPPING OF CO AND OTHER EMISSIONS IN COMETS,
 AND OF WATER IN MARS ATMOSPHERE
 06/27/2000 - 10/31/2002 FY03: -\$31,065 Total: \$64,681
Prin. Invest.: M A DISANTI
Tech. Officer: GSFC/M J MUMMA
CASE Category: 13 – PHYSICS

NCC 5 548 THE CATHOLIC UNIV OF AMERICA
 HESSI DATA ANALYSIS
 04/06/2001 - 04/14/2004 FY03: \$0 Total: \$127,000
Prin. Invest.: J BROSIUS
Tech. Officer: GSFC/BDENNIS
CASE Category: 13 – PHYSICS

NCC 5 636 THE CATHOLIC UNIV OF AMERICA
 RESEARCH OF COSMIC HARD X-RAYS AND GAMMA-RAYS
 03/05/2002 - 03/31/2005 FY03: \$219,863 Total: \$406,968
Prin. Invest.: R D STARR
Tech. Officer: GSFC/J A NUTH
CASE Category: 11 – ASTRONOMY

NCC 5 696 THE CATHOLIC UNIV OF AMERICA
 MODELING SOLAR FLARES WITH RHESSI HARD X-RAY IMAGES AND
 SPECTRA
 01/24/2003 - 01/31/2006 FY03: \$32,313 Total: \$32,313
Prin. Invest.: F C BRUHWEILER
Tech. Officer: GSFC/B R DENNIS
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 5 731 THE CATHOLIC UNIV OF AMERICA
 GROUND-BASED INFRARED SPECTROSCOPY OF COMETS: A STUDY OF
 COMETARY COMPOSITION AND ORIGIN
 04/18/2003 - 05/31/2006 FY03: \$18,300 Total: \$18,300
Prin. Invest.: N DELLO-RUSSO
Tech. Officer: GSFC/M J MUMMA
CASE Category: 13 – PHYSICS

NGT 1 01028 THE CATHOLIC UNIV OF AMERICA
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/12/2001 - 06/30/2004 FY03: \$24,000 Total: \$60,000
Prin. Invest.: R PARASUROMA
Tech. Officer: LARC/D J WING
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 03015 THE CATHOLIC UNIV OF AMERICA
 GRADUATE STUDENT RESEARCHERS PROGRAM
 04/25/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R PARASURAMAN, M R ZINNI
Tech. Officer: LARC/L PRINZEL
CASE Category: 62 – PSYCHOLOGY SOCIAL ASPECTS

NAG 5 9545 UNIV OF DISTRICT OF COLUMBIA
 REMOTE SENSING SPECTRAL IDENTIFICATION OF FRESHWATER PLANK-
 TON
 05/03/2000 - 09/30/2002 FY03: \$0 Total: \$72,143
Prin. Invest.: H L PHELPS
Tech. Officer: GSFC/D MENCHAN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 10855 UNIV OF DISTRICT OF COLUMBIA
 RETAINING HIGH POTENTIAL JUNIOR AND SENIOR HIGH SCHOOL STU-
 DENTS
 05/02/2001 - 09/30/2002 FY03: \$0 Total: \$295,047
Prin. Invest.: W COLEMAN
Tech. Officer: GSFC/C HOLLINSWORTH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12335 UNIV OF DISTRICT OF COLUMBIA
 SCIENCE AND ENGINEERING CENTER'S SUMMER ACADEMIC ENRICH-
 MENT PROGRAM
 07/11/2002 - 07/14/2003 FY03: \$0 Total: \$64,000
Prin. Invest.: G DAVIS
Tech. Officer: GSFC/D HALE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 421 UNIV OF DISTRICT OF COLUMBIA
 ANACOSTIA RIVER INST FOR REMOTE SENSING: A COMMUNITY REMOTE
 SENSING PROGRAM
 09/21/1999 - 09/30/2001 FY03: \$0 Total: \$100,000
Prin. Invest.: G WYCHE-MOORE
Tech. Officer: GSFC/D T TOLL
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

FLORIDA

NAG10 336 BETHUNE - COOKMAN COLLEGE
 STUDENT INTERNSHIP PROGRAM WITH KENNEDY SPACE CENTER
 05/12/2003 - 02/26/2004 FY03: \$55,000 Total: \$55,000
Prin. Invest.: A E LONG
Tech. Officer: KSC/C D BLACK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 426 BETHUNE - COOKMAN COLLEGE
 A BETTER, FASTER AND INEXPENSIVE PHOTOGRAMMETRY SYSTEM
 09/07/1999 - 08/31/2002 FY03: \$0 Total: \$199,991
Prin. Invest.: E F EKPO
Tech. Officer: GSFC/S E HETHERINGTON
CASE Category: 13 – PHYSICS

NCC10 55 **BETHUNE - COOKMAN COLLEGE**
 OPERATION AT THE CENTER FOR SPACE EDUCATION
 09/24/2001 - 09/30/2004 FY03: \$443,000 Total: \$1,208,354
Prin. Invest.: A LONG
Tech. Officer: KSC/S DUTCZAK, KSC/P SAILER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11097 **ECKERD COLLEGE**
 INFRARED SPECTRA OF COSMIC-TYPE ICES CONTAINING NITROGEN
 07/06/2001 - 07/14/2004 FY03: \$11,000 Total: \$31,500
Prin. Invest.: R L HUDSON
Tech. Officer: GSFC/M H MOORE
CASE Category: 12 – CHEMISTRY

NAG 1 02087 **EMBRY-RIDDLE AERONAUTICAL UNIV**
 TRAINING & TRANSITION WITH ADVANCED DISPLAYS
 05/01/2002 - 07/31/2004 FY03: \$0 Total: \$165,603
Prin. Invest.: R L NEWMAN, S N STANDIFORD
Tech. Officer: LARC/L J GLAAB
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03039 **EMBRY-RIDDLE AERONAUTICAL UNIV**
 EVALUATION OF WIRELESS NETWORK SYSTEMS ABOARD COMMERCIAL
 AIRCRAFT
 04/16/2003 - 08/15/2003 FY03: \$69,609 Total: \$69,609
Prin. Invest.: F L WHETTEN
Tech. Officer: LARC/J H BEGGS, LARC/R W LAWRENCE
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 5199 **EMBRY-RIDDLE AERONAUTICAL UNIV**
 ICE CONTENT AND ODD-OXYGEN IN NOCTILUCENT-CLOUDS (ICON)
 06/18/1998 - 09/30/2003 FY03: \$0 Total: \$313,791
Prin. Invest.: P J ESPY
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5265 **EMBRY-RIDDLE AERONAUTICAL UNIV**
 FIRST YEAR FUNDING/ CYROGENIC WHOLE AIR SAMPLING OF CARBON
 DIOXIDE IN THE UPPER MESOSPHERE
 04/12/2000 - 03/23/2004 FY03: \$62,682 Total: \$381,482
Prin. Invest.: P W ERDMAN
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 10066 **EMBRY-RIDDLE AERONAUTICAL UNIV**
 ENERGETICS & DYNAMICS OF THE MESOSPHERE & LOWER THERMO-
 SPHERE; TIMED/CEDAR COLLABORATIVE STUDIES
 10/31/2000 - 10/31/2003 FY03: \$0 Total: \$265,300
Prin. Invest.: G G SIVJEE
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12979 **EMBRY-RIDDLE AERONAUTICAL UNIV**
 UPPER MESOSPHERE AND LOWER THERMOSPHERE MANIFESTA- TION OF
 STRATOSPHERIC WARMING EVENTS: SPATIALLY
 03/06/2003 - 04/30/2006 FY03: \$97,511 Total: \$97,511
Prin. Invest.: G SIVJEE
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13417 **EMBRY-RIDDLE AERONAUTICAL UNIV**
 STUDIES OF WIND SHEAR INSTABILITIES AND GRAVITY WAVES IN THE MLT
 REGION AIRGLOW AND RELATED EFFECTS
 04/21/2003 - 06/30/2004 FY03: \$85,822 Total: \$85,822
Prin. Invest.: M HICKEY
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13592 **EMBRY-RIDDLE AERONAUTICAL UNIV**
 ANALYSES OF CONCURRENT TIMED SATELLITES
 09/26/2003 - 09/14/2005 FY03: \$65,000 Total: \$65,000
Prin. Invest.: G SIVJEE
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCA 1 01003 **EMBRY-RIDDLE AERONAUTICAL UNIV**
 SOUTHEAST SATSLAB
 08/31/2001 - 09/30/2002 FY03: \$0 Total: \$2,500,000
Prin. Invest.: S HAMPTON
Tech. Officer: LARC/J R BURLEY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 685 **EMBRY-RIDDLE AERONAUTICAL UNIV**
 SILICON CARBIDE DIODE MIXERS FOR IMPROVED SAFETY I N AIRCRAFT
 RF AVIONICS
 03/04/1999 - 06/26/2002 FY03: \$0 Total: \$73,025
Prin. Invest.: A HELFRICK
Tech. Officer: GRC/P G NEUDECK
CASE Category: 45 – ELECTRICAL ENGR

NAG 2 1384 **FLA INTERNATIONAL UNIV**
 DEVELOPING AN ADVANCED EENVIRONMENT FOR COLLABORAT IVE COM-
 PUTING BY AUGMENTING POSTDOC
 09/15/1999 - 07/31/2002 FY03: \$0 Total: \$200,000
Prin. Invest.: I R FERNANDEZ
Tech. Officer: ARC/H T STEWART, ARC/S LAU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1440 **FLA INTERNATIONAL UNIV**
 SPECIFICATION & ANALYSIS OF SOFTWARE ARCHITECTURES OF HIGH
 ASSURANCE SYSTEMS
 09/26/2000 - 09/14/2004 FY03: \$0 Total: \$287,358
Prin. Invest.: X HE, X HE
Tech. Officer: ARC/A CARDENAS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1612 **FLA INTERNATIONAL UNIV**
 A MODELING AND MEASUREMENT FRAMEWORK FOR ENTERPRIS E SYS-
 TEMS INTEGRATION
 01/08/2003 - 12/31/2003 FY03: \$100,000 Total: \$100,000
Prin. Invest.: R GIACHETTI
Tech. Officer: ARC/A CARDENAS
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1618 **FLA INTERNATIONAL UNIV**
 FEASIBLTY STUDY OF CARBON FOAM COOLERS FOR MICRO CLIMATE
 CONDITIONING APPLICATIONS
 02/19/2003 - 02/14/2004 FY03: \$49,000 Total: \$49,000
Prin. Invest.: Y CAO
Tech. Officer: ARC/J W HINES, ARC/P P FUNG
CASE Category: 46 – MECHANICAL ENGR

NAG 5 8791 **FLA INTERNATIONAL UNIV**
 A STUDY OF THE FINAL PRODUCT STATES OF THE DISSOCIATIVE RECOMBINATION REACTION BY TOF SPECTROSCOPY
 08/31/1999 - 04/30/2004 FY03: \$0 Total: \$198,472
Prin. Invest.: K HARDY
Tech. Officer: GSFC/R HARTLE
CASE Category: 13 – PHYSICS

NAG 5 9478 **FLA INTERNATIONAL UNIV**
 HIGH PERFORMANCE DATABASE MANAGEMENT WITH APPLICATION TO EARTH SCIENCE
 04/25/2000 - 04/30/2003 FY03: \$0 Total: \$1,500,000
Prin. Invest.: N RISHE
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13676 **FLA INTERNATIONAL UNIV**
 AN INVESTIGATION OF 20TH CENTURY SEA LEVEL RISE & ITS RELATION TO COASTAL EROSION USING HISTORIC...
 09/15/2003 - 09/14/2006 FY03: \$75,000 Total: \$75,000
Prin. Invest.: B C DOUGLAS
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 9 1404 **FLA INTERNATIONAL UNIV**
 USING LANDSAT 7 DATA IN GIS-BASED REVISION OF REEF BASE
 05/14/2002 - 09/30/2004 FY03: \$30,623 Total: \$88,016
Prin. Invest.: J GEBELEIN
Tech. Officer: JSC/G BYRNE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG10 259 **FLA INTERNATIONAL UNIV**
 MSTA - MATH, SCIENCE & TECHNOLOGY ACHIEVEMENT
 05/01/1999 - 08/14/2002 FY03: \$0 Total: \$300,000
Prin. Invest.: I BECCERA-FERNANDEZ
Tech. Officer: KSC/S ROBERTS
CASE Category: 22 – COMPUTER SCIENCE

NAG10 307 **FLA INTERNATIONAL UNIV**
 ENHANCING THE SCOPE AND FUNCTIONALITY OF SAGE (SEARCHABLE ANSWER GENERATING ENVIRONMENT)
 09/28/2001 - 08/31/2002 FY03: -\$45 Total: \$24,955
Prin. Invest.: I BECERRA-FERNANDEZ
Tech. Officer: KSC/O MELENDEZ
CASE Category: 22 – COMPUTER SCIENCE

NAG10 309 **FLA INTERNATIONAL UNIV**
 BRINGING SCIENCE AND TECHNOLOGY TO HISPANIC YOUTH THROUGH TELEVISED, SPANISH-LANGUAGE MEDIA: BRIDGIN
 09/28/2001 - 12/31/2002 FY03: -\$18,859 Total: \$135,808
Prin. Invest.: G ROIG
Tech. Officer: KSC/J NUNEZ
CASE Category: 41 – AERONAUTICAL ENGR

NAG10 311 **FLA INTERNATIONAL UNIV**
 PROJECT M.A.S.T.T. MATHEMATICS/APPLIED SCIENCES TEACHERS TRAINING
 02/25/2002 - 06/22/2004 FY03: \$140,061 Total: \$322,751
Prin. Invest.: G A ROIG
Tech. Officer: KSC/H BURSIAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 321 **FLA INTERNATIONAL UNIV**
 INTERNSHIP PROGRAM AT KENNEDY SPACE CENTER (IPKSC)
 09/03/2002 - 12/31/2003 FY03: \$0 Total: \$108,822
Prin. Invest.: M CENTENO
Tech. Officer: KSC/G BUCKINGHAM
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 663 **FLA INTERNATIONAL UNIV**
 PROMOTING EQUITY IN PREPARING SECONDARY TEACHERS IN MATH-EMATICS, SCIENCE AND TECHNOLOGY
 08/21/2002 - 08/31/2005 FY03: \$111,505 Total: \$311,421
Prin. Invest.: C MENDEZ
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01057 **FLORIDA A&M UNIV**
 ACTIVE CONTROL OF BOUNDARY-LAYER SEPARATION AND FLOW DISTORTION IN ADVERSE PRESSURE GRADIENT FLOWS
 03/27/2001 - 03/31/2004 FY03: \$80,852 Total: \$241,936
Prin. Invest.: F S ALVI, C SHIH
Tech. Officer: LARC/S A GORTON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02059 **FLORIDA A&M UNIV**
 ACTIVE-ADAPTIVE CONTROL OF INLET SEPARATION USING SUPERSONIC MICROJETS
 02/28/2002 - 02/28/2005 FY03: \$89,101 Total: \$154,101
Prin. Invest.: F S ALVI
Tech. Officer: LARC/S A GORTON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02114 **FLORIDA A&M UNIV**
 PARTIAL SUPPORT TO THE 2002 NATIONAL TEACHER PREPARATION SYMPOSIUM
 09/11/2002 - 04/01/2003 FY03: \$0 Total: \$16,880
Prin. Invest.: F HAMILTON
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 2 1439 **FLORIDA A&M UNIV**
 INVESTIGATION OF THE ELECTRONIC PROPERTIES OF DISTORTED CARBON NANOTUBES
 09/21/2000 - 08/31/2003 FY03: \$0 Total: \$277,339
Prin. Invest.: M ENCINOSA
Tech. Officer: ARC/B J COLLINS, ARC/D JAMES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2786 **FLORIDA A&M UNIV**
 A GRADUATE FELLOWSHIP COMPONENT TO AUGMENT PROGRAM IMAGE
 05/31/2002 - 05/30/2004 FY03: \$350,000 Total: \$706,005
Prin. Invest.: A F VAUGHN-COOKE
Tech. Officer: GRC/D JOHSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 4 164 **FLORIDA A&M UNIV**
 EVOLUTIONARY ALGORITHMS
 02/26/1999 - 02/26/2002 FY03: \$0 Total: \$225,000
Prin. Invest.: M ABDULLAH, F HAMILTON
Tech. Officer: DFRC/K GUPTA, DFRC/E COX
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 9420 **FLORIDA A&M UNIV**
ELECTROCHEMICAL CAPACITORS & HYBRID POWER SOURCES FOR
SPACE APPLICATIONS
04/11/2000 - 04/30/2003 FY03: \$0 Total: \$296,164
Prin. Invest.: J ZHENG
Tech. Officer: GSFC/J MALONE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10148 **FLORIDA A&M UNIV**
COLLISION PROCESSES IN ASTROPHYSICAL PLASMAS
12/08/2000 - 12/31/2003 FY03: \$175,427 Total: \$526,281
Prin. Invest.: C A WEATHERFORD
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NAG 5 10726 **FLORIDA A&M UNIV**
LINKAGES 2001 PROJECT
04/09/2001 - 03/31/2004 FY03: \$0 Total: \$500,000
Prin. Invest.: B KELLY
Tech. Officer: GSFC/J MALONE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1417 **FLORIDA A&M UNIV**
DESIGN & CONTROL OF COBOT MASTER MANIPULATOR FOR A TELERO-
BOTIC SYSTEM
12/23/2002 - 12/31/2006 FY03: \$199,474 Total: \$199,474
Prin. Invest.: C A MOORE
Tech. Officer: JSC/C J CULBERT
CASE Category: 22 – COMPUTER SCIENCE

NAG10 242 **FLORIDA A&M UNIV**
MAPSTAP
05/13/1998 - 12/31/2002 FY03: \$0 Total: \$599,997
Prin. Invest.: B SAMUELS
Tech. Officer: KSC/E JOHNSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 267 **FLORIDA A&M UNIV**
PROJECT DISCOVER II SBI/NASA INTERNSHIPS PROJECT DISCOVER II
SBI/NASA INTERNSHIPS
09/09/1999 - 08/01/2003 FY03: \$0 Total: \$582,294
Prin. Invest.: S C MOBLEY
Tech. Officer: KSC/R J MCKINNEY
CASE Category: 79 – SOCIAL SCIENCE, OTHER

NAG10 289 **FLORIDA A&M UNIV**
WIRELESS SPREAD-SPECTRUM INTERCOMMUNICATION SYSTEM WIRE-
LESS SPREAD-SPECTRUM INTERCOMMUNICATION SYSTE
07/11/2000 - 06/07/2003 FY03: \$0 Total: \$291,520
Prin. Invest.: B A HARVEY
Tech. Officer: KSC/F MCKENZIE
CASE Category: 45 – ELECTRICAL ENGR

NAG10 314 **FLORIDA A&M UNIV**
INCREASING MINORITY ACCESS TO GRADUATE ENGINEERING PROGRAM
(IMAGE)
03/29/2002 - 12/31/2003 FY03: \$1,270,000 Total: \$2,540,000
Prin. Invest.: H LEWIS III
Tech. Officer: KSC/D ABRAHAM
CASE Category: 49 – ENGINEERING, OTHER

NCC 1 252 **FLORIDA A&M UNIV**
CENTER FOR NONLINEAR AND NONEQUILIBRIUM AEROSCIENCES (CEN-
NAS)
04/23/1997 - 12/31/2003 FY03: \$0 Total: \$6,200,000
Prin. Invest.: J JOHNSON
Tech. Officer: LARC/W SELLERS
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1005 **FLORIDA A&M UNIV**
DEVELOPMENT OF A TRANSDERMAL DELIVERY DEVICE FOR M ELATONIN
IN VIVO
08/25/1997 - 07/31/2003 FY03: \$0 Total: \$276,406
Prin. Invest.: M S SACHDEVA
Tech. Officer: ARC/C M WINGET, ARC/G S LEE
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1221 **FLORIDA A&M UNIV**
A COOPERATIVE RESEARCH PROGRAM IN AERONAUTICAL INF ORMATION
SCIENCE TECHNOLOGIES
03/22/2001 - 03/14/2003 FY03: \$0 Total: \$704,501
Prin. Invest.: A KROTHAPALLI, C SHIH, L LOURENCO
Tech. Officer: ARC/G K YAMAUCHI, ARC/J C ROSS
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1406 **FLORIDA A&M UNIV**
CONTROL OF DYNAMIC STALL PROCESS ON HELICOPTER ROT OR BLADES
USING DISTRIBUTE MULTIPLE MICROJETS
06/04/2003 - 03/31/2004 FY03: \$99,974 Total: \$99,974
Prin. Invest.: C SHIH, A KROTHAPALLI
Tech. Officer: ARC/J ROSS
CASE Category: 41 – AERONAUTICAL ENGR

NGT 4 52430 **FLORIDA A&M UNIV**
DETERMINING MECHANICAL PROPERTIES OF NANO MATERIAL S USING
NANOINDENTATION AND A FINITE ELEMENT METH
06/19/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: M M ABDULLAH
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT10 52635 **FLORIDA A&M UNIV**
HIGH VELOCITY IMPACT CHARGING OF JSC MARS-1 MARTIA N REGOLITH
SIMULANT
11/18/2002 - 01/17/2003 FY03: \$0 Total: \$0
Prin. Invest.: F B GROSS
Tech. Officer: KSC/C D BLACK
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 01079 **FLORIDA ATLANTIC UNIV**
MODIFIED AND ADVANCED FORMULATIONS FOR UNCERTAINTY ANALYSIS
IN STRUCTURES ANALYSIS
06/01/2001 - 01/31/2002 FY03: -\$2,732 Total: \$30,363
Prin. Invest.: I ELISHAKOFF
Tech. Officer: LARC/W J STROUD, LARC/I S RAJU
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2023 **FLORIDA ATLANTIC UNIV**
SPACE COMMUNICATIONS TECHNOLOGY CENTER
03/12/1997 - 06/30/2002 FY03: \$0 Total: \$1,439,998
Prin. Invest.: W E GLENN, H HELMKEN
Tech. Officer: GRC/T P BIZON
CASE Category: 45 – ELECTRICAL ENGR

FLORIDA

NASA'S UNIVERSITY PROGRAM

NAG 3 2702 **FLORIDA ATLANTIC UNIV**
 NOISE GENERATED BY FANS WITH SUPERSONIC TIP SPEEDS NOISE
 GENERATED BY FANS WITH SUPERSONIC TIP SPEED
 02/15/2002 - 08/31/2004 FY03: \$73,117 Total: \$144,600
Prin. Invest.: S GLEGG
Tech. Officer: GRC/A ENVIA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12129 **FLORIDA ATLANTIC UNIV**
 ACHIEVING HIGH SOFTWARE RELIABILITY.
 04/30/2002 - 09/30/2004 FY03: \$0 Total: \$139,000
Prin. Invest.: T KHOSHGOFTARR
Tech. Officer: GSFC/K MCGILL
CASE Category: 22 – COMPUTER SCIENCE

NAS 3 26956 **FLORIDA ATLANTIC UNIV**
 ACTS PROPAGATION EXPERIMENTS
 06/21/1993 - 01/28/2004 FY03: \$15,000 Total: \$451,278
Prin. Invest.: H F HELMKEN
Tech. Officer: GRC/R J GUNDERMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 8 230 **FLORIDA ATLANTIC UNIV**
 PROMOTE COMMERCIALY FUNDING R & D AND TECH DEV IN THE FIELD
 OF SPACE COMMUNICATIONS
 11/01/2001 - 10/31/2003 FY03: -\$1,000,000 Total: \$0
Prin. Invest.: W E GLENN
Tech. Officer: MSFC/S LAMBING
CASE Category: 49 – ENGINEERING, OTHER

NCC 8 272 **FLORIDA ATLANTIC UNIV**
 PROMOTE COMMERCIAL FUNDING R&D AND TECH DEV IN THE FIELD OF
 SPACE COMMUNICATIONS(REPLACES NCC 8-230)
 09/23/2003 - 10/31/2003 FY03: \$2,000,000 Total: \$2,000,000
Prin. Invest.: W GLENN
Tech. Officer: MSFC/D SHANNON
CASE Category: 45 – ELECTRICAL ENGR

NAG 2 1508 **FLORIDA INST OF TECHNOLOGY**
 GRAVITATIONAL IMPACTS ON THE CELL CYCLE
 07/23/2001 - 07/31/2004 FY03: \$159,387 Total: \$384,602
Prin. Invest.: C E HELMSTETTER
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10888 **FLORIDA INST OF TECHNOLOGY**
 COSMIC RAY INTERSTELLAR PROPAGATION (ATP 2000)
 05/09/2001 - 05/14/2004 FY03: \$70,895 Total: \$198,360
Prin. Invest.: M ZHANG
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11036 **FLORIDA INST OF TECHNOLOGY**
 STUDIES OF COSMIC RAY MODULATION & ENERGETIC PARTICLE PROPAGA-
 TION IN TIME-DEPENDENT 3-DIMENSION
 06/12/2001 - 07/31/2004 FY03: \$9,750 Total: \$216,518
Prin. Invest.: M ZHANG
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11921 **FLORIDA INST OF TECHNOLOGY**
 MEASURING SOLAR CYCLE VARIATIONS OF HE3 IN ENERGETIC PARTICLE
 EVENTS
 04/09/2002 - 03/31/2005 FY03: \$79,949 Total: \$158,135
Prin. Invest.: J R DWYER
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 12778 **FLORIDA INST OF TECHNOLOGY**
 AN IMPROVED TIME-OF-FLIGHT MASS SPECTROMETER
 01/27/2003 - 01/31/2006 FY03: \$78,909 Total: \$78,909
Prin. Invest.: J DWYER
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13514 **FLORIDA INST OF TECHNOLOGY**
 INVESTIGATIONS OF INTERPLANETARY PROPAGATION OF HIGH-ENERGY
 RADIATION FROM POORLY CONNECTED CME E
 05/02/2003 - 07/31/2006 FY03: \$98,911 Total: \$98,911
Prin. Invest.: M ZHANG
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1582 **FLORIDA INST OF TECHNOLOGY**
 "NEW CELL CULTURE TECHNOLOGY"
 03/01/1999 - 11/30/2003 FY03: \$0 Total: \$485,450
Prin. Invest.: C HELMSTALTER
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 5 50257 **FLORIDA INST OF TECHNOLOGY**
 TECHNOLOGIES FOR ASSESSING THE EFFECTS OF LONG-TERM SPACE
 HABITATION ON CELLULAR AGING_ STUDENT: K
 07/09/1999 - 06/30/2002 FY03: -\$1 Total: \$65,999
Prin. Invest.: C HELMSTETTER
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50290 **FLORIDA INST OF TECHNOLOGY**
 THE LUMINOSITY FUNCTION & THE CHROMOSPHERIC ACTIVITY-AGE
 RELATION FOR M DWARF STARS IN COMMON PROP
 06/27/2000 - 06/30/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: T OSWALT
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50450 **FLORIDA INST OF TECHNOLOGY**
 DETERMINING THE LUMINOSITY FUNCTION OF THE GALAXY: THE WHITE
 DWARF DATA-BASE, AGE AND DARK MATTER
 04/28/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: T OSWALT
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 1986 **FLORIDA STATE UNIV**
 MICRO-AND MACRO-FLUID DYNAMICS AND ACOUSTICS OF RESONANT
 LINERS
 01/02/1998 - 12/31/2001 FY03: -\$1 Total: \$225,000
Prin. Invest.: K W TAM
Tech. Officer: LARC/W R WATSON, LARC/T L PARROTT
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2127 **FLORIDA STATE UNIV**
 DYNAMICAL FACTORS CONTROLLING OZONE, OH AND AEROSOL LEVELS
 OVER THE PEM-TROPICS B REGION
 01/20/1999 - 12/31/2001 FY03: -\$2 Total: \$202,998
Prin. Invest.: T N KRISHNAURTI
Tech. Officer: LARC/J R RAPER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2145 **FLORIDA STATE UNIV**
 AIRFRAME-JET ENGINE INTREGRATION NOISE
 03/30/1999 - 12/31/2002 FY03: \$0 Total: \$300,000
Prin. Invest.: C K TAM
Tech. Officer: LARC/R R ANTCLIFF
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01031 **FLORIDA STATE UNIV**
 DISCONTINUOUS SPECTRAL ELEMENT AEROACOUSTISTIC CODE FOR FAN
 NOISE RADIATION
 02/08/2001 - 11/30/2003 FY03: \$62,337 Total: \$225,572
Prin. Invest.: M Y HUSSAINI
Tech. Officer: LARC/F FARASSAT, LARC/R H THOMAS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02022 **FLORIDA STATE UNIV**
 SINGLE WALL CARBON NANOTUBE ALIGNMENT MECHANISMS FOR NON-
 DESTRUCTIVE EVALUATION
 12/17/2001 - 12/16/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: S HONG
Tech. Officer: LARC/J D JORDAN
CASE Category: 13 – PHYSICS

NAG 1 03037 **FLORIDA STATE UNIV**
 SINGLE WALL CARBON NANOTUBES ASSEMBLY FOR NONDESTRUCTIVE
 EVALUATION DEVICE ARCHITECTURE
 03/24/2003 - 03/24/2006 FY03: \$50,000 Total: \$50,000
Prin. Invest.: S HONG
Tech. Officer: LARC/J D JORDAN, LARC/A N WATKINS
CASE Category: 12 – CHEMISTRY

NAG 3 2102 **FLORIDA STATE UNIV**
 NUMERICAL SIMULATION OF SCREECH TONES FROM SUPERSONIC JETS:
 PHYSICS & PREDICTIONS
 12/24/1997 - 11/30/2001 FY03: \$0 Total: \$247,500
Prin. Invest.: C K TAM
Tech. Officer: GRC/K Q ZAMAN
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2445 **FLORIDA STATE UNIV**
 LATTICE-BOLTZMANN TECHNIQUES FOR MULTIPHASE FLOW TRANSPORT IN
 MICROGRAVITY ENVIRONMENT
 05/25/2000 - 05/18/2002 FY03: \$0 Total: \$132,828
Prin. Invest.: D CHELLA
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2867 **FLORIDA STATE UNIV**
 PREDICTING STATIC AND DYNAMIC PROPERTIES OF BULK AND CONFINED
 HELIUM
 04/02/2003 - 04/30/2006 FY03: \$66,500 Total: \$66,500
Prin. Invest.: E MANOUSAKIS
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 4873 **FLORIDA STATE UNIV**
 USING NASA FULL PHYSICS ADJOINT OF THE GEOS-1 GCM ANALYSIS,
 SENSITIVITY ANALYSIS AND OPTIMAL SENSOR
 07/03/1997 - 05/31/2002 FY03: -\$6,996 Total: \$316,580
Prin. Invest.: I NAVON
Tech. Officer: GSFC/M HALL
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 6665 **FLORIDA STATE UNIV**
 COMBINING SSM/1,T,T2 AND GOES MEASUREMENTS FOR A SATELLITE-
 BASED ATMOSPHERIC WATER BUDGET OF
 11/25/1997 - 11/30/2002 FY03: \$8,679 Total: \$503,679
Prin. Invest.: H J COOPER
Tech. Officer: GSFC/J C DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7618 **FLORIDA STATE UNIV**
 ANNUAL MARINE PRIMARY PRODUCTION ALGORITHM DEVELOPMENT AND
 APPLICATION TO MODIS DATA
 09/08/1998 - 07/31/2002 FY03: \$1,320 Total: \$157,373
Prin. Invest.: R L IVERSON
Tech. Officer: GSFC/W ESAIAS
CASE Category: 33 – OCEANOGRAPHY

NAG 5 7630 **FLORIDA STATE UNIV**
 ZONAL PROPAGATION OF NONLINEAR OCEANIC ANOMALIES
 08/10/1998 - 09/30/2002 FY03: \$5,184 Total: \$459,328
Prin. Invest.: W DEWAR
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7718 **FLORIDA STATE UNIV**
 VALIDATION OF TRMM LEVEL-3 PRECIPITATION DATA OVER AFRICA
 10/27/1998 - 10/31/2003 FY03: \$0 Total: \$252,007
Prin. Invest.: S E NICHOLSON
Tech. Officer: GSFC/O W THIELE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8291 **FLORIDA STATE UNIV**
 THERMODYNAMICS IN LAYERED MODELS
 02/25/1999 - 02/29/2004 FY03: \$0 Total: \$261,628
Prin. Invest.: W WEWAR
Tech. Officer: GSFC/M RIENECKER
CASE Category: 33 – OCEANOGRAPHY

NAG 5 8327 **FLORIDA STATE UNIV**
 ADVANCED DATA ASSIMILATION INTO OCEAN CIRCULATION MODELS
 DRIVEN BY NSCAT DATA & ENSO IMPACTS NORTH
 04/28/1999 - 04/30/2002 FY03: \$0 Total: \$641,000
Prin. Invest.: J J O'BRIEN
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8598 **FLORIDA STATE UNIV**
 THE IMPACT OF VEGETATION CHANGES IN THE SAHEL ON REGIONAL
 SCALE HYDROLOGY
 06/14/1999 - 06/30/2004 FY03: \$0 Total: \$249,034
Prin. Invest.: S E NICHOLSON
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8647 **FLORIDA STATE UNIV**
 "STUDY OF THE EVOLUTION OF PRECIPITATION AND CLOUD STRUCTURES
 DURING THE LIFE CYCLE ... TRMM AND IS
 07/19/1999 - 07/31/2002 FY03: -\$1,811 Total: \$92,189
Prin. Invest.: G LIU
Tech. Officer: GSFC/W B ROSSOW
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9662 **FLORIDA STATE UNIV**
 SUPERENSEMBLE FORECASTS OF PRECIPITATION USING TRMM, TMI & PR
 ALGORITHMS
 06/06/2000 - 11/30/2003 FY03: \$0 Total: \$368,613
Prin. Invest.: T N KRISHNAMURTI
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10001 **FLORIDA STATE UNIV**
 016 OF TRMM FIELD CAMPAIGN DATA FOR VALIDATION-APPLICATION
 STUDIES WITH LEVEL 2 RAIN PROFILE ALGORITHM
 09/21/2000 - 11/30/2003 FY03: \$0 Total: \$400,000
Prin. Invest.: H A COOPER
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10860 **FLORIDA STATE UNIV**
 VARIABILITY OF THE WESTERN INDIAN OCEAN & THE GULF OF ADEN
 05/02/2001 - 04/30/2004 FY03: \$98,083 Total: \$288,563
Prin. Invest.: D NOF
Tech. Officer: GSFC/E LINDSRTOM
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11067 **FLORIDA STATE UNIV**
 APPLICATIONS OF TOMS OZONE DATA TO NUMERICAL WEATHER ANALYSIS
 AND FORECAST
 07/09/2001 - 07/14/2004 FY03: \$70,000 Total: \$210,000
Prin. Invest.: X ZOU
Tech. Officer: GSFC/P K BHARTA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11889 **FLORIDA STATE UNIV**
 PHYSICAL VALIDATION OF AMSR SNOWFALL RETRIEVAL OVER OCEAN
 USING DATA FROM WASKASA BAY EXPERIMENT
 04/08/2002 - 05/31/2005 FY03: \$100,000 Total: \$130,000
Prin. Invest.: G LIU
Tech. Officer: GSFC/R ADLER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12097 **FLORIDA STATE UNIV**
 EVALUATION OF OPERATIONAL LONGWAVE RADIATION BUDGET PARAMETERS
 USING THE GOES SOUNDERS
 04/26/2002 - 06/30/2004 FY03: \$0 Total: \$329,264
Prin. Invest.: P G ELLINGSON
Tech. Officer: GSFC/J C DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12475 **FLORIDA STATE UNIV**
 ANALYSIS OF MARS GLOBAL SURVEYOR MAGNETIC DATA & CORRELATION
 WITH ER DATA & GEOPHYSICAL PARAMETERS
 08/15/2002 - 08/14/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: J C CAIN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12487 **FLORIDA STATE UNIV**
 NUMERICAL MODELING OF CROSS-SHELF EXCHANGE PROCESSES IN
 THE GULF OF MEXICO
 08/26/2002 - 08/31/2005 FY03: \$184,000 Total: \$274,000
Prin. Invest.: J O'BRIEN
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12677 **FLORIDA STATE UNIV**
 A COMPARISON OF THE IMPACT OF PRECIPITATION ON THE TROPICAL
 PACIFIC AND NORTH INDIAN OCEAN MIXED LAYER
 11/27/2002 - 11/30/2003 FY03: \$156,088 Total: \$156,088
Prin. Invest.: C A CLAYSON
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13311 **FLORIDA STATE UNIV**
 MODELING THE MARTIAN MAGNETIC FIELD USING MGS, MAGNETIC, AND
 OTHER DATA
 04/08/2003 - 04/14/2005 FY03: \$40,000 Total: \$40,000
Prin. Invest.: J CAIN
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13532 **FLORIDA STATE UNIV**
 SOL-GEL CERAMIC INSULATION FOR LOW CURRENT NB3SN MAGNETS
 05/13/2003 - 05/14/2004 FY03: \$9,580 Total: \$9,580
Prin. Invest.: Y HASCICEK
Tech. Officer: GSFC/E R CANAVAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 13563 **FLORIDA STATE UNIV**
 IMPACT OF TRMM, SSM/I & GEOSTATIONARY IR-BASED PRECIPITATION
 ESTIMATE ON HIGH RESOLUTION MODELING
 09/04/2003 - 08/31/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: T KRISHNAMURTI
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13754 **FLORIDA STATE UNIV**
 SUPPORT FOR SYMPOSIUM ON "MOVING BOUNDARY PROBLEMS IN
 PHYSICS, MATHEMATICS, AND MATERIALS SCIENCE"
 09/23/2003 - 09/30/2004 FY03: \$5,000 Total: \$5,000
Prin. Invest.: J VINALS
Tech. Officer: GSFC/A KEMPISTY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1773 **FLORIDA STATE UNIV**
 PREDICTING DYNAMIC AND STATIC CRITICAL PROPERTIES OF BULK AND
 CONFINED HELIUM.
 04/26/2001 - 04/30/2005 FY03: \$0 Total: \$137,118
Prin. Invest.: E MANOUSAKIS
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1848 **FLORIDA STATE UNIV**
 ASSIMILATION, ENSEMBLE FORECASTS AND ADAPTIVE STRATEGIES
 USING CAMES-4 DATASETS
 08/20/2001 - 09/02/2004 FY03: \$75,000 Total: \$223,678
Prin. Invest.: T N KRISHNAMURTI
Tech. Officer: MSFC/J E ARNOLD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 8 1882 **FLORIDA STATE UNIV**
 ASSIMILATION OF AIRS RADIANCE DATA FOR IMPROVING 12-H QPF USING
 MM5 4D-VAR SYSTEM
 08/20/2002 - 09/01/2004 FY03: \$109,427 Total: \$217,232
Prin. Invest.: X ZOU
Tech. Officer: MSFC/B LAPENTA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 8 1885 **FLORIDA STATE UNIV**
 420000436 CAVITY PERTURBATION SYSTEM FOR DI-ELECTRIC MEASURE-
 MENTS IN NUCLEAR ELECT PROPULSION
 01/29/2003 - 03/15/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: J VINALS
Tech. Officer: GRC/A CHAIT
CASE Category: 47 – METAL & MATERIALS ENGR

NAG13 02011 **FLORIDA STATE UNIV**
 SCATTEROMETER DERIVED OPERATIONAL WINDS, SURFACE PRESSURES,
 AND RAIN
 12/11/2001 - 12/11/2004 FY03: \$125,000 Total: \$250,000
Prin. Invest.: J J O'BRIEN, M A BOURASSA
Tech. Officer: SSC/R MILLER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 1 02045 **FLORIDA STATE UNIV**
 NOISE REDUCTION RESEARCH EFFORT IN SUPPORT OF QAT
 03/08/2002 - 03/10/2004 FY03: \$75,000 Total: \$131,250
Prin. Invest.: C TAM
Tech. Officer: LARC/R H THOMAS
CASE Category: 41 – AERONAUTICAL ENGR

NAS 3 02125 **FLORIDA STATE UNIV**
 NRA A PHYSICS BASED JET NOISE PREDICTION THEORY
 04/16/2002 - 01/15/2003 FY03: \$90,000 Total: \$90,000
Prin. Invest.: C TAM
Tech. Officer: GRC/M D DAHL, GRC/J E GRADY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 412 **FLORIDA STATE UNIV**
 NUMERICAL SIMULATIONS AND DIAGNOSTIC STUDIES RELATING METEO-
 ROLOGY TO ATMOSPHERIC CHEMISTRY DURING
 09/18/2000 - 08/31/2003 FY03: \$0 Total: \$281,700
Prin. Invest.: H E FUELBERG
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 01026 **FLORIDA STATE UNIV**
 AN INVESTIGATION OF THE FLOW PHYSICS OF ACOUSTIC LINERS BY
 DIRECT NUMERICAL SIMULATION
 01/31/2001 - 12/31/2003 FY03: \$78,000 Total: \$216,000
Prin. Invest.: C K TAM
Tech. Officer: LARC/W R WATSON, LARC/M G JONES
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 02025 **FLORIDA STATE UNIV**
 BAYSIAN INFERENCE AND UNCERTAINTY QUANTIFICATION
 04/22/2002 - 12/31/2003 FY03: \$27,598 Total: \$67,598
Prin. Invest.: M Y HUSSAINI
Tech. Officer: LARC/T A ZANG
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1349 **FLORIDA STATE UNIV**
 UNCERTAINTY QUANTIFICATION FOR LOW FIDELITY AERO/AEROTHERMO
 MODELS
 06/21/2002 - 06/30/2004 FY03: \$14,076 Total: \$81,674
Prin. Invest.: M Y HUSSAINI
Tech. Officer: ARC/M E LIVINGSTON, ARC/D MATHIAS
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 292 **FLORIDA STATE UNIV**
 HIGH RESOLUTION CARBON EXCHANGE OVER LARGE-SCALE AMAZONIA
 BASED ON MODELING AND GOES SATELLITE
 06/25/1998 - 06/30/2003 FY03: \$0 Total: \$477,044
Prin. Invest.: E A SMITH
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30158 **FLORIDA STATE UNIV**
 DYNAMICS AND VARIABILITY OF THE NORTH HAWAIIAN RIDGE CURRENT
 FROM SATELLITE ALTIMETRY AND AN
 08/28/1998 - 12/31/2001 FY03: -\$1 Total: \$65,999
Prin. Invest.: J J O'BRIEN, LEONARDI
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30164 **FLORIDA STATE UNIV**
 NONLINEAR EXCHANGE PROCESSES BETWEEN THE PACIFIC AND THE
 INDIAN OCEAN
 08/31/1998 - 08/31/2002 FY03: -\$58 Total: \$57,942
Prin. Invest.: D NOF, H SIMMONS
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30370 **FLORIDA STATE UNIV**
 DEVELOPMENT OF SCATTEROMETER-DERIVED RESEARCH-QUALITY SUR-
 FACE PRESSURES STUDENT: KYLE HILBURN
 08/13/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: J O'BRIEN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30454 **FLORIDA STATE UNIV**
 EVALUATING SOURCES OF THE GEOMAGNETIC FIELD BY GLOBAL
 MODELING: CORE, CRUST, IONOSPHERE AND OCEAN
 08/20/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: J C CAIN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30513 **FLORIDA STATE UNIV**
 ROLE OF THE BERING STRAIT IN THE GENERAL OCEANIC CIRCULATION
 AND CLIMATE STUDENT: CATHERINE SANDAL
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D NOF
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT10 52637 **FLORIDA STATE UNIV**
 HIGH VELOCITY IMPACT CHARGING OF JSC MARS-1 MARTIAN REGOLITH
 SIMULANT
 05/19/2003 - 10/31/2003 FY03: \$24,000 Total: \$24,000
Prin. Invest.: F B GROSS
Tech. Officer: KSC/C D BLACK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

FLORIDA

NASA'S UNIVERSITY PROGRAM

NAG10 282 **MIAMI-DADE COMM COLLEGE**
 HOMESTEAD BUSINESS INCUBATOR HOMESTEAD BUSINESS INCUBATOR
 05/18/2000 - 07/31/2003 FY03: \$0 Total: \$915,000
Prin. Invest.: E J PADRON
Tech. Officer: KSC/D CULBERTSON
CASE Category: 79 – SOCIAL SCIENCE, OTHER

NGT 8 52933 **NOVA UNIV**
 4200013053 "MECHANICS, PLASTICITY EVOLUTION, & FATIGUE LIFE EVALUATION IN SINGLE-CRYSTAL....."
 07/01/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M COHEN
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12298 **SAINT THOMAS UNIV**
 COMPUTER EQUIPMENT FOR SCIENCE AND TECHNOLOGY
 06/28/2002 - 06/30/2003 FY03: \$0 Total: \$570,000
Prin. Invest.: A VYNNNE
Tech. Officer: HQ/M MATEU
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 2 1465 **THE UNIV OF CENTRAL FLORIDA**
 VERIFICATION TOOLS FOR KSC LAUNCH CONTROL SOFTWARE
 03/22/2001 - 07/31/2003 FY03: \$0 Total: \$79,200
Prin. Invest.: G H WALTON
Tech. Officer: ARC/J PENIX
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2691 **THE UNIV OF CENTRAL FLORIDA**
 GLENN-HT/BEM CONJUGATE HEAT TRANSFER SOLVER FOR LARGE-SCALE TURBOMACHINERY MODELS
 01/11/2002 - 10/01/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: D J KASSAB
Tech. Officer: GRC/J D HEIDMANN
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2751 **THE UNIV OF CENTRAL FLORIDA**
 HYDROGEN RESEARCH FOR FLORIDA UNIVERSITIES HYDROGEN RESEARCH FOR FLORIDA UNIVERSITIES
 03/25/2002 - 09/30/2004 FY03: \$4,984,000 Total: \$10,409,000
Prin. Invest.: D L BLOCK
Tech. Officer: GRC/D J CHATO
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 9548 **THE UNIV OF CENTRAL FLORIDA**
 TRMM VALIDATION: IMPROVED ZR RELATIONSHIP FROM TEFLUN-B & TROPICAL CYCLONE WINDS & PRECIPITATION
 05/30/2000 - 05/31/2004 FY03: \$48,333 Total: \$367,000
Prin. Invest.: W JONES
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERICSCIENCE

NAG 5 10308 **THE UNIV OF CENTRAL FLORIDA**
 ANTENNA-COUPLED INFRARED SENSORS- PROPOSAL #215
 02/02/2001 - 01/31/2004 FY03: \$185,000 Total: \$549,142
Prin. Invest.: G D BOREMAN
Tech. Officer: GSFC/T STEVENSON
CASE Category: 13 – PHYSICS

NAG 5 10730 **THE UNIV OF CENTRAL FLORIDA**
 FOURIER TRANSFORM IMAGING SPECTROMETER WITH HIGH- THROUGH-PUT AND NO MOVING PARTS
 04/10/2001 - 04/14/2004 FY03: \$0 Total: \$236,000
Prin. Invest.: R G SELLAR
Tech. Officer: GSFC/B BETTS
CASE Category: 11 – ASTRONOMY

NAG 5 12263 **THE UNIV OF CENTRAL FLORIDA**
 CIRRUS REGIONAL STUDY OF TROPICAL ANVILS AND CIRRUS LAYERS - FLORIDA AREA CIRRUS EXPERIMENT.
 06/10/2002 - 05/31/2003 FY03: \$0 Total: \$16,134
Prin. Invest.: T KASPARIS
Tech. Officer: GSFC/A J NEGRI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12786 **THE UNIV OF CENTRAL FLORIDA**
 RELIABLE REMOTE SENSING WITH THE N2 LYMAN-BIRGE- HOPFIELD BANDS
 01/30/2003 - 01/14/2006 FY03: \$63,933 Total: \$63,933
Prin. Invest.: R EASTES
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12981 **THE UNIV OF CENTRAL FLORIDA**
 REMOTE SENSOR FOR DENSITY PROFILES
 03/04/2003 - 02/28/2005 FY03: \$130,107 Total: \$130,107
Prin. Invest.: R EASTES
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13507 **THE UNIV OF CENTRAL FLORIDA**
 IONOSPHERIC RESPONSE TO SHORT TERM VARIATIONS IN THE SOLAR FLUX
 05/06/2003 - 04/30/2006 FY03: \$48,850 Total: \$48,850
Prin. Invest.: R EASTES
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13650 **THE UNIV OF CENTRAL FLORIDA**
 QUIKSCAT PRECIPITATION MISSION: A GPM PATHFINDER
 09/08/2003 - 09/14/2006 FY03: \$52,500 Total: \$52,500
Prin. Invest.: L JONES
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG10 296 **THE UNIV OF CENTRAL FLORIDA**
 INSTALIZING KENNEDY SPACE CENTER'S STRATEGIC LEARNING PROCESS
 03/30/2001 - 05/01/2003 FY03: -\$538 Total: \$261,462
Prin. Invest.: T KOTNOUR
Tech. Officer: KSC/J LYONS
CASE Category: 49 – ENGINEERING, OTHER

NAG10 299 **THE UNIV OF CENTRAL FLORIDA**
 NASA/ASEE SUMMER FACULTY FELLOWSHIP RESEARCH PROGRAM
 05/16/2001 - 12/31/2002 FY03: -\$2,708 Total: \$343,433
Prin. Invest.: R HOSLER
Tech. Officer: KSC/C BLACK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 301 **THE UNIV OF CENTRAL FLORIDA**
 ULTRASOUND ENHANCEMENT OF A PERMEABLE REACTIVE BARRIER
 UNDERGOING ACCELERATED AGING
 06/15/2001 - 12/31/2002 FY03: -\$878 Total: \$49,122
Prin. Invest.: D R REINHART
Tech. Officer: KSC/J W QUINN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG10 312 **THE UNIV OF CENTRAL FLORIDA**
 REDUCTIVE EMULSIONS FOR REMEDIATION OF GROUNDWATER CONTAMINATED WITH HALOGENATED HYDROCARBONS
 04/26/2002 - 02/16/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: C GEIGER
Tech. Officer: KSC/J W QUINN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG10 313 **THE UNIV OF CENTRAL FLORIDA**
 RAPID DECHLORINATION OF POLYCHLORINATED BIPHENYLS IN SOILS BY PD/FE BIMETALLIC EMULSIONS
 05/02/2002 - 02/16/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: D L GEIGER
Tech. Officer: KSC/J W QUINN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG10 315 **THE UNIV OF CENTRAL FLORIDA**
 NASA/ASEE SUMMER FACULTY FELLOWSHIP RESEARCH PROGRAM
 05/02/2002 - 08/31/2003 FY03: \$0 Total: \$341,796
Prin. Invest.: D KOTNOUR
Tech. Officer: KSC/C D BLACK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 318 **THE UNIV OF CENTRAL FLORIDA**
 RETRIEVING NASA PROBLEM REPORTS WITH NATURAL LANGUAGE PROCESSING
 07/10/2002 - 09/30/2002 FY03: -\$10,241 Total: \$14,759
Prin. Invest.: D GOMEZ
Tech. Officer: KSC/C STEVENSON
CASE Category: 22 – COMPUTER SCIENCE

NAG10 319 **THE UNIV OF CENTRAL FLORIDA**
 AUTOMATIC PARTICLE COUNTING USING AN ACOUSTIC TRANSDUCER
 07/02/2002 - 04/30/2004 FY03: \$0 Total: \$36,700
Prin. Invest.: D CHEN
Tech. Officer: KSC/G HADDAD
CASE Category: 46 – MECHANICAL ENGR

NAG10 323 **THE UNIV OF CENTRAL FLORIDA**
 A SHAPE MEMORY ALLOY THERMAL CONDITION SWITCH FOR USE AT CRYOGENIC TEMPERATURES
 09/06/2002 - 08/31/2004 FY03: \$0 Total: \$112,842
Prin. Invest.: R NAIDYANATHAN
Tech. Officer: KSC/B NOTARDONATO
CASE Category: 46 – MECHANICAL ENGR

NAG10 330 **THE UNIV OF CENTRAL FLORIDA**
 MINIATURE JOULE THOMSON (JT) CRYOCOOLERS FOR PROPELLANT MANAGEMENT
 10/30/2002 - 10/06/2003 FY03: \$59,595 Total: \$59,595
Prin. Invest.: J KAPAT
Tech. Officer: KSC/G HADDAD
CASE Category: 46 – MECHANICAL ENGR

NAG10 334 **THE UNIV OF CENTRAL FLORIDA**
 THE ECONOMIC IMPACT OF NASA ON BREVARD COUNTY, THE EAST CENTRAL FLORIDA REGION AND THE STATE OF FLORIDA
 01/21/2003 - 11/21/2003 FY03: \$30,000 Total: \$30,000
Prin. Invest.: W MCHONE
Tech. Officer: KSC/W DIMMER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 339 **THE UNIV OF CENTRAL FLORIDA**
 NASA/ASEE SUMMER FACULTY FELLOWSHIP RESEARCH NASA/ASEE SUMMER FACULTY FELLOWSHIP RESEARCH
 05/09/2003 - 06/22/2004 FY03: \$357,000 Total: \$357,000
Prin. Invest.: T KOTNOUR
Tech. Officer: KSC/E L DELCASTILLO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 340 **THE UNIV OF CENTRAL FLORIDA**
 RAPID DECHLORINATION OF POLYCHLORINATED BIPHENYLS IN SEDIMENTS AND SOILS BY PD/FE BIMETALLIC EMULSIONS
 07/01/2003 - 06/01/2004 FY03: \$17,500 Total: \$17,500
Prin. Invest.: C L GIEGER
Tech. Officer: KSC/J W QUINN
CASE Category: 12 – CHEMISTRY

NAG10 341 **THE UNIV OF CENTRAL FLORIDA**
 THE REMOVAL OF HEAVY METALS FROM CONTAMINATED SOILS AND SEDIMENTS BY THE USE OF IRON PARTICLE EMULSIONS
 07/01/2003 - 05/01/2004 FY03: \$17,500 Total: \$17,500
Prin. Invest.: C L GEIGER
Tech. Officer: KSC/J W QUINN
CASE Category: 12 – CHEMISTRY

NAG10 343 **THE UNIV OF CENTRAL FLORIDA**
 SYSTEMS ENGINEERING COMPETENCE, PROPOSAL #RUP2003- 21
 07/29/2003 - 10/31/2003 FY03: \$35,000 Total: \$35,000
Prin. Invest.: T KOTNOUR
Tech. Officer: KSC/E L DEL CASTILLO
CASE Category: 49 – ENGINEERING, OTHER

NAG10 344 **THE UNIV OF CENTRAL FLORIDA**
 AUTOMATIC PARTICLE COUNTING USING AN ACOUSTIC TRANSDUCER
 09/30/2003 - 04/30/2004 FY03: \$135,000 Total: \$135,000
Prin. Invest.: R CHEN
Tech. Officer: KSC/G F HADDAD
CASE Category: 46 – MECHANICAL ENGR

NAG10 345 **THE UNIV OF CENTRAL FLORIDA**
 HUMAN EXPLORATION AND DEVELOPMENT OF SPACE (HEDS) HIGH SCHOOL TEACHER PROGRAM
 09/30/2003 - 09/01/2004 FY03: \$68,600 Total: \$68,600
Prin. Invest.: T KOTNOUR
Tech. Officer: KSC/E L DEL CASTILLO
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 712 **THE UNIV OF CENTRAL FLORIDA**
 ULTRA-LIGHT-WEIGHT, RADIATION-RESISTANT, THIN-FILM SOLAR CELLS FOR SPACE ELECTRIC POWER
 06/10/1999 - 09/30/2003 FY03: \$17,000 Total: \$200,000
Prin. Invest.: N G DHERE
Tech. Officer: GRC/A F HEPP
CASE Category: 13 – PHYSICS

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NASA'S UNIVERSITY PROGRAM

NGT 5 40071 THE UNIV OF CENTRAL FLORIDA
 FLORIDA/NATIONAL SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 01/05/2001 - 08/31/2003 FY03: \$0 Total: \$85,000
Prin. Invest.: S DURRANCE
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40107 THE UNIV OF CENTRAL FLORIDA
 FLORIDA SPACE GRANT CONSORTIUM
 03/02/2001 - 02/28/2005 FY03: \$580,750 Total: \$1,541,750
Prin. Invest.: N DURRANCE
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT10 52630 THE UNIV OF CENTRAL FLORIDA
 GSRP: STRATEGIC IMPLEMENTATION THROUGH PROCESS ALIGNMENT
 08/02/2001 - 06/30/2003 FY03: \$962 Total: \$46,962
Prin. Invest.: N AVAILABLE
Tech. Officer: KSC/L GOSPER
CASE Category: 49 – ENGINEERING, OTHER

NGT10 52634 THE UNIV OF CENTRAL FLORIDA
 CHARACTERIZATION OF NEW PIEZOELECTRIC MATERIALS FOR SURFACE
 ACOUSTIC WAVE DEVICE
 08/28/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: D C MAJOCHA
Tech. Officer: KSC/C D BLACK
CASE Category: 13 – PHYSICS

NGT10 52640 THE UNIV OF CENTRAL FLORIDA
 DECHLORINATION OF POLYCHLORINATED BIPHENYLS IN SOILS AND
 SEDIMENTS BY PD/FE BIMETALLIC EMULSIONS
 07/31/2003 - 08/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C L GEIGER
Tech. Officer: KSC/J W QUINN
CASE Category: 39 – ENVIRONMENTALSCI, OTHER

NGT10 52642 THE UNIV OF CENTRAL FLORIDA
 INVESTIGATION OF SAW DEVICES FOR REMOTE SENSING APPLICATIONS
 08/11/2003 - 08/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D C MALOCHA
Tech. Officer: ARC/R C YOUNGQUIST
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 2133 UNIV OF FLORIDA
 MEMS-BASED ACOUSTIC ARRAY TECHNOLOGY MY 1/3
 02/11/1999 - 12/31/2002 FY03: -\$678 Total: \$429,192
Prin. Invest.: M SHEPLAK
Tech. Officer: LARC/R R ANTELIFF
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2249 UNIV OF FLORIDA
 THE DEVELOPMENT OF DESIGN TOOLS FOR FLOW-CONTROL ACTUATORS
 12/21/1999 - 01/02/2004 FY03: \$0 Total: \$183,052
Prin. Invest.: L N CATTAFESTA, A J KURDILA
Tech. Officer: LARC/S A GORTON, LARC/R D JOSLIN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01013 UNIV OF FLORIDA
 ELECTROMECHANICAL ACOUSTIC LINER TECHNOLOGY
 02/07/2001 - 12/31/2003 FY03: \$110,000 Total: \$280,000
Prin. Invest.: L N SHEPLAK, L N CATTAFESTA III
Tech. Officer: LARC/M G JONES, LARC/T L PARROT
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 01024 UNIV OF FLORIDA
 COMPUTATIONAL MODELING & ANALYSIS SYNTHETIC JETS
 03/09/2001 - 03/31/2004 FY03: \$45,000 Total: \$135,000
Prin. Invest.: R MITTAL, L N CATTAFESTA III
Tech. Officer: LARC/S A GORTON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01098 UNIV OF FLORIDA
 INTEGRATED SHEAR STRESS/TEMPERATURE MICROMACHINED SENSORS
 06/14/2001 - 10/31/2001 FY03: -\$126 Total: \$51,965
Prin. Invest.: M SHEPLAK, T NISHIDA, L N CATTAFESTA, III
Tech. Officer: LARC/S K KAHNG
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 02042 UNIV OF FLORIDA
 DESIGN OPTIMIZATION OF COMPOSITE STRUCTURES UNDER UNCER-
 TAINTY
 01/28/2002 - 01/27/2003 FY03: \$19,959 Total: \$79,959
Prin. Invest.: R T HAFTKA
Tech. Officer: LARC/J H STARNES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02067 UNIV OF FLORIDA
 COMBINED THERMAL AND STRUCTURAL OPTIMIZATION OF FUNCTIONALLY
 GRADED TILE
 03/08/2002 - 03/07/2003 FY03: \$0 Total: \$68,580
Prin. Invest.: R T HAFTKA, B V SANKAR
Tech. Officer: LARC/M L BLOSSER
CASE Category: 46 – MECHANICAL ENGR

NAG 1 02068 UNIV OF FLORIDA
 IDENTIFICATION AND CONTROL OF AIRCRAFTS USING MULTIPLE MODELS
 AND ADAPTIVE INVERSE CONTROL
 03/14/2002 - 11/30/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: J C PRINCIPE
Tech. Officer: LARC/M A MOTTER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02104 UNIV OF FLORIDA
 DURABILITY OF MULTIFUNCTIONAL FOAMS AND THEIR COMPONENTS
 07/01/2002 - 06/30/2004 FY03: \$25,000 Total: \$60,000
Prin. Invest.: B V SANKAR
Tech. Officer: LARC/D R AMBUR
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03031 UNIV OF FLORIDA
 DESIGN OPTIMIZATION TOOL FOR SYNTHETIC JET ACTUATOR ACTUATORS
 USING LUMPED ELEMENT MODELING
 04/08/2003 - 04/07/2004 FY03: \$80,014 Total: \$80,014
Prin. Invest.: L P CATTAFESTA, M SHEPLAK
Tech. Officer: LARC/S A GORTON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03044 UNIV OF FLORIDA
 AN EXPERIMENTAL INVESTIGATION OF THREE DIMENSIONAL TRAILING
 EDGE NOISE
 05/08/2003 - 04/30/2006 FY03: \$150,001 Total: \$150,001
Prin. Invest.: L N CATTAFESTA, B CARROL
Tech. Officer: LARC/M R KHORRAMI, LARC/B A SINGER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03060 **UNIV OF FLORIDA**
 IDENTIFICATION AND CONTROL AIRCRAFTS USING MULTIPLE MODELS &
 ADAPTIVE CRITICS
 05/08/2003 - 05/07/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: J C PRINCIPE
Tech. Officer: LARC/M A MOTHER, LARC/J B BATTERSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03070 **UNIV OF FLORIDA**
 RELIABILITY-BASED DESIGN OF AEROSPACE STRUCTURES: THE EFFECT
 OF TESTS AND INSPECTION
 09/03/2003 - 09/02/2006 FY03: \$79,996 Total: \$79,996
Prin. Invest.: R T HAFTKA
Tech. Officer: LARC/J H STARNES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03080 **UNIV OF FLORIDA**
 INTEGRATED OPTIMIZATION & UNCERTAINTY CONTROL IN AEROSPACE
 STRUCTURAL DESIGN
 09/29/2003 - 09/30/2006 FY03: \$30,000 Total: \$30,000
Prin. Invest.: R T HAFTA, P G IFJU
Tech. Officer: LARC/T F JOHNSON, LARC/D R AMBUR
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 3 2341 **UNIV OF FLORIDA**
 SHEET FLOWS, AVALANCHES, AND DUNE EVOLUTION ON EARTH AND
 MARS
 03/01/2000 - 11/30/2003 FY03: \$19,125 Total: \$61,110
Prin. Invest.: D M HANES
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2382 **UNIV OF FLORIDA**
 MICROGRAVITY DRIVEN INSTABILITIES IN GAS-FLUIDIZED BEDS
 04/05/2000 - 11/30/2003 FY03: \$50,338 Total: \$187,778
Prin. Invest.: A L LADD
Tech. Officer: GRC/B J MOTIL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2415 **UNIV OF FLORIDA**
 SEPARATION OF SPECIES BY OSCILLATORY FLOW SEPARATION OF SPE-
 CIES BY OSCILLATORY FLOW
 06/07/2000 - 11/30/2003 FY03: \$100,000 Total: \$325,250
Prin. Invest.: D NARAYANAN
Tech. Officer: GRC/F P CHIARAMONTE III
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2553 **UNIV OF FLORIDA**
 SUPERSONIC INLETS FOR PULSE DETONATION ENGINES
 03/15/2001 - 01/01/2004 FY03: \$0 Total: \$135,717
Prin. Invest.: C SEGAL
Tech. Officer: GRC/R FERNANDEZ
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2630 **UNIV OF FLORIDA**
 WEIGHT OPTIMIZATION OF ACTIVE THERMAL MANAGEMENT USING A
 NOVEL HEAT PUMP
 06/13/2001 - 05/31/2004 FY03: \$70,000 Total: \$200,000
Prin. Invest.: D E LEAR
Tech. Officer: GRC/E L GOLLIHER
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2750 **UNIV OF FLORIDA**
 HYDROGEN RESEARCH AND EDUCATION HYDROGEN RESEARCH AND
 EDUCATION
 03/25/2002 - 09/30/2004 FY03: \$0 Total: \$2,700,000
Prin. Invest.: D GOSWAMI
Tech. Officer: GRC/D J CHATO
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2930 **UNIV OF FLORIDA**
 HYDROGEN RESEARCH FOR SPACEPORT AND SPACE BASED APPLICA-
 TIONS
 08/01/2003 - 01/31/2005 FY03: \$2,492,000 Total: \$2,492,000
Prin. Invest.: P L EVANICH
Tech. Officer: GRC/D J CHATO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 6378 **UNIV OF FLORIDA**
 OPTICAL PROPERTIES OF IRREGULAR DUST PARTICLES: EXPERIMENT
 AND THEORY
 10/08/1997 - 10/31/2002 FY03: \$0 Total: \$261,944
Prin. Invest.: D GUSTAFSON
Tech. Officer: GSFC/S HOWARD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8522 **UNIV OF FLORIDA**
 CHEMICAL ABUNDANCES AND EVOLUTION IN QUASARS AND ACTIVE
 GALACTIC NUCLEI
 05/12/1999 - 05/14/2002 FY03: \$0 Total: \$205,000
Prin. Invest.: F W HAMANN
Tech. Officer: GSFC/R K OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 8944 **UNIV OF FLORIDA**
 COMPLEX SILICATE GRAINS WITH SUBLIMATING MANTLES: A SYSTEMATIC
 LABORATORY STUDY OF OPTICAL PROPERTIES
 01/13/2000 - 01/14/2004 FY03: \$0 Total: \$204,564
Prin. Invest.: L KOLOKOLOVA
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9280 **UNIV OF FLORIDA**
 A GLOBAL, MULTI-WAVEBAND MODEL OF THE ZODIACAL CLOUD (ADP 99)
 03/21/2000 - 06/30/2003 FY03: \$0 Total: \$131,624
Prin. Invest.: K GROGAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9331 **UNIV OF FLORIDA**
 LAND-USE & LAND-COVER CHANGE: DECADAL-SCALE DYNAMICS OF LAND
 OWNERSHIP LAND MANAGEMENT & CARBON
 03/28/2000 - 12/31/2003 FY03: \$38,333 Total: \$349,995
Prin. Invest.: M W BINFORD
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10567 **UNIV OF FLORIDA**
 CHARACTERIZATION AND SIMULATION OF REMOTELY SENSED SOIL MOIS-
 TURE FOR RAINFALL-RUNOFF MODELING
 03/12/2001 - 03/14/2004 FY03: \$0 Total: \$159,995
Prin. Invest.: J JACOBS
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10670 **UNIV OF FLORIDA**
 MOLTEN MORPHOLOGIES & NON-EQUILIBRIUM MINERAL COMPOSITIONS
 GENERATED BY A POLYMER-INDUCED LIQUID PRE
 03/29/2001 - 04/30/2004 FY03: \$0 Total: \$200,000
Prin. Invest.: L B GOWER
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11635 **UNIV OF FLORIDA**
 A MULTI-WAVELENGTH STUDY OF LBCGS FROM Z=1 TO Z=0 (L TSA 2001)
 01/29/2002 - 01/31/2007 FY03: \$93,541 Total: \$177,302
Prin. Invest.: R GUZMAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11643 **UNIV OF FLORIDA**
 ORIGINS AND DYNAMICS OF INTERPLANETARY DUST PARTICLES
 01/23/2002 - 01/31/2005 FY03: \$86,600 Total: \$173,200
Prin. Invest.: S F DERMOTT
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12565 **UNIV OF FLORIDA**
 THE RESPONSE OF SOIL CARBON TO PERMAFROST MELTING IN HIGH
 LATITUDE ECOSYSTEMS
 09/12/2002 - 09/14/2005 FY03: \$0 Total: \$119,600
Prin. Invest.: E SCHUUR
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12724 **UNIV OF FLORIDA**
 LABORATORY STUDIES OF GAS-PHASE POLYCYCLIC AROMATIC HYDRO-
 CARBON CATIONS AND FRAGMENTS
 01/08/2003 - 12/31/2005 FY03: \$400,000 Total: \$400,000
Prin. Invest.: M VALA
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13006 **UNIV OF FLORIDA**
 THE PHYSICS OF AAL QUASARS
 03/12/2003 - 03/14/2004 FY03: \$48,598 Total: \$48,598
Prin. Invest.: B SABRA
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13105 **UNIV OF FLORIDA**
 ORIGINS AND STRUCTURE OF THE ASTEROIDAL SOLAR SYSTEM DUST
 BANDS
 03/13/2003 - 03/14/2006 FY03: \$48,000 Total: \$48,000
Prin. Invest.: S DERMOTT
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13324 **UNIV OF FLORIDA**
 COMPLEX DUST STRUCTURES
 04/10/2003 - 04/14/2006 FY03: \$80,000 Total: \$80,000
Prin. Invest.: B GUSTAFSON
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13416 **UNIV OF FLORIDA**
 QUANTUM WELL ELECTRON GAIN STRUCTURES FOR IMPROVED INFRA-
 RED DETECTOR READ NOISE
 08/14/2003 - 04/30/2004 FY03: \$110,260 Total: \$110,260
Prin. Invest.: S ELKENBERRY
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1251 **UNIV OF FLORIDA**
 R/S " CONFINEMENT AND PROPULSION CHARACTERISTICS OF THE
 GASDYNAMIC MIRROR FUSION ROCKET"
 12/23/1996 - 12/31/2002 FY03: \$0 Total: \$489,878
Prin. Invest.: S ANGHAI
Tech. Officer: MSFC/M J VANDYKE
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1673 **UNIV OF FLORIDA**
 MORPHOLOGICAL STABILITY OF FACETED INTERFACES
 05/16/2000 - 11/30/2003 FY03: \$90,000 Total: \$310,500
Prin. Invest.: R ABBASCHIAM
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1675 **UNIV OF FLORIDA**
 THE FEATURES OF SELF-ASSEMBLING ORGANIC BILAYERS IMPORTANT TO
 THE FORMATION OF INORGANIC MATERIALS.
 05/11/2000 - 11/30/2004 FY03: \$90,000 Total: \$305,500
Prin. Invest.: D TALHAM
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1679 **UNIV OF FLORIDA**
 AN ELECTROCHEMICAL METHOD TO VISUALIZE FLOW IN LIQUID METALS
 04/25/2000 - 11/30/2003 FY03: \$110,000 Total: \$369,500
Prin. Invest.: T J ANDERSON
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1791 **UNIV OF FLORIDA**
 RESEARCH ENTITLED, "DEV. OF OPTIMIZATION STRATEGIES FOR FULL-
 FLOW STAGED COMBUSTION INJECTORS
 03/15/2001 - 03/14/2005 FY03: \$0 Total: \$180,000
Prin. Invest.: W SHYY
Tech. Officer: MSFC/K TUCKER, MSFC/D CHAFFEE
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1821 **UNIV OF FLORIDA**
 APPLICATION OF PRESSURE SENSITIVE PAINT TO THE MSFC 14 INCH
 TRISONIC WIND TUNNEL
 06/01/2001 - 08/31/2002 FY03: \$0 Total: \$39,872
Prin. Invest.: B CARROLL
Tech. Officer: MSFC/A L FROST
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 8 1931 **UNIV OF FLORIDA**
 4200013052 DISTRIBUTED MEMORY PARALLEL PRESSURE- BASED CAPA-
 BILITY FOR ALL SPEED CHEMICALLY-REACTING
 07/14/2003 - 08/31/2004 FY03: \$130,000 Total: \$130,000
Prin. Invest.: W SHYY, S THAKUR
Tech. Officer: MSFC/R W WILLIAMS, MSFC/E RESKE
CASE Category: 49 – ENGINEERING, OTHER

NAG10 285 **UNIV OF FLORIDA**
 CRYOGENICS R&T SUPPORT FOR KENNEDY SPACE CENTER CRYOGENICS
 R&T SUPPORT FOR KENNEDY SPACE CENTER
 06/05/2000 - 05/18/2003 FY03: -\$17 Total: \$224,983
Prin. Invest.: C SEGAL
Tech. Officer: KSC/M LONERGAN
CASE Category: 43 – CHEMICAL ENGR

NAG10 291 **UNIV OF FLORIDA**
 TIANGENIC PLANT BIOMONITORS TIANGENIC PLANT BIOMONITORS
 09/29/2000 - 09/30/2004 FY03: \$140,000 Total: \$505,399
Prin. Invest.: R J FERL
Tech. Officer: KSC/D R COX
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG10 293 **UNIV OF FLORIDA**
 DEVELOPMENT OF AN OBJECT-ORIENTED ALS-CROP DATABASE SYSTEM
 FOR DOCUMENTING RESEARCH AND MARS DEPLOY
 12/08/2000 - 10/29/2003 FY03: \$30,000 Total: \$137,500
Prin. Invest.: R A BUCKLIN
Tech. Officer: KSC/J C SAGER
CASE Category: 55 – AGRICULTURE

NAG10 316 **UNIV OF FLORIDA**
 SPACE BIOTECHNOLOGY AND COMMERCIAL APPLICATIONS
 04/29/2002 - 09/30/2004 FY03: \$0 Total: \$4,750,000
Prin. Invest.: W M PHILLIPS
Tech. Officer: KSC/D FITCH
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 1 01023 **UNIV OF FLORIDA**
 REAL-TIME FEEDBACK FLOW CONTROL
 02/14/2001 - 01/31/2004 FY03: \$70,000 Total: \$210,000
Prin. Invest.: L N CATTAFESTA, III, M SHEPLAK
Tech. Officer: LARC/A E WASHBURN, LARC/W L SELLERS
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 1 01060 **UNIV OF FLORIDA**
 CHARACTERIZATION OF MICROMACHINED THERMAL SHEAR STRESS SEN-
 SOR FOR QUANTITATIVE TURBULENCE MEASUREMENT
 08/30/2001 - 08/31/2004 FY03: \$31,907 Total: \$102,167
Prin. Invest.: M SHEPLAK, W SHYY, L N CATTAFESTA, III
Tech. Officer: LARC/A E WASHBURN, LARC/A E WASHBURN
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 02004 **UNIV OF FLORIDA**
 FLEXIBLE WING BASED MICRO AERIAL VEHICLES
 12/19/2001 - 12/18/2004 FY03: \$80,254 Total: \$150,919
Prin. Invest.: P G IFJU
Tech. Officer: LARC/M R WASZAK
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1197 **UNIV OF FLORIDA**
 DO INTEGRINS MEDIATE THE SKELETAL RESPONSE TO ALTE RED LOAD-
 ING? (SUBPROJECT C)
 08/28/2000 - 09/30/2004 FY03: \$0 Total: \$75,231
Prin. Invest.: T J WRONSKI
Tech. Officer: ARC/R K GLOBUS, ARC/E M HOLTON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5403 **UNIV OF FLORIDA**
 COMPUTATIONAL INVESTIGATION OF CARBON NANOTUBE MATERIALS
 10/11/2000 - 11/30/2002 FY03: \$0 Total: \$90,131
Prin. Invest.: S SINNOTT
Tech. Officer: ARC/H PARTRIDGE, ARC/M MEYYPAN
CASE Category: 22 – COMPUTER SCIENCE

NCC 3 994 **UNIV OF FLORIDA**
 INST FOR FUTURE SPACE TRANSPORT INST FOR FUTURE SPACE TRANS-
 PORT
 08/19/2002 - 08/18/2007 FY03: \$3,000,000 Total: \$3,740,000
Prin. Invest.: D SHYY
Tech. Officer: GRC/M HYATT
CASE Category: 41 – AERONAUTICAL ENGR

NCC 8 149 **UNIV OF FLORIDA**
 RESEARCH IN COMMUNICATING SCIENTIFIC KNOWLEDGE
 12/22/1997 - 08/31/2002 FY03: \$0 Total: \$1,039,917
Prin. Invest.: D TREISE
Tech. Officer: MSFC/R KOCZOR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 8 157 **UNIV OF FLORIDA**
 SOUTHEAST REGIONAL EARTH SCIENCE APPLICATIONS CENTER
 10/20/1998 - 10/20/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: J W JONES, J W HANSEN
Tech. Officer: MSFC/J ARNOLD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 9 110 **UNIV OF FLORIDA**
 ENVIRONMENTAL SYSTEMS COMMERCIAL SPACE TECH CNTR
 09/22/2000 - 11/30/2005 FY03: \$509,542 Total: \$1,936,283
Prin. Invest.: J J WARWICK
Tech. Officer: JSC/K R DAUES
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NGT 1 01022 **UNIV OF FLORIDA**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 06/01/2001 - 06/30/2003 FY03: \$0 Total: \$22,000
Prin. Invest.: M SHEPLAK
Tech. Officer: LARC/K K TEDJOJUWONS
CASE Category: 41 – AERONAUTICAL ENGR

NGT 3 52394 **UNIV OF FLORIDA**
 ALLOYING EFFECTS ON HIGH TEMPERATURE SHAPE MEMORY ALLOYS
 07/25/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M J KAUFFMAN
Tech. Officer: GRC/W WHITLOW
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 128 **UNIV OF FLORIDA**
 ADAPTIVE SATELLITE ATTITUDE CONTROL/KEVIN J. WALCH KO
 08/22/2001 - 07/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: P C MASON
Tech. Officer: GSFC/M S BURRELL
CASE Category: 46 – MECHANICAL ENGR

NGT 5 30500 **UNIV OF FLORIDA**
 LINKING CHANGES TO DYNAMIC VEGETATION TO PASSIVE MICROWAVE
 REMOTE SENSING (STUDENT: KAI-JEN TIEN)
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J JUDGE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NGT 5 30523 UNIV OF FLORIDA
 TWENTY YEARS OF LAND-COVER AND LAND-USE CHANGE EFFECTS IN NEARSHORE MARINE RESOURCES IN S CHILE
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M BINFORD
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50443 UNIV OF FLORIDA
 EFFECTS OF THE CALCIUM ACTIVATED PROTEOLYTIC SYSTEM ON THE UBIQUITIN PROTEASOME PROTEOLYTIC PATHWAY
 04/17/2003 - 04/28/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S DODD
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50473 UNIV OF FLORIDA
 HIGH RESOLUTION MID-INFRARED IMAGING OF TRANSITIONAL HERBIVOROUS STARS: GEOMETRICAL DISTRIBUTION OF
 05/05/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C TELESCO
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52941 UNIV OF FLORIDA
 4200013055 PROTOTYPE PROBLEM OF LIQUID ENCAPSULATED CRYSTAL GROWTH - THE PHENOMENON OF ANTI-CONVECTION
 07/01/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R NARAYANAN
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 43 – CHEMICAL ENGR

NGT 8 52946 UNIV OF FLORIDA
 4200013051 "MECHANICS, PLASTICITY EVOLUTION, AND FATIGUE LIFE EVALUATION IN SINGLE-CRYSTAL ANISOTROPY
 07/30/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: N ARAKERE
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NGT10 52626 UNIV OF FLORIDA
 HIGH PERFORMANCE MASS SPECTROMETRY WITH A MINIATURE ION TRAP FOR BIOLOGICAL AND ENVIRONMENTAL MONITORING
 07/20/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: R A YOST
Tech. Officer: KSC/F ADAMS
CASE Category: 12 – CHEMISTRY

NGT10 52632 UNIV OF FLORIDA
 NASA BASED OBJECT DATABASE APPLICATION NASA BASED OBJECT DATABASE APPLICATION
 08/22/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: H BECK
Tech. Officer: KSC/C D BLACK
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT10 52633 UNIV OF FLORIDA
 PRODUCTION OF OXYGEN FROM CARBON DIOXIDE IN A MARTIAN ATMOSPHERE USING PRECIOUS METAL CATALYSTS ON
 08/22/2002 - 06/30/2003 FY03: -\$6,566 Total: \$17,434
Prin. Invest.: G B HOF LUND
Tech. Officer: KSC/C BLACK
CASE Category: 43 – CHEMICAL ENGR

NGT10 52643 UNIV OF FLORIDA
 PORTABLE HYDROGEN FUEL LEAK DETECTION USING LASER INDUCED BREAKDOWN
 08/11/2003 - 08/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D HAHN
Tech. Officer: KSC/R C YOUNGQUIST
CASE Category: 41 – AERONAUTICAL ENGR

NGT10 52644 UNIV OF FLORIDA
 GSRP - PLANT AND ENVIRONMENT INTERACTIONS IN A MARINE ENVIRONMENT
 08/20/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R A BUCKLIN
Tech. Officer: KSC/E L DEL CASTILLO
CASE Category: 55 – AGRICULTURE

NAG 5 5402 UNIV OF MIAMI
 DEVELOPMENT OF HIGH RESOLUTION CRYOGENIC MICROCALORIMETERS FOR FAST NON-DISPERSIVE X-RAY SPECTROSCOPY
 02/05/2003 - 02/04/2006 FY03: \$199,910 Total: \$199,910
Prin. Invest.: M GALEZZI
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 6659 UNIV OF MIAMI
 A STUDY OF THE IMPACT OF OCEANIC BIOLOGICAL PROCESSES ON THE AIR-SEA EXCHANGE OF METHYL BROMIDE:
 11/20/1997 - 04/30/2004 FY03: \$33,098 Total: \$419,359
Prin. Invest.: R ZIKA
Tech. Officer: GSFC/C W TREES
CASE Category: 11 – ASTRONOMY

NAG 5 8864 UNIV OF MIAMI
 SEAWIFS DATA COLLECTION, CALIBRATION, & PROCESSING FOR THE INDIAN OCEAN
 12/02/1999 - 01/31/2002 FY03: -\$21 Total: \$106,989
Prin. Invest.: R H EVANS
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9066 UNIV OF MIAMI
 PRESENT DAY TECTONICS OF THE CENTRAL ANDES
 02/18/2000 - 02/28/2002 FY03: \$3,386 Total: \$69,386
Prin. Invest.: T H DIXON
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9068 UNIV OF MIAMI
 VOLCANO PLUME MONITORING USING UNMANNED AERIAL VEHICLES
 02/17/2000 - 02/28/2003 FY03: \$0 Total: \$188,510
Prin. Invest.: T H DIXON
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9627 UNIV OF MIAMI
 A SATELLITE DATA RECEPTION & ANALYSIS FACILITY FOR ENVIRONMENTAL MONITORING IN THE SOUTHEASTERN
 08/10/2000 - 07/14/2003 FY03: \$0 Total: \$1,912,800
Prin. Invest.: T DIXON
Tech. Officer: GSFC/A R TUYAHOV
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

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<p>NAG 5 9739 UNIV OF MIAMI DERIVATION, VALIDATION, & EXPLOITATION OF SEA-SUR FACE TEMPERATURES MEASURED BY SENSORS ON TRMM 06/28/2000 - 05/31/2004 FY03: \$42,500 Total: \$289,000 <i>Prin. Invest.:</i> P J MINNETT <i>Tech. Officer:</i> GSFC/R J LAWRENCE <i>CASE Category:</i> 31 – ATMOSPHERIC SCIENCE</p>	<p>NAG 5 11864 UNIV OF MIAMI WAVES: AN UNDULATING OCEAN SURFACE 03/13/2002 - 02/28/2003 FY03: \$0 Total: \$10,000 <i>Prin. Invest.:</i> H GRABER <i>Tech. Officer:</i> GSFC/E LINDSTROM <i>CASE Category:</i> 33 – OCEANOGRAPHY</p>
<p>NAG 5 10588 UNIV OF MIAMI CONTINUED PROCESSING & EXTENSION OF THE AVHRR PATH FINDER OCEANS GLOBALSEA SURFACE TEMPERATUREDATA 03/20/2001 - 03/31/2004 FY03: \$0 Total: \$220,180 <i>Prin. Invest.:</i> R EVANS <i>Tech. Officer:</i> GSFC/J DODGE <i>CASE Category:</i> 33 – OCEANOGRAPHY</p>	<p>NAG 5 12103 UNIV OF MIAMI LONG-RANGE TRANSPORT OF VIABLE MICROORGANISMS THRO UGH THE ATMOSPHERE: THE IMPACT OF AFRICANSOURC 04/25/2002 - 10/31/2003 FY03: \$2,976 Total: \$72,908 <i>Prin. Invest.:</i> J M PROSPERO <i>Tech. Officer:</i> GSFC/N MAYNARD <i>CASE Category:</i> 31 – ATMOSPHERIC SCIENCE</p>
<p>NAG 5 10725 UNIV OF MIAMI ACTIVITIES AS PROJECT SCIENTIST OF THE GLOBAL MODE LING INITIATIVE. 04/09/2001 - 02/29/2004 FY03: \$0 Total: \$329,916 <i>Prin. Invest.:</i> J RODRIGUEZ <i>Tech. Officer:</i> GSFC/P DECOLA <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>	<p>NAG 5 12513 UNIV OF MIAMI FEASIBILITY STUDY TO DETERMINE OCEANIC MIXED LAYER DEPTH USING LIDAR MEASUREMENTS 08/27/2002 - 08/31/2003 FY03: \$49,865 Total: \$99,865 <i>Prin. Invest.:</i> D BOGUCKI <i>Tech. Officer:</i> GSFC/C TREES <i>CASE Category:</i> 11 – ASTRONOMY</p>
<p>NAG 5 10963 UNIV OF MIAMI IMPROVING TROPICAL CYCLONE QUANTITATIVE PRECIPITATION FORECASTS USING TRMM PRECIPITATION ESTIMATES 06/01/2001 - 05/31/2004 FY03: \$35,000 Total: \$140,000 <i>Prin. Invest.:</i> S S CHEN <i>Tech. Officer:</i> GSFC/R J LAWRENCE <i>CASE Category:</i> 31 – ATMOSPHERIC SCIENCE</p>	<p>NAG 5 13301 UNIV OF MIAMI BLAST - LDB EXTRA-GALACTIC STUDIES 04/16/2003 - 04/30/2006 FY03: \$126,473 Total: \$126,473 <i>Prin. Invest.:</i> J GUNDERSEN <i>Tech. Officer:</i> GSFC/J A FROGEL <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>
<p>NAG 5 11104 UNIV OF MIAMI TRANS-OCEANIC MEASUREMENTS FOR EOS AQUA VALIDATION AQUA-0058-0087 07/13/2001 - 08/31/2004 FY03: \$209,345 Total: \$643,544 <i>Prin. Invest.:</i> P J MINNETT <i>Tech. Officer:</i> GSFC/D Q STARR <i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER</p>	<p>NAG 9 1346 UNIV OF MIAMI CELL TRANSPLANTATION THERAPY FOR DIABETES 08/15/2001 - 09/30/2004 FY03: \$252,000 Total: \$574,000 <i>Prin. Invest.:</i> L INVERARDI <i>Tech. Officer:</i> JSC/D RISEN <i>CASE Category:</i> 51 – BIOLOGY (EXCLUDING ENVIR)</p>
<p>NAG 5 11277 UNIV OF MIAMI ANALYSIS OF TROPOSPHERIC MEASUREMENTS UTILIZING A HIERARCHY OF MODELS 08/22/2001 - 08/31/2004 FY03: \$82,566 Total: \$161,121 <i>Prin. Invest.:</i> J RODRIQUEZ <i>Tech. Officer:</i> GSFC/P DECOLA <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>	<p>NAG13 02050 UNIV OF MIAMI CSTARS"DATA RECEPTION AND ANALYSIS FOR SE US, GULF OF MEXICO, CARIBBEAN BASIN EQUATORIAL BASIN 08/02/2002 - 07/14/2004 FY03: \$0 Total: \$1,200,000 <i>Prin. Invest.:</i> T DIXON <i>Tech. Officer:</i> SSC/C DEL CASTILLO <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>
<p>NAG 5 11392 UNIV OF MIAMI IMPROVE ESTIMATE OF GAS TRANSFER USING SCATTERO- METER 11/13/2001 - 10/31/2004 FY03: \$0 Total: \$204,364 <i>Prin. Invest.:</i> D BOGUCKI <i>Tech. Officer:</i> GSFC/J MARRA <i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER</p>	<p>NAG13 03017 UNIV OF MIAMI CENTER FOR SOUTHEASTERN TROPICAL ADVANCED REMOTE SENSING (CSTARS) 09/18/2003 - 09/17/2004 FY03: \$1,788,000 Total: \$1,788,000 <i>Prin. Invest.:</i> T H DIXON <i>Tech. Officer:</i> JSC/C E DELCASTILLO <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>
<p>NAG 5 11508 UNIV OF MIAMI RADAR OBSERVATIONS OF TROPICAL CIRRUS ANVILS 01/03/2002 - 12/31/2003 FY03: \$101,869 Total: \$166,545 <i>Prin. Invest.:</i> B A ALBRETCH <i>Tech. Officer:</i> GSFC/D ANDERSON <i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER</p>	<p>NAS 5 31361 UNIV OF MIAMI MODIS - INVESTIGATION 01/15/1992 - 12/14/2003 FY03: \$1,060,270 Total: \$10,535,270 <i>Prin. Invest.:</i> O B BROWN <i>Tech. Officer:</i> GSFC/H OSEROFF <i>CASE Category:</i> 33 – OCEANOGRAPHY</p>

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NAS 5 31362 **UNIV OF MIAMI**
 EOS/MODIS INVESTIGATION ENTITLED: "PROCESSING/ CALIBRATION FOR OCEAN OBSERVATION WITH EOS/MODIS"
 12/13/1991 - 12/14/2003 FY03: \$1,315,000 Total: \$13,914,000
Prin. Invest.: R EVANS
Tech. Officer: GSFC/H OSEROFF
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 31363 **UNIV OF MIAMI**
 MODERATE RESOLUTION IMAGING SPECTROMETER INVESTIGATION - OCEAN
 01/15/1992 - 12/14/2003 FY03: \$884,000 Total: \$7,832,000
Prin. Invest.: H GORDON
Tech. Officer: GSFC/H OSEROFF
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 01021 **UNIV OF MIAMI**
 DEPLOY FAST-GAS GC/MS SYS TO MEAS C2&C5 CARBONYLS, METHANOL & ETHANOL ON NASA AIRCRAFT DURING TRACE-
 03/13/2001 - 10/14/2002 FY03: \$0 Total: \$125,517
Prin. Invest.: D D RIEMER
Tech. Officer: LARC/J L RAPER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5500 **UNIV OF MIAMI**
 CLUES TO CORAL REEF EXOSYSTEM HEALTH DERIVED FROM AIRBORNE HYPERSPECTRAL DATA COUPLED WITH RADIATIVE
 07/09/2002 - 07/31/2003 FY03: \$0 Total: \$10,000
Prin. Invest.: P KRAMER
Tech. Officer: ARC/L GUILD, ARC/J L DUNGAN
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NGT 5 30425 **UNIV OF MIAMI**
 A STUDY OF GLOBAL RAINFALL DISTRIBUTIONS IN TROPIC AL CYCLONES USING NASA/TRMM DATA/STUDENT: MAN
 09/19/2001 - 09/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S S CHEN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30520 **UNIV OF MIAMI**
 REMOTE SENSING CASE STUDY IN THE BAY OF BENGAL STUDENT: JOHN BROWN
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P MINNET
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50430 **UNIV OF MIAMI**
 THE ROLE OF THE ACTIN CYTOSKELETON IN GRAVITROPIC SIGNAL TRANSDUCTION IN ARABIDOPSIS THALIANA (STUDEN
 04/17/2003 - 09/01/2003 FY03: \$0 Total: \$0
Prin. Invest.: J KISS
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2614 **UNIV OF SOUTH FLORIDA**
 DEVELOPMENT OF A FLEXIBLE II-VI-BASED HIGH PERFORMANCE HIGH BANDGAP DEVICE FOR THIN FILM TANDEM SOL
 05/23/2001 - 09/30/2003 FY03: \$44,381 Total: \$207,958
Prin. Invest.: D MOREL
Tech. Officer: GRC/A HEPP
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 3446 **UNIV OF SOUTH FLORIDA**
 BOTTOM-ASSESSMENT AND WATER-CONSTITUTENT ALGORITHM S FOR THE ETM IN THE COASTAL ZONE
 10/10/1996 - 12/31/2001 FY03: -\$4,296 Total: \$778,385
Prin. Invest.: KARGER
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5202 **UNIV OF SOUTH FLORIDA**
 COLLABORATION ON A STUDY OF SIGMA NAUGHT BLOOM EFFECTS ON RADAR ALTIMETERS
 06/18/1998 - 12/31/2003 FY03: \$0 Total: \$110,000
Prin. Invest.: G T MITCHUM
Tech. Officer: GSFC/G S HAYNE
CASE Category: 33 – OCEANOGRAPHY

NAG 5 6449 **UNIV OF SOUTH FLORIDA**
 A NUMERICAL ANALYSIS OF NEW NITROGEN SOURCES OF NO 3 AND N2 EFFECTING CARBON CYCLING IN THE SOUTH
 10/24/1997 - 10/14/2001 FY03: \$0 Total: \$582,965
Prin. Invest.: J WALSH
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10532 **UNIV OF SOUTH FLORIDA**
 SOUTHEASTERN US X-BAND EOS DB PROCESSING AND ANALYSIS FACILITY INFRASTRUCTURE FOR ENVIRONMENT
 03/12/2001 - 02/29/2004 FY03: \$243,896 Total: \$712,587
Prin. Invest.: F MULLER-KARGER
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10738 **UNIV OF SOUTH FLORIDA**
 IMPACTS OF LARGE RIVER PLUMES ON CARBON AND SALT FLUXES IN THE SURFACE OCEAN
 04/18/2001 - 04/30/2004 FY03: \$131,062 Total: \$350,620
Prin. Invest.: C CHU
Tech. Officer: GSFC/J MARRA
CASE Category: 33 – OCEANOGRAPHY

NAG 5 10908 **UNIV OF SOUTH FLORIDA**
 A MILLENIUM GLOBAL SCALE CORAL REEF ECOSYSTEM ASSESSMENT USING HIGH RESOLUTION REMOTESENSING DATA
 05/07/2001 - 05/31/2004 FY03: \$42,481 Total: \$203,760
Prin. Invest.: S ANDREFOUET
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11254 **UNIV OF SOUTH FLORIDA**
 AN ASSESSMENT OF GLOBAL ORGANIC CARBON FLUX ALONG CONTINENTAL MARGINS
 08/20/2001 - 08/31/2004 FY03: \$89,148 Total: \$267,267
Prin. Invest.: F MULLER-KARGER
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11318 **UNIV OF SOUTH FLORIDA**
 VOLCANIC PLUME MONITORING USING UNMANNED AERIAL VEHICLES
 10/17/2001 - 09/30/2003 FY03: \$0 Total: \$202,559
Prin. Invest.: C B CONNOR
Tech. Officer: GSFC/H V FREY
CASE Category: 11 – ASTRONOMY

NAG 9 648 **UNIV OF SOUTH FLORIDA**
 EVALUATION OF OVARIAN TUMOR CELL GROWTH AND GENE EXPRESSION
 10/28/1992 - 01/31/2002 FY03: -\$4,743 Total: \$595,257
Prin. Invest.: J L BECKER
Tech. Officer: JSC/S R GONDA
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1341 **UNIV OF SOUTH FLORIDA**
 3D GROWTH EFFECTS ON DRUG RESISTANCE IN HUMAN OVARIAN TUMOR
 CELLS
 08/01/2001 - 09/30/2004 FY03: \$140,000 Total: \$310,000
Prin. Invest.: J L BECKER
Tech. Officer: JSC/D RISIN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1365 **UNIV OF SOUTH FLORIDA**
 CREATION AND TRANSPLANTATION OF IMMUNOPRIVILEGED SERTOLI-
 LERON -AGGREGATED CELLS
 07/27/2001 - 09/30/2004 FY03: \$232,000 Total: \$527,000
Prin. Invest.: S SAPORTA, D F CAMERON, A E WILLING
Tech. Officer: JSC/D RISEN
CASE Category: 56 – MEDICAL

NAG 9 1431 **UNIV OF SOUTH FLORIDA**
 USING LANDSAT 7 DATA IN A GISBASED REVISION OF REEF BASE
 05/30/2002 - 04/07/2005 FY03: \$131,729 Total: \$192,308
Prin. Invest.: S ANDREFOUET
Tech. Officer: JSC/G BYRNE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG10 204 **UNIV OF SOUTH FLORIDA**
 EDUCATION GRANT ENTITLED "YES WE CARE"
 01/07/1997 - 06/30/2002 FY03: -\$21,376 Total: \$303,170
Prin. Invest.: R E HENNING
Tech. Officer: KSC/J A DIGGS
CASE Category: 41 – AERONAUTICAL ENGR

NAG10 310 **UNIV OF SOUTH FLORIDA**
 EVALUATION OF A SURFACE-APPLIED CATHODIC PROTECTION SYSTEM
 02/11/2002 - 09/30/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: D A SAGUESS
Tech. Officer: KSC/L MACDOWELL
CASE Category: 47 – METAL & MATERIALS ENGR

NAS 5 31716 **UNIV OF SOUTH FLORIDA**
 EARTH OBSERVING SYSTEM MODIS/HIRIS TEAM MEMBER INVESTIGATION
 01/15/1992 - 12/14/2003 FY03: \$508,274 Total: \$6,717,442
Prin. Invest.: K R CARDER
Tech. Officer: GSFC/H OSEROFF
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 3 52395 **UNIV OF SOUTH FLORIDA**
 DEPLOYABLE ANTENNA SYSTEMS FOR ACTIVE/PASSIVE RADAR AND
 COMMUNICATIONS
 08/05/2003 - 08/03/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: L P DUNLEAVY
Tech. Officer: GRC/W WHITLOW
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 30346 **UNIV OF SOUTH FLORIDA**
 CHARACTERIZATION OF CDOM RIVERINE CONTRIBUTION AND DISTRIBUTION
 THOROUGH REMOTE SENSING SATELLITE IMA
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: P COBLE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30354 **UNIV OF SOUTH FLORIDA**
 IMPACT OF LARGE & SMALL RIVERSON ADJACENT OCEANIC
 ENVIRONMENTS/STUDENT: ANA ODRIOLLA
 08/24/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: F MULLER-KARGER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30414 **UNIV OF SOUTH FLORIDA**
 MAPPING AND MONITORING OF CHANGE IN THE FLORIDA KEYS REEF
 TRACT FROM SPACE USING LANDSAT 7, MODIS
 08/15/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: F MULLER-KARGER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30498 **UNIV OF SOUTH FLORIDA**
 SEASONAL DISTRIBUTION AND CYCLING OF CDOM STUDENT: ROBYN
 CONNOR
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P COBLE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50422 **UNIV OF SOUTH FLORIDA**
 IRON FERTILIZATION OF TRICHODESMIUM ON THE WEST FLORIDA SHELF:
 A THREE-DIMENSIONAL PHYSICAL MODEL
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: D L STILL
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1225 **UNIV OF WEST FLORIDA**
 ATTENTION DIRECTING PILOTING DISPLAY: OZ A COMPUTER BASED
 HUMAN-CENTERED SYSTEM
 05/29/1998 - 01/31/2002 FY03: \$0 Total: \$472,427
Prin. Invest.: D L STILL
Tech. Officer: ARC/D C FOYLE
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 1490 **UNIV OF WEST FLORIDA**
 TACTILE INTERFACES TO ENHANCE SAFETY PERFORMANCE AND
 RELIABILITY IN AGRICULTURAL
 07/02/2001 - 06/30/2002 FY03: -\$73 Total: \$53,927
Prin. Invest.: A K RAJ
Tech. Officer: ARC/J DEMAIO
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 5 8782 **UNIV OF WEST FLORIDA**
 HAPTIC INTERFACES TO AUGMENT HUMAN/MACHINE INTERACTION IN
 SPACE ACTIVITIES
 08/30/1999 - 08/31/2002 FY03: \$0 Total: \$402,754
Prin. Invest.: A K RAJ
Tech. Officer: GSFC/R CROUCH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NAG 9 1386 **UNIV OF WEST FLORIDA**
 HUMAN CENTERED COMPUTING PERSPECTIVE ON MARS EXPLO RATION
 09/21/2001 - 10/31/2002 FY03: \$0 Total: \$175,000
Prin. Invest.: J HANSEN
Tech. Officer: JSC/B WARD
CASE Category: 49 – ENGINEERING, OTHER

NCC 2 1191 **UNIV OF WEST FLORIDA**
 UNSOLOCIATED PROPOSAL TO ESTABLISH THE INFORMATION TECHNOL-
 OGY ASSESSMENT CONSORTIUM (ITAC) & SUPPOR
 08/07/2000 - 05/31/2002 FY03: -\$35 Total: \$959,814
Prin. Invest.: K M FORD
Tech. Officer: ARC/M E DUENAS
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1239 **UNIV OF WEST FLORIDA**
 POLISHING: ENHANCING DATA QUALITY BY REPAIRING IM PERFECTIONS
 04/06/2001 - 02/29/2004 FY03: \$144,822 Total: \$419,822
Prin. Invest.: C M TENG
Tech. Officer: ARC/J SKILES
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1254 **UNIV OF WEST FLORIDA**
 TEAMWORK IN PRACTICE: DESIGN FOR COLLABORATION IN MIXED
 HUMAN-ROBOTIC TEAMS
 04/27/2001 - 02/29/2004 FY03: \$210,000 Total: \$546,500
Prin. Invest.: J M BRADSHAW
Tech. Officer: ARC/R L ALENA, ARC/M G SHAFTO
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1283 **UNIV OF WEST FLORIDA**
 MULTI-AGENT SOFTWARE DESIGN & ENGINEERING FOR HUMA
 N-CENTERED COLLABORATIVE AUTONOMOUS SPACE SYSTEMS
 09/04/2001 - 08/31/2004 FY03: \$300,248 Total: \$747,648
Prin. Invest.: J M BRADSHAW
Tech. Officer: ARC/D CLANCY
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1295 **UNIV OF WEST FLORIDA**
 MULTI-DOMAIN NETWORK LEARNING ALGORITHMS OF LATENT VARIABLE
 INTERPRETATION AND DISCOVERING GENETIC
 11/08/2001 - 02/28/2003 FY03: \$0 Total: \$295,493
Prin. Invest.: C GLYMOUR
Tech. Officer: ARC/J C COUGHLAN
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1297 **UNIV OF WEST FLORIDA**
 CMAP TOOLS: A SOFTWARE ENVIRONMENT FOR KNOWLEDGE MODELING
 & SHARING
 12/18/2001 - 12/14/2003 FY03: \$200,000 Total: \$300,000
Prin. Invest.: A CANAS
Tech. Officer: ARC/M SHAFTO, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1377 **UNIV OF WEST FLORIDA**
 DEVELOPMENT AND TESTING OF DATA MINING ALGORITHMS FOR EARTH
 OBSERVATION AND OTHER NASA APPLICATIONS
 12/23/2002 - 12/14/2004 FY03: \$204,842 Total: \$204,842
Prin. Invest.: C GLYMOUR
Tech. Officer: ARC/J COUGHLAN, ARC/K GOLDEN
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1399 **UNIV OF WEST FLORIDA**
 APPLICATIONS OF PRINCIPLED SEARCH METHODS IN STUDI ES OF
 CLIMATE INFLUENECES AND MECHANISMS
 03/05/2003 - 03/31/2004 FY03: \$267,000 Total: \$267,000
Prin. Invest.: C GLYMOUR
Tech. Officer: ARC/J COUGHLAN, ARC/B HINE
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1413 **UNIV OF WEST FLORIDA**
 EXPLOITING COMPUTATIONAL MOBILITY FOR SPACE EXPLOR ATION
 06/30/2003 - 06/30/2004 FY03: \$190,841 Total: \$190,841
Prin. Invest.: K FORD
Tech. Officer: ARC/R MORRIS, ARC/B HINE
CASE Category: 22 – COMPUTER SCIENCE

NAG10 165 **VALENCIA COMM COLLEGE**
 HIGH TECH TRNG OF INDIVIDUALS W/DISABILITY
 06/06/1995 - 08/31/2002 FY03: -\$27,801 Total: \$122,242
Prin. Invest.: K WOODBERRY
Tech. Officer: KSC/G BUCKINGHAM
CASE Category: 22 – COMPUTER SCIENCE

GEORGIA

NAG 3 2806 **ALBANY STATE UNIV**
 PRECOLLEGE ACHIEVEMENT OF EXCELLENCE IN MATHEMATIC S, SCI-
 ENCE, ENGINEERING AND TECHNOLOGY (PACE/MSET)
 09/12/2002 - 09/12/2005 FY03: \$99,107 Total: \$198,214
Prin. Invest.: G WRENSFORD
Tech. Officer: GRC/R F LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 265 **ALBANY STATE UNIV**
 ALBANY STATE UNIV HIGH SCHOOL/HIGH TECH ALBANY STATE UNIV HIGH
 SCHOOL/HIGH TECH
 09/10/1999 - 11/30/2002 FY03: -\$7,085 Total: \$192,915
Prin. Invest.: D HODGES-TILLER
Tech. Officer: KSC/R J MCKINNEY
CASE Category: 79 – SOCIAL SCIENCE, OTHER

NAG 1 01091 **CLARK ATLANTA UNIV**
 COMMERCIAL PROCESS DEVELOPMENT FOR POLYIMIDE FOAMS
 05/24/2001 - 05/24/2004 FY03: \$75,000 Total: \$225,000
Prin. Invest.: D R VEAZIE
Tech. Officer: LARC/E S WEISER
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 2 1613 **CLARK ATLANTA UNIV**
 COMPUTATIONAL MODELS IN VISION BRIDGES BETWEEN BIO LOGICAL
 VISION AND COMPUTER VISION
 01/29/2003 - 01/14/2004 FY03: \$97,800 Total: \$97,800
Prin. Invest.: N KAMESWARA
Tech. Officer: ARC/A CARDENAS
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2292 **CLARK ATLANTA UNIV**
 TEST AND EVALUATION OF NONCHROMATE FINISHING AGENT
 09/29/1999 - 08/23/2002 FY03: \$0 Total: \$199,998
Prin. Invest.: D OKHIO
Tech. Officer: GRC/R LAWRENCE
CASE Category: 43 – CHEMICAL ENGR

NAG 3 2833 **CLARK ATLANTA UNIV**
 MULTISCALE MODELING OF METALLIC ALLOYS MULTISCALE MODELING OF METALLIC ALLOYS
 12/23/2002 - 11/17/2005 FY03: \$99,960 Total: \$99,960
Prin. Invest.: X WANG
Tech. Officer: GRC/C C CHAMIS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 11434 **CLARK ATLANTA UNIV**
 ELECTRON COLLISIONAL EXCITATION STRENGTHS FOR IONS OF ASTRO-PHYSICAL INTEREST
 12/05/2001 - 03/31/2005 FY03: \$65,000 Total: \$130,000
Prin. Invest.: S S TAYAL
Tech. Officer: GSFC/H HASAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12930 **CLARK ATLANTA UNIV**
 IN SUPPORT OF NASA STUDIES OF PRECIPITATION ANOMALIES FROM WIDESPREAD URBAN LANDUSE (SPRAWL) PROJECT
 03/05/2003 - 03/14/2004 FY03: \$29,999 Total: \$29,999
Prin. Invest.: C GARZA
Tech. Officer: GSFC/M SHEPHERD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13340 **CLARK ATLANTA UNIV**
 ELECTRON COLLISION RATES OF ATOMS & IONS FOR APPLICATION TO ATMOSPHERES OF PLANETS & THEIR SATELLITES
 04/17/2003 - 04/14/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: S TAYAL
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 03010 **CLARK ATLANTA UNIV**
 A 3-D DISPERSION MODEL FOR MOBILE SOURCE EMISSIONS A 3-D DISPERSION MODEL FOR MOBILE SOURCE EMISSION
 03/25/2003 - 03/19/2004 FY03: \$11,025 Total: \$11,025
Prin. Invest.: I FOMUNUNG
Tech. Officer: SSC/R E TRAVIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 3 01201 **CLARK ATLANTA UNIV**
 RESIN TRANSFER MOLDING AND VACUUM ASSISTED RESIN TRANSFER MOLDING PROGRAM
 08/27/2001 - 01/21/2004 FY03: \$50,000 Total: \$231,137
Prin. Invest.: E A MINTZ
Tech. Officer: GRC/M A MEADOR
CASE Category: 12 – CHEMISTRY

NAS 3 02104 **CLARK ATLANTA UNIV**
 PEM-FAN ALL COMPOSITE ELECTRIC AIRCRAFT ENGINE CONCEPT
 06/13/2002 - 01/22/2003 FY03: \$0 Total: \$99,786
Prin. Invest.: J A FABUNMI
Tech. Officer: GRC/J A SEIDEL, GRC/L A BURKARDT
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1396 **CLARK ATLANTA UNIV**
 SIMULATION OF CAVITATING FLOWS USING MIXED DISCONTINUOUS GALERKIN AND STABILIZED GALERKIN FINITE ELEMENTS
 03/03/2003 - 03/31/2004 FY03: \$75,000 Total: \$75,000
Prin. Invest.: S K ALIABALI
Tech. Officer: ARC/D KWAK, ARC/C KIRIS
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 3 552 **CLARK ATLANTA UNIV**
 HIGH PERFORMANCE POLYMERS AND COMPOSITES CENTER
 04/29/1997 - 03/31/2004 FY03: \$0 Total: \$5,799,363
Prin. Invest.: A A MINTZ
Tech. Officer: GRC/S DUTTA, GRC/M A MEADOR
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 707 **CLARK ATLANTA UNIV**
 LIQUID FUELS: PYROLYTIC DEGRADATION AND FIRE SPREAD BEHAVIOR AS INFLUENCED BY BUOYANCY
 05/19/1999 - 03/14/2003 FY03: \$60,000 Total: \$403,169
Prin. Invest.: Y D YEBOAH
Tech. Officer: GRC/H D ROSS
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 910 **CLARK ATLANTA UNIV**
 DEVELOPMENT OF THERMALLY STABLE AND HIGHLY FLUORESCENT IR DYES
 08/21/2001 - 08/19/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: D R BU
Tech. Officer: GRC/M A MEADOR
CASE Category: 12 – CHEMISTRY

NCC 3 911 **CLARK ATLANTA UNIV**
 DEVELOPING NOVEL FLUORESCENT MATERIALS WITH NEAR INFRARED EMISSION BY USING M-PHEYLENE
 09/04/2001 - 03/14/2004 FY03: \$51,197 Total: \$91,197
Prin. Invest.: D PANG
Tech. Officer: GRC/M A MEADOR
CASE Category: 12 – CHEMISTRY

NCC 3 1044 **CLARK ATLANTA UNIV**
 HIGH PERFORMANCE POLYMERS AND COMPOSITES CENTER
 04/01/2003 - 12/02/2006 FY03: \$1,199,854 Total: \$1,199,854
Prin. Invest.: E A MINTZ
Tech. Officer: GRC/M A MEADOR
CASE Category: 12 – CHEMISTRY

NCC 5 347 **CLARK ATLANTA UNIV**
 INTEGRATION OF RESEARCH AND EDUCATION IN THE AREA OF EARTH SYSTEMS SCIENCE
 07/01/1998 - 12/31/2003 FY03: \$0 Total: \$2,399,572
Prin. Invest.: C H WILLIAMS
Tech. Officer: GSFC/M MATHEWS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 666 **CLARK ATLANTA UNIV**
 CLARK ATLANTA UNIV. AND PARTNERS CENTER FOR PREPARING MATHEMATICS AND SCIENCE TEACHERS FOR URBAN
 08/22/2002 - 08/31/2005 FY03: \$195,240 Total: \$394,018
Prin. Invest.: B FLOURNOY
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2728 **EMORY UNIV**
 CONFOCAL MICROSCOPY OF THE COLLOIDAL GLASS TRANSITION
 05/06/2002 - 05/05/2006 FY03: \$97,554 Total: \$182,552
Prin. Invest.: E R WEEKS
Tech. Officer: GRC/R B ROGERS
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1579 **EMORY UNIV**
 DESIGN, SYNTHESIS, AND CHARACTERIZATION OF WELL- DEFINED, BIOMIMETIC POLYPEPTIDE NETWORKS"
 01/05/1999 - 11/30/2003 FY03: \$0 Total: \$453,708
Prin. Invest.: V CONTICELLO
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 9 144 **EMORY UNIV**
 MODELING PROSTATE CANCER SKELETAL METASTASIS & GEN E THERAPY
 12/14/2001 - 11/30/2003 FY03: \$0 Total: \$349,733
Prin. Invest.: L CHUNG
Tech. Officer: JSC/D RISIN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 1 2146 **GEORGIA INST OF TECHNOLOGY**
 APPLIC OF CIRCULATION CONTROL TECHNOL TO AIRFRAME NOISE REDUCTION
 03/09/1999 - 02/28/2003 FY03: \$0 Total: \$643,983
Prin. Invest.: K K AHUIA, L N SANKAR, R J ENGLAN
Tech. Officer: LARC/R R ANTCLIFF
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2149 **GEORGIA INST OF TECHNOLOGY**
 DEVELOPMENT FOR ADVANCED LIFE CYCLE COSTING METHOD FOR TECHNOLOGY BENEFITS/COSTS/RISK ASSESSMENT
 03/26/1999 - 12/31/2001 FY03: -\$1 Total: \$323,592
Prin. Invest.: D N MAVRIS
Tech. Officer: LARC/M D MOORE, LARC/P A GELHAUSEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2175 **GEORGIA INST OF TECHNOLOGY**
 RAPIDLY RE-CONFIGURABLE FLIGHT SIMULATOR TOOLS FOR CREW VEHICLE INTEGRATION RESEARCH AND DESIGN
 04/09/1999 - 03/29/2002 FY03: -\$1 Total: \$85,819
Prin. Invest.: A R PRITCHETT
Tech. Officer: LARC/P C SCHUTTE, LARC/A C TRUJILLO
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 2202 **GEORGIA INST OF TECHNOLOGY**
 SAGE II OZONE (V6.0) ANAL W/EMPHASIS ON LONG TERM TRENDS IN THE LOWER STRATOSPHERE(NRA-98-OES-04)
 06/11/1999 - 07/07/2002 FY03: -\$41 Total: \$254,659
Prin. Invest.: D M CUNNOLD
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2235 **GEORGIA INST OF TECHNOLOGY**
 EXPLORATION OF ADVANCED PROBABILISTIC/STOCHASTIC DESIGN METHODS
 08/26/1999 - 12/31/2002 FY03: -\$1 Total: \$404,694
Prin. Invest.: D MAVRIS
Tech. Officer: GRC/R E YACKOVETSKY, GRC/M D MOORE
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 2243 **GEORGIA INST OF TECHNOLOGY**
 DEMO/EVAL OF INTELLIGENT FLT PROPULSION & CONTROL SYS UNDER UNANTICIPATED CRITICALFAILURE CONDITION
 09/27/1999 - 09/30/2002 FY03: \$0 Total: \$162,846
Prin. Invest.: A J CALISE
Tech. Officer: LARC/P W GOODE
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 1 2245 **GEORGIA INST OF TECHNOLOGY**
 INCONEL HOLLOW SPHERE STRUCTURES FOR LIGHTWEIGHT PANELS -- NRA 99-LARC-1
 09/22/1999 - 01/31/2002 FY03: -\$1 Total: \$50,000
Prin. Invest.: J K COCHRAN, J K LEE, T H SANDERS
Tech. Officer: LARC/W D BREWER, LARC/S J HALES
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 2312 **GEORGIA INST OF TECHNOLOGY**
 NANOTUBE REINFORCEMENT OF ADHESIVELY BONDED JOINTS
 06/20/2000 - 06/30/2003 FY03: -\$1 Total: \$59,933
Prin. Invest.: W S JOHNSON
Tech. Officer: LARC/B J JENSEN
CASE Category: 46 – MECHANICAL ENGR

NAG 1 01055 **GEORGIA INST OF TECHNOLOGY**
 INTELLIGENT PILOT AIDS FOR FLIGHT RE-PLANNING IN EMERGENCIES
 04/26/2001 - 04/25/2004 FY03: \$35,000 Total: \$250,325
Prin. Invest.: A R PRITCHETT
Tech. Officer: LARC/A C TRUJILLO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01117 **GEORGIA INST OF TECHNOLOGY**
 NEURAL NETWORK BASED ADAPTIVE CONTROL FOR NONLINEAR FLIGHT REGIMES NRA 01-LARC-1
 08/16/2001 - 08/31/2004 FY03: \$130,000 Total: \$230,000
Prin. Invest.: A J CALISE, N HOVAKIMYAN
Tech. Officer: LARC/M A MOTTER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02015 **GEORGIA INST OF TECHNOLOGY**
 DEVELOPMENT OF A MINIATURE PIEZOHYDRAULIC PUMP BASED ACTUATION SYSTEM WITH A SINGLE CRYSTAL
 12/06/2001 - 12/05/2004 FY03: \$74,231 Total: \$149,185
Prin. Invest.: C S LYNCH
Tech. Officer: LARC/G C HORNER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02018 **GEORGIA INST OF TECHNOLOGY**
 EVALUATION OF THE NEW GENERATION TITANIUM MATRIX COMPOSITES FOR THE 3RD GENERATIONRLV
 12/13/2001 - 12/14/2003 FY03: \$67,622 Total: \$134,823
Prin. Invest.: W S JOHNSON
Tech. Officer: LARC/R K BIRD
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 02023 **GEORGIA INST OF TECHNOLOGY**
 DESIGN METHODOLOGIES FOR REVOLUTIONARY AEROSPACE CONCEPTS
 01/15/2002 - 12/31/2004 FY03: \$500,000 Total: \$650,000
Prin. Invest.: D N MAVRIS
Tech. Officer: LARC/R E MCKINLEY,JR, LARC/W M KIMMEL
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02054 **GEORGIA INST OF TECHNOLOGY**
 EQUIVALENT CONTINUUM CONCEPTS FOR DEFORMATION AND FRACTURE BASED ON MOLECULAR MODELING TECHNIQUES
 02/19/2002 - 02/28/2005 FY03: \$78,000 Total: \$186,000
Prin. Invest.: D L MCDOWELL, M ZHOU
Tech. Officer: LARC/E H GLAESSGEN, LARC/I S RAJU
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 13727 **GEORGIA INST OF TECHNOLOGY**
 IMPROVING THE REPRESENTATION OF LAND SURFACE PROCESSES IN
 THE NSIPP-CATCHMENT LAND SURFACE
 09/26/2003 - 09/30/2006 FY03: \$101,785 Total: \$101,785
Prin. Invest.: M STIEGLITZ
Tech. Officer: GSFC/R D KOSTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 3 00179 **GEORGIA INST OF TECHNOLOGY**
 SYSTEM STUDIES FOR NASA AEROSPACE PROPULSION AND AIRFRAME
 TECHNOLOGY
 09/28/2000 - 09/27/2005 FY03: \$0 Total: \$50,000
Prin. Invest.: R E MCKINLEY, JR, J TAI, B ROTH
Tech. Officer: LARC/C M MEYERS, LARC/M T TONG
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1638 **GEORGIA INST OF TECHNOLOGY**
 RESEARCH ENTITLED: "FAULT TOLERANT NONLINEAR ADAPTATIVE
 FLIGHT CONTROL FOR THE X-33"
 09/24/1999 - 12/31/2002 FY03: \$0 Total: \$202,275
Prin. Invest.: A CALISE
Tech. Officer: MSFC/R DABNEY, MSFC/J HANSON
CASE Category: 46 – MECHANICAL ENGR

NAS 3 02110 **GEORGIA INST OF TECHNOLOGY**
 COMBUSTION DRIVEN ACTUATOR FOR JET NOISE REDUCTION NRA PHASE
 1
 03/05/2002 - 04/30/2003 FY03: \$0 Total: \$96,138
Prin. Invest.: K K AHUJA
Tech. Officer: GRC/J E BRIDGE, GRC/J E BRIDGES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1819 **GEORGIA INST OF TECHNOLOGY**
 PERMEABILITY TESTING OF IMPACTED COATED COMPOSITE LAMINATES
 05/21/2001 - 08/31/2002 FY03: \$0 Total: \$78,616
Prin. Invest.: W S JOHNSON
Tech. Officer: MSFC/A NETTLES
CASE Category: 47 – METAL & MATERIALS ENGR

NAS 3 02126 **GEORGIA INST OF TECHNOLOGY**
 REVOLUTIONARY/UNCONVENTIONAL AEROPROPULSION TECHNOLOGY
 05/06/2002 - 02/05/2003 FY03: \$0 Total: \$98,048
Prin. Invest.: C TAM
Tech. Officer: GRC/K T PHAM
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1912 **GEORGIA INST OF TECHNOLOGY**
 4200005658 FAULT TOLERANT NONLINEAR ADAPTIVE FLIGHT CONTROL
 FOR THE X-33
 04/01/2003 - 12/31/2003 FY03: \$81,933 Total: \$81,933
Prin. Invest.: A CALISE
Tech. Officer: MSFC/J MULQUEEN
CASE Category: 46 – MECHANICAL ENGR

NAS 3 03115 **GEORGIA INST OF TECHNOLOGY**
 ANALYSIS METHODS FOR REVOLUTIONARY UNCONVENTIONAL AEROPRO-
 PULSION CONCEPTS
 09/19/2003 - 09/18/2005 FY03: \$200,000 Total: \$200,000
Prin. Invest.: D MAVRIS
Tech. Officer: GRC/D PETERS, GRC/K PHAM
CASE Category: 41 – AERONAUTICAL ENGR

NAS 1 00087 **GEORGIA INST OF TECHNOLOGY**
 RESEARCH IN ACOUSTICS & NOISE CONTROL FOR AIRCRAFT AND SPACE
 TRANSPORTATION VEHICLES
 05/01/2000 - 04/30/2005 FY03: \$149,942 Total: \$856,329
Prin. Invest.: K K AHUJA, D E PAREKH, R J ENGLAR
Tech. Officer: LARC/L R CLARK
CASE Category: 41 – AERONAUTICAL ENGR

NAS 5 00171 **GEORGIA INST OF TECHNOLOGY**
 OZONE MONITORING INSTRUMENT (OMI) SCIENCE TEAM.
 06/07/2000 - 10/31/2004 FY03: \$115,334 Total: \$388,367
Prin. Invest.: D M CUNNOLD
Tech. Officer: GSFC/J C RIVERA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 1 02056 **GEORGIA INST OF TECHNOLOGY**
 ELECTROMAGNETIC SYSTEMS
 12/27/2001 - 12/26/2006 FY03: \$1,665,471 Total: \$2,650,233
Prin. Invest.: G HOPKINS
Tech. Officer: LARC/T S DANIELS, LARC/R T NEECE
CASE Category: 45 – ELECTRICAL ENGR

NAS10 01025 **GEORGIA INST OF TECHNOLOGY**
 OPERATIONS/MAINT SOUTHEAST REGIONAL TECH TRANSFER CENTER
 01/31/2001 - 01/31/2004 FY03: \$1,515,085 Total: \$3,743,085
Prin. Invest.: D BRIDGES, J MILLS, B HILL
Tech. Officer: KSC/C GRIFFIN, KSC/D MAKUFKA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 1 18938 **GEORGIA INST OF TECHNOLOGY**
 SAGE III EXPERIMENT SCIENTIFIC SUPPORT/CUNNOLD
 02/20/1990 - 01/31/2005 FY03: \$0 Total: \$802,700
Prin. Invest.: D M CUNNOLD
Tech. Officer: LARC/G L MADDREA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 306 **GEORGIA INST OF TECHNOLOGY**
 TROPOSPHERIC DIAGNOSTIC MODELING STUDIES OF PEM- TROPICS B
 FIELD DATA: INVESTIGATION OF THE
 07/10/1998 - 11/23/2001 FY03: -\$43 Total: \$509,283
Prin. Invest.: D D DAVIS, G CHEN
Tech. Officer: LARC/J M HOELL, JR., LARC/R J BENDURA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 1 99073 **GEORGIA INST OF TECHNOLOGY**
 R & D OF ELECTROMAGNETIC SYSTEMS
 02/17/1999 - 02/16/2004 FY03: \$0 Total: \$1,764,492
Prin. Invest.: G GIMMESTAD
Tech. Officer: LARC/S D HARRAH
CASE Category: 45 – ELECTRICAL ENGR

NCC 1 401 **GEORGIA INST OF TECHNOLOGY**
 HUMAN FACTORS CONSIDERATIONS FOR SAFE RECOVERY FROM FAULTS
 IN FLIGHT CONTROL SYSTEMS
 06/08/2000 - 12/14/2003 FY03: \$23,194 Total: \$276,200
Prin. Invest.: A R PRITCHETT
Tech. Officer: LARC/C M BELCASTRO
CASE Category: 49 – ENGINEERING, OTHER

NCC 1 411 **GEORGIA INST OF TECHNOLOGY**
 RAPID MEASUREMENTS OF AEROSOL IONIC COMPOSITION AND 3-10 NM
 PARTICLE SIZE DISTRIBUTIONS ON THE NASA
 09/14/2000 - 04/30/2004 FY03: \$79,818 Total: \$532,072
Prin. Invest.: R J WEBER
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 - ATMOSPHERIC SCIENCE

NCC 1 417 **GEORGIA INST OF TECHNOLOGY**
 MEASUREMENTS OF NO AND NO₂ FROM THE ASIAN OUTFLOW INTO THE
 WESTERN PACIFIC
 09/27/2000 - 09/30/2003 FY03: \$0 Total: \$670,925
Prin. Invest.: S T SANDHOLM
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 - ATMOSPHERIC SCIENCE

NCC 1 421 **GEORGIA INST OF TECHNOLOGY**
 MEASUREMENT OF OH, H₂SO₄, MSA, AND HN03 ABOARD THE P-3B
 AIRCRAFT
 09/26/2000 - 06/30/2003 FY03: \$0 Total: \$686,108
Prin. Invest.: F L EISELE
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 - ATMOSPHERIC SCIENCE

NCC 1 01024 **GEORGIA INST OF TECHNOLOGY**
 TROPOSPH MODELG STUDIES TRACE-P FIELD DATA: INVEST HOX/NOX/03
 PHOTOCHEM SYS COUPL'G TO SULFUR/AEROSO
 01/29/2001 - 04/01/2004 FY03: \$19,550 Total: \$512,047
Prin. Invest.: D D DAVIS
Tech. Officer: LARC/V E DELUORE
CASE Category: 31 - ATMOSPHERIC SCIENCE

NCC 1 02031 **GEORGIA INST OF TECHNOLOGY**
 EXPERIMENTAL & ANALYTICAL DEVELOPMENT & EVALUATION OF AD-
 VANCED CIRCULATION CONTROL PNEUMATIC CONFIGU
 06/10/2002 - 06/09/2005 FY03: \$48,250 Total: \$98,250
Prin. Invest.: R J ENGLAR, L N SANKAR
Tech. Officer: LARC/G S JONES, LARC/M D MOORE
CASE Category: 41 - AERONAUTICAL ENGR

NCC 2 1124 **GEORGIA INST OF TECHNOLOGY**
 HOW PROFESSIONAL PILOTS PERCEIVE & RESPOND TO AMIB GUOUS &
 UNCERTAIN DECISION SITUATIONS
 07/01/1999 - 09/30/2003 FY03: \$47,319 Total: \$447,433
Prin. Invest.: U M FISCHER
Tech. Officer: ARC/J M ORASANU
CASE Category: 69 - PSYCHOLOGY, OTHER

NCC 2 1193 **GEORGIA INST OF TECHNOLOGY**
 A PROBABILISTIC APPROACH TO TECHNOLOGY, IDENTIFICATION, EVALU-
 ATION & SELECTION FOR LOW COST SPACE T
 08/24/2000 - 09/14/2003 FY03: \$0 Total: \$307,500
Prin. Invest.: D N MAVRIS
Tech. Officer: ARC/M E LIVINGSTON
CASE Category: 41 - AERONAUTICAL ENGR

NCC 2 1306 **GEORGIA INST OF TECHNOLOGY**
 AGENT BASED SIMULATION OF THE NATIONAL AIRSPACE SYSTEM FOR
 SAFETY ANALYSIS
 02/26/2002 - 02/28/2005 FY03: \$108,008 Total: \$186,859
Prin. Invest.: A R PRITCHETT
Tech. Officer: ARC/I STATLER, ARC/M M CONNORS
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NCC 2 1332 **GEORGIA INST OF TECHNOLOGY**
 DISTRIBUTED DECISION MAKING IN HIGH RISK AND HIGH STRESS ENVI-
 RONMENTS: A MODEL FOREXTENDED SPACE FL
 04/18/2002 - 04/14/2004 FY03: \$74,085 Total: \$102,566
Prin. Invest.: U M FISCHER
Tech. Officer: ARC/J ORASANU
CASE Category: 62 - PSYCHOLOGY SOCIAL ASPECTS

NCC 2 1407 **GEORGIA INST OF TECHNOLOGY**
 DEVELOPMENT OF A SYSTEM OF SYSTEMS METHODS TO ANALYZE
 FUTURE TRANSPORTATION ARCHITECTURES
 06/17/2003 - 05/31/2006 FY03: \$150,000 Total: \$150,000
Prin. Invest.: D MAVRIS
Tech. Officer: ARC/D WARDWELL
CASE Category: 41 - AERONAUTICAL ENGR

NCC 3 900 **GEORGIA INST OF TECHNOLOGY**
 MICROMACHINED HIGH FREQUENCY CIRCUITS FOR SUBMILLI METER-
 WAVE SENSORS
 06/28/2001 - 06/24/2004 FY03: \$0 Total: \$39,918
Prin. Invest.: D PAPAPOLYMEROU
Tech. Officer: GRC/G E PONCHAK
CASE Category: 45 - ELECTRICAL ENGR

NCC 3 982 **GEORGIA INST OF TECHNOLOGY**
 UNIV RESEARCH, ENGINEERING & TECHNOLOGY INST
 08/19/2002 - 08/18/2007 FY03: \$1,500,000 Total: \$3,375,001
Prin. Invest.: B T ZINN, D MAVRIS, J WILLIAMS
Tech. Officer: GRC/K T PHAM
CASE Category: 41 - AERONAUTICAL ENGR

NCC 3 1015 **GEORGIA INST OF TECHNOLOGY**
 LIGHTWEIGHT, DEPLOYABLE, DUAL-FREQUENCY/POLARIZATION MICRO-
 TRIP ANTENNA ARRAY FOR REMOTE SENSING OF
 01/07/2003 - 12/04/2005 FY03: \$0 Total: \$0
Prin. Invest.: I PAPAPOLYMEROU
Tech. Officer: GRC/L T FACCA
CASE Category: 41 - AERONAUTICAL ENGR

NCC 3 1057 **GEORGIA INST OF TECHNOLOGY**
 LIGHTWEIGHT, DEPLOYABLE DUAL-FREQUENCY/POLARIZATION MICRO-
 TRIP ANTENNA ARRAY FOR REMOTE SENSING
 05/01/2003 - 12/04/2005 FY03: \$160,390 Total: \$160,390
Prin. Invest.: I PAPAPOLYMEROU
Tech. Officer: GRC/L T FACCA
CASE Category: 41 - AERONAUTICAL ENGR

NCC 8 253 **GEORGIA INST OF TECHNOLOGY**
 RESEARCH AND DEVELOPMENT NSSTC
 02/11/2002 - 02/10/2007 FY03: \$325,000 Total: \$525,000
Prin. Invest.: J L GODDARD
Tech. Officer: MSFC/S COLEMAN, MSFC/C TALLEY
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NGT 1 02002 **GEORGIA INST OF TECHNOLOGY**
 GRADUATE STUDENT RESEARCHERS PROGRAM - GSRP
 02/08/2002 - 02/29/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: L A BOTTOMLEY
Tech. Officer: LARC/P T LILLEHEI
CASE Category: 12 - CHEMISTRY

NGT 5 50330 **GEORGIA INST OF TECHNOLOGY**
 THE EFFECTS ON LAND SURFACE HETEROGENETIES ON AERO SOL
 CONCENTRATIONS IN CHINA & THEIR IMPACT ON REG
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$62,000
Prin. Invest.: W L CHAMEIDES
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50363 **GEORGIA INST OF TECHNOLOGY**
 KINETIC FRICTION ON NON-COALESING AND NON-WETTING
 DROPS/STUDENT: MARIA-ISABEL CARNASCIALI
 06/12/2001 - 07/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: P NEITZEL
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52887 **GEORGIA INST OF TECHNOLOGY**
 DEV OF PREDICTIVE MODELS OF ADVANCED PROPULSION CONCEPTS
 FOR LOW COST SPACE TRANSPORTATION
 05/24/2000 - 08/01/2002 FY03: \$0 Total: \$44,000
Prin. Invest.: J SEITZMAN
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 49 – ENGINEERING, OTHER

NGT 8 52898 **GEORGIA INST OF TECHNOLOGY**
 A CAPABILITY TO GENERATE PHYSICS-BASED MASS ESTIMA TING RELA-
 TIONSHIPES FOR CONCEPTUAL SPACE VEHICLE
 05/25/2001 - 08/01/2002 FY03: \$0 Total: \$22,000
Prin. Invest.: J OLDS
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 13 – PHYSICS

NGT 8 52940 **GEORGIA INST OF TECHNOLOGY**
 4200013054 "DEVELOPMENT OF AN ACIVE (NON-NORMAL) MIRROR ACTUA-
 TION METHOD"
 07/01/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: H LIPKIN
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NGT 8 52943 **GEORGIA INST OF TECHNOLOGY**
 4200019897 COMMAND GENERATION AND CONTROL OF MOMEN TUM
 EXCHANGE ELECTRODYNAMIC REBOOST TETHERED SATE
 07/01/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: W SINGHOSE
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NGT13 52742 **GEORGIA INST OF TECHNOLOGY**
 RAPID MEASUREMENTS OF AEROSOL BULK COMPOSITION USING A
 PARTICLE INTO LIQUID SAMPLING SYSTEM
 07/12/2000 - 01/31/2003 FY03: \$0 Total: \$56,000
Prin. Invest.: K MAXWELL, R WEBER
Tech. Officer: SSC/R TRAVIS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT13 52750 **GEORGIA INST OF TECHNOLOGY**
 DYNAMIC FLUID FLOW SIMULATION AND VALIDATION OF E- 1 AND E-2
 LIQUID OXYGEN HYRODENMODELS
 06/18/2001 - 06/30/2003 FY03: \$0 Total: \$22,000
Prin. Invest.: R RIVERA
Tech. Officer: SSC/R HOLLAND
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11540 **GEORGIA SOUTHERN UNIV**
 GEOLOGIC MAPPING OF GENETIC ASTEROID FAMILITES: AN ALYSIS OF
 THE FACES DATABASE
 01/03/2002 - 12/31/2004 FY03: \$29,000 Total: \$59,000
Prin. Invest.: M S KELLEY
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12445 **GEORGIA SOUTHERN UNIV**
 COMPOSITIONAL INVESTIGATION AND GENETIC TESTING OF DYNAMICAL
 ASTEROID FAMILIES
 08/14/2002 - 08/14/2005 FY03: \$0 Total: \$11,000
Prin. Invest.: M S KELLEY
Tech. Officer: GSFC/J LINDLEY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 4950 **GEORGIA STATE UNIV**
 WAVELENGTH-TUNABLE NOVEL SEMICONDUCTOR FOR DETECTO RE-
 SEARCH
 06/23/1997 - 12/31/2001 FY03: \$0 Total: \$158,000
Prin. Invest.: D PERERA
Tech. Officer: GSFC/H THRONSON
CASE Category: 11 – ASTRONOMY

NAG 5 12712 **GEORGIA STATE UNIV**
 PHOTOIONIZATION, RECOMBINATION & RELATED PROCESSES IN ASTRO-
 PHYSICALLY IMPORTANT ATOMS & IONS IN THE
 01/02/2003 - 12/31/2005 FY03: \$60,000 Total: \$60,000
Prin. Invest.: S MANSON
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13733 **GEORGIA STATE UNIV**
 MULTIFREQUENCY MONITORING OF CTA 102 AND PG 1553+ 11
 09/29/2003 - 09/30/2004 FY03: \$15,080 Total: \$15,080
Prin. Invest.: H R MILLER
Tech. Officer: GSFC/J H SWANK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13766 **GEORGIA STATE UNIV**
 X-RAY OPTICAL MONITORING OF MARK 509
 09/30/2003 - 09/30/2004 FY03: \$14,760 Total: \$14,760
Prin. Invest.: H R MILLER
Tech. Officer: GSFC/J H SAWNK
CASE Category: 13 – PHYSICS

NCC 2 5479 **GEORGIA STATE UNIV**
 THE CTIOPI EFFORT TO DISCOVER NEARBY SOUTHERN STAR S
 02/07/2002 - 01/31/2003 FY03: \$0 Total: \$21,000
Prin. Invest.: T J HENRY
Tech. Officer: ARC/T P GREENE, ARC/J BREGMEN
CASE Category: 11 – ASTRONOMY

NAG 2 1416 **MEDICAL COLLEGE OF GEORGIA**
 CELLULAR & MOLECULAR MECHANISMS MEDIATING RAPID RE SEALING
 OF GRAVITY-INDUCED PLASMA MEMBRANE DISRUP
 07/12/2000 - 06/30/2004 FY03: \$168,417 Total: \$955,940
Prin. Invest.: P L MCNEIL
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2875 **MERCER UNIV CENTRAL OFFICE**
 CONTINUATION OF THE EXPERIMENTAL DESIGN FOR STABILITY AND HEAT
 TRANSFER ANALYSIS OF CONDENSING LIQUID
 05/08/2003 - 06/30/2003 FY03: \$8,161 Total: \$8,161
Prin. Invest.: L SUMMER
Tech. Officer: GRC/D W GRIFFIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 963 **MOREHOUSE SCHOOL MED**
 GRAVITY-INDUCED CHANGES ON THE STERIDOGENESIS ...
 09/25/1997 - 09/30/2001 FY03: -\$4,166 Total: \$295,800
Prin. Invest.: R SRIDARAN
Tech. Officer: JSC/K KRISHEN
CASE Category: 56 – MEDICAL

NAG 5 13633 **MOREHOUSE COLLEGE**
 CENTER FOR EXCELLENCE IN TELECOMMUNICATIONS AND SPACE
 09/02/2003 - 08/31/2004 FY03: \$846,625 Total: \$846,625
Prin. Invest.: H CHARLES
Tech. Officer: GSFC/D BROWN
CASE Category: 99 – MULTI INTERDISCIPLINARY, OTHER

NAG 9 1164 **MOREHOUSE SCHOOL MED**
 TISSUE ENGINEERING OF HUMAN RETINA IN NASA BIOREACTOR FOR
 TRANSPLANT
 10/01/1999 - 01/02/2003 FY03: \$0 Total: \$199,999
Prin. Invest.: K DUTT
Tech. Officer: JSC/C SAMS
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 8 1711 **MOREHOUSE COLLEGE**
 STRATEGIC PREPAREDNESS ADVANCING CAREERS IN
 ENGINEERING/SCIENCES (SPACE)
 03/29/2000 - 03/28/2003 FY03: \$0 Total: \$4,540,303
Prin. Invest.: J KING
Tech. Officer: MSFC/W LOVE
CASE Category: 49 – ENGINEERING, OTHER

NCC 2 1262 **MOREHOUSE SCHOOL MED**
 JOINT RESEARCH ON SPACE-RELATED BIOLOGICAL ISSUES
 05/07/2001 - 09/30/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: G SONNENFELD, M THIERRY-PALMER
Tech. Officer: ARC/S M HING, ARC/O SANTOS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIRONMENTAL)

NAG 8 1898 **MOREHOUSE COLLEGE**
 4200003921 STRATEGIC PREPAREDNESS ADVANCING CAREERS IN
 ENGINEERING/SCIENCE (PROJECT SPACE)
 03/28/2003 - 03/28/2006 FY03: \$1,150,000 Total: \$1,150,000
Prin. Invest.: J KING
Tech. Officer: MSFC/W LOVE, MSFC/M LEVERT
CASE Category: 49 – ENGINEERING, OTHER

NCC 2 1322 **MOREHOUSE SCHOOL MED**
 TELEMEDICINE APPLICATION OF AUTOGENIC FEEDBACK TRAINING EXERCISE
 AS A TREATMENT FOR SPECIFIC PATIENTS
 03/14/2002 - 02/28/2004 FY03: \$146,869 Total: \$293,795
Prin. Invest.: E OFILI
Tech. Officer: ARC/P COWLINGS, ARC/B TOSCANO
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 964 **MOREHOUSE COLLEGE**
 SIMULATED MICROGRAVITY ...
 09/25/1997 - 06/01/2002 FY03: \$0 Total: \$300,000
Prin. Invest.: K DUTT
Tech. Officer: JSC/K KRISHEN
CASE Category: 56 – MEDICAL

NCC 9 112 **MOREHOUSE SCHOOL MED**
 SPACE MEDICINE
 09/26/2000 - 06/30/2005 FY03: \$1,200,000 Total: \$3,808,596
Prin. Invest.: M THIERRY-PALMER
Tech. Officer: JSC/C SAMS, JSC/G HENDERSEN
CASE Category: 56 – MEDICAL

NAG 2 1381 **MOREHOUSE SCHOOL MED**
 BONE & CALCIUM METABOLISM IN DAHL SALT SENSITIVE & SALT RESENSITIVATED
 RATS WITH UNLOADED HINDLIMBS
 09/03/1999 - 08/31/2003 FY03: \$0 Total: \$129,499
Prin. Invest.: M THIERRY-PALMER
Tech. Officer: ARC/A J CARDENAS
CASE Category: 99 – MULTI INTERDISCIPLINARY, OTHER

NAG 5 9157 **PAINÉ COLLEGE**
 PRE-COLLEGE ENRICHMENT PROGRAM IN MATHEMATICS SCIENCE, ENGINEERING
 AND TECHNOLOGY
 03/03/2000 - 02/28/2003 FY03: \$100,000 Total: \$300,000
Prin. Invest.: R KESSLER
Tech. Officer: GSFC/M STOUTSENBERGER
CASE Category: 99 – MULTI INTERDISCIPLINARY, OTHER

NAG 2 1448 **MOREHOUSE SCHOOL MED**
 CHONDROCYTE DIFFERENTIATION & MATURATION IN HYPERSPACE GRAVITY
 09/29/2000 - 09/30/2004 FY03: \$0 Total: \$191,607
Prin. Invest.: B J KLEMENT
Tech. Officer: ARC/C E WADE, ARC/B J COLLINS
CASE Category: 99 – MULTI INTERDISCIPLINARY, OTHER

NAG 3 2758 **SPELMAN COLLEGE**
 CONTINUED DEVELOPMENT OF A PROBE FOR DETERMINING FUEL TO-OXYGEN
 RATIOS IN AIRPLANE FUEL TANKS
 03/29/2002 - 08/18/2003 FY03: \$0 Total: \$62,600
Prin. Invest.: D C CHEN
Tech. Officer: GRC/Q NGUYEN
CASE Category: 12 – CHEMISTRY

NAG 3 2611 **MOREHOUSE SCHOOL MED**
 GRAVITATIONAL EFFECTS ON NUTRIENT DIFFUSION THROUGH CARBONATE
 MATRIX
 05/22/2001 - 07/31/2005 FY03: \$100,000 Total: \$230,000
Prin. Invest.: D J KLEMENT
Tech. Officer: GRC/D W GRIFFIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2912 **SPELMAN COLLEGE**
 RAMAN-BASED OXYGEN AND NITROGEN SENSOR FOR MONITORING
 EMPTY AIRPLANE FUEL TANKS
 07/08/2003 - 06/15/2004 FY03: \$70,399 Total: \$70,399
Prin. Invest.: P C CHEN
Tech. Officer: GRC/Q NGUYEN
CASE Category: 41 – AERONAUTICAL ENGINEERING

NASA'S UNIVERSITY PROGRAM

GEORGIA

NAG 5 9313 **SPELMAN COLLEGE**
 BUILDING CAPITAL IN THE SCIENCES: TECHNOLOGY-BASED INSTRUCTIONAL LABORATORY DESIGN AND DISTANCE EDUC
 03/22/2000 - 10/31/2001 FY03: \$127,861 Total: \$1,042,861
Prin. Invest.: S T BOZEMAN
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1712 **SPELMAN COLLEGE**
 WOMEN IN SCIENCES AND ENGINEERING SCHOLARS PROGRAM
 05/15/2000 - 06/30/2003 FY03: \$0 Total: \$4,500,000
Prin. Invest.: C GILLYARD
Tech. Officer: MSFC/W LOVE
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1908 **SPELMAN COLLEGE**
 4200005788 "WOMEN IN SCIENCE AND ENGINEERING SCHOLARS PROGRAM (WISE)"
 04/11/2003 - 04/10/2006 FY03: \$1,150,000 Total: \$1,150,000
Prin. Invest.: C GILLYARD
Tech. Officer: MSFC/W LOVE
CASE Category: 49 – ENGINEERING, OTHER

NCC 8 194 **SPELMAN COLLEGE**
 CRYSTAL ENGINEERING OF NONLINEAR OPTICAL COMPOUNDS NEW APPROACH FOR PREDICTING HYPERPOLARIZABILITIES
 09/30/1999 - 09/30/2002 FY03: \$0 Total: \$298,134
Prin. Invest.: O SCRIVEN
Tech. Officer: MSFC/D O FRAIZER
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 8 227 **SPELMAN COLLEGE**
 SPELMAN COLLEGE MODEL INSTITUTIONS FOR EXCELLENCE
 06/26/2001 - 06/26/2006 FY03: \$1,000,000 Total: \$3,978,700
Prin. Invest.: A THOMPSON
Tech. Officer: MSFC/W LOVE, MSFC/E ORDONEZ
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 8376 **UNIV OF GEORGIA**
 THE ROLE OF TRANSLUCENT CLOUDS IN GALACTIC STAR FORMATION (LTS A98)
 03/09/1999 - 03/14/2002 FY03: \$0 Total: \$60,000
Prin. Invest.: L MAGNANI
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8425 **UNIV OF GEORGIA**
 NLTE MODEL ATMOSPHERES FOR VERY LOW MASS STARS (LT SA98)
 05/10/1999 - 05/14/2004 FY03: \$0 Total: \$212,115
Prin. Invest.: P H HAUSCHILD
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8469 **UNIV OF GEORGIA**
 THE EVALUATION OF SNOW WATER EQUIVALENT ACROSS GRASSLAND REGIONS
 05/06/1999 - 06/30/2002 FY03: \$0 Total: \$90,185
Prin. Invest.: T L MOTE
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8951 **UNIV OF GEORGIA**
 TEMPERATURE DEPENDENT ELECTRON RECOMBINATION RATES & SPECTRAL SIGNATURES OF ION REACTIONS RELEVANT TO
 01/21/2000 - 08/31/2003 FY03: \$0 Total: \$135,000
Prin. Invest.: N G ADAMS
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9088 **UNIV OF GEORGIA**
 ULTRAVIOLET & VISIBLE EMISSION MECHANISMS IN ASTRO PHYSICS
 02/23/2000 - 01/31/2003 FY03: \$0 Total: \$143,766
Prin. Invest.: P C STANCIL
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 9222 **UNIV OF GEORGIA**
 NON-LTE MODEL ATMOSPHERES OF HOT STARS WITH WINDS
 04/05/2000 - 04/14/2004 FY03: \$0 Total: \$233,824
Prin. Invest.: P H HAUSCHILD
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10551 **UNIV OF GEORGIA**
 MODELING OF EXTRASOLAR GIANT PLANETS WITH IMPROVED MOLECULAR LINE OPACITIES, CONTINUUM OPACITIES, CO
 03/09/2001 - 03/14/2004 FY03: \$70,000 Total: \$190,000
Prin. Invest.: P C STANCIL
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11453 **UNIV OF GEORGIA**
 CHARGE TRANSFER CALCULATIONS FOR ASTROPHYSICS
 12/06/2001 - 12/31/2005 FY03: \$70,000 Total: \$140,000
Prin. Invest.: P C STANCIL
Tech. Officer: GSFC/H HASAN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 11592 **UNIV OF GEORGIA**
 A HYBRID APPROACH FOR EVALUATING AND PREDICTING INTERACTIONS BETWEEN THE SEASONAL SNOW PACK AND THE
 01/15/2002 - 01/14/2005 FY03: \$0 Total: \$146,055
Prin. Invest.: T L MOTE
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 8 1771 **UNIV OF GEORGIA**
 COMPUTER SIMULATIONS OF CONFINED QUANTUM SYSTEMS IN MICROGRAVITY
 05/01/2001 - 01/31/2004 FY03: \$13,000 Total: \$113,000
Prin. Invest.: D P LANDAU
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1110 **UNIV OF GEORGIA**
 CONTROLLED GROWTH OF BIOLOGIC AND ABIOTIC CARBONATES AND FEROXIDES
 05/14/1999 - 08/31/2003 FY03: \$10,000 Total: \$50,000
Prin. Invest.: C S ROMANEK
Tech. Officer: JSC/E K GIBSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

HAWAII

NASA'S UNIVERSITY PROGRAM

NAG13 02003 **UNIV OF GEORGIA**
 CARBON FROM COMMUNITIES: A SATELLITE VIEW
 CARBON FROM COMMUNITIES: A SATELLITE VIEW
 11/08/2001 - 11/06/2004 FY03: \$0 Total: \$517,047
Prin. Invest.: C L NEELY
Tech. Officer: SSC/G CARTER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 8 233 **UNIV OF GEORGIA**
 ONE SHARE OF SYNCHROTRON BEAM TIME FROM THE SOUTH EASTRE-
 GIONAL COLLABROATIVE ACCESS TEAM (SER-CAT)
 09/13/2001 - 09/30/2004 FY03: \$72,423 Total: \$447,423
Prin. Invest.: B WANG
Tech. Officer: MSFC/C KUNDROT
CASE Category: 59 – LIFE SCIENCE, OTHER

NGT 5 50427 **UNIV OF GEORGIA**
 QUANTIFYING THE ROLE OF THE WESTERN TROPICAL ATLAN TIC OCEAN
 IN GLOBAL INORGANIC CARBON BUDGETS: I
 08/20/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: P YAGER
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

HAWAII

NAG 2 1374 **UNIV OF HAWAII AT MANOA - HONOLULU**
 THE EVOLUTIONARY ORIGIN & DEPLOYMENT OF HOX & PARA HOX GENES
 IN METAZOA
 08/12/1999 - 07/31/2003 FY03: \$0 Total: \$405,358
Prin. Invest.: M Q MARTINDALE
Tech. Officer: ARC/G C JAHNS, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1519 **UNIV OF HAWAII AT MANOA - HONOLULU**
 THE EVOLUTION OF GRAVITY RECEPTION IN THE METAZOA
 08/28/2001 - 08/31/2004 FY03: \$203,108 Total: \$522,380
Prin. Invest.: M Q MARTINDALE
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 6057 **UNIV OF HAWAII AT MANOA - HONOLULU**
 MAUNA KEA ASTRONOMY EDUCATION CENTER
 06/14/2002 - 06/14/2004 FY03: \$0 Total: \$11,862,000
Prin. Invest.: R Y TSENG
Tech. Officer: ARC/R MANCINI
CASE Category: 11 – ASTRONOMY

NAG 5 3451 **UNIV OF HAWAII AT MANOA - HONOLULU**
 ANALYSIS OF VOLCANIC ERUPTIONS AND FIRES USING LAN DSAT 7
 10/07/1996 - 06/30/2002 FY03: -\$176 Total: \$293,955
Prin. Invest.: FLYNN
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 4212 **UNIV OF HAWAII AT MANOA - HONOLULU**
 ORIGIN OF METEORITE PARENT BODIES AND THE MOON
 03/19/1997 - 11/30/2002 FY03: \$0 Total: \$1,812,200
Prin. Invest.: D KEIL
Tech. Officer: GSFC/D NAVA
CASE Category: 12 – CHEMISTRY

NAG 5 4495 **UNIV OF HAWAII AT MANOA - HONOLULU**
 DISTANT COMETS IN THE EARLY SOLAR SYSTEM
 05/06/1997 - 03/31/2003 FY03: \$0 Total: \$430,185
Prin. Invest.: D J MEECH
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 11 – ASTRONOMY

NAG 5 4524 **UNIV OF HAWAII AT MANOA - HONOLULU**
 OBSERVATIONS OF PLANET-CROSSING ASTEROIDS
 05/28/1997 - 08/31/2002 FY03: \$0 Total: \$220,894
Prin. Invest.: D J THOLEN
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 4669 **UNIV OF HAWAII AT MANOA - HONOLULU**
 THE SOLAR SYSTEM BEYOND NEPTUNE
 06/17/1997 - 12/31/2001 FY03: -\$1,778 Total: \$270,717
Prin. Invest.: D C JEWITT
Tech. Officer: GSFC/D NAVA
CASE Category: 11 – ASTRONOMY

NAG 5 4941 **UNIV OF HAWAII AT MANOA - HONOLULU**
 OBSERVATIONAL INVESTIGATION OF THE SOLAR INTERIOR
 06/23/1997 - 02/28/2003 FY03: \$0 Total: \$1,594,159
Prin. Invest.: J R KUHN
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 5276 **UNIV OF HAWAII AT MANOA - HONOLULU**
 PHASE 1 OF CORAL REEF ECOSYSTEM PHASE 1 OF CORAL REEF
 ECOSYSTEM
 04/17/2000 - 04/13/2005 FY03: \$0 Total: \$291,000
Prin. Invest.: M ATKINSON
Tech. Officer: GSFC/D L PIERCE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5387 **UNIV OF HAWAII AT MANOA - HONOLULU**
 "ANITA: ANTARCTIC IMPULSIVE TRANSIENT ANTENNA" FIRST INCREMEN-
 TAL FUNDING FO
 01/13/2003 - 10/31/2005 FY03: \$507,000 Total: \$507,000
Prin. Invest.: B GORHAM
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 6340 **UNIV OF HAWAII AT MANOA - HONOLULU**
 AIRCRAFT RADIATION & AEROSOL MSMTS. NEAR HAWAII: SATELLITE
 VALIDATION AT THE MOBY BUOY & THE HOT SI
 10/02/1997 - 05/31/2002 FY03: -\$1 Total: \$846,281
Prin. Invest.: J N PORTER
Tech. Officer: GSFC/D O STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 6561 **UNIV OF HAWAII AT MANOA - HONOLULU**
 SPECTROSCOPIC OBSERVATIONS OF THE PLANETS
 12/09/1997 - 03/31/2003 FY03: \$0 Total: \$159,000
Prin. Invest.: D OWEN
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 11 – ASTRONOMY

NAG 5 6829 **UNIV OF HAWAII AT MANOA - HONOLULU**
 OUTER SOLAR SYSTEM NOMENCLATURE
 01/15/1998 - 01/14/2003 FY03: \$0 Total: \$14,750
Prin. Invest.: T OWEN
Tech. Officer: GSFC/P ROGERS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7038 **UNIV OF HAWAII AT MANOA - HONOLULU**
WEAK LENSING FROM SPACE_ ATP
02/24/1998 - 03/31/2003 FY03: \$0 Total: \$246,327
Prin. Invest.: N KAISER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 7383 **UNIV OF HAWAII AT MANOA - HONOLULU**
"ARCHITECTURE AND IMPLEMENTATION CONSIDERATION OF A HIGH-SPEED VIBERBI DECODER FOR REED-MULLER SUBC
05/12/1998 - 09/14/2002 FY03: -\$48 Total: \$248,952
Prin. Invest.: M FOSSORIER
Tech. Officer: GSFC/P H YEHLER
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 7578 **UNIV OF HAWAII AT MANOA - HONOLULU**
FUNDING FOR POST-ERUPTION HAZARDS AT MT. PINATUBO , PHILIPPINES' (SENH98-0118)
08/04/1998 - 07/31/2004 FY03: \$0 Total: \$717,500
Prin. Invest.: P J MOUGINIS-MARK
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7730 **UNIV OF HAWAII AT MANOA - HONOLULU**
INTERACTIVE TEACHING USING LANDSAT 5 AND LANDSAT 7 DATA
09/29/1998 - 06/14/2003 FY03: \$0 Total: \$90,533
Prin. Invest.: L P FLYNN
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7855 **UNIV OF HAWAII AT MANOA - HONOLULU**
THERMAL INFRARED MEASUREMENTS OF THE MOON AND MERCURY
12/07/1998 - 11/30/2002 FY03: \$0 Total: \$171,584
Prin. Invest.: D G LUCEY
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 8002 **UNIV OF HAWAII AT MANOA - HONOLULU**
SOLAR LIMB SHAPE, RADIUS AND OSCILLATION STUDIES USING SOHO/MDI
01/12/1999 - 01/14/2004 FY03: \$0 Total: \$362,429
Prin. Invest.: J R KUHN
Tech. Officer: GSFC/J GURMAN
CASE Category: 11 – ASTRONOMY

NAG 5 8118 **UNIV OF HAWAII AT MANOA - HONOLULU**
A PRELIMINARY AEROSOL CLIMATOLOGY FOR THE PACIFIC BOUNDARY LAYER & FREE TROPOSPHERE
01/29/1999 - 01/31/2003 FY03: \$0 Total: \$333,000
Prin. Invest.: A D CLARKE
Tech. Officer: GSFC/M MISHCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8253 **UNIV OF HAWAII AT MANOA - HONOLULU**
FROM DETECTION TO COMPREHENSION: UNDERSTANDING THE PHYSICAL MECHANISMS DRIVING CLUSTER X-RAY EVOLUTION
02/19/1999 - 12/31/2003 FY03: \$156,000 Total: \$710,000
Prin. Invest.: H EBELING
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 8298 **UNIV OF HAWAII AT MANOA - HONOLULU**
A SURVEY FOR MASSIVE PLANETS BY DIRECT IMAGING WITH ADVANCED ADAPTIVE OPTICS
02/23/1999 - 02/29/2004 FY03: \$0 Total: \$369,000
Prin. Invest.: D J RODDIER
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8300 **UNIV OF HAWAII AT MANOA - HONOLULU**
RADIATIVE BALANCE & BEHAVIOR OF THE SEASONAL MARS POLAR CAPS
03/05/1999 - 03/14/2003 FY03: \$0 Total: \$177,000
Prin. Invest.: T MCCORD
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8330 **UNIV OF HAWAII AT MANOA - HONOLULU**
SOLAR-C: SCATTER-FREE OBSERVATORY FOR LIMB ACTIVE REGIONS AND CORONAE
04/30/1999 - 04/30/2004 FY03: \$0 Total: \$611,093
Prin. Invest.: J R KUHN
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 8421 **UNIV OF HAWAII AT MANOA - HONOLULU**
SCIENTIFIC RESEARCH FOR DESIGN REFERENCE MISSION FOR NEXT GENERATION SPACE TELESCOPE
04/02/1999 - 04/14/2002 FY03: \$0 Total: \$20,000
Prin. Invest.: D N HALL
Tech. Officer: GSFC/E SMITH
CASE Category: 11 – ASTRONOMY

NAG 5 8713 **UNIV OF HAWAII AT MANOA - HONOLULU**
MINERALOGY AND ISOTOPE CHEMISTRY OF CA-AL-RICH INCLUSIONS, CHONDRULES & MATRIX IN THE CV CHONDRITE
08/04/1999 - 07/31/2003 FY03: \$0 Total: \$70,500
Prin. Invest.: K KEIL
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8748 **UNIV OF HAWAII AT MANOA - HONOLULU**
A REAL-TIME SIMULATION PACKAGE FOR STORM SURGE AND WAVE RUNUP PACIFIC
08/25/1999 - 08/30/2002 FY03: -\$335 Total: \$399,665
Prin. Invest.: K F CHEUNG
Tech. Officer: GSFC/E PAYLOR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8751 **UNIV OF HAWAII AT MANOA - HONOLULU**
DEVELOPMENT OF A UV/VISIBLE-OPTIMIZED CCD FOR WFC3 ON HST
09/08/1999 - 09/30/2003 FY03: \$0 Total: \$93,500
Prin. Invest.: G LUPPINO
Tech. Officer: GSFC/E CHENG
CASE Category: 13 – PHYSICS

NAG 5 8863 **UNIV OF HAWAII AT MANOA - HONOLULU**
LABORATORY INVESTIGATIONS OF VOLATILE TRAPPING IN COMETS
10/20/1999 - 09/30/2004 FY03: \$0 Total: \$80,000
Prin. Invest.: T C OWEN
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 8903 **UNIV OF HAWAII AT MANOA - HONOLULU**
 REMOTE SENSING AND GEOLOGIC STUDIES OF PLANETARY CRUSTS
 12/28/1999 - 12/31/2003 FY03: \$0 Total: \$223,780
Prin. Invest.: B HAWKE
Tech. Officer: GSFC/J GRANT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8979 **UNIV OF HAWAII AT MANOA - HONOLULU**
 FINDING THE ONSET OF CONVECTION IN MAIN SEQUENCE STARS - FUSE
 01/24/2000 - 01/31/2003 FY03: \$0 Total: \$68,700
Prin. Invest.: T SIMON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 8983 **UNIV OF HAWAII AT MANOA - HONOLULU**
 PROPERTIES OF ICE ON THE SURFACE OF EUROPA AND THE OTHER ICY
 GALILEAN SATELLITES
 01/24/2000 - 01/31/2003 FY03: \$0 Total: \$85,000
Prin. Invest.: G HANSEN
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8989 **UNIV OF HAWAII AT MANOA - HONOLULU**
 OBSERVATIONS OF THE PLUTO-CHARON SYSTEM
 01/27/2000 - 03/31/2004 FY03: \$11,800 Total: \$22,160
Prin. Invest.: D J THOLEN
Tech. Officer: GSFC/T H MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 9038 **UNIV OF HAWAII AT MANOA - HONOLULU**
 VALIDATION AND ANALYSIS OF SRTM AND VCL DATA OVER TROPICAL
 VOLCANOES.
 02/10/2000 - 02/14/2004 FY03: \$0 Total: \$178,000
Prin. Invest.: P J MOUGINIS-MARK
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9042 **UNIV OF HAWAII AT MANOA - HONOLULU**
 ANALYSIS OF HIPPARCHOS MARGINAL PARALLAXES - ADP 99
 02/22/2000 - 02/28/2003 FY03: \$0 Total: \$45,059
Prin. Invest.: W D HEACOX
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9166 **UNIV OF HAWAII AT MANOA - HONOLULU**
 ORIGIN & EVOLUTION OF STURCTURE IN THE UNIVERSE DETERMINED
 FROM THE X-RAYEVOLUTION OF GALAXY
 03/08/2000 - 03/14/2003 FY03: \$0 Total: \$67,564
Prin. Invest.: J HENRY
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9190 **UNIV OF HAWAII AT MANOA - HONOLULU**
 SHARING DISCOVERIES IN PLANETARY GEOSCIENCE ON THE WORLD
 WIDE WEB AND CD-ROM
 03/07/2000 - 03/14/2004 FY03: \$0 Total: \$195,000
Prin. Invest.: G TAYLOR
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9238 **UNIV OF HAWAII AT MANOA - HONOLULU**
 A CALIBRATION OF THE CLUSTER FLUX MEASUREMENTS IN THE ROSAT
 ALL-SKY SURVEY - ADP 99
 03/09/2000 - 03/14/2002 FY03: \$0 Total: \$30,321
Prin. Invest.: H EBELING
Tech. Officer: GSFC/R OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 9252 **UNIV OF HAWAII AT MANOA - HONOLULU**
 REAL-TIME LABORATORY FOR REMOTE SENSING
 03/10/2000 - 02/29/2004 FY03: \$0 Total: \$1,103,633
Prin. Invest.: T NIELSEN
Tech. Officer: HQ/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9413 **UNIV OF HAWAII AT MANOA - HONOLULU**
 TRACKING ERUPTIONS & FIRES WITHIN THE RING OF FIRE
 04/07/2000 - 04/30/2004 FY03: \$57,333 Total: \$521,500
Prin. Invest.: L FLYNN
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9576 **UNIV OF HAWAII AT MANOA - HONOLULU**
 THE DIVERSITY OF MARTIAN VOLCANIC FEATURES AS SEEN IN MOC
 IMAGES AND MOLATOPOGRAPHIC DATA
 05/17/2000 - 04/30/2004 FY03: \$0 Total: \$173,700
Prin. Invest.: P MOUGINIS-MARK
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9580 **UNIV OF HAWAII AT MANOA - HONOLULU**
 A VOLCANIC PLUME DISPERSION MONITORING AND PREDICT ION CAPA-
 BILITY
 05/09/2000 - 09/30/2002 FY03: \$0 Total: \$213,210
Prin. Invest.: S BUSINGER
Tech. Officer: GSFC/E PAYLOR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9757 **UNIV OF HAWAII AT MANOA - HONOLULU**
 CONTROLS ON THE VARIABILITY OF PHYTOPLANKTON BIO- MASS &
 PRODUCTIVITY IN THE NORTHERN PACIFIC CENTRA
 06/23/2000 - 06/30/2002 FY03: -\$1,635 Total: \$196,923
Prin. Invest.: R R BIDIGARE
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9765 **UNIV OF HAWAII AT MANOA - HONOLULU**
 GEOCHEMICAL STUDIES OF THE LUNAR CRUST
 07/03/2000 - 06/30/2002 FY03: -\$60 Total: \$48,940
Prin. Invest.: B HAWKE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9992 **UNIV OF HAWAII AT MANOA - HONOLULU**
 SEARCH FOR X-RAY EMISSION IN THE NEAREST KNOWN BROWN DWARF
 09/20/2000 - 08/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: E MARTIN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9994 **UNIV OF HAWAII AT MANOA - HONOLULU**
 RXJ1821+6828: TEMPERATURE DISTRIBUTION AND METALLICITY FOR A
 Z=0.81 CLUSTER
 09/14/2000 - 08/31/2002 FY03: -\$537 Total: \$37,963
Prin. Invest.: I M GIOIA
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10025 **UNIV OF HAWAII AT MANOA - HONOLULU**
 HARD X-RAYS FROM A COMPLETE SAMPLE OF THE BRIGHTEST ULTRA-
 LUMINOUS INFRARED GALAXIES
 09/27/2000 - 09/30/2002 FY03: \$0 Total: \$48,800
Prin. Invest.: D B SANDERS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10041 **UNIV OF HAWAII AT MANOA - HONOLULU**
 MEASURING THE MASS DISTRIBUTION IN Z0.2 CLUSTER LENSES WITH
 XMM, HST AND CFHT
 10/03/2000 - 09/30/2003 FY03: \$0 Total: \$11,000
Prin. Invest.: H EBELING
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10045 **UNIV OF HAWAII AT MANOA - HONOLULU**
 DATA-INTENSIVE RESEARCH & MODEL DEVELOPMENT AT THE INTERNA-
 TIONAL PACIFIC RESEARCH CENTER
 09/28/2000 - 09/30/2005 FY03: \$250,000 Total: \$2,000,000
Prin. Invest.: J MCCREARY
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10085 **UNIV OF HAWAII AT MANOA - HONOLULU**
 THE X-RAY TEMPERATURE FUNCTION AND STRUCTURE OF CLUSTERS AT
 Z=0.6-1
 11/07/2000 - 11/14/2002 FY03: \$0 Total: \$5,162
Prin. Invest.: H EBELING
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10111 **UNIV OF HAWAII AT MANOA - HONOLULU**
 MONITORING SURFACE DEFORMATION AT HAWAIIAN & OTHER BASALTIC
 VOLCANOES WITH RADARSAT INTERFEROMETRY
 11/20/2000 - 11/30/2003 FY03: \$34,592 Total: \$90,374
Prin. Invest.: F AMELUNG
Tech. Officer: GSFC/K PARTINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10128 **UNIV OF HAWAII AT MANOA - HONOLULU**
 AN XMM STUDY OF LOW-ACTIVITY CORONAL STARS OF 1-2 SOLAR
 MASSES
 11/28/2000 - 11/30/2003 FY03: \$0 Total: \$9,000
Prin. Invest.: T SIMON
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10133 **UNIV OF HAWAII AT MANOA - HONOLULU**
 PARTICIPATION IN PLANET-B NMS TEAM
 12/12/2000 - 11/30/2004 FY03: \$15,000 Total: \$30,000
Prin. Invest.: T C OWEN
Tech. Officer: GSFC/W T KASPRZAK
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10141 **UNIV OF HAWAII AT MANOA - HONOLULU**
 NEW OPPORTUNITIES THROUGH MINORITY INITIATIVES IN SPACE SCI-
 ENCE
 12/19/2000 - 12/31/2003 FY03: \$224,956 Total: \$674,897
Prin. Invest.: R A CROWE
Tech. Officer: HQ/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NAG 5 10228 **UNIV OF HAWAII AT MANOA - HONOLULU**
 THE SIXTH PLANETARY VOLCANOLOGY FIELD WORKSHOP
 01/04/2001 - 01/14/2003 FY03: \$0 Total: \$48,000
Prin. Invest.: S K ROWLAND
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 10229 **UNIV OF HAWAII AT MANOA - HONOLULU**
 VOLATILE EVOLUTION
 01/04/2001 - 01/14/2003 FY03: \$0 Total: \$76,000
Prin. Invest.: F P FANALE
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10237 **UNIV OF HAWAII AT MANOA - HONOLULU**
 REGIONAL PLANETARY IMAGE CENTER
 01/08/2001 - 01/14/2004 FY03: \$51,100 Total: \$152,500
Prin. Invest.: B R HAWKE
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 10427 **UNIV OF HAWAII AT MANOA - HONOLULU**
 EVOLUTION OF DUST AROUND STARS
 02/16/2001 - 02/28/2004 FY03: \$35,000 Total: \$105,000
Prin. Invest.: D JEWITT
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10437 **UNIV OF HAWAII AT MANOA - HONOLULU**
 PHYSICAL PROPERTIES OF COMETARY NUCLEUS CANDIDATES
 02/20/2001 - 02/28/2004 FY03: \$60,000 Total: \$173,500
Prin. Invest.: D JEWITT
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10514 **UNIV OF HAWAII AT MANOA - HONOLULU**
 STABILITY & BEHAVIOR OF HYDRATED/HYDROXYLATED MATERIALS IN
 COLD SOLAR SYSTEM ENVIRONMENTS
 03/05/2001 - 03/31/2002 FY03: -\$79,320 Total: \$70,680
Prin. Invest.: T MCCORD
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10564 **UNIV OF HAWAII AT MANOA - HONOLULU**
 A DEEP X-RAY SURVEY OF LOW-MASS PMS STARS IN NGC 2264
 03/15/2001 - 03/14/2004 FY03: \$0 Total: \$31,134
Prin. Invest.: T SIMON
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10610 **UNIV OF HAWAII AT MANOA - HONOLULU**
 CHRONOLOGY OF THE EARLY SOLAR NEBULA: DISTRIBUTION OF 26Al IN
 CHONDRULES FROM PRIMITIVE C
 03/16/2001 - 03/14/2004 FY03: \$30,000 Total: \$90,000
Prin. Invest.: A KROT
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10640 **UNIV OF HAWAII AT MANOA - HONOLULU**
EFFECTS OF VOLCANIC ERUPTIONS ON THE NATURAL ENVIRONMENT
03/20/2001 - 03/31/2004 FY03: \$270,000 Total: \$781,000
Prin. Invest.: P MOUGINIS-MARK
Tech. Officer: GSFC/E D PAYLOR, II
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10646 **UNIV OF HAWAII AT MANOA - HONOLULU**
HIGH TEMPERATURES AND DISKS AROUND PMS STARS FUSE SPECTRA OF
THREE HERBIGAEBE STARS - FUSE 2000
03/27/2001 - 05/31/2003 FY03: \$0 Total: \$23,500
Prin. Invest.: T SIMON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10704 **UNIV OF HAWAII AT MANOA - HONOLULU**
A LIGHTWEIGHT FTIR SPECTROMETER FOR IN SITU GAS ANALYSIS
05/01/2001 - 03/31/2004 FY03: \$85,452 Total: \$304,144
Prin. Invest.: P LUCEY
Tech. Officer: GSFC/B BETTS
CASE Category: 11 – ASTRONOMY

NAG 5 10750 **UNIV OF HAWAII AT MANOA - HONOLULU**
SPATIAL STATISTICS OF LARGE ASTRONOMICAL DATABASES AN ALGO-
RITHMIC APPROACH
05/03/2001 - 04/14/2003 FY03: \$0 Total: \$75,000
Prin. Invest.: I SZAPUDI
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10773 **UNIV OF HAWAII AT MANOA - HONOLULU**
A CALIBRATION OF THE CLUSTER FLUX MEASUREMENTS IN THE ROSAT
ALL-SKY SURVEY
04/20/2001 - 04/30/2003 FY03: \$0 Total: \$55,000
Prin. Invest.: H EBELING
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10909 **UNIV OF HAWAII AT MANOA - HONOLULU**
APPLICATION OF A THERMO-RHEOLOGICAL LAVA FLOW MODEL TO MAR-
TIAN CONDITIONS
05/09/2001 - 05/14/2004 FY03: \$50,000 Total: \$150,000
Prin. Invest.: S ROWLAND
Tech. Officer: GSFC/J M BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11138 **UNIV OF HAWAII AT MANOA - HONOLULU**
PARTICIPATION ON THE CASSINI-HUYGENS GAS CHROMATO- GRAPH-
MASS SPECTROMETER(GCMS) TEAM
07/25/2001 - 07/31/2005 FY03: \$15,000 Total: \$45,000
Prin. Invest.: T C OWEN
Tech. Officer: GSFC/W T KASPRZAK
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11362 **UNIV OF HAWAII AT MANOA - HONOLULU**
FLOW-EJECTA CRATER POPULATION ON MARS & CHRONOLOGY OF
MAJOR GEOLOGIC EVENTS
09/26/2001 - 09/30/2004 FY03: \$131,000 Total: \$331,000
Prin. Invest.: K KEIL
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11445 **UNIV OF HAWAII AT MANOA - HONOLULU**
THERMAL STUDIES OF NEAR EARTH OBJECTS
12/21/2001 - 02/28/2005 FY03: \$59,000 Total: \$117,000
Prin. Invest.: D JEWITT
Tech. Officer: GSFC/T MORGAN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11466 **UNIV OF HAWAII AT MANOA - HONOLULU**
ORIGINS, EVOLUTION, AND FATE OF BROWN DWARFS
12/12/2001 - 12/14/2003 FY03: \$0 Total: \$22,530
Prin. Invest.: E MARTIN
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11516 **UNIV OF HAWAII AT MANOA - HONOLULU**
MINERALOGICAL MAPPING OF THE MOON AND ASTEROIDS
12/31/2001 - 12/31/2004 FY03: \$121,800 Total: \$243,600
Prin. Invest.: P G LUCEY
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11564 **UNIV OF HAWAII AT MANOA - HONOLULU**
SOLAR SYSTEM BEYOND NEPTUNE
02/08/2002 - 02/14/2005 FY03: \$62,000 Total: \$122,000
Prin. Invest.: D C JEWITT
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11591 **UNIV OF HAWAII AT MANOA - HONOLULU**
ORIGIN OF METEORITE PARENT BODIES AND THE MOON
01/10/2002 - 11/30/2004 FY03: \$340,000 Total: \$680,000
Prin. Invest.: K KEIL
Tech. Officer: GSFC/D SENSKE
CASE Category: 12 – CHEMISTRY

NAG 5 11782 **UNIV OF HAWAII AT MANOA - HONOLULU**
DEVELOPMENT OF CRITICAL ELEMENTS OF A DUST TELE- SCOPE
02/27/2002 - 02/28/2005 FY03: \$249,700 Total: \$498,400
Prin. Invest.: E GRUEN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11938 **UNIV OF HAWAII AT MANOA - HONOLULU**
FUSE OBSERVATIONS OF LMC AND SMC O3-4 STARS: THE PHYSICAL
PARAMETERS OF THE HOTTEST STARS
03/28/2002 - 03/31/2004 FY03: \$0 Total: \$23,750
Prin. Invest.: R KUDRITZKI
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11996 **UNIV OF HAWAII AT MANOA - HONOLULU**
SCALABLE ALGORITHMS FOR FAST ANALYSIS OF MEGAPIXEL CMB MAPS
AND LARGE ASTRONOMICAL DATABASES.
04/11/2002 - 04/14/2005 FY03: \$114,809 Total: \$239,676
Prin. Invest.: I SZAPUDI
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12101 **UNIV OF HAWAII AT MANOA - HONOLULU**
NOVEL TECHNIQUES FOR FAST CMB ANALYSIS
04/24/2002 - 04/30/2005 FY03: \$80,910 Total: \$196,712
Prin. Invest.: I SZAPUDI
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12145 **UNIV OF HAWAII AT MANOA - HONOLULU**
 THERMAL EMISSION SPECTROSCOPY OF PARTICULATE MARTIAN ANALOGUE MATERIALS
 05/14/2002 - 05/14/2005 FY03: \$0 Total: \$22,000
Prin. Invest.: V E HAMILTON
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12198 **UNIV OF HAWAII AT MANOA - HONOLULU**
 SEEING DOUBLE: DO THE X-RAY LUMINOUS EARLY A STARS HAVE ACTIVE BINARY COMPANIONS?
 05/15/2002 - 05/31/2004 FY03: \$0 Total: \$32,300
Prin. Invest.: T SIMON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12207 **UNIV OF HAWAII AT MANOA - HONOLULU**
 REPLACEMENT OF THE TELESCOPE CONTROL SYSTEM FOR THE IRTF
 06/05/2002 - 06/30/2005 FY03: \$232,000 Total: \$622,000
Prin. Invest.: A T TOKUNAGA
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12214 **UNIV OF HAWAII AT MANOA - HONOLULU**
 QUASI-BIENNIAL OSCILLATION MODULATION OF EDDIES IN THE TROPICAL STRATOSPHERE
 05/16/2002 - 05/14/2005 FY03: \$0 Total: \$30,403
Prin. Invest.: K HAMILTON
Tech. Officer: GSFC/P DECOLA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12236 **UNIV OF HAWAII AT MANOA - HONOLULU**
 SMALL OUTER SOLAR SYSTEM BODIES: OBSERVATIONS AND MODELING
 05/31/2002 - 05/31/2005 FY03: \$139,448 Total: \$309,947
Prin. Invest.: K J MEECH
Tech. Officer: GSFC/J J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12406 **UNIV OF HAWAII AT MANOA - HONOLULU**
 SEARCH FOR NEAR EARTH OBJECTS WITH SMALL APHELION DISTANCES
 08/01/2002 - 08/14/2005 FY03: \$0 Total: \$166,000
Prin. Invest.: D THOLEN
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12485 **UNIV OF HAWAII AT MANOA - HONOLULU**
 SPECTRAL VARIATIONS IN MARTIAN DARK REGIONS & THE SEARCH FOR THE SOURCE REGIONS OF SNC METEORITES
 08/26/2002 - 08/31/2005 FY03: \$46,600 Total: \$69,291
Prin. Invest.: V HAMILTON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12486 **UNIV OF HAWAII AT MANOA - HONOLULU**
 PETROLOGIC & EXPERIMENTAL EVALUATION OF AN IGNEOUS ORIGIN FOR MAGNETIC ANOMALIES ON MARS
 08/26/2002 - 08/31/2004 FY03: \$35,000 Total: \$70,000
Prin. Invest.: J HAMMER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12506 **UNIV OF HAWAII AT MANOA - HONOLULU**
 CONSTRAINING THE ORIGINS OF LAYERING IN THE VALLES MARINERIS: COMPARING TES AND MOLA
 08/21/2002 - 08/31/2005 FY03: \$45,800 Total: \$91,600
Prin. Invest.: S ANDERSON
Tech. Officer: GSFC/H FREY
CASE Category: 11 – ASTRONOMY

NAG 5 12508 **UNIV OF HAWAII AT MANOA - HONOLULU**
 CHARACTERIZATION OF 2003 MER LANDING SITES USING MOLA AND MOLA DATA
 08/21/2002 - 08/31/2004 FY03: \$0 Total: \$29,000
Prin. Invest.: S ANDERSON
Tech. Officer: GSFC/H FREY
CASE Category: 11 – ASTRONOMY

NAG 5 12641 **UNIV OF HAWAII AT MANOA - HONOLULU**
 TEMPERATURE INDUCED SPECTRAL VARIATIONS ON EROS
 10/22/2002 - 10/31/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: P G LUCEY
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12685 **UNIV OF HAWAII AT MANOA - HONOLULU**
 NEAR-AND THERMAL INFRARED LABORATORY STUDIES OF GLASSES, PHYLLOSILICATES AND PYROXENES
 11/27/2002 - 11/30/2005 FY03: \$55,000 Total: \$55,000
Prin. Invest.: V HAMILTON
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12756 **UNIV OF HAWAII AT MANOA - HONOLULU**
 UPWELLING AND ITS INFLUENCE ON THE SEA SURFACE TEMPERATURE OFF JAVA AND SUMATRA
 01/17/2003 - 01/31/2006 FY03: \$98,838 Total: \$98,838
Prin. Invest.: T QU
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12880 **UNIV OF HAWAII AT MANOA - HONOLULU**
 OBSERVATIONAL INVESTIGATIONS OF THE SOLAR MAGNETOSPHERE
 02/25/2003 - 01/31/2006 FY03: \$420,000 Total: \$420,000
Prin. Invest.: J R KUHN
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12882 **UNIV OF HAWAII AT MANOA - HONOLULU**
 ABSOLUTE AND RELATIVE CHRONOLOGIES OF CHONDRULE FORMATION
 02/10/2003 - 01/31/2006 FY03: \$40,000 Total: \$40,000
Prin. Invest.: A KROT
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 13101 **UNIV OF HAWAII AT MANOA - HONOLULU**
 DEVELOPMENT OF A COMBINED INSTRUMENT FOR LASER-INDUCED BREAKDOWN SPECTROSCOPY (LIBS) & REMOTE SENSING
 03/17/2003 - 03/14/2006 FY03: \$118,000 Total: \$118,000
Prin. Invest.: S SHIV
Tech. Officer: GSFC/S NIEBUR
CASE Category: 99 – MULTIDISCIPL, OTHER

NAG 5 13131 **UNIV OF HAWAII AT MANOA - HONOLULU**
 MINERALGY AND ISOTOPE CHEMISTRY OF CA-AL-RICH INC LUSIONS
 FROM THE REDUCED CV CHONDRITES
 03/18/2003 - 03/31/2006 FY03: \$41,000 Total: \$41,000
Prin. Invest.: A KROT
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13151 **UNIV OF HAWAII AT MANOA - HONOLULU**
 THE SEVENTH PLANETARY VOLCANOLOGY FIELD WORKSHOP: USING
 HIGH SPATIAL- RESOLUTION DATA TO STUDY VOL
 03/27/2003 - 03/31/2004 FY03: \$48,278 Total: \$48,278
Prin. Invest.: S ROWLAND
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13163 **UNIV OF HAWAII AT MANOA - HONOLULU**
 WEIGHING THE LARGEST MASS CONCENTRATION IN THE GREAT ATTRAC-
 TOR REGION
 03/20/2003 - 03/31/2004 FY03: \$50,036 Total: \$50,036
Prin. Invest.: H EBELING
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13204 **UNIV OF HAWAII AT MANOA - HONOLULU**
 OBSERVATIONS OF A FILAMENT IN THE NORTH ECLIPTIC P OLE SUPER-
 CLUSTER
 04/01/2003 - 03/31/2004 FY03: \$53,320 Total: \$53,320
Prin. Invest.: J P HENRY
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13208 **UNIV OF HAWAII AT MANOA - HONOLULU**
 REMOTE SENSING STUDIES AND GEOLOGIC STUDIES OF PLANETARY
 CRUSTS
 03/31/2003 - 03/31/2005 FY03: \$72,000 Total: \$72,000
Prin. Invest.: B HAWKE
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13309 **UNIV OF HAWAII AT MANOA - HONOLULU**
 HAWAII EARTH OBSERVATORY
 04/21/2003 - 04/30/2006 FY03: \$349,326 Total: \$349,326
Prin. Invest.: T NIELSON
Tech. Officer: GSFC/J DODGE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13323 **UNIV OF HAWAII AT MANOA - HONOLULU**
 DIVERSITY OF MARTIAN VOLCANIC FREATURES AS SEEN IN MOC, THEMIS
 AND MOLA DATA SETS
 04/08/2003 - 04/30/2004 FY03: \$79,817 Total: \$79,817
Prin. Invest.: P MOUGINIS-MARK
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13348 **UNIV OF HAWAII AT MANOA - HONOLULU**
 EMPLACEMENT OF LAVAS AT MAJOR MARTIAN EDIFICES: ROLES OF
 CONSTRUCTIONAL & EROSIONAL LAVA CHANNELS
 04/12/2003 - 04/14/2006 FY03: \$68,925 Total: \$68,925
Prin. Invest.: S FAGENTS
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13373 **UNIV OF HAWAII AT MANOA - HONOLULU**
 DIVERSITY OF COMETS: THE DUST COMA
 04/15/2003 - 04/14/2006 FY03: \$65,000 Total: \$65,000
Prin. Invest.: D JEWITT
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13388 **UNIV OF HAWAII AT MANOA - HONOLULU**
 VALIDATION OF MEAN ABSOLUTE SEA LEVEL OF THE NORTH ATLANTIC
 OBTAINED FROM DRIFTER, ALTIMERTY AND
 05/06/2003 - 09/30/2003 FY03: \$37,972 Total: \$37,972
Prin. Invest.: N MAXIMENKO
Tech. Officer: GSFC/C J KOBLINSKY
CASE Category: 33 – OCEANOGRAPHY

NAG 5 13420 **UNIV OF HAWAII AT MANOA - HONOLULU**
 STUDIES OF MARTIAN IMPACT CRATERS USING MGS AND OD YSSEY DATA
 04/23/2003 - 04/30/2005 FY03: \$66,934 Total: \$66,934
Prin. Invest.: P MOUGINIS-MARK
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13421 **UNIV OF HAWAII AT MANOA - HONOLULU**
 INVESTIGATION OF MARTIAN METEORITE-LIKE MATERIALS USING ODYS-
 SEY THEMIS DATA
 04/23/2003 - 04/30/2006 FY03: \$51,099 Total: \$51,099
Prin. Invest.: V HAMILTON
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13434 **UNIV OF HAWAII AT MANOA - HONOLULU**
 SHARING DISCOVERIES IN COSMOCHEMISTRY & PLANETARY GEO-
 SCIENCES ON THE INTERNET
 04/23/2003 - 04/30/2005 FY03: \$65,000 Total: \$65,000
Prin. Invest.: J TAYLOR
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 11 – ASTRONOMY

NAG 5 13455 **UNIV OF HAWAII AT MANOA - HONOLULU**
 EVOLUTION AND CHEMISTRY OF THE CRUST OF MARS: COMP ARISON OF
 GRS, TES, & THEMIS DATA
 04/28/2003 - 04/30/2004 FY03: \$45,000 Total: \$45,000
Prin. Invest.: S ANDERSON
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13458 **UNIV OF HAWAII AT MANOA - HONOLULU**
 ORIGINS OF SMALL VOLCANIC CONES: ERUPTION MECHANIS MS AND
 IMPLICATIONS FOR WATER ON MARS
 04/25/2003 - 04/30/2005 FY03: \$51,942 Total: \$51,942
Prin. Invest.: S FAGENTS
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13546 **UNIV OF HAWAII AT MANOA - HONOLULU**
 XMM-NEWTON OBSERVATIONS OF THE BRIGHTEST RELAXED CLUSTER
 LENSES
 08/11/2003 - 08/14/2004 FY03: \$8,200 Total: \$8,200
Prin. Invest.: H EBELING
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13555 **UNIV OF HAWAII AT MANOA - HONOLULU**
TEMPERATURE STRUCTURE OF APPARENTLY RELAXED GALAXY GROUPS
07/31/2003 - 07/31/2004 FY03: \$40,800 Total: \$40,800
Prin. Invest.: A MAHDAVI
Tech. Officer: GSFC/S L SNOWDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13569 **UNIV OF HAWAII AT MANOA - HONOLULU**
BURIED QUASARS IN ULTRALUMINOUS INFRARED GALAXIES
08/11/2003 - 08/14/2004 FY03: \$15,000 Total: \$15,000
Prin. Invest.: D B SANDERS
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13729 **UNIV OF HAWAII AT MANOA - HONOLULU**
ANALYSIS AND VALIDATION OF SRTM DATA OVER TROPICAL VOLCANOES.
09/26/2003 - 09/30/2006 FY03: \$76,000 Total: \$76,000
Prin. Invest.: P MOUGINIS-MARK
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13763 **UNIV OF HAWAII AT MANOA - HONOLULU**
ORIGIN OF THE FAR-UV EMISSION FROM BINARY PRE-MAIN SEQUENCE
HERBIT AEBE STARS
09/25/2003 - 09/30/2004 FY03: \$20,400 Total: \$20,400
Prin. Invest.: T SIMON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13764 **UNIV OF HAWAII AT MANOA - HONOLULU**
INTEGRAL OBSERVATIONS OF THE ULTRALUMINOUS INFRA RED GALAXY
MRK 273
09/25/2003 - 09/30/2004 FY03: \$16,651 Total: \$16,651
Prin. Invest.: D B SANDERS
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1798 **UNIV OF HAWAII AT MANOA - HONOLULU**
RESEARCH, "CURVATURE-BASED WAVEFRONT SENSOR FOR USE ON
EXTENDED, ARBITRARY, LOW CONTRAST SCENES"
04/25/2001 - 04/24/2004 FY03: \$0 Total: \$282,000
Prin. Invest.: B J LABONTE
Tech. Officer: MSFC/A KEYS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 2 98077 **UNIV OF HAWAII AT MANOA - HONOLULU**
DEVELOPMENT OF ADVANCED NEAR INFRARED FOCAL PLANE TECHNOLOGY
08/04/1998 - 06/30/2003 FY03: \$185,095 Total: \$6,381,755
Prin. Invest.: D N HALL
Tech. Officer: ARC/K W HODAPP
CASE Category: 11 – ASTRONOMY

NAS 5 99180 **UNIV OF HAWAII AT MANOA - HONOLULU**
LASER RANGING OPERATION, REPAIR & MAINTENANCE OF LURE OBSERVATORY FACILITY, MAUI, HI.
05/16/1999 - 05/15/2004 FY03: \$620,000 Total: \$2,430,000
Prin. Invest.: D O'GARA
Tech. Officer: GSFC/J MCGARRY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 1 315 **UNIV OF HAWAII AT MANOA - HONOLULU**
SIZE RESOLVED AEROSOL NUCLEI AND PHYSICO-CHEMISTRY FOR PENTROPICS B ABOARD P-3B, REF NRA-97-MTPE-13
08/17/1998 - 08/31/2002 FY03: -\$1 Total: \$346,929
Prin. Invest.: A D CLARKE, V KAPUSTIN
Tech. Officer: LARC/J M HOELL, LARC/R J BENDURA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 416 **UNIV OF HAWAII AT MANOA - HONOLULU**
AEROSOL PHYSICO-CHEMISTRY: P-3B AIRCRAFT MEASUREMENTS FOR TRACE-P. NRA00-OES-01.
09/25/2000 - 09/30/2004 FY03: \$95,000 Total: \$575,381
Prin. Invest.: A D CLARKE
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 3 696 **UNIV OF HAWAII AT MANOA - HONOLULU**
FLAME DESIGN - A NOVEL APPROACH TO CLEAN, EFFICIENT DIFFUSION FLAMES
03/25/1999 - 01/13/2004 FY03: \$0 Total: \$62,889
Prin. Invest.: B CHAO
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1062 **UNIV OF HAWAII AT MANOA - HONOLULU**
FLAME DESIGN: A NOVEL APPROACH TO CLEAN EFFICIENT DIFFUSION FLAMES
05/13/2003 - 12/31/2006 FY03: \$17,155 Total: \$17,155
Prin. Invest.: B CHAO
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 373 **UNIV OF HAWAII AT MANOA - HONOLULU**
PARTICIPATION IN THE COMPOSITE INFRARED SPECTROMETER (CIRS) PROJECT AS CO-INVESTIGATOR
01/12/1999 - 01/14/2004 FY03: \$0 Total: \$28,000
Prin. Invest.: T C OWEN
Tech. Officer: GSFC/G L BJORAKER
CASE Category: 11 – ASTRONOMY

NCC 5 461 **UNIV OF HAWAII AT MANOA - HONOLULU**
QUANTITATIVE ANALYSIS OF HOT SPOTS USING EO-1 & LAND SAT 7.
02/28/2000 - 09/30/2003 FY03: \$0 Total: \$79,238
Prin. Invest.: L P FLYNN
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 538 **UNIV OF HAWAII AT MANOA - HONOLULU**
THE NASA INFRARED TELESCOPE FACILITY: SOLAR SYSTEM OBSERVATIONS AND MISSION SUPPORT
02/12/2001 - 01/31/2006 FY03: \$3,781,176 Total: \$10,275,681
Prin. Invest.: R KUDRITZKI
Tech. Officer: GSFC/L JOHNSON
CASE Category: 11 – ASTRONOMY

NGT 5 30207 **UNIV OF HAWAII AT MANOA - HONOLULU**
SOURCES AND ISOTOPIC COMPOSITIONS OF NITROUS OXIDE FROM THE SUBTROPIC NORTH PACIFIC & EASTERN TROPIC
08/19/1999 - 12/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: B POPP
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30517 **UNIV OF HAWAII AT MANOA - HONOLULU**
 ERUPTIVE PATTERNS OF AN ACTIVE LAVA DOME IN SANTIAGUITO, GUATEMALA
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: L FLYNN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40076 **UNIV OF HAWAII AT MANOA - HONOLULU**
 HAWAII SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/08/2001 - 01/31/2005 FY03: \$518,250 Total: \$1,529,074
Prin. Invest.: L FLYNN
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50319 **UNIV OF HAWAII AT MANOA - HONOLULU**
 THE CHANGING FACE OF A NEW VOLCANIC LANDSCAPE SYST EM: RATES, CAUSES & HAZARDS/STUDENT: JOHN BAILEY
 08/16/2000 - 08/31/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: P MOUGINIS-MARK
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50357 **UNIV OF HAWAII AT MANOA - HONOLULU**
 A STUDY OF PLANETARY SYSTEM FORMATION & EVOLUTION WITH A DUAL CHANNEL ADAPTIVE OPTICS IMAGING POLAR
 05/14/2001 - 06/30/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: D JEWITT
Tech. Officer: GSFC/K E BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50396 **UNIV OF HAWAII AT MANOA - HONOLULU**
 AN INFRARED SEARCH FOR THE ORIGINS OF ELLIPTICAL GALAXIES
 STUDENT: BARRY ROTHBERG
 06/12/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R JOSEPH
Tech. Officer: HQ/K BLANDING
CASE Category: 11 – ASTRONOMY

NGT 5 50466 **UNIV OF HAWAII AT MANOA - HONOLULU**
 THE ORIGIN AND EVOLUTION OF LOW-MASS STARS AND GALACTIC CLUSTERS (STUDENT: SCOTT DAHM)
 05/01/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: G HERBIG
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52932 **UNIV OF HAWAII AT MANOA - HONOLULU**
 4200011942 X-RAY CLUSTERS IN THE ZONE OF AVOIDANCE
 06/16/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: B TULLY
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 11 – ASTRONOMY

IDAHO

NAG 5 10982 **IDAHO STATE UNIV**
 WILDFIRE EFFECTS ON RANGELAND ECOSYSTEMS AND LIVE STOCK GRAZING IN IDAHO
 06/12/2001 - 12/14/2003 FY03: \$0 Total: \$498,900
Prin. Invest.: K T WEBER
Tech. Officer: GSFC/W TURNER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12301 **IDAHO STATE UNIV**
 DETECTION, PREDICTION, IMPACT AND MANAGEMENT OF INVASIVE PLANTS USING GPS
 06/24/2002 - 05/31/2005 FY03: \$0 Total: \$1,500,000
Prin. Invest.: K T WEBER
Tech. Officer: GSFC/W TURNER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9052 **UNIV OF IDAHO - MOSCOW, IDAHO**
 NOVA ONLINE ESS
 02/14/2000 - 09/14/2003 FY03: \$0 Total: \$234,833
Prin. Invest.: M R ODELL
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9846 **UNIV OF IDAHO - MOSCOW, IDAHO**
 STUDY OF LAND-ATMOSPHERE INTERACTIONS USING SATELLITE DATA ASSIMILATION
 08/01/2000 - 07/31/2002 FY03: -\$2 Total: \$19,082
Prin. Invest.: R J QUALLS
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9876 **UNIV OF IDAHO - MOSCOW, IDAHO**
 LAND SURFACE MODELING & DATA ASSIMILATION WITH IN SITU & REMOTE SENSING DATA FROM CASES-97
 08/22/2000 - 07/14/2004 FY03: -\$10,833 Total: \$139,601
Prin. Invest.: R QUALLS
Tech. Officer: GSFC/P HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10210 **UNIV OF IDAHO - MOSCOW, IDAHO**
 LEWIS & CLARK REDISCOVERY PROJECT: LIFE-LONG LEARNING ONLINE (L3)
 01/03/2001 - 09/30/2003 FY03: \$0 Total: \$1,831,000
Prin. Invest.: J A TEASDALE
Tech. Officer: GSFC/M PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11112 **UNIV OF IDAHO - MOSCOW, IDAHO**
 VALIDATION OF THE ATMOSPHERIC INFRARED SOUNDER (AIRS) OVER THE ANTARCTIC PLATEAU (AQUA-0080-033) NR
 07/12/2001 - 08/31/2004 FY03: \$117,586 Total: \$335,461
Prin. Invest.: V P WALDEN
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11495 **UNIV OF IDAHO - MOSCOW, IDAHO**
 FRACTURE & STRESS EVOLUTION ON EUROPA: NEW INSIGHT INTO FRACTURE INTERPRETATION & ICE THICKNESS ESTIMATION
 12/27/2001 - 12/31/2003 FY03: \$35,000 Total: \$70,000
Prin. Invest.: S KATTENHORN
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11589 **UNIV OF IDAHO - MOSCOW, IDAHO**
 LEWIS & CLARK REDISCOVERY PROJECT: LIFE LONG LEARNING ONLINE (L3)
 01/24/2002 - 12/31/2003 FY03: \$0 Total: \$1,831,000
Prin. Invest.: J TEASDALE
Tech. Officer: GSFC/M PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11734 **UNIV OF IDAHO - MOSCOW, IDAHO**
 "ULTRA-LOW POWER HIGH PERFORMANCE CMOS VLSI"
 03/12/2002 - 03/31/2004 FY03: \$609,102 Total: \$1,706,300
Prin. Invest.: G MAKI
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11805 **UNIV OF IDAHO - MOSCOW, IDAHO**
 "HIGH PERFORMANCE LOSSY DATA COMPRESSION VLSI ARCHITECTURES"
 03/12/2002 - 03/31/2004 FY03: \$346,000 Total: \$848,799
Prin. Invest.: G MAKI
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11970 **UNIV OF IDAHO - MOSCOW, IDAHO**
 LOW POWER, RADIATION-TOLERANT RECONFIGURABLE PROCESSOR
 04/09/2002 - 04/14/2004 FY03: \$165,700 Total: \$709,655
Prin. Invest.: G DONOHOE
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 12790 **UNIV OF IDAHO - MOSCOW, IDAHO**
 HIGH PERFORMANCE COMMUNICATION VLSI
 01/30/2003 - 02/29/2004 FY03: \$422,000 Total: \$422,000
Prin. Invest.: G MAKI
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NCC 2 1174 **UNIV OF IDAHO - MOSCOW, IDAHO**
 ANALYZING THE IMPACT OF RISK AND TASK ANALYSIS AND HUMAN FACTORS PRICIPLES ON THE OUTCOME OF
 04/24/2000 - 04/14/2003 FY03: \$0 Total: \$396,203
Prin. Invest.: L T OSTROM
Tech. Officer: ARC/B G KANKE
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 1376 **UNIV OF IDAHO - MOSCOW, IDAHO**
 A RISK BASED APPROACH TO AESSING INSPECTION AND M EASURE-
 MENT RELIABILITY
 12/19/2002 - 12/14/2005 FY03: \$173,382 Total: \$173,382
Prin. Invest.: L T OSTROM
Tech. Officer: ARC/B KANKI, ARC/M CONNORS
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 5 395 **UNIV OF IDAHO - MOSCOW, IDAHO**
 NASA EPSCOR: PREPARATORY GRANT PROPOSAL
 05/13/1999 - 05/31/2002 FY03: \$0 Total: \$508,298
Prin. Invest.: R GILL
Tech. Officer: HQ/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 577 **UNIV OF IDAHO - MOSCOW, IDAHO**
 IDAHO NASA EPSCOR PROGRAM
 08/17/2001 - 07/31/2004 FY03: \$1,130,544 Total: \$1,638,878
Prin. Invest.: J TEASDALE
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40108 **UNIV OF IDAHO - MOSCOW, IDAHO**
 IDAHO SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 03/02/2001 - 02/28/2005 FY03: \$351,344 Total: \$1,158,750
Prin. Invest.: J TEASDALE
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

ILLINOIS

NAG 5 12091 **CHICAGO STATE UNIV**
 SATURDAY ACADEMY FOR SPACE SCIENCE
 05/03/2002 - 05/31/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: J RICHARD
Tech. Officer: GSFC/C HOLLINGSWORTH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 5414 **DEPAUL UNIV**
 DEVELOPING, EVALUATING & APPLYING A COMPUTATIONAL MODEL OF INFORMATION NAVIGATION
 12/19/2000 - 09/30/2003 FY03: \$4,452 Total: \$42,744
Prin. Invest.: C S MILLER
Tech. Officer: ARC/R W REMINGTON
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5554 **DEPAUL UNIV**
 MODELING TOOLS FOR INFORMATION NAVIGATION
 09/23/2003 - 09/14/2005 FY03: \$42,894 Total: \$42,894
Prin. Invest.: C S MILLER
Tech. Officer: ARC/R REMINGTON, ARC/M MATESSA
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 272 **DEPAUL UNIV**
 OSS EDUCATION AND OUTREACH BROKER/FACILITATOR PROG RAM
 02/24/1998 - 06/30/2002 FY03: \$0 Total: \$865,000
Prin. Invest.: C C NARASIMHAN
Tech. Officer: GSFC/J ROSENDHAL
CASE Category: 11 – ASTRONOMY

NCC 5 641 **DEPAUL UNIV**
 DEPAUL SPACE SCIENCE CENTER
 04/04/2002 - 06/30/2007 FY03: \$315,000 Total: \$630,000
Prin. Invest.: C C NARASIMHAN
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NAG 8 1827 **FINCH UNIV HEALTH SCI / CHICAGO MED SCHL**
 CRYSTALLIZATION OF THE MITOCHONDRIAL METABOLITE TRANSPORT PROTEINS
 09/13/2001 - 11/30/2004 FY03: \$80,000 Total: \$402,000
Prin. Invest.: R S KAPLAN
Tech. Officer: MSFC/B GUYNES
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 3 2743 **ILLINOIS INST OF TECHNOLOGY**
 THERMAL CONTROL AND ENHANCEMENT OF HEAT TRANSFER CAPACITY OF CRYOGENIC CAPILLARYPUMPED LOOP AND HE
 03/19/2002 - 09/13/2002 FY03: \$0 Total: \$10,000
Prin. Invest.: J SEYED-YAGOobi
Tech. Officer: GRC/M M HASAN
CASE Category: 46 – MECHANICAL ENGR

NAG 5 12370 **ILLINOIS INST OF TECHNOLOGY**
 ELECTROHYDRODYNAMIC CONDUCTION PUMPING OF CRYOGENIC FLUIDS
 07/12/2002 - 12/14/2002 FY03: \$12,800 Total: \$25,600
Prin. Invest.: J S YAGOobi
Tech. Officer: GSFC/J DIDION
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 798 **ILLINOIS INST OF TECHNOLOGY**
 MODELING NONLINEAR ACOUSTIC STANDING WAVES IN RESONATORS:
 THEORY AND EXPERIMENT
 05/16/2000 - 09/30/2003 FY03: \$0 Total: \$160,087
Prin. Invest.: D RAMAN
Tech. Officer: GRC/B M STEINETZ
CASE Category: 46 – MECHANICAL ENGR

NAG 5 9584 **ILLINOIS STATE UNIV**
 DETERMINATION OF THE MAGNETOTAIL CURRENT SHEET STRUCTURE
 USING NONLINEAR DYNAMICS MODELING AND GEOTA
 05/25/2000 - 05/31/2003 FY03: \$0 Total: \$159,285
Prin. Invest.: D HOLLAND
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1512 **JUDSON COLLEGE-ELGIN ILLINOIS**
 EFFECTS OF OSCILLATORY ACCELERATIONS ON BACTERIAL PROLIFERATION
 & RESPONSE TO ANTIBIOTICS
 08/17/2001 - 07/31/2004 FY03: \$58,359 Total: \$187,823
Prin. Invest.: E A JUERGENSMEYER
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 1 02004 **KNOX COLLEGE**
 CALIBRATION OF ECO BADGE TEST-STRIPS FOR OZONE MEASUREMENT
 FOR GLOBE
 11/15/2001 - 09/30/2002 FY03: -\$1,147 Total: \$14,849
Prin. Invest.: L C BUSH
Tech. Officer: LARC/J FISHMAN, LARC/R J DEYOUNG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2313 **NORTHWESTERN UNIV**
 MECHANICS OF NANOTUBES & NANOTUBE/POLYMER COMPOSITES
 07/18/2000 - 07/19/2003 FY03: \$89,999 Total: \$303,855
Prin. Invest.: R S RUOFF
Tech. Officer: LARC/T S GATES
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 01058 **NORTHWESTERN UNIV**
 SURFACE TEMPLATED GROWTH & ASSEMBLY OF CARBON NANOTUBE
 ARRAYS
 05/29/2001 - 12/31/2002 FY03: \$0 Total: \$100,000
Prin. Invest.: C A MIRKIN
Tech. Officer: LARC/J D JORDAN
CASE Category: 11 – ASTRONOMY

NAG 1 02078 **NORTHWESTERN UNIV**
 DEPLOYMENT OF INFLATABLE STRUCTURES BY ALE FEM AND PARTICLE
 METHODS
 04/10/2002 - 08/31/2003 FY03: \$30,000 Total: \$71,126
Prin. Invest.: W K LIU
Tech. Officer: LARC/J T WANG
CASE Category: 46 – MECHANICAL ENGR

NAG 1 03062 **NORTHWESTERN UNIV**
 COMPUTATIONAL APPROACHES FOR THE INFLATION DEPLOYMENT OF
 SOLAR SAIL BOOMS
 05/15/2003 - 05/14/2006 FY03: \$30,000 Total: \$30,000
Prin. Invest.: W K LIU, T BELYTCHKO
Tech. Officer: LARC/J T WANG
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1522 **NORTHWESTERN UNIV**
 MATHEMATICAL & COMPUTATIONAL ANALYSIS OF CENTRAL CARBON
 PATHWAYS FOR EFFICIENT METABOLIC ENGINEERING
 09/14/2001 - 09/14/2003 FY03: \$0 Total: \$128,059
Prin. Invest.: V HATZIMANIKATI
Tech. Officer: ARC/J HINES, ARC/P FUNG
CASE Category: 43 – CHEMICAL ENGR

NAG 3 2113 **NORTHWESTERN UNIV**
 COMPLEX DYNAMICS IN MARANGONI CONVECTION WITH ROTATION
 03/04/1998 - 12/31/2003 FY03: \$0 Total: \$370,000
Prin. Invest.: H RIECKE
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2209 **NORTHWESTERN UNIV**
 FILTRATION COMBUSTION FOR MICROGRAVITY APPLICATIONS: (1)
 SMOLDERING (2) COMBUSTION SYNTHESIS OF A
 11/17/1998 - 09/30/2003 FY03: \$0 Total: \$506,200
Prin. Invest.: B J MATKOWSKY
Tech. Officer: GRC/S A GOGOKLU
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2364 **NORTHWESTERN UNIV**
 COMPETING INSTABILITIES AND THE SPATIO-TEMPORAL DYNAMICS OF
 INTERFACIAL WAVE PATTERNS
 03/20/2000 - 11/30/2004 FY03: \$100,000 Total: \$325,250
Prin. Invest.: M SILBER
Tech. Officer: GRC/C E NIEDERHAUS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2369 **NORTHWESTERN UNIV**
 INTERFACIAL DYNAMICS INTERFACIAL DYNAMICS
 04/03/2000 - 11/30/2003 FY03: \$87,994 Total: \$311,607
Prin. Invest.: D H DAVIS
Tech. Officer: GRC/H C DEGROH
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2474 **NORTHWESTERN UNIV**
 COARSENING IN SOLID-LIQUID MIXTURES-2 (CSLM-2) COARSENING IN
 SOLID-LIQUID MIXTURES-2 (CSLM-2)
 07/24/2000 - 11/30/2005 FY03: \$239,028 Total: \$694,475
Prin. Invest.: P W VOORHEES
Tech. Officer: GRC/W B DUVAL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2511 **NORTHWESTERN UNIV**
 MODELING MICROGRAVITY NON-PREMIXED COMBUSTION SYSTEMS
 12/07/2000 - 11/15/2004 FY03: \$115,000 Total: \$284,000
Prin. Invest.: D MATALON
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2628 **NORTHWESTERN UNIV**
 DEVELOPMENT OF HIGH-CONDUCTIVE POLYELECTROLYTES FOR LI BATTERIES
 06/01/2001 - 12/31/2003 FY03: \$0 Total: \$177,367
Prin. Invest.: D F SHRIVER
Tech. Officer: GRC/R S BALDWIN
CASE Category: 12 – CHEMISTRY

NAG 5 5094 **NORTHWESTERN UNIV**
 THE DEVELOPMENT OF A FOCUSING SYSTEM FOR 40-100 KEV X-RAYS
 11/22/1996 - 03/31/2003 FY03: \$0 Total: \$502,501
Prin. Invest.: M P ULMER
Tech. Officer: GSFC/L W GURKIN
CASE Category: 13 – PHYSICS

NAG 5 7011 **NORTHWESTERN UNIV**
 THEORETICAL STUDIES OF X-RAY BURSTS IN ACCRETING NEUTRON
 STARS - ATP
 02/18/1998 - 02/14/2003 FY03: \$0 Total: \$211,710
Prin. Invest.: R E TAAM
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8294 **NORTHWESTERN UNIV**
 LESSER THARSIS VOLCANOES: STYLES OF ERUPTION AND RELATIONS TO
 THARIS FLOOD VOLCANISM
 02/23/1999 - 03/31/2003 FY03: \$0 Total: \$132,200
Prin. Invest.: M S ROBINSON
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9188 **NORTHWESTERN UNIV**
 A MULTI-WAVELENGTH STUDY OF THE INNER 50 PC-REGION AT THE
 GALACTIC GALACTIC CENTER (LTS99)
 03/07/2000 - 03/14/2005 FY03: \$30,937 Total: \$136,388
Prin. Invest.: F YUSEF-ZADEH
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9272 **NORTHWESTERN UNIV**
 SMALL-SCALE STRUCTURE IN THE DIFFUSE INTERSTELLAR MEDIUM (LTS
 99)
 03/16/2000 - 03/14/2005 FY03: \$98,823 Total: \$375,448
Prin. Invest.: D MEYER
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10306 **NORTHWESTERN UNIV**
 ANDEAN MOUNTAIN BUILDING: AN INTEGRATED TOPOGRAPHIC, GPS,
 SEISMOLOGICAL AND NUMERICAL STUDY (SENH99)
 01/30/2001 - 03/14/2003 FY03: \$0 Total: \$74,999
Prin. Invest.: S STEIN
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10323 **NORTHWESTERN UNIV**
 SMALL-SCALE INTERSTELLAR STRUCTURE TOWARD THE OPEN CLUSTER
 CHI PERSEI (FUSE 00)
 01/30/2001 - 01/31/2003 FY03: \$0 Total: \$71,700
Prin. Invest.: D M MEYER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10324 **NORTHWESTERN UNIV**
 THE PHYSICAL CHARACTER OF SMALL-SCALE INTERSTELLAR STRUC-
 TURES (FUSE 00)
 01/30/2001 - 01/31/2003 FY03: \$0 Total: \$45,100
Prin. Invest.: J T LAUROESCH
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10465 **NORTHWESTERN UNIV**
 ANOMALOUS OXYGEN AND KRYPTON ABUNDANCES IN INTER- STELLAR
 GAS (FUSE 00)
 03/02/2001 - 02/28/2003 FY03: \$0 Total: \$66,200
Prin. Invest.: D M MEYER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11396 **NORTHWESTERN UNIV**
 BINARY STARS AND GLOBAL CLUSTER DYNAMICS
 01/24/2002 - 09/30/2002 FY03: \$0 Total: \$77,049
Prin. Invest.: F A RASIO
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11457 **NORTHWESTERN UNIV**
 GAN PHOTO-CATHODE STRUCTURES FOR DETECTION AND IMAGING IN
 THE UV
 12/17/2001 - 12/31/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: M P ULMER
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12018 **NORTHWESTERN UNIV**
 QUANTITATIVE STUDIES IN PLANETARY VOLCANISM
 04/11/2002 - 04/14/2005 FY03: \$45,000 Total: \$77,100
Prin. Invest.: M S ROBINSON
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 12044 **NORTHWESTERN UNIV**
 BINARY STARS AND GLOBULAR CLUSTER DYNAMICS
 04/17/2002 - 04/14/2005 FY03: \$61,900 Total: \$143,240
Prin. Invest.: F A RASIO
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12157 **NORTHWESTERN UNIV**
 ANALYSIS OF MARS MAGNETIC LINEATIONS FOR TRUE POLAR WANDER,
 REVERSALS, & CRUSTAL ACCRETION
 05/08/2002 - 05/14/2005 FY03: \$46,424 Total: \$92,848
Prin. Invest.: D JURDY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12587 **NORTHWESTERN UNIV**
 LUNAR POLAR INVESTIGATIONS
 09/18/2002 - 09/14/2004 FY03: -\$56,000 Total: \$0
Prin. Invest.: B BUSSEY
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12643 **NORTHWESTERN UNIV**
 STUDIES OF GAN-BASED FILMS FOR UV PHOTOCATHODES
 11/15/2002 - 11/30/2003 FY03: \$23,782 Total: \$23,782
Prin. Invest.: M P ULMER
Tech. Officer: GSFC/B WOODGATE
CASE Category: 11 – ASTRONOMY

NAG 5 12665 **NORTHWESTERN UNIV**
 HIGH RESOLUTION COLOR AND PHYSICAL PROPERTIES OF E ROS'S
 REGOLITH
 12/09/2002 - 12/14/2005 FY03: \$66,956 Total: \$66,956
Prin. Invest.: M ROBINSON
Tech. Officer: GSFC/S NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13005 **NORTHWESTERN UNIV**
 THE ABUNDANCE OF INTERSTELLAR FLUORINE
 03/11/2003 - 03/31/2004 FY03: \$17,800 Total: \$17,800
Prin. Invest.: J T LAUROESCH
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13236 **NORTHWESTERN UNIV**
 STELLAR SOURCES OF LOW-FREQUENCY GRAVITATIONAL WAVES
 04/03/2003 - 03/31/2006 FY03: \$75,678 Total: \$75,678
Prin. Invest.: V KALOGERA
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13556 **NORTHWESTERN UNIV**
 DISENTANGLING THE INFLUENCE OF COSMOLOGICAL PARAMETERS AND
 STRUCTURE
 07/31/2003 - 07/31/2004 FY03: \$32,400 Total: \$32,400
Prin. Invest.: M P ULMER
Tech. Officer: GSFC/S L SNOWDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1660 **NORTHWESTERN UNIV**
 EVOLUTION OF DENDRITE MORPHOLOGY DURING ISOTHERMAL COARS-
 ENING
 04/24/2000 - 11/30/2003 FY03: \$100,000 Total: \$335,000
Prin. Invest.: J ALKEMPER
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1053 **NORTHWESTERN UNIV**
 RESEARCH FOR ROTATION MEMBRANE WATER PURIFICATION
 12/10/1998 - 12/14/2002 FY03: \$0 Total: \$520,029
Prin. Invest.: R M LUEPTOW
Tech. Officer: JSC/N PACKMAN
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1297 **NORTHWESTERN UNIV**
 PILOT STUDY: ACOUSTIC ATTENUATION AS A REAL-TIME GASEOUS PRO-
 CESSION CONTROL MONITOR
 05/01/2001 - 06/30/2002 FY03: \$0 Total: \$56,758
Prin. Invest.: R M LUEPTOW
Tech. Officer: JSC/D RUSSO
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG 9 1398 **NORTHWESTERN UNIV**
 ADVANCING ROTATING MEMBRANE WATER PURIFICATION FOR HUMAN
 LIFE SUPPORT IN SPACE
 02/20/2002 - 02/19/2005 FY03: \$174,822 Total: \$348,980
Prin. Invest.: R N LUEPTOW
Tech. Officer: JSC/K DAUES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1544 **NORTHWESTERN UNIV**
 REAL-TIME GASEOUS PROCESS CONTROL MONITORING BASED ON
 ACOUSTIC PROPERTIES
 07/16/2003 - 07/31/2005 FY03: \$75,000 Total: \$75,000
Prin. Invest.: R M LUEPTOW
Tech. Officer: JSC/M JERNIGAN
CASE Category: 46 – MECHANICAL ENGR

NAS 5 98153 **NORTHWESTERN UNIV**
 CONSTELLATION X-RAY MISSION
 06/22/1998 - 12/15/2001 FY03: -\$1 Total: \$120,046
Prin. Invest.: M P ULMER
Tech. Officer: GSFC/J GRADY, GSFC/R MAUK
CASE Category: 46 – MECHANICAL ENGR

NCC 1 01002 **NORTHWESTERN UNIV**
 NANO-, MICRO- & MACRO-MECHANICS OF NANOREINFORCED POLYMERIC
 MATERIALS
 12/13/2000 - 03/31/2004 FY03: \$77,362 Total: \$225,528
Prin. Invest.: L C BRINSON
Tech. Officer: LARC/T S GATES
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 02007 **NORTHWESTERN UNIV**
 MICROMECHANICS-CONTINUUM-NUMERICAL MODELING OF SHAPE
 MEMORY ALLOYS
 01/16/2002 - 01/15/2005 FY03: \$58,067 Total: \$99,274
Prin. Invest.: L C BRINSON
Tech. Officer: LARC/T L TURNER, LARC/K P SHEPHERD
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 2 1013 **NORTHWESTERN UNIV**
 PROPHECY: A HIERARCHICAL TOOL FOR MODELING & ANALYZING PAR-
 ALLEL SCIENTIFIC APPLICATIONS
 01/27/1998 - 09/30/2002 FY03: \$0 Total: \$269,931
Prin. Invest.: V E TAYLOR
Tech. Officer: ARC/A GRADY
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1098 **NORTHWESTERN UNIV**
 AN INVESTIGATION OF THE EFFECTS OF OUTSOURCING MAINTENANCE
 ON TASK PERFORMANCE
 03/15/1999 - 06/30/2002 FY03: \$0 Total: \$316,720
Prin. Invest.: E J CZEPIEL
Tech. Officer: ARC/B G KANKI, ARC/M CONNORS
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 3 870 **NORTHWESTERN UNIV**
 SYNTHESIS, MICROSTRUCTURE AND PROPERTIES OF NICKEL ALUMINIDE
 FOAMS
 02/28/2001 - 12/31/2002 FY03: \$0 Total: \$109,967
Prin. Invest.: D C DUNAND
Tech. Officer: GRC/M V NATHAL
CASE Category: 47 – METAL & MATERIALS ENGR

NGT 3 52378 **NORTHWESTERN UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM GRADUATE STUDENT
 RESEARCHERS PROGRAM
 06/21/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: D N SEIDMAN
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 88 **NORTHWESTERN UNIV**
DEVELOPMENT OF A MOVING GRID RETARDER FOR SUBMILLI METER
POLARIMETRY OF SGR B2 (STUDENT: DAVID CHUS
05/26/1999 - 06/30/2002 FY03: -\$643 Total: \$65,357
Prin. Invest.: G NOVAK
Tech. Officer: GSFC/M S BURRELL
CASE Category: 13 – PHYSICS

NGT 5 90 **NORTHWESTERN UNIV**
HIGH DETECTION EFFICIENCY PHOTON COUNTERS AT 1064N M AND THEIR
USE IN A NOVEL QUANTUM IMAGING SCHEME
06/03/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: P KUMAR
Tech. Officer: GSFC/M S BURRELL
CASE Category: 45 – ELECTRICAL ENGR

NGT 5 149 **NORTHWESTERN UNIV**
DEVELOPMENT OF A TWO COLOR QUANTUM WELL PHOTO-
DETECTOR/STUDENT: STANLEY TSAO
08/26/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M RAZEGHI
Tech. Officer: GSFC/M S BURRELL
CASE Category: 45 – ELECTRICAL ENGR

NGT 5 158 **NORTHWESTERN UNIV**
HIGH-PERFORMANCE & FAULT-TOLERANT SYSTEM SOFTWARE FOR
LARGE-SCALE APPLICATIONS__STUDENT: AVERY CHING
09/30/2003 - 09/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: A CHOUDHARY
Tech. Officer: GSFC/M S BURRELL
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 30456 **NORTHWESTERN UNIV**
HETEREGENEOUS NOXCHEMISTRY ON METAL OXIDE SURFACES STUDIED
USING NON- LINEAR OPTICAL SPECTROSCOPY
08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: F GEIGER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30471 **NORTHWESTERN UNIV**
DATA MINING TECHNIQUES FOR STREAMING DATA STUDENT: YI QIAO
08/27/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: P SCHEUERMANN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50263 **NORTHWESTERN UNIV**
RAPIDLY PROPAGATING BUOYANT FILTRATION COMBUSTION WAVES WITH
APPLICATIONS TO SMOLDERING & COMBUSTION
07/09/1999 - 12/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: B J MATKOWSKY
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50368 **NORTHWESTERN UNIV**
THE EFFECT OF GRAIN BOUNDARIES DURING COARSENING IN SOLID-
LIQUID MIXTURES_(STUDENT: DAVID ROW
06/18/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: P VOORHEES
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50405 **NORTHWESTERN UNIV**
INSTABILITIES IN FLAMES SPREADING OVER LIQUID FUELS (STUDENT:
TANYA TICKEL)
07/30/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: M MATALON
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50434 **NORTHWESTERN UNIV**
STRONGLY ANISOTROPIC DIRECTIONAL SOLIDIFICATION GSRP STUDENT:
SCOTT NORRIS
04/16/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S DAVIS
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 7662 **SOUTHERN ILLINOIS UNIV - CARBONDALE**
'COMPREHENSIVE MODELS OF THE NEAR-EARTH MAGNETIC F IELD:INTER
PRETATION OF THE LITHOSPHER
09/09/1998 - 09/14/2002 FY03: \$0 Total: \$111,000
Prin. Invest.: D RAVAT
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICALSCIENCE

NAG 5 7771 **SOUTHERN ILLINOIS UNIV - CARBONDALE**
GEOLOGIC INTERPRETATION OF SATELLITE ALTITUDE CRUS TAL MAG-
NETIC ANOMALY DATA
11/12/1998 - 04/30/2003 FY03: \$0 Total: \$133,000
Prin. Invest.: D RAVAT
Tech. Officer: GSFC/P T TAYLOR
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9832 **SOUTHERN ILLINOIS UNIV - CARBONDALE**
GEOLOGICAL ANALYSIS IF THE MARTIAN CRUSTAL MAGNETIC ANOMALIES
07/26/2000 - 07/31/2004 FY03: \$0 Total: \$64,000
Prin. Invest.: D RAVAT
Tech. Officer: GSFC/P TAYLOR
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 13681 **SOUTHERN ILLINOIS UNIV - CARBONDALE**
GEODYNAMICS OF THE LITHOSPHERE USING POTENTIAL FIELD VARIA-
TIONS
09/11/2003 - 09/14/2006 FY03: \$50,000 Total: \$50,000
Prin. Invest.: D RAVAT
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1812 **SOUTHERN ILLINOIS UNIV - CARBONDALE**
ANISOTROPIC EFFECT IN LAMINATE COMPOSITES USING LASER HEATING
05/08/2001 - 06/30/2002 FY03: \$0 Total: \$38,000
Prin. Invest.: T CHU
Tech. Officer: MSFC/S RUSSELL
CASE Category: 49 – ENGINEERING, OTHER

NAG13 03029 **SOUTHERN ILLINOIS UNIV - CARBONDALE**
A NOVEL FIBER OPTICS BASED METHOD FOR LIQUID OXYGE N (LOX) TANK
MASS MEASUREMENT IN A ROCKET TEST FA
09/15/2003 - 03/17/2004 FY03: \$19,545 Total: \$19,545
Prin. Invest.: A MAHAJAN
Tech. Officer: SSC/F FIGUEROA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 01026 **SOUTHERN ILLINOIS UNIV - CARBONDALE**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/12/2001 - 06/30/2004 FY03: \$0 Total: \$36,000
Prin. Invest.: J SCOTT
Tech. Officer: LARC/R TRIPATHI, LARC/J WILSON
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 50321 **SOUTHERN ILLINOIS UNIV - CARBONDALE**
 ASSESSING MASS WASTING & LANDSLIDE SUSCEPTIBILITY USING GIS &
 REMOTELY SENSED IMAGERY, SANTA CRUZ IS
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: N PINTER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT13 52760 **SOUTHERN ILLINOIS UNIV - CARBONDALE**
 GRADUATE STUDENT RESEARCH PROGRAM: AN INTELLIGENT SENSOR
 MONITORING SYSTEM FOR ROCKET PROPULSION TES
 05/27/2003 - 06/30/2004 FY03: \$21,008 Total: \$21,008
Prin. Invest.: A MAHAJAN
Tech. Officer: SSC/F FIGUEROA
CASE Category: 46 – MECHANICAL ENGR

NAG 2 6071 **UNIV OF CHICAGO**
 SYMPOSIUM ON THE DEVELOPMENT BASIS OF EVOLUTIONARY CHANGE
 03/04/2003 - 11/30/2003 FY03: \$20,610 Total: \$20,610
Prin. Invest.: N H SHUBIN
Tech. Officer: ARC/M M AVERNER, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 3687 **UNIV OF CHICAGO**
 ACCRETION AND OUTFLOW PHENOMENA IN YOUNG STELLAR O
 01/15/1997 - 01/14/2003 FY03: \$0 Total: \$557,400
Prin. Invest.: A KONIGL
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 5223 **UNIV OF CHICAGO**
 GRANT NAG5-5223 - HIGH ENERGY ANTIMATTER TELESCOPE (HEAT) PI DR.
 DIETRICH MULLER
 03/16/1999 - 11/30/2003 FY03: \$0 Total: \$530,000
Prin. Invest.: D MULLER
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5229 **UNIV OF CHICAGO**
 GRANT NAG5-5229 STUDIES OF THE COSMIC RADIATION AT HIGH ENER-
 GIES PI PROF SWORDY
 03/16/1999 - 11/30/2003 FY03: \$475,000 Total: \$1,547,000
Prin. Invest.: SWORDY
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5305 **UNIV OF CHICAGO**
 EXPERIMENTS IN HIGH ENERGY ASTROPHYSICS: THE TRACER PROJECT
 01/09/2001 - 11/30/2003 FY03: \$537,501 Total: \$1,337,501
Prin. Invest.: D MULLER
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 7986 **UNIV OF CHICAGO**
 GALAXY CLUSTERS AS COSMOLOGICAL PROBES: ANALYSES O F X-RAY,
 LENSING, AND SUNYAEV ZEL'DOVICH MEASUREM
 01/03/1999 - 12/31/2003 FY03: \$131,909 Total: \$643,215
Prin. Invest.: J E CARLSTROM
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8163 **UNIV OF CHICAGO**
 THE JOURNEY OF THE SUN - A VIRTUAL REALITY SIMULAT ION
 02/08/1999 - 01/31/2003 FY03: \$0 Total: \$363,125
Prin. Invest.: P C FRISCH
Tech. Officer: GSFC/P HUNTER
CASE Category: 11 – ASTRONOMY

NAG 5 8539 **UNIV OF CHICAGO**
 PRIOR GRANT:NAG5-3253 CONTINUATION OF MAP SCIENCE SUPPORT
 ACTIVITIES BEING IMPLEMENTED BY THE MAP
 08/17/1999 - 08/14/2004 FY03: \$91,981 Total: \$491,685
Prin. Invest.: S MEYER
Tech. Officer: GSFC/C BENNETT
CASE Category: 11 – ASTRONOMY

NAG 5 8708 **UNIV OF CHICAGO**
 RADIO INTERFEROMETRIC STUDIES OF COMETS AND ASTERO IDS
 07/20/1999 - 12/31/2002 FY03: \$0 Total: \$60,000
Prin. Invest.: P PALMER
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 9063 **UNIV OF CHICAGO**
 DISK-DRIVEN OUTFLOWS IN ACTIVE GALACTIC NUCLEI - ATP-99
 02/14/2000 - 02/14/2004 FY03: \$0 Total: \$183,242
Prin. Invest.: A KONIGL
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9378 **UNIV OF CHICAGO**
 MASS LOSS KINETICS AND ISOTOPE FRACTIONATION OF MOLTEN CAI
 COMPOSITIONS
 04/03/2000 - 03/31/2003 FY03: \$0 Total: \$177,000
Prin. Invest.: F RICHTER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9510 **UNIV OF CHICAGO**
 REFRACTORY INCLUSIONS IN CARBONACEOUS CHONDRITES
 04/25/2000 - 04/30/2003 FY03: \$0 Total: \$274,000
Prin. Invest.: A M DAVIS
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9800 **UNIV OF CHICAGO**
 SIDEROPHILE ELEMENT MICROANALYSIS BY LASER ABLATION ICPMS
 07/14/2000 - 06/30/2003 FY03: \$0 Total: \$160,000
Prin. Invest.: M HUMAYUN
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10370 **UNIV OF CHICAGO**
 ABUNDANCES AND PHYSICAL CONDITIONS IN THE SMC ISM (FUZE 00)
 02/08/2001 - 04/30/2003 FY03: \$0 Total: \$64,700
Prin. Invest.: D E WELTY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10759	UNIV OF CHICAGO	NAG 5 11588	UNIV OF CHICAGO
STUDIES OF GAMMA-RAY BURSTS (LTSA 2000)		CHEMICAL ASPECTS OF THE ORIGIN OF THE SOLAR SYSTEM	
04/23/2001 - 04/30/2006	FY03: \$64,982	01/10/2002 - 11/30/2004	FY03: \$230,000
<i>Prin. Invest.:</i> D Q LAMB	Total: \$127,982	<i>Prin. Invest.:</i> L GROSSMAN	Total: \$460,000
<i>Tech. Officer:</i> GSFC/R J OLIVERSEN		<i>Tech. Officer:</i> GSFC/J BOYCE	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 12 – CHEMISTRY	
NAG 5 10831	UNIV OF CHICAGO	NAG 5 11793	UNIV OF CHICAGO
FAST DYNAMOS AND THE ORIGIN OF SMALL SCALE PHOTO SPHERIC FIELDS		NEW NUCLEAR TECHNIQUE FOR WATER, HYDROGEN AND DEUTERIUM DETERMINATION IN PLANETARY SURFACES	
04/26/2001 - 04/30/2004	FY03: \$114,976	02/28/2002 - 02/28/2004	FY03: \$105,313
<i>Prin. Invest.:</i> F CATTANEO	Total: \$332,826	<i>Prin. Invest.:</i> T E ECONOMOU	Total: \$220,311
<i>Tech. Officer:</i> GSFC/W J WAGNER		<i>Tech. Officer:</i> GSFC/J BOYCE	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 11 – ASTRONOMY	
NAG 5 10840	UNIV OF CHICAGO	NAG 5 11860	UNIV OF CHICAGO
CMB AND ITS RELATION TO LARGE-SCALE STRUCTURE (ATP 2000)		ASTROPHYSICAL STUDIES WITH IMP SATELLITE DATA.	
05/11/2001 - 05/14/2004	FY03: \$73,012	04/01/2002 - 03/31/2003	FY03: \$0
<i>Prin. Invest.:</i> W HU	Total: \$212,718	<i>Prin. Invest.:</i> C LOPATE	Total: \$17,199
<i>Tech. Officer:</i> GSFC/R J OLIVERSEN		<i>Tech. Officer:</i> GSFC/J KING	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 11 – ASTRONOMY	
NAG 5 10878	UNIV OF CHICAGO	NAG 5 11903	UNIV OF CHICAGO
COSMIC RAY INTERSTELLAR PROPAGATION (ATP 2000)		CONSTRUCT NEXT GENERATION NOBEL GAS MASS SPECTRO- METER FOR ULTIMATELY SMALL SAMPLES	
05/08/2001 - 09/30/2002	FY03: -\$15,984	04/04/2002 - 03/31/2004	FY03: \$160,000
<i>Prin. Invest.:</i> J J CONNELL	Total: \$27,110	<i>Prin. Invest.:</i> R S LEWIS	Total: \$518,000
<i>Tech. Officer:</i> GSFC/R J OLIVERSEN		<i>Tech. Officer:</i> GSFC/J BOYCE	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 11 – ASTRONOMY	
NAG 5 11005	UNIV OF CHICAGO	NAG 5 11999	UNIV OF CHICAGO
BOUNDARY CONDITIONS OF THE HELIOSPHERE: FLUCTUATIONS IN NEARBY INTERSTELLAR GAS		JOURNEY OF THE SUN: A VIRTUAL REALITY SIMULATION.	
06/05/2001 - 05/31/2004	FY03: \$86,931	05/01/2002 - 04/30/2004	FY03: \$15,000
<i>Prin. Invest.:</i> P C FRISCH	Total: \$250,185	<i>Prin. Invest.:</i> P C FRISCH	Total: \$100,000
<i>Tech. Officer:</i> GSFC/W J WAGNER		<i>Tech. Officer:</i> GSFC/P E HUNTER	
<i>CASE Category:</i> 31 – ATMOSPHERIC SCIENCE		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 11380	UNIV OF CHICAGO	NAG 5 12153	UNIV OF CHICAGO
UNIV OF CHICAGO TOPHAT COLLABORATION		ULTRA-HIGH ENERGY PARTICLES FROM SPACE	
10/30/2001 - 04/30/2002	FY03: \$0	05/13/2002 - 11/07/2002	FY03: -\$5,000
<i>Prin. Invest.:</i> S S MEYER	Total: \$30,000	<i>Prin. Invest.:</i> A OLINTO	Total: \$0
<i>Tech. Officer:</i> GSFC/E S CHENG		<i>Tech. Officer:</i> GSFC/M SALAMON	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 11413	UNIV OF CHICAGO	NAG 5 12635	UNIV OF CHICAGO
ABUNDANCES AND PHYSICAL CONDITIONS IN THE INTER- STELLAR MEDIUM OF THE MAGELLANIC CLOUDS.		GAMMA-RAY BURST SOURCES: FOLLOWING THE MAGNETIC T HREAD	
12/20/2001 - 04/30/2007	FY03: \$107,044	10/02/2002 - 09/30/2005	FY03: \$155,700
<i>Prin. Invest.:</i> D E WELTY	Total: \$209,604	<i>Prin. Invest.:</i> A KONIGL	Total: \$155,700
<i>Tech. Officer:</i> GSFC/R J OLIVERSEN		<i>Tech. Officer:</i> GSFC/M SALAMON	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 11443	UNIV OF CHICAGO	NAG 5 12997	UNIV OF CHICAGO
ANALYSIS OF TOPHAT DATA		ISOTOPIC AND CHEMICAL STUDIES OF THE EARLY SOLAR SYSTEM	
12/19/2001 - 12/31/2003	FY03: \$75,000	03/06/2003 - 02/28/2006	FY03: \$120,000
<i>Prin. Invest.:</i> S MEYER	Total: \$165,000	<i>Prin. Invest.:</i> A DAVIS	Total: \$120,000
<i>Tech. Officer:</i> GSFC/G STRINGFELLOW		<i>Tech. Officer:</i> GSFC/D LINDTSROM	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 12 – CHEMISTRY	
NAG 5 11568	UNIV OF CHICAGO	NAG 5 13027	UNIV OF CHICAGO
ISOTOPIC STUDIES OF THE MOON AND METEORITES		EXPERIMENTS ON THE ELEMENTAL & ISOTOPIC FRANCTIONA TION OF SILICATE LIQUIDS FOR ITNERPRETINGTHEORIG	
02/21/2002 - 03/14/2005	FY03: \$210,000	03/11/2003 - 03/31/2006	FY03: \$99,000
<i>Prin. Invest.:</i> R N CLAYTON	Total: \$420,000	<i>Prin. Invest.:</i> F RICHTER	Total: \$99,000
<i>Tech. Officer:</i> GSFC/J BOYCE		<i>Tech. Officer:</i> GSFC/D LINDSTROM	
<i>CASE Category:</i> 12 – CHEMISTRY		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	

NAG 5 13133 **UNIV OF CHICAGO**
 SIDEROPHILE ELEMENT MICROANALYSIS BY LASER ABLATION ICP-MS
 03/18/2003 - 06/30/2006 FY03: \$236,000 Total: \$236,000
Prin. Invest.: M HUMAYUN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13165 **UNIV OF CHICAGO**
 PHOTOCHEMISTRY IN THE SOLAR NEBULA
 03/21/2003 - 03/31/2006 FY03: \$50,000 Total: \$50,000
Prin. Invest.: R N CLAYTON
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13274 **UNIV OF CHICAGO**
 HIGH-RESOLUTION SIMULATIONS OF GALAXY CLUSTERS: THEORY VS. OBSERVATIONS
 04/04/2003 - 03/31/2006 FY03: \$71,485 Total: \$71,485
Prin. Invest.: A V KRAVTSOV
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13558 **UNIV OF CHICAGO**
 JOURNEY OF THE SUN A VIRTUAL REALITY SIMULATION DATE CONSTRAINED MODELING AND VISUALIZATION
 07/31/2003 - 07/31/2004 FY03: \$99,710 Total: \$99,710
Prin. Invest.: P C FRISCH
Tech. Officer: GSFC/N LAL
CASE Category: 11 – ASTRONOMY

NAG 5 13700 **UNIV OF CHICAGO**
 MAPPING GALACTIC FE SYNTHESIS IN CEN-CIR
 09/17/2003 - 09/14/2004 FY03: \$1,500 Total: \$1,500
Prin. Invest.: A HEGER
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 9 1436 **UNIV OF CHICAGO**
 SUBSTRATE COMPOSITION FOR GENESIS MISSION MATERIALS
 06/25/2002 - 06/30/2005 FY03: \$49,187 Total: \$133,187
Prin. Invest.: M HUMAYUN
Tech. Officer: JSC/N ROBERTSON
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 5 653 **UNIV OF CHICAGO**
 FREQUENCY SELECTIVE BOLOMETER DEMONSTRATION FOR THE EDGE MISSION
 08/21/2002 - 09/30/2004 FY03: \$113,438 Total: \$164,499
Prin. Invest.: S S MEYER
Tech. Officer: GSFC/C SAVINELL
CASE Category: 49 – ENGINEERING, OTHER

NGT 8 52906 **UNIV OF CHICAGO**
 CONSTRAINING COSMOLOGY WITH THE CHANGDRA AND XMM OBSERVATORIES
 05/25/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J CARLSTROM
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 11 – ASTRONOMY

NGT 8 52921 **UNIV OF CHICAGO**
 GRADUATE STUDENT RESEARCH PROGRAM - FOR GRAD STUDENT DASIUKA NAGAI
 07/03/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: J CARLSTROM
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 11 – ASTRONOMY

NAG 1 01065 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
 TELECOLLABORATIVE DESIGN & SIMULATION IN IMMERSIVE VIRTUAL ENVIRONMENT
 05/29/2001 - 11/30/2004 FY03: \$0 Total: \$61,000
Prin. Invest.: P BANERJEE
Tech. Officer: LARC/C A SANDRIDGE
CASE Category: 46 – MECHANICAL ENGR

NAG 2 1358 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
 AN ULTRASTRUCTURAL STUDY OF DEVELOPMENT IN VESTIBULAR HAIR CELLS, & THEIR CELLULAR RESPONSES TO HYP
 07/23/1999 - 06/30/2003 FY03: \$9,751 Total: \$383,771
Prin. Invest.: A LYSAKOWSKI
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1589 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
 AN ULTRASTRUCTURAL STUDY OF DEVELOPMENT IN VESTIBULAR HAIR CELLS AND THEIR CELLULAR RESPONSES TO HY
 11/04/2002 - 10/31/2003 FY03: \$138,186 Total: \$138,186
Prin. Invest.: A LYSAKOWSKI
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2450 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
 DESIGN OF GEAR DRIVES WITH HIGH GEAR RATIO DESIGN OF GEAR DRIVES WITH HIGH GEAR RATIO
 06/09/2000 - 09/30/2004 FY03: \$25,000 Total: \$185,000
Prin. Invest.: D L LITVIN
Tech. Officer: GRC/R F HANDSCHUH
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2456 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
 MOLTEN-METAL DROPLET DEPOSITION ON A MOVING SUBSTRATE IN MICROGRAVITY: AIDING THE DEVELOPMENT OF NO
 06/08/2000 - 11/30/2003 FY03: \$82,255 Total: \$276,639
Prin. Invest.: D M MEGARIDIS
Tech. Officer: GRC/W B DUVAL
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 9427 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
 ANTARCTIC DRY VALLEY LAKES: ANALOGS OF ANCIENT MARTIAN LACUSTRINE SYSTEMS
 04/11/2000 - 04/14/2004 FY03: \$0 Total: \$197,702
Prin. Invest.: P DORAN
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10334 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
 CARRIER LIFE TIME ENHANCEMENT USING HGCDE/CDZNT STRAINED-LAYER SUPERLATTICES FOR NEAR ROOM
 01/31/2001 - 01/31/2004 FY03: \$305,559 Total: \$829,123
Prin. Invest.: C GREIN
Tech. Officer: GSFC/R MARTINEAU
CASE Category: 13 – PHYSICS

NAG 5 10398 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
HIGH SPEED/HIGH ACCURACY MICRO-MIRRORS FOR ADAPTABLE SURFACES AND MULTIPLE SHUTTERS
02/13/2001 - 02/29/2004 FY03: \$188,272 Total: \$515,196
Prin. Invest.: A FEINERMAN
Tech. Officer: GSFC/M DUTTA
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 12889 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
SUBSURFACE ICE AND BRINE SAMPLING: LIFE DETECTION & CHARACTERIZATION IN THE MCMURDO DRY VALLEYS USIN
02/24/2003 - 02/14/2006 FY03: \$68,391 Total: \$68,391
Prin. Invest.: P DORAN
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13107 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
CLUSTER OF LOCAL INTERSTELLAR CLOUDS: PAST, PRESENT, AND FUTURE GALACTIC ENVIRONMENT OF THE SUN AND
03/13/2003 - 03/14/2008 FY03: \$70,280 Total: \$70,280
Prin. Invest.: P FRISCH
Tech. Officer: GSFC/J ROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13446 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
BRANCHED ALKANES WITH QUATERNARY CARBON ATOMS IN THE GEOLOGICAL RECORD: CHEMICAL SYNTHESIS & SIGNI
04/26/2003 - 04/14/2005 FY03: \$99,563 Total: \$99,563
Prin. Invest.: F KING
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1473 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
MICROGRAVITY INVESTIGATION OF DYNAMIC OXYGEN ABSORPTION IN MOLTEN SOLDER JETTING
04/13/1998 - 01/31/2002 FY03: \$0 Total: \$374,333
Prin. Invest.: C MEGARIDIS
Tech. Officer: MSFC/C TALLEY
CASE Category: 46 – MECHANICAL ENGR

NCC 3 688 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
GRAVITATIONAL EFFECTS ON PARTIALLY-PREMIXED FLAMES GRAVITATIONAL EFFECTS ON PARTIALLY-PREMIXED FLAME
03/16/1999 - 03/09/2004 FY03: \$0 Total: \$383,562
Prin. Invest.: D K PURI
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 694 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
THE EXTINCTION OF LOW STRAIN RATE DIFFUSION FLAMES BY AN AGENT IN MICROGRAVITY
03/22/1999 - 03/21/2003 FY03: \$0 Total: \$86,866
Prin. Invest.: I K PURI
Tech. Officer: GRC/S L OLSON
CASE Category: 49 – ENGINEERING, OTHER

NGT 3 52391 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
MICROGRAVITY INVESTIGATIONS OF METHANE/AIR AND PROPANE/AIR PARTIALLY PREMIXED FLAMES
06/26/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: I K PURI
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 46 – MECHANICAL ENGR

NGT 5 50406 **UNIV OF ILLINOIS - CHICAGO CIRCLE**
REGULATION OF PROTEIN SYNTHESIS BY STRAIN INDUCED SIGNALING EVENTS
07/31/2002 - 07/31/2005 FY03: \$26,385 Total: \$50,385
Prin. Invest.: K ESSER
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2221 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
EVALUATION INTERACTIONS BETWEEN CHEMICAL AND CLIMATE PROCESSES IN THE TROPOSPHERE & STRATOSPHERE
08/20/1999 - 07/31/2002 FY03: \$0 Total: \$188,770
Prin. Invest.: D J WUBBLES
Tech. Officer: LARC/G MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01026 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
DEFINING THE RELATIONSHIP BETWEEN HUMAN ERROR CLASSES AND TECHNOLOGY INTERVENTION STRATEGIES
02/01/2001 - 12/31/2001 FY03: -\$1 Total: \$85,076
Prin. Invest.: D A WIEGMANN, E M RANTANEN
Tech. Officer: LARC/B J BOLAND
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01035 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
DEV OF NANOCRYSTALLINE TIA1 ALLOYS FOR SPACE APPLICATIONS
02/21/2001 - 09/30/2002 FY03: -\$1 Total: \$67,196
Prin. Invest.: R S AVERBACK
Tech. Officer: LARC/S J HALES
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 01114 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
JOHN C. HOUBOLT PAPERS
08/16/2001 - 11/20/2003 FY03: \$0 Total: \$33,560
Prin. Invest.: W J MAHER
Tech. Officer: LARC/R E MCKINLEY, LARC/W P GIBERT
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02013 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
DEV OF NANOCRYSTALLINE TIAI ALLOYS FOR SPACE APPLICATIONS
12/07/2001 - 12/06/2002 FY03: \$0 Total: \$67,650
Prin. Invest.: R S AVERBACK, P BELLON
Tech. Officer: LARC/S J HALES
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 02032 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
DEFINING THE RELATIONSHIP BETWEEN HUMAN ERROR CLASSES AND TECHNOLOGY INTERVENTION STRATEGIES
01/14/2002 - 06/30/2003 FY03: \$0 Total: \$97,499
Prin. Invest.: D A WIEGMANN
Tech. Officer: LARC/V K CRISP
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03014 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
3D NAVIGATION & INTEGRATED HAZARD DISPLAY IN ADVCD AVIONICS WORKLOAD PERFORMANCE & SITUATION AWARENESS
01/09/2003 - 01/08/2004 FY03: \$99,360 Total: \$99,360
Prin. Invest.: C WICKENS
Tech. Officer: LARC/L J PRINZEL, LARC/R COMSTOCK
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 1 03023 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 SYNTHESIS & PROCESSING OF AMORPHOUS A1-BASED ALLOY FOR
 AEROSPACE APPLICATIONS U OF REF#02NASA/B/A280
 01/30/2003 - 01/31/2004 FY03: \$70,507 Total: \$70,507
Prin. Invest.: P BELLON, R S AVERBACK
Tech. Officer: LARC/S J HALES
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 2 1120 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 SEAMLESS DISPLAYS FOR AIRCRAFT LANDING
 03/27/1997 - 05/31/2002 FY03: \$0 Total: \$411,043
Prin. Invest.: C D WICKENS
Tech. Officer: ARC/D C FOYLE
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 1406 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 QOS PROGRAMMING AND DEVELOPMENT ENVIRONMENT
 05/08/2000 - 09/30/2003 FY03: \$0 Total: \$275,000
Prin. Invest.: K NAHRSTEDT
Tech. Officer: ARC/K A FREEMEN
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1424 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 NEXT GENERATION MODELING OF DAMAGE TOLERANCE FOR R ISK
 ASSESSMENT & MITIGATION IN HIGH PERFORMANCE S
 07/20/2000 - 11/14/2003 FY03: \$125,000 Total: \$593,858
Prin. Invest.: R H DODDS
Tech. Officer: ARC/T L PANONTIN
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 2 1535 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 ATTENTIONA DN AVIATION DISPLAY LAYOUT: RESERCH AND MODELING
 02/26/2002 - 02/28/2005 FY03: \$222,586 Total: \$350,086
Prin. Invest.: C D WICKENS
Tech. Officer: ARC/D FOYLE
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 1609 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 COMPUTATIONAL COGNITIVE MODELING OF PILOT INTERACT ION WITH
 PERCEPTUALLY AUGMENTED DISPLAYS
 01/15/2003 - 12/31/2003 FY03: \$81,634 Total: \$81,634
Prin. Invest.: A C KIRLIK
Tech. Officer: ARC/D C FOYLE
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 1626 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 MANUFACTURABILITY OF SILICON NANOPORES
 04/01/2003 - 03/31/2004 FY03: \$351,490 Total: \$351,490
Prin. Invest.: G L TIMP
Tech. Officer: ARC/H PATRIDGE, ARC/V STOLC
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2122 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 FLUID PHYSICS OF FOAM EVOLUTION AND FLOW FLUID PHYSICS OF FOAM
 EVOLUTION AND FLOW
 02/13/1998 - 01/06/2003 FY03: \$0 Total: \$400,345
Prin. Invest.: H AREF
Tech. Officer: GRC/B S SINGH
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2135 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 SMART ICING SYSTEMS SMART ICING SYSTEMS
 03/05/1998 - 11/30/2002 FY03: \$296,181 Total: \$2,101,181
Prin. Invest.: M B BRAGG, P G VOUHARIS, N B SURTER
Tech. Officer: GRC/T H BOND, GRC/M G PETAPCZUK
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2314 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 DEVELOPMENT OF A NEW SHAPE OPTIMIZATION TOOL FOR 3 D TRAN-
 SONIC COMPRESSORS BASED ON NAVIER-STOKES PH
 12/30/1999 - 03/30/2004 FY03: \$75,000 Total: \$199,808
Prin. Invest.: K D LEE
Tech. Officer: GRC/E R MCFARLAND
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2516 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 SMOLDER-EDGE-WAVES AND EDGE-FLAMES SMOLDER-EDGE-WAVES AND
 EDGE-FLAMES
 12/22/2000 - 11/30/2004 FY03: \$89,896 Total: \$234,787
Prin. Invest.: J D BUCKMASTER
Tech. Officer: GRC/M C HICKS
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 3 2555 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 RECONFIGURABLE ANTENNAS FOR HIGH DATA RATE MULTI-B EAM COM-
 MUNICATION SYSTEMS
 03/01/2001 - 02/28/2004 FY03: \$106,000 Total: \$275,682
Prin. Invest.: D BERNHARD
Tech. Officer: GRC/R R ROMANOFISKY
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2623 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 VIRTUAL ICING RESEARCH TUNNEL VIRTUAL ICING RESEARCH TUNNEL
 05/31/2001 - 05/31/2004 FY03: \$83,071 Total: \$209,966
Prin. Invest.: E LOTH
Tech. Officer: GRC/M G POTAPCZUK
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2661 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 NANOPOROUS SILICON CARBIDE FOR NANO-ELECTROMECHANICAL SYS-
 TEMS APPLICATIONS
 12/31/2001 - 12/11/2004 FY03: \$99,970 Total: \$199,940
Prin. Invest.: I ADESIDA
Tech. Officer: GRC/L G MATUS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2662 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 JET NOISE PHYSICS AND MODELING USING FIRST-PRINCIP LES SIMULA-
 TIONS
 12/22/2001 - 12/11/2004 FY03: \$99,760 Total: \$199,760
Prin. Invest.: J FREUND
Tech. Officer: GRC/J E BRIDGES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2747 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 DEEP ETCHING OF WIDE BANDGAP SEMICONDUCTORS USING INDUC-
 TIVELY
 04/12/2002 - 05/29/2004 FY03: \$85,000 Total: \$145,000
Prin. Invest.: I ADESIDA
Tech. Officer: GRC/R S OKOJIE
CASE Category: 43 – CHEMICAL ENGR

NAG 3 2764 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 THREE-DIMENSIONAL REFLECTION-MATE NEWR-FIELD MICRO SCOOPY FOR
 MICROFLUIDIC PHENOMA
 04/08/2002 - 03/12/2006 FY03: \$23,250 Total: \$43,250
Prin. Invest.: P S CARNEY
Tech. Officer: GRC/D G FISHER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2791 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 TECHNOLOGIES FOR IMPROVEMENT OF THE OTIS PROGRAM TECHNOLO-
 GIES FOR IMPROVEMENT OF THE OTIS PROGRAM
 07/09/2002 - 07/04/2004 FY03: \$0 Total: \$59,989
Prin. Invest.: B CONWAY
Tech. Officer: GRC/J P RIEHL
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 3 2840 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 MINIATURIZED ANTENNAS IN RANDOM SENSOR ARRAYS FOR PLANETARY
 SURFACE AND ATMOSPHERE EXPLORATION
 02/10/2003 - 01/15/2006 FY03: \$135,000 Total: \$135,000
Prin. Invest.: J BERNHARD
Tech. Officer: GRC/R Q LEE
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2934 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 ASSESSMENT OF AIRPORT EMISSIONS IMPACT ON AIR QUALITY IN THE
 CHICAGO AREA, PROPOSAL REF NO. 03-NASA
 09/05/2003 - 07/31/2006 FY03: \$120,000 Total: \$120,000
Prin. Invest.: D WUEBBLES
Tech. Officer: GRC/C C WEY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 2040 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 EOSDIS VERSION O STANDARD DATA FORMAT SUPPORT
 07/16/1992 - 12/31/2001 FY03: \$0 Total: \$3,384,897
Prin. Invest.: M FOLK
Tech. Officer: GSFC/C CARLISLE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 5241 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 A SOUNDING ROCKET INVESTIGATION PI DR. C GARDNER
 02/12/1999 - 02/08/2003 FY03: -\$35 Total: \$105,655
Prin. Invest.: C GARDNER
Tech. Officer: GSFC/W JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5368 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 LAYERS IN THE EQUATORIAL MESOSPHERE, MOTIONS AND A EROSL
 ROCKET AND RADAR STUDY (LEMMA)
 06/19/2002 - 06/10/2005 FY03: \$21,642 Total: \$42,765
Prin. Invest.: E KUDEKIE
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5377 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 INVESTIGATION OF DC ELECTRIC FIELDS, WINDS, AND PLASMA DENSITY
 STRUCTURE IN THE NIGHTTIME EQUATORIAL
 06/19/2002 - 06/10/2005 FY03: \$14,000 Total: \$23,000
Prin. Invest.: E KUDEKI
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5414 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 "TRIO" (TURBULENT RESPONSE IN OXYGEN) FIRST YEAR OF THREE YEAR
 GRANT.
 04/04/2003 - 04/03/2006 FY03: \$18,091 Total: \$18,091
Prin. Invest.: A LIU
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 8479 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 EARLY EVOLUTION: THE UNIVERSAL ANCESTOR AND ORIGIN OF MODERN
 CELL
 05/04/1999 - 04/30/2003 FY03: \$0 Total: \$500,140
Prin. Invest.: G OLSEN
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 8555 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 MULTISCALE ESTIMATION, ERROR PROPAGATION AND SCALE EFFECTS IN
 THE DYNAMICAL RESPONSE OF SOIL-MOISTURE
 06/21/1999 - 06/30/2003 FY03: \$0 Total: \$198,304
Prin. Invest.: P KUMAR
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8740 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 SIMULATION OF TURBULENT MIXING AND PROPAGATION OF NUCLEAR
 BURNING IN THE SURFACE LAYERS OF ACCRETING
 08/12/1999 - 07/31/2004 FY03: \$0 Total: \$71,000
Prin. Invest.: F LAMB
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8781 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 INTEGRATED BIOMIMETIC SENSORS USING ARTIFICIAL HAIR CELLS
 08/27/1999 - 08/31/2004 FY03: \$0 Total: \$413,321
Prin. Invest.: C LIU
Tech. Officer: GSFC/S DAVIDSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8871 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 CORE ANGULAR MOMENTUM & THE IERS COORDINATING CENTER/ SUB-
 CENTERS ACTIVITY FOR MONITORING GLOBAL GEOPHY
 10/19/1999 - 08/31/2002 FY03: -\$195 Total: \$59,005
Prin. Invest.: X SONG
Tech. Officer: GSFC/B F CHAO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9180 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 EVOLUTIONARY MODELS OF COLD, MAGNETIZED, INTERSTELLAR
 CLOUDS (ATP 99)
 03/07/2000 - 03/14/2004 FY03: \$0 Total: \$153,201
Prin. Invest.: C F GAMMIE
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10011 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 HOT GAS IN AND AROUND THE SUPERGIANT SHELL LMC-2
 09/25/2000 - 09/30/2003 FY03: \$0 Total: \$49,400
Prin. Invest.: Y CHU
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10037 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
HOT GAS IN WIND BLOWN BUBBLES
09/27/2000 - 09/30/2003 FY03: \$0 Total: \$34,000
Prin. Invest.: Y CHU
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10072 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
GRAVITY WAVE STUDIES AT ALBUQUERQUE, NM
10/23/2000 - 10/31/2003 FY03: \$32,900 Total: \$133,000
Prin. Invest.: G R SWENSON
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10182 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
HOT GAS IN PLANETARY NEBULAE FUSE 2000
01/25/2001 - 01/31/2003 FY03: \$0 Total: \$59,700
Prin. Invest.: R A GRUENDL
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10303 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
MAPPING HOT GAS IN A PRISTINE H, SC II REGION - FUSE - 2000
01/25/2001 - 01/31/2004 FY03: \$0 Total: \$68,100
Prin. Invest.: Y CHU
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10491 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
RADIO INTERFEROMETRIC IMAGING OF COMETS
02/27/2001 - 02/28/2004 FY03: \$35,400 Total: \$102,300
Prin. Invest.: L SNYDER
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10781 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
ROTATING AND BINARY STARS IN GENERAL RELATIVITY (A TP 2000)
04/20/2001 - 04/30/2004 FY03: \$0 Total: \$183,098
Prin. Invest.: S L SHAPIRO
Tech. Officer: GSFC/R J OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 10942 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
A TROPOSPHERE/STRATOSPHERE/MESOSPHERE GCM STUDY OF EEP ON
ATMOSPHERIC CHEMICAL COMPOSITION & TROPOS
05/15/2001 - 06/30/2004 FY03: \$0 Total: \$263,268
Prin. Invest.: M E SCHLESINGER
Tech. Officer: GSFC/J F SPANN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11016 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
CONTACT BINARY STARS (ATP 2000)
06/12/2001 - 06/14/2004 FY03: \$40,873 Total: \$123,496
Prin. Invest.: R F WEBBINK
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11159 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
HOT BUBBLES IN EVOLVED SUPERNOVA REMNANTS
08/06/2001 - 08/14/2003 FY03: \$0 Total: \$22,034
Prin. Invest.: J R DICKEL
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11389 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
A STOCHASTIC APPROACH TO PARAMETERIZATIONS OF MICR OPHYSICS
FOR MESOSCALE MODELS: APPLICATIONS TO QUA
11/26/2001 - 07/31/2004 FY03: \$90,000 Total: \$254,150
Prin. Invest.: G M MCFARQUHAR
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11415 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
GALAXY CLUSTER EVOLUTION AND COSMOLOGY (ADP 2001)
01/07/2002 - 12/31/2006 FY03: \$119,493 Total: \$224,842
Prin. Invest.: J J MOHR
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11460 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
SUPPORT RESEARCH AND SCIENCE REQUIREMENTS AND CAPABILITIES
AND THE INSTRUMENT FUNCTIONS NEEDED
12/07/2001 - 12/14/2002 FY03: \$0 Total: \$10,000
Prin. Invest.: D MEIXNER
Tech. Officer: GSFC/D C MATHER
CASE Category: 11 – ASTRONOMY

NAG 5 11644 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
LARGE DUST SHELLS AROUND EVOLVED STARS (ADP 2001)
01/30/2002 - 08/31/2002 FY03: -\$14,943 Total: \$33,999
Prin. Invest.: A SPECK
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11756 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
CLOUD RESOLVING MODEL SIMULATIONS OF WATER AND ENERGY BUD-
GETS FOR THE INDIAN OCEAN REGION: EFFECT
02/28/2002 - 02/28/2005 FY03: \$90,000 Total: \$180,000
Prin. Invest.: G M MCFARQUHAR
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12030 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
RAPID X-RAY VARIABILITY OF ACCRETING NEUTRON STARS
04/12/2002 - 04/14/2005 FY03: \$74,169 Total: \$170,907
Prin. Invest.: F LAMB
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12132 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
ADVANCED METHODS FOR OPTIMAL TRAJECTORY DESIGN.
05/06/2002 - 11/14/2003 FY03: \$0 Total: \$40,793
Prin. Invest.: V COVERSTONE
Tech. Officer: GSFC/D FOLTA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12228 UNIV OF ILLINOIS AT URBANA-CHAMPAIGN
MULTI-FUNCTION STOCHASTIC OPTIMIZATION FOR SPACE MISSION DE-
SIGN
05/30/2002 - 11/30/2003 FY03: \$0 Total: \$20,848
Prin. Invest.: V COVERSTONE
Tech. Officer: GSFC/S P HUGHES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12255 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 O VI FROM THE CAT'S EYE NEBULA
 06/06/2002 - 06/14/2003 FY03: \$0 Total: \$52,400
Prin. Invest.: M A GUERRERO
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12334 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 EARLY EVOLUTION: THE UNIVERSAL ANCESTOR AND THE ORIGIN OF
 MODERN CELLS
 07/08/2002 - 06/30/2005 FY03: \$0 Total: \$261,382
Prin. Invest.: G L OLSEN
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12578 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 PAN-CHROMATIC ASTRONOMY: MULTI-WAVELENGTH CROSS- IDENTIFICA-
 TION OF EXTRAGALACTIC SOURCES FROM DIGIT
 01/09/2003 - 08/31/2004 FY03: \$49,244 Total: \$49,244
Prin. Invest.: R J BRUNNER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 12580 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 DEVELOPMENT OF A DATA FEDERATION FACILITY FOR THE NVO.
 11/18/2002 - 04/14/2005 FY03: \$158,311 Total: \$158,311
Prin. Invest.: R BRUNNER
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12633 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 ADVANCEMENT IN SATELLITE REMOTE SENSING OF CLOUD PROPERTIES:
 GLOBAL OBSERVATIONS AND 3-D RADIATIVE
 10/02/2002 - 09/30/2005 FY03: \$119,534 Total: \$119,534
Prin. Invest.: L DI GIROLAMO
Tech. Officer: GSFC/M WEI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12747 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 MULTICOMPONENT, MULTIPHASE H₂O-CO₂ THERMODYNAMICS AND FLUID
 DYNAMICS ON MARS
 01/13/2003 - 01/14/2006 FY03: \$90,000 Total: \$90,000
Prin. Invest.: S KIEFFER
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12952 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 ATMOSPHERIC GRAVITY WAVES FROM MESOSPHERIC AIRGLOW
 03/03/2003 - 02/28/2006 FY03: \$85,960 Total: \$85,960
Prin. Invest.: G SWENSON
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13076 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 HARD X-RAY EMISSION FROM WHITE DWARF
 03/19/2003 - 03/31/2004 FY03: \$47,000 Total: \$47,000
Prin. Invest.: Y CHU
Tech. Officer: GSFC/J HAYES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13593 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 GRAVITY WAVE STUDIES AT ALBUQUERQUE, NM
 09/30/2003 - 09/14/2005 FY03: \$66,000 Total: \$66,000
Prin. Invest.: G SWENSON
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13703 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 OVI EMISSION LINE SURVEY OF HOT GAS IN PLANETARY NEBULAE
 09/23/2003 - 09/30/2004 FY03: \$31,500 Total: \$31,500
Prin. Invest.: M A GUERRERO
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 8 1453 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 MODELS OF MAGNETIC DAMPING FOR BRIDGMAN SEMI- CONDUCTOR
 CRYSTAL GROWTH
 05/20/1998 - 01/31/2003 FY03: \$0 Total: \$372,400
Prin. Invest.: J S WALKER
Tech. Officer: MSFC/C TALLEY
CASE Category: 13 – PHYSICS

NAG 8 1657 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 RESEARCH ENTITLED, "PHASE FIELD MODELING OF MICROSTRUCTURE IN
 MICROGRAVITY
 06/14/2000 - 11/30/2003 FY03: \$60,000 Total: \$227,000
Prin. Invest.: J A DANTZIG, N D GOLDEFELD
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1705 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 MODELS TO OPTIMIZE THE BENEFITS OF ROTATING MAGNETIC FIELDS
 FOR SEMICONDUCTOR CRYSTAL GROWTH IN SP
 06/09/2000 - 11/30/2002 FY03: \$0 Total: \$125,750
Prin. Invest.: J S WALKER
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1751 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 ADVANCED MODELING OF LOW CYCLE FATIGUE CRACK GROWTH IN
 METALS
 10/31/2000 - 10/30/2004 FY03: \$165,000 Total: \$489,848
Prin. Invest.: R H DODDS, JR, P SOFRONIS, K D HJELMSTAD
Tech. Officer: MSFC/B MCGILL, MSFC/G R SWANSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1760 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 PREDICTION OF PROPERTIES LIQUID HELIUM FROM COMPUTER SIMULA-
 TION
 04/26/2001 - 04/30/2005 FY03: \$0 Total: \$144,000
Prin. Invest.: D M CEPERLEY
Tech. Officer: MSFC/D HUBBARD
CASE Category: 13 – PHYSICS

NAG 8 1803 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 OPTIMAL TRAJECTORY ANALYSIS FOR FUTURE PROPULSION SYSTEMS
 04/16/2001 - 04/14/2002 FY03: \$0 Total: \$49,894
Prin. Invest.: V L COVERSTON
Tech. Officer: MSFC/K SORENSON
CASE Category: 13 – PHYSICS

ILLINOIS

NASA'S UNIVERSITY PROGRAM

NAG 8 1922 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 4200011720 AWARD OF GRANT FOR RESEARCH ENTITLED: "DIRECTED COLLOIDAL ASSEMBLY OF MESOPOROUS HYDRO..
 07/01/2003 - 11/30/2006 FY03: \$151,553 Total: \$151,553
Prin. Invest.: J LEWIS
Tech. Officer: MSFC/B V GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1371 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 YAW CONTROL OF A LIFTING BODY RE-ENTRY VEHICLE AT HIGH ANGLE OF ATTACK
 07/27/2001 - 08/01/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: M BRAGG
Tech. Officer: JSC/R BURTON
CASE Category: 41 – AERONAUTICAL ENGR

NAG10 338 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 CONSTRUCTION OF A VIRTUAL SCANNING ELECTRON MICROSCOPE
 05/15/2003 - 09/30/2003 FY03: \$75,001 Total: \$75,001
Prin. Invest.: G FRIED
Tech. Officer: KSC/B ALFONSO
CASE Category: 22 – COMPUTER SCIENCE

NAS 2 02057 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 A NON LINEAR OPTICAL COHERENCE TOMOGRAPHY SYSTEM FOR BIOMOLECULAR DETECTION AND INTERVENTION
 12/21/2001 - 12/20/2004 FY03: \$505,060 Total: \$1,022,395
Prin. Invest.: S A BOPPART
Tech. Officer: ARC/J W HINES, ARC/P P FUNG
CASE Category: 56 – MEDICAL

NAS 3 03091 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 MOZART 3 TESTING
 09/29/2003 - 09/29/2004 FY03: \$115,000 Total: \$115,000
Prin. Invest.: D WUEBBLES
Tech. Officer: GRC/C WEY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 1230 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 STOCHASTIC ANYTIME SEARCH WITH APPLICATIONS IN AUTONOMOUS PLANNING & SCHEDULING
 03/25/2001 - 11/30/2003 FY03: \$100,000 Total: \$275,000
Prin. Invest.: B J WAH
Tech. Officer: ARC/R MORRIS
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1293 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 SYNTHETIC VISION SYSTEM HUMAN FACTORS ANALYSIS
 10/31/2001 - 11/30/2003 FY03: \$41,007 Total: \$77,672
Prin. Invest.: C WICKENS
Tech. Officer: ARC/B L BEARD, ARC/D FOYLE
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 1389 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 MODELING 21ST CENTURY PROJECT TEAMS: INTEGRATING WORKFLOW AND KNOWLEDGE NETWORK MODELS OF ORGANIZATION
 01/23/2003 - 01/31/2004 FY03: \$100,000 Total: \$100,000
Prin. Invest.: N CONTRACTOR
Tech. Officer: ARC/P JONES
CASE Category: 79 – SOCIAL SCIENCE, OTHER

NCC 3 852 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 EXPERIMENTAL STUDY OF ICED AIRFOIL AERODYNAMICS
 01/23/2001 - 12/17/2003 FY03: \$109,749 Total: \$352,412
Prin. Invest.: M BRAGG
Tech. Officer: GRC/H E ADDY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 1039 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 SIMULATION METHODS FOR ICED-AIRCRAFT AERODYNAMICS SIMULATION METHODS FOR ICED-AIRCRAFT AERODYNAMICS
 03/10/2003 - 02/12/2007 FY03: \$115,000 Total: \$115,000
Prin. Invest.: M B BRAGG
Tech. Officer: GRC/H E ADDY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 1054 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 FABRICATION OF CORRUGATED DIAPHRAGMS FOR REVOLUTIONARY AEROPROPULSION MEMS CONCEPTS
 06/06/2003 - 04/16/2004 FY03: \$80,000 Total: \$80,000
Prin. Invest.: I ADESIDA
Tech. Officer: GRC/R S OKOJIE
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 599 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 PROVIDE HDF SUPPORT FOR THE ESDIS PROJECT AND THE EOSDIS STANDARD DATA FORMAT.
 11/20/2001 - 12/31/2004 FY03: \$775,000 Total: \$1,510,000
Prin. Invest.: M J FOLK
Tech. Officer: GSFC/R ULLMAN
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 615 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 DEVELOPMENT OF AN INTEROPERABILITY BASED ENVIRONMENT FOR ADAPTIVE MESHES (IBeam)
 02/25/2002 - 02/24/2005 FY03: \$307,000 Total: \$663,000
Prin. Invest.: P E SAYLOR
Tech. Officer: GSFC/J FISCHER
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NGT 1 03001 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 04/28/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C WICKENS
Tech. Officer: LARC/L PRINZEL
CASE Category: 62 – PSYCHOLOGY SOCIAL ASPECTS

NGT 2 52271 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 FUNCTIONALLY GRADED MATERIAL APPLICATIONS TO ADVANCE THERMAL PROTECTION SYSTEMS
 09/14/2000 - 09/14/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: G H PAULINO
Tech. Officer: ARC/T L PANONTIN
CASE Category: 47 – METAL & MATERIALS ENGR

NGT 3 52357 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 GRADUATE STUDENT RESEARCH PROGRAM GRADUATE STUDENT RESEARCH PROGRAM
 07/15/1999 - 09/30/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: M BRAGGS
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 49 – ENGINEERING, OTHER

NGT 3 52390 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 PIV MEASUREMENTS OF THE UNSTEADY FLOWFIELD AROUND AN AIRFOIL
 WITH SIMULATED LEADING EDGE ICE ACCRET
 06/26/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M B BRAGG
Tech. Officer: GRC/M G POTAPCZUK
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 84 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 NEW GRANT FOR GSRP STUDENT - DANIEL BULLOK
 05/18/1999 - 06/30/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: P SAYLOR
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 134 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 AN OBJECT-ORIENTED MULTIGRID FRAMEWORK (STUDENT: DANIEL
 BULLOK)
 06/07/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: P E SAYLOR
Tech. Officer: GSFC/M S BURRELL
CASE Category: 21 – MATHEMATICS

NGT 5 138 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 INCORPORATING FLASH INTO I-BEAA: REFACTORING SCIENTIFIC SOFT-
 WARE STUDENT: BRADLEY JONES
 06/20/2002 - 08/14/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: R JOHNSON
Tech. Officer: GSFC/M S BURRELL
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 30433 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 KNOWLEDGE DISCOVERY FROM REMOTE SENSING OBSERVATIONS
 (STUDENT: AMANDA WHITE)
 08/15/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: P KUMAR
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30434 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 IMPROVED CLOUD CLIMATOLOGIES OVER POLAR REGIONS FROM EOS-
 TERRA DATA (STUDENT: MICHAEL WILSON)
 08/15/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: L GIROLAMO
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30518 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 ROLE OF RECYCLING IN MODES OF MOISTURE TRANSPORT STUDENT:
 FRANCINA DOMINGUEZ
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P KUMAR
Tech. Officer: GSFC/M WEI
CASE Category: 44 – CIVIL ENGR

NGT 5 40073 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 ILLINOIS SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 02/09/2001 - 01/31/2005 FY03: \$480,750 Total: \$1,439,644
Prin. Invest.: W C SOLOMON
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50326 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 BIOGEOCHEMICAL CYCLES & CLIMATE CHANGE; POTENTIAL FEEDBACKS
 & INTERACTIONS/STUDENT: VAISHALI NAIK
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D WUEBBLES
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50343 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 NUMERICAL STUDIES OF GENERAL RELATIVISTIC MAGNETO- HYDRODY-
 NAMICS AS APPLIED TO ACTIVE GALACTIC NUCLE
 05/14/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: R GAMMIE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52912 **UNIV OF ILLINOIS AT URBANA-CHAMPAIGN**
 ORBITAL PROPAGATION OF MOMENTUM EXCHANGE TETHER SYSTEMS
 07/01/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: V COVERSTONE
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 41 – AERONAUTICAL ENGR

INDIANA

NAG 5 11261 **BALL STATE UNIV**
 INNOVATIVE USES OF HYPERSPECTRAL IMAGERY FOR MONITORING
 SPATIALLY DISTRIBUTED ECOSYSTEM
 08/27/2001 - 08/31/2004 FY03: \$119,748 Total: \$308,788
Prin. Invest.: A F RAHMAN
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2588 **INDIANA STATE UNIV**
 NANOSTRUCTURED SINGLE-ION SOLID POLYMER ELECTROLYTES FOR
 LITHIUM BATTERIES
 04/30/2001 - 06/30/2004 FY03: \$190,603 Total: \$376,530
Prin. Invest.: D W ZWANZIGER
Tech. Officer: GRC/D BRITTON
CASE Category: 12 – CHEMISTRY

NAG 2 1606 **INDIANA UNIV.-PURDUE U. AT INDIANAPOLIS**
 REGULATION OF OSTEOBLAST APOPTOSIS BY FLUID SHEAR STRESS
 12/12/2002 - 11/30/2003 FY03: \$186,237 Total: \$186,237
Prin. Invest.: F M PAVALKO
Tech. Officer: ARC/M M AVERNER, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2399 **INDIANA UNIV.-PURDUE U. AT INDIANAPOLIS**
 NEW COMPUTATIONAL METHOD FOR MASSIVELY PARALLEL COMPUTATIONAL
 FLUID DYNAMICS
 04/19/2000 - 03/10/2004 FY03: \$93,252 Total: \$282,768
Prin. Invest.: D HSU
Tech. Officer: GRC/M LIOU
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2762 **INDIANA UNIV.-PURDUE U. AT INDIANAPOLIS**
 WAVE FAN AND HYBRID PULSE DETONATION ENGINE WAVE FAN AND
 HYBRID PULSE DETONATION ENGINE
 04/09/2002 - 06/30/2003 FY03: \$0 Total: \$60,333
Prin. Invest.: D NALIM
Tech. Officer: GRC/D PALAC
CASE Category: 41 – AERONAUTICAL ENGR

INDIANA

NASA'S UNIVERSITY PROGRAM

NAG 3 2914 **INDIANA UNIV.-PURDUE U. AT INDIANAPOLIS**
 THEORETICAL STUDIES OF LORENTZ AND CPT SYMMETRY THEORETICAL STUDIES OF LORENTZ AND CPT SYMMETRY
 06/19/2003 - 04/30/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: V KOSTELECKY
Tech. Officer: GRC/C LEK
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1586 **INDIANA UNIV.-PURDUE U. AT INDIANAPOLIS**
 SELF RENEWAL REPLICATION OF HEMATOPOIETIC STEM CELLS IN MICROGRAVITY
 03/01/1999 - 11/30/2003 FY03: \$0 Total: \$645,300
Prin. Invest.: C M TRAYCOFF
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 5 50291 **INDIANA UNIV.-PURDUE U. AT INDIANAPOLIS**
 EFFECTS OF INTEGRIN-EXTRACELLULAR MATRIX ADHESION IN FLUID SHEAR-INDUCED PROSTAGLAND IN METABOLISM
 07/06/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: F PAVALKO
Tech. Officer: GSFC/K BLANDING
CASE Category: 56 – MEDICL

NGT 5 50366 **INDIANA UNIV.-PURDUE U. AT INDIANAPOLIS**
 ACTIVATION, ADAPTATION AND RESTORATION OF THE MECHANICAL RESPONSE OF OSTEOBLASTS TO FLUID SHEAR/STUDY
 06/12/2001 - 06/30/2002 FY03: -\$29,310 Total: \$15,090
Prin. Invest.: R DUNCAN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50373 **INDIANA UNIV.-PURDUE U. AT INDIANAPOLIS**
 CAPILLARY FRACTAL PERFUSION PATTERNS MAY PROTECT THE LUNG DURING MICROGRAVITY/STUDENT:ERIC JARYSZAK
 06/26/2001 - 06/30/2004 FY03: \$0 Total: \$22,000
Prin. Invest.: W WAGNER
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1619 **INDIANA UNIV - BLOOMINGTON**
 COMPARATIVE STUDY OF MORPHOGENESIS AT 1G AND SIMULATED MICROGRAVITY
 02/28/2003 - 02/28/2004 FY03: \$69,988 Total: \$69,988
Prin. Invest.: J A GLAZIER
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 4295 **INDIANA UNIV - BLOOMINGTON**
 3D SIMULATIONS OF GRAVITATIONAL INSTABILITIES IN PROTOSTELLAR DISKS
 04/04/1997 - 06/30/2002 FY03: -\$746 Total: \$182,254
Prin. Invest.: D H DURISEN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 5224 **INDIANA UNIV - BLOOMINGTON**
 HEAT HIGH ENERGY ANTIMATTER TELESCOPE PI PROF. JAMES MUSSER
 02/03/1999 - 11/30/2002 FY03: \$3,799 Total: \$472,999
Prin. Invest.: J MUSSER
Tech. Officer: WFF/B MERRIT
CASE Category: 11 – ASTRONOMY

NAG 5 6773 **INDIANA UNIV - BLOOMINGTON**
 COBE AND THE STRUCTURE OF THE GALACTIC INTERSTELLAR MEDIUM
 01/22/1998 - 07/31/2002 FY03: \$0 Total: \$125,600
Prin. Invest.: STEIMAN-CAMERON
Tech. Officer: GSFC/D WEST
CASE Category: 11 – ASTRONOMY

NAG 5 9236 **INDIANA UNIV - BLOOMINGTON**
 FUSE OBSERVATIONS OF GALACTIC AND LMC NOVAE IN OUT BURST - FUSE
 03/09/2000 - 03/14/2003 FY03: \$0 Total: \$27,330
Prin. Invest.: S SHORE
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10459 **INDIANA UNIV - BLOOMINGTON**
 PETROLOGIC EVOLUTION OF LUNAR & METEORITE PARENT BODY REGOLITH
 02/21/2001 - 02/28/2004 FY03: \$20,458 Total: \$61,374
Prin. Invest.: A BASU
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11964 **INDIANA UNIV - BLOOMINGTON**
 EVOLUTION AND APPEARANCE OF YOUNG STELLAR DISKS WITH GRAVITATIONAL INSTABILITIES
 04/03/2002 - 06/30/2005 FY03: \$72,252 Total: \$140,401
Prin. Invest.: R DURISEN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12360 **INDIANA UNIV - BLOOMINGTON**
 TESTING THE RNA WORLD WITH METABOLIC RIBOZYMES IN VITRO AND INSIDE CELLS
 07/09/2002 - 06/30/2005 FY03: \$132,182 Total: \$265,170
Prin. Invest.: D H BURKE
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13112 **INDIANA UNIV - BLOOMINGTON**
 SPIRAL STRUCTURE OF THE MILKY WAY
 03/15/2003 - 03/14/2006 FY03: \$51,117 Total: \$51,117
Prin. Invest.: T STEIMAN-CAMERON
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1770 **INDIANA UNIV - BLOOMINGTON**
 THEORETICAL STUDIES OF LORENTZ AND CPT SYMMETRY
 05/01/2001 - 08/31/2005 FY03: \$0 Total: \$102,000
Prin. Invest.: V A KOSTELECKY
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 9 01103 **INDIANA UNIV - BLOOMINGTON**
 CYCLOTRON FACILITY-HIGH ENERGY RADIATION EFFECTS TESTING
 06/27/2001 - 09/30/2005 FY03: \$89,090 Total: \$1,673,567
Prin. Invest.: J CAMERON
Tech. Officer: JSC/W CULPEPPER
CASE Category: 49 – ENGINEERING, OTHER

NASA'S UNIVERSITY PROGRAM

INDIANA

NCC 2 1216 **INDIANA UNIV - BLOOMINGTON**
 INTEGRATED OINTELLIGENT SUPPORT FOR KNOWLEDGE CAPT URE,
 REFINEMENT AND SHARING
 03/08/2001 - 02/29/2004 FY03: \$197,669 Total: \$533,289
Prin. Invest.: D B LEAKE
Tech. Officer: ARC/M G SHAFTO, ARC/W J CLANCEY
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 334 **INDIANA UNIV - BLOOMINGTON**
 HUMAN AND PHYSICAL DIMENSIONS OF LAND USE/COVER CH ANGE IN
 ANAZONIA: FOREST REGENERATION AND LANDSCA
 06/16/1998 - 03/31/2003 FY03: \$0 Total: \$789,034
Prin. Invest.: E MORAN
Tech. Officer: GSFC/D DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 695 **INDIANA UNIV - BLOOMINGTON**
 HUMAN AND PHYSICAL DIMENSIONS OF LAND USE/COVER CHANGE IN
 AMAZONIA: TOWARDS A MULTISCALE SYNTHES
 01/30/2003 - 01/31/2006 FY03: \$206,815 Total: \$206,815
Prin. Invest.: E F MORAN
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 1 01009 **INDIANA UNIV - BLOOMINGTON**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/05/2001 - 06/30/2004 FY03: \$34,000 Total: \$70,000
Prin. Invest.: S D JOHNSON
Tech. Officer: LARC/P S MINER
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 01073 **PURDUE UNIV**
 MODELING OF NANO MATERIALS MY 1/3
 05/09/2001 - 12/31/2003 FY03: \$85,000 Total: \$250,000
Prin. Invest.: C T SUN
Tech. Officer: LARC/TS GATES
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 01083 **PURDUE UNIV**
 AUTONOMOUS NAVIGATION FOR ALTERNATE ACCESS TO THE INTERNA-
 TIONAL SPACE STATION
 05/18/2001 - 05/17/2004 FY03: \$0 Total: \$49,283
Prin. Invest.: J L GARRISON
Tech. Officer: LARC/J ANTOL
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 1 01115 **PURDUE UNIV**
 DESIGN METHODS AND OPTIMIZATION FOR MORPHING AIRCRAFT
 08/15/2001 - 08/14/2004 FY03: \$116,857 Total: \$236,890
Prin. Invest.: W A CROSSLEY, T A WEISSHAAR
Tech. Officer: LARC/S L PADULA, LARC/J L ROGERS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02047 **PURDUE UNIV**
 MECHANISMS OF BOUNDARY-LAYER TRANSITION OF REUSABLE LAUNCH
 VEHICLES
 01/31/2002 - 01/31/2005 FY03: \$40,000 Total: \$100,000
Prin. Invest.: S P SCHNEIDER
Tech. Officer: LARC/S A BERRY, LARC/J N MOSS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02064 **PURDUE UNIV**
 BUCKLING STABILITY OF DISBONDED COMPOSITE STRUCTURES
 03/19/2002 - 07/31/2003 FY03: \$18,000 Total: \$75,000
Prin. Invest.: H KIM
Tech. Officer: LARC/J H STARNES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1344 **PURDUE UNIV**
 A GRAVIRESPONSIVE TIME-KEEPING PROTEIN OF THE PLAN T & ANIMAL
 CELL SURFACE
 07/21/1999 - 07/31/2003 FY03: \$0 Total: \$608,094
Prin. Invest.: D J MORRE
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1389 **PURDUE UNIV**
 ELUCIDATING THE MECHANISM OF MECHANICAL-STRESS INHIBITION OF
 PLANT GROWTH
 12/21/1999 - 05/31/2003 FY03: \$0 Total: \$41,407
Prin. Invest.: C MITCHELL
Tech. Officer: ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1542 **PURDUE UNIV**
 A PROPOSAL FOR INFASCTURE TO SUPPORT NANOTECHN OLOGY
 RESEARCH AT PURDUE UNIV
 03/26/2002 - 03/31/2003 FY03: \$0 Total: \$3,000,000
Prin. Invest.: J A COOPER
Tech. Officer: ARC/H PARTRIDGE, ARC/M MEYYPAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 3 2336 **PURDUE UNIV**
 INVESTIGATION OF CRITICAL HEAT FLUX IN REDUCED GRA VITY USING
 PHOTOMICROGRAPHIC TECHNIQUES
 02/22/2000 - 11/30/2003 FY03: \$80,000 Total: \$276,000
Prin. Invest.: I MUDAWAR
Tech. Officer: GRC/M HANSAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2536 **PURDUE UNIV**
 THREE-DIMINSIONAL UNSTEADY AERODYNAMICS AND AEROEL ASTICITY
 OF ADVANCED TURBOPROPS
 03/01/2001 - 02/28/2003 FY03: \$0 Total: \$79,972
Prin. Invest.: D FLEETER
Tech. Officer: GRC/E MCFARLAND
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2550 **PURDUE UNIV**
 ROBUST SATELLITE COMMUNICATIONS FOR AIR TRAFFIC CO NTROL SPS
 #D135
 02/27/2001 - 09/30/2002 FY03: \$0 Total: \$120,000
Prin. Invest.: D S LEHNERT
Tech. Officer: GRC/K CHUN
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2635 **PURDUE UNIV**
 A LASER SCANNING PSP/TSP SYSTEM FOR PROPULSION APP LICATIONS
 06/20/2001 - 06/30/2002 FY03: \$0 Total: \$49,242
Prin. Invest.: D P SULLIVAN
Tech. Officer: GRC/T BENCIC
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2681 **PURDUE UNIV**
 SCRAMJET SCALING AND INTERACTIONS #0ED87 SCRAMJET SCALING AND
 INTERACTIONS 0ED87
 01/10/2002 - 12/16/2004 FY03: \$0 Total: \$81,751
Prin. Invest.: S FRANKEL
Tech. Officer: GRC/S THOMAS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2715 **PURDUE UNIV**
 STUDY OF CO-CURRENT AND COUNTER-CURRENT GAS LIQUID TWO-
 PHASE FLOW THROUGH PACKED BED IN MICROGRAVIT
 02/21/2002 - 11/30/2005 FY03: \$83,485 Total: \$164,018
Prin. Invest.: D T REVANKAR
Tech. Officer: GRC/B J MOTIL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2770 **PURDUE UNIV**
 GRANULAR FLOW AROUND IMMERSED OBJECTS SPS #ODY12 GRANULAR
 FLOW AROUND IMMERSED OBJECTS SPS #ODY12
 04/17/2002 - 05/31/2006 FY03: \$102,300 Total: \$195,800
Prin. Invest.: D R WASSGREN
Tech. Officer: GRC/R WILKINSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 4 227 **PURDUE UNIV**
 DESIGN, FABRICATION, AND TESTING OF A ROCKET-BASED COMBINED
 CYCLE FLIGHT EXPERIMENT
 05/29/2002 - 03/31/2003 FY03: \$0 Total: \$135,520
Prin. Invest.: D E ANDERSON
Tech. Officer: DFRC/N PALUMBO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 238 **PURDUE UNIV**
 DIRECT-CONNECT TESTING OF A ROCKET-BASED COMBINED CYCLE
 FLIGHT EXPERIMENT
 01/15/2003 - 07/31/2003 FY03: \$30,000 Total: \$30,000
Prin. Invest.: W E ANDERSON
Tech. Officer: DFRC/N PALUMBO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 3992 **PURDUE UNIV**
 THE ANALYSIS AND PARAMETERIZATION OF SHORTWAVE RAD ATMO-
 SPHERES
 02/26/1997 - 05/31/2002 FY03: \$0 Total: \$296,000
Prin. Invest.: D HARSHVARDHAN
Tech. Officer: GSFC/K H BERGMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7727 **PURDUE UNIV**
 QUANTIFYING THE INDIRECT RADIATIVE FORCING OF SULF ATE AERO-
 SOLS BY A HYBRID TECHNIQUE.
 10/21/1998 - 10/14/2002 FY03: \$0 Total: \$284,508
Prin. Invest.: H HARSHVARDHAN
Tech. Officer: GSFC/M I MISHCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8155 **PURDUE UNIV**
 LABORATORY STUDIES OF DIACETYLENE AND CYANOACETYLE NE PHO-
 TOCHEMISTRY: ROUTES TO COMPLEX MOLECULES
 02/17/1999 - 11/30/2002 FY03: \$0 Total: \$324,406
Prin. Invest.: T ZWIER
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 9822 **PURDUE UNIV**
 A COMPARISON OF THE IMPACT OF PRECIPITATION ON THE TROPICAL
 PACIFIC & NORTH INDIAN OCEAN MIXED LAYER
 07/24/2000 - 11/30/2002 FY03: -\$70,088 Total: \$204,106
Prin. Invest.: C A CLAYTON
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9998 **PURDUE UNIV**
 RELATIVISTIC ASTROPHYSICS IN BLACK HOLE & LOW-MASS NEUTRON
 STAR X-RAY BINARIES - LTSA98
 09/21/2000 - 01/31/2004 FY03: \$56,770 Total: \$216,560
Prin. Invest.: W CUI
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10262 **PURDUE UNIV**
 FORMATION & EARLY EVOLUTION OF THE SOLAR SYSTEM
 01/09/2001 - 12/31/2003 FY03: \$22,700 Total: \$67,800
Prin. Invest.: B PICKETT
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10422 **PURDUE UNIV**
 CHEMICAL STUDIES OF METEORITES
 02/15/2001 - 02/28/2003 FY03: \$0 Total: \$80,000
Prin. Invest.: M LIPSCHUTZ
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10735 **PURDUE UNIV**
 PROBING PREBIOTIC PROCESSES WITH PEPTIDE SELF REPL ICATION
 04/19/2001 - 04/30/2004 FY03: \$0 Total: \$260,000
Prin. Invest.: J A CHMIELEWSKI
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11080 **PURDUE UNIV**
 MOLA-SUPPORTED PRECISION GEOSPATIAL PROCESSING OF MOCA IM-
 AGES:MODELS, ALGORITHMS AND EVALUATION
 08/06/2001 - 12/14/2003 FY03: \$0 Total: \$106,000
Prin. Invest.: J SHAN
Tech. Officer: GSFC/J M BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11747 **PURDUE UNIV**
 INVESTIGATION OF THE FUNDAMENTAL PROPERTIES OF FOR WARD
 SCATTERED GPS SIGNALS FOR OCEANOGRAPHIC R
 02/25/2002 - 02/28/2005 FY03: \$128,897 Total: \$269,169
Prin. Invest.: J GARRISON
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11839 **PURDUE UNIV**
 APPLICATION OF DYNAMICAL SYSTEMS THEORY, CONTROL METHODS, &
 OPTIMIZATION STRATEGIES TO TRAJECTORY
 04/17/2002 - 09/30/2004 FY03: \$28,000 Total: \$106,000
Prin. Invest.: K C HOWELL
Tech. Officer: GSFC/D FOLTA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12065 **PURDUE UNIV**
 MODEL IMPROVEMENT AND VALIDATION FOR GPS CODE TRACKING IN
 HIGH EARTH ORBITS (HEO)
 04/24/2002 - 12/31/2003 FY03: \$0 Total: \$38,549
Prin. Invest.: J L GARRISON
Tech. Officer: GSFC/R CARPENTER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12098 **PURDUE UNIV**
 LABORATORY STUDIES OF PHOTOCHEMICAL ROUTES TO AROMATIC RING
 FORMATION IN THE ATMOSPHERES OF TITAN AN
 04/29/2002 - 04/30/2005 FY03: \$100,000 Total: \$204,472
Prin. Invest.: T ZWIER
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12551 **PURDUE UNIV**
 MODEL FUNCTION DEVELOPMENT FOR THE RETRIEVAL OF OCEAN
 SURFACE PROPERTIES FROM SCATTERED GPS SIGNALS
 09/09/2002 - 09/14/2005 FY03: \$0 Total: \$125,239
Prin. Invest.: J GARRISON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12562 **PURDUE UNIV**
 CHICAGO NASA SATURDAY ACADEMY
 09/16/2002 - 09/14/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: S BAST
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12686 **PURDUE UNIV**
 MAXIMIZING EQUIVALENT SYSTEM MASS FOR A REGENERATIVE LIFE-
 SUPPORT SYSTEM BY OPTIMIZING KINETICS
 11/27/2002 - 11/30/2007 FY03: \$1,600,000 Total: \$1,600,000
Prin. Invest.: C A MITCHELL
Tech. Officer: GSFC/L CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13371 **PURDUE UNIV**
 MANTLE CONVECTION ON MARS AND THE CONNECTION WITH SURFACE
 FEATURES: THE CRUSTAL DICHOTOMY AND THARSI
 04/16/2003 - 04/14/2006 FY03: \$65,000 Total: \$65,000
Prin. Invest.: S KING
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13736 **PURDUE UNIV**
 PROBING CORRELATED VARIABILITY OF MRK 421 AT TEV X-RAY, OPTICAL
 AND RADIO WAVELENGTHS
 09/24/2003 - 09/30/2004 FY03: \$14,960 Total: \$14,960
Prin. Invest.: W K CUI
Tech. Officer: GSFC/J H SWANK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1691 **PURDUE UNIV**
 EXPERIMENTAL AND NUMERICAL INVESTIGATIONS OF GROWTH MOR-
 PHOLOGIES OF PERITECTIC REACTIONS
 06/01/2000 - 11/30/2003 FY03: \$80,000 Total: \$276,000
Prin. Invest.: D JOHNSON
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1782 **PURDUE UNIV**
 RESEARCH GRANT ENTITLED "MAGNETIC FIELD GRADIENT LEVITATION
 SYSTEM FOR PHYSICS AND BIOPHYSICS"
 04/30/2001 - 04/29/2005 FY03: \$40,090 Total: \$245,090
Prin. Invest.: N M LAVRENDEAN
Tech. Officer: GRC/Y R HICKS
CASE Category: 46 – MECHANICAL ENGR

NAG 8 1833 **PURDUE UNIV**
 ENGINEERING A RIBOZYME FOR DIFFRACTIVE PROPERTIES
 09/05/2001 - 11/30/2004 FY03: \$174,250 Total: \$424,250
Prin. Invest.: B L GOLDEN
Tech. Officer: MSFC/B V GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1856 **PURDUE UNIV**
 IMPROVED PRELIMINARY DESIGN ANALYSIS PROCESS FOR HIGH PRES-
 SURE ROCKET COMBUSTORS
 12/12/2001 - 12/31/2003 FY03: \$0 Total: \$160,000
Prin. Invest.: W ANDERSON
Tech. Officer: MSFC/A REEB
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1869 **PURDUE UNIV**
 "ZERO-GRAVITY VALIDATION OF SURFACE-TENSION PROPELLANT FOR
 ROCKET-GRADE HYDROGEN PEROXIDE"
 06/03/2002 - 06/03/2003 FY03: \$0 Total: \$29,472
Prin. Invest.: S H COLLICOTT
Tech. Officer: MSFC/R UNGER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1870 **PURDUE UNIV**
 DEVELOPMENT OF A PARTIAL DESIGN DATABASE FOR ADVANCED HYDRO-
 GEN PEROXIDE ENGINES
 06/03/2002 - 09/30/2003 FY03: \$0 Total: \$150,147
Prin. Invest.: W E ANDERSON
Tech. Officer: MSFC/R UNGER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1876 **PURDUE UNIV**
 STUDY OF LONG LIFE THRUSTER
 07/18/2002 - 03/31/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: W ANDERSON
Tech. Officer: MSFC/H TRINH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1894 **PURDUE UNIV**
 4200003010 FUNDAMENTAL DATA ON COMBUSTION EFFICIENCY THERMAL
 CAPABILITY AND COMBUSTION STABILITY
 03/13/2003 - 12/31/2003 FY03: \$461,953 Total: \$461,953
Prin. Invest.: W E ANDERSON
Tech. Officer: MSFC/T TRAMEL
CASE Category: 41 – AERONAUTICAL ENGR

NAG 9 1292 **PURDUE UNIV**
 CONTROL CREW NETWORK COMMUNICATIONS DURING ROUTINE & NON-
 ROUTINE EVENTS
 05/14/2001 - 09/30/2002 FY03: \$0 Total: \$231,807
Prin. Invest.: B S CALDWELL
Tech. Officer: JSC/B WOOLFORD
CASE Category: 42 – ASTRONAUTICAL ENGR

INDIANA

NASA'S UNIVERSITY PROGRAM

NAG 9 1385 **PURDUE UNIV**
 COLD WIRE MEASUREMENTS IN THE BODY FLAP CAVITY OF AN X-38
 MODEL
 09/24/2001 - 09/30/2002 FY03: \$0 Total: \$10,493
Prin. Invest.: S P SCHNEIDER
Tech. Officer: JSC/C H CAMPBELL, JSC/S M FITZGERALD
CASE Category: 41 – AERONAUTICAL ENGR

NAG13 00001 **PURDUE UNIV**
 EVALUATING REMOTE SENSING TECHNOLOGY FOR SITE SPECIFIC AGRICULTURE AND NATIONAL RESOURCES
 02/18/2000 - 03/19/2003 FY03: \$0 Total: \$687,856
Prin. Invest.: C J JOHANNSEN
Tech. Officer: SSC/R MCKELLIP
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 02037 **PURDUE UNIV**
 IMPROVED MODELING OF CAVITATING VENTURI FLOWS SPS #OEK37
 03/07/2002 - 01/31/2003 FY03: \$0 Total: \$60,000
Prin. Invest.: D D HEISTER
Tech. Officer: SSC/R FIELD
CASE Category: 41 – AERONAUTICAL ENGR

NAG13 02038 **PURDUE UNIV**
 FIELD TEST METHODS FOR HYDROGEN PEROXIDE STABILITY MARGIN SPS #OEM16
 04/03/2002 - 05/18/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: D ANDERSON
Tech. Officer: SSC/W ST CYR
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 01042 **PURDUE UNIV**
 COMBINATORIAL MULTIOBJECTIVE OPTIMIZATION USING GENETIC ALGORITHMS
 04/10/2001 - 04/09/2002 FY03: -\$212 Total: \$29,791
Prin. Invest.: W A CROSSLEY
Tech. Officer: LARC/S L PADULA, LARC/J L ROGERS
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1245 **PURDUE UNIV**
 MACHINE LEARNING & DATA MINING FOR IMPROVED INTELLIGENT DATA UNDERSTANDING OF HIGH DIMENSIONAL EART
 04/05/2001 - 02/29/2004 FY03: \$243,643 Total: \$597,643
Prin. Invest.: C BRODLEY
Tech. Officer: ARC/C A HLAVKA, ARC/J COUGHLAN
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1363 **PURDUE UNIV**
 INST FOR NANOELECTRONICS AND COMPUTING
 09/25/2002 - 08/31/2007 FY03: \$2,450,000 Total: \$3,450,000
Prin. Invest.: S DATTA
Tech. Officer: ARC/H PATRIDGE, ARC/M MEYYPAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 5539 **PURDUE UNIV**
 DATA SOURCING FOR AN ONLINE TECHNOLOGY INFORMATION SYSTEM FOR ADVANCED LIFE SUPPORT
 07/07/2003 - 08/31/2003 FY03: \$32,439 Total: \$32,439
Prin. Invest.: J E ALLERMAN
Tech. Officer: ARC/J A LEVRI, ARC/M KLISS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5549 **PURDUE UNIV**
 PROCESS MAPPING AS A PROCEDURAL ANALYSIS TOOL FOR RESEARCH AND OPERATIONAL IMPROVEMENT
 09/04/2003 - 02/29/2004 FY03: \$51,427 Total: \$51,427
Prin. Invest.: G EIFF, D LOPP
Tech. Officer: ARC/B KANKI, ARC/M CONNORS
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 358 **PURDUE UNIV**
 DYNAMICAL SYSTEMS THEORY, NUMERICAL METHODS, OPTIMIZATION STRATEGIES & THEIR APPLICATION TO TRAJEC
 08/26/1998 - 07/31/2003 FY03: \$0 Total: \$349,347
Prin. Invest.: K C HOWELL
Tech. Officer: GSFC/D FOLTA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 627 **PURDUE UNIV**
 YR. 1 OF 1; REOB. FUNDS FROM NCC5-361 UMBC DUE PI TRANSFER TO PURDUE
 02/08/2002 - 06/14/2003 FY03: \$6,070 Total: \$60,009
Prin. Invest.: D S EBERT
Tech. Officer: GSFC/A ROBERTS
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 727 **PURDUE UNIV**
 MISSION DESIGN AND ANALYSIS INVOLVING FORMATION FLIGHT NEAR LIBRATION POINT ORBITS.
 04/16/2003 - 06/30/2004 FY03: \$75,000 Total: \$75,000
Prin. Invest.: K HOWELL
Tech. Officer: GSFC/D FOLTA
CASE Category: 42 – ASTRONAUTICAL ENGR

NGT 2 52285 **PURDUE UNIV**
 THE ROLE OF DIFFERENTIAL GENE EXPRESSION IN MECHANODWARFING OF PLANTS
 09/25/2001 - 05/31/2003 FY03: \$0 Total: \$22,000
Prin. Invest.: C A MITCHELL
Tech. Officer: ARC/C A CONLEY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 3 52382 **PURDUE UNIV**
 NASA GRADUATE STUDENT RESEARCHERS PROGRAM SPS #OEM 82
 07/10/2002 - 07/31/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: J P SULLIVAN
Tech. Officer: GRC/F MONTEGANI
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 30491 **PURDUE UNIV**
 TERRAIN ANALYSIS AND SURFACE HYDROLOGIC MODELING. STUDENT: PABLO MERCURI
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: B ENGEL
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40114 **PURDUE UNIV**
 INDIANA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 03/06/2001 - 02/28/2005 FY03: \$262,000 Total: \$774,500
Prin. Invest.: D ANDRISANI
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50275 **PURDUE UNIV**
 LOW-THRUST GRAVITY-ASSIST TRAJECTORY DESIGN STUDENT: THERESA
 J. DEBBAN
 06/20/2000 - 12/31/2002 FY03: \$0 Total: \$44,000
Prin. Invest.: J M LONGUSKI
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50336 **PURDUE UNIV**
 SPECTROSCOPY & KINETICS OF METASTABLE DIACETYLENE: IMPROVING
 MODELS OF TITAN'S ATMOSPHERIC CHEMISTRY
 05/04/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: T ZWEIR
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1938 **ROSE-HULMAN INST OF TECHNOLOGY**
 4200005740 GENETIC ALGORITHM TUNED FUZZY LOGIC FOR AUTONO-
 MIOUS TRAJECTORY DESIGNS
 03/27/2003 - 06/30/2003 FY03: \$23,402 Total: \$23,402
Prin. Invest.: B T BURCHETT
Tech. Officer: MSFC/J M HANSON, MSFC/G A DUKE
CASE Category: 46 – MECHANICAL ENGR

NAG 5 5184 **TAYLOR UNIV**
 DROPPS: THE DISTRIBUTION AND ROLE OF PARTICLES IN THE POLAR
 SUMMER MESOSPHERE USING COORDINATED ROCK
 03/13/1998 - 09/30/2001 FY03: -\$13 Total: \$172,062
Prin. Invest.: H D VOSS
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 8077 **TAYLOR UNIV**
 SOURCE-LOSS/CONE INVESTIGATION
 01/20/1999 - 01/31/2002 FY03: -\$772 Total: \$124,222
Prin. Invest.: H D VOSS
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11982 **TAYLOR UNIV**
 SOURCE-LOSS/CONE INVESTIGATION (SEPS)
 04/23/2002 - 04/30/2005 FY03: \$0 Total: \$20,000
Prin. Invest.: H VOSS
Tech. Officer: GSFC/B GILES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12454 **TAYLOR UNIV**
 CHARGING OF AEROSOLS AND PARTICLES IN THE POLAR SUMMER
 MESOSPHERE (CAPPS)
 08/19/2002 - 08/31/2005 FY03: \$0 Total: \$19,283
Prin. Invest.: H D FOSS
Tech. Officer: GSFC/R A GOLDBERG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2240 **UNIV OF NOTRE DAME**
 ADVANCED INFO TECHNOLOGY IN SIMULATION BASED LIFE CYCLE DE-
 SIGN UNDER UNCERTAINTY - NRA-98-LARC-8
 09/20/1999 - 09/30/2002 FY03: -\$1 Total: \$143,270
Prin. Invest.: J E RENAUD
Tech. Officer: LARC/J L ROSEY
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 01020 **UNIV OF NOTRE DAME**
 ACOUSTIC SOURCE MODELING AND CONTROL FOR HIGH BY-PASS JET
 ENGINES
 01/24/2001 - 01/31/2002 FY03: -\$3,764 Total: \$59,616
Prin. Invest.: T C CORKE, F O THOMAS
Tech. Officer: LARC/K W KINZIE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02045 **UNIV OF NOTRE DAME**
 ACOUSTIC SOURCE MODELLING AND CONTROL FOR HIGH BY- PASS JET
 ENGINES
 01/28/2002 - 01/31/2003 FY03: \$0 Total: \$70,000
Prin. Invest.: T C CORKE, F O THOMAS
Tech. Officer: LARC/K W KINZIE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03076 **UNIV OF NOTRE DAME**
 PLASMA FAIRINGS FOR LANDING GEAR NOISE REDUCTION
 08/27/2003 - 09/30/2006 FY03: \$83,428 Total: \$83,428
Prin. Invest.: F O THOMAS
Tech. Officer: LARC/B A SINGER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2213 **UNIV OF NOTRE DAME**
 MECHANISTIC STUDIES OF COMBUSTION AND STRUCTURE FORMATION
 DURING SYNTHESIS OF ADVANCED MATERIALS
 01/15/1999 - 11/17/2003 FY03: \$27,500 Total: \$387,625
Prin. Invest.: A VARMA
Tech. Officer: GRC/R FRIEDMAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2366 **UNIV OF NOTRE DAME**
 DIFFUSIVE COARSENING OF LIQUID FOAMS IN MICROGRAVITY
 03/28/2000 - 11/30/2003 FY03: \$78,354 Total: \$279,497
Prin. Invest.: D A GLAZIER
Tech. Officer: GRC/F P CHIARMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2384 **UNIV OF NOTRE DAME**
 EXPERIMENTAL AND THEORETICAL STUDIES OF WET GRANULAR MEDIA
 04/06/2000 - 11/30/2003 FY03: \$21,809 Total: \$111,455
Prin. Invest.: D BARBASI
Tech. Officer: GRC/J H AGUI
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2696 **UNIV OF NOTRE DAME**
 FUNDAMENTAL STUDIES ON TWO-PHASE GAS-LIQUID FLOWS THROUGH
 PACKED-BEDS IN MICROGRAVITY
 01/29/2002 - 11/30/2005 FY03: \$40,919 Total: \$75,918
Prin. Invest.: D J MCCREADY
Tech. Officer: GRC/B MOTIL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2701 **UNIV OF NOTRE DAME**
 MICROCIRCULATION ANOMALIES IN MICROGRAVITY BLOOD FLOW
 02/04/2002 - 10/31/2005 FY03: \$89,749 Total: \$176,449
Prin. Invest.: D CHANG
Tech. Officer: GRC/R ANSAH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 9364 **UNIV OF NOTRE DAME**
 SUPERNOVAE AND THE UNIVERSE (L TSA - 99)
 04/25/2000 - 04/30/2005 FY03: \$172,719 Total: \$393,871
Prin. Invest.: P GARNAVICH
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NCC 3 935 **UNIV OF NOTRE DAME**
 ENHANCED DESIGN OF TURBO-JET LPT BY SEPARATION CONTROL USING
 PHASED PLASMA ACTUATORS
 01/03/2002 - 01/02/2005 FY03: \$99,998 Total: \$199,980
Prin. Invest.: D C CORKE
Tech. Officer: GRC/D E ASHIPS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 9731 **UNIV OF NOTRE DAME**
 THE MICROLENSING PLANET SEARCH PROJECT
 06/20/2000 - 02/29/2004 FY03: \$0 Total: \$138,000
Prin. Invest.: D BENNET
Tech. Officer: GSFC/J BOYCE
CASE Category: 13 – PHYSICS

NGT 1 02003 **UNIV OF NOTRE DAME**
 GRADUATE STUDENT RESEARCH PROGRAM
 06/06/2002 - 06/30/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: T C CORKE, E H MATLIS
Tech. Officer: LARC/M CHOUDHARI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 10503 **UNIV OF NOTRE DAME**
 ERROR CONTROL CODING TECHNIQUES FOR SPACE & SATEL- LITE
 COMMUNICATIONS
 03/01/2001 - 05/31/2003 FY03: \$0 Total: \$135,000
Prin. Invest.: D J COSTELLO
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 8490 **VALPARISO UNIV**
 VALIDATION OF H2O & O3 MEASUREMENTS FROM SAGE III USING TRAJEC-
 TORY MAPPING & CONSTITUENT RECONSTRUCT
 05/19/1999 - 10/31/2003 FY03: \$0 Total: \$66,156
Prin. Invest.: G A MORRIS
Tech. Officer: GSFC/J C DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

IOWA

NAG 5 12076 **UNIV OF NOTRE DAME**
 GEOCHEMICAL EVOLUTION OF THE MOON & METEORITES
 04/30/2002 - 04/30/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: C NEAL
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 1 01040 **IOWA STATE UNIV**
 NEW APPROACHES TO INVERTING NDE DATA MY 1/3
 03/15/2001 - 12/31/2003 FY03: \$0 Total: \$140,000
Prin. Invest.: S S UPDA, J R BOWLER
Tech. Officer: LARC/W P WINFREE
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 12792 **UNIV OF NOTRE DAME**
 ERROR CONTROL CODING TECHNIQUES FOR SPACE AND SATELLITE
 COMMUNICATIONS
 02/11/2003 - 05/31/2005 FY03: \$65,000 Total: \$65,000
Prin. Invest.: D J COSTELLO
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 02098 **IOWA STATE UNIV**
 ADVANCED NON-DESTRUCTIVE EVALUATION (NDE) FOR FUTURE AERO-
 SPACE SYSTEMS
 05/23/2002 - 05/31/2004 FY03: \$2,235,000 Total: \$4,235,000
Prin. Invest.: R B THOMPSON
Tech. Officer: LARC/W P WINFREE, LARC/D M HEATH
CASE Category: 13 – PHYSICS

NAG 5 12982 **UNIV OF NOTRE DAME**
 GEOCHEMICAL EVOLUTION OF THE MOON
 03/11/2003 - 04/30/2006 FY03: \$50,000 Total: \$50,000
Prin. Invest.: C NEAL
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 2 1471 **IOWA STATE UNIV**
 VERIFICATION OF CONTROLLERS BASED ON ADAPTIVE NEURAL NET-
 WORKS
 05/01/2001 - 09/30/2003 FY03: \$0 Total: \$126,301
Prin. Invest.: A KELKAR
Tech. Officer: ARC/M R LOWRY, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 13042 **UNIV OF NOTRE DAME**
 SEARCH FOR EXTRA-SOLAR PLANETS WITH A GLOBAL MICRO LENSING
 FOLLOW-UP NETWORK
 03/17/2003 - 03/31/2006 FY03: \$150,000 Total: \$150,000
Prin. Invest.: D BENNET
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2540 **IOWA STATE UNIV**
 DEVELOPMENT OF CHEMICALLY AND THERMALLY ROBUST LITHIUM FAST
 ION CONDUCTING CHALCAGENIDE GLASSES
 02/08/2001 - 01/13/2003 FY03: \$0 Total: \$99,921
Prin. Invest.: S W MARTIN
Tech. Officer: GRC/N H HAGEDORN
CASE Category: 12 – CHEMISTRY

NCC 1 01054 **UNIV OF NOTRE DAME**
 TURBULENT WAKE DEVELOPMENT IN PRESSURE GRADIENT
 06/25/2001 - 07/14/2003 FY03: \$0 Total: \$48,717
Prin. Invest.: F O THOMAS, R C NELSON
Tech. Officer: LARC/J B ANDERS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2731 **IOWA STATE UNIV**
 MODELING SURFACE ICING ROUGHNESS AND SURFACE WATER TRANS-
 PORT
 03/05/2002 - 01/31/2003 FY03: \$0 Total: \$64,985
Prin. Invest.: A P ROTHMAYER
Tech. Officer: GRC/M G POTAPCZUK
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2784 **IOWA STATE UNIV**
 NON-LINEAR ANALYTICAL/NUMERICAL MODEL OF HIGH INTENSITY SOUND INTERACTING WITH A LIQUID
 06/17/2002 - 09/30/2003 FY03: \$0 Total: \$10,000
Prin. Invest.: J A MANN
Tech. Officer: GRC/R C OEFTERING
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 3 2846 **IOWA STATE UNIV**
 DEVELOPMENT OF CHEMICALLY AND THERMALLY ROBUST LITHIUM FAST ION CONDUCTING CHALCOGENIDE GLASSES
 02/03/2003 - 02/02/2004 FY03: \$75,000 Total: \$75,000
Prin. Invest.: S W MARTIN
Tech. Officer: GRC/N H HAGEDORN
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2863 **IOWA STATE UNIV**
 THREE-DIMENSION WATER TRANSPORT PAST SURFACE ROUGHNESS
 05/20/2003 - 02/15/2006 FY03: \$89,833 Total: \$89,833
Prin. Invest.: A ROTHMAYER
Tech. Officer: GRC/M G POTAPCZUK
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 7133 **IOWA STATE UNIV**
 ATMOSPHERIC DYNAMICS DEDUCED FROM UARS USING MIDDLE ATMOSPHERE ISAMS CARBON MONOXIDE AND UPPER TROPOSPHERE
 03/16/1998 - 04/30/2002 FY03: \$0 Total: \$176,922
Prin. Invest.: D L STANFORD
Tech. Officer: GSFC/A DOUGLASS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7271 **IOWA STATE UNIV**
 SMALL SCALE TROPOPAUSE DYNAMICS AND TOMS TOTAL OZONE
 05/05/1998 - 05/14/2002 FY03: \$0 Total: \$239,000
Prin. Invest.: S L STANFORD
Tech. Officer: GSFC/S CHANDRA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7530 **IOWA STATE UNIV**
 ANALYSES FOR THE CLIMATOLOGY AND SHORT-TERM VARIABILITY OF THE ATMOSPHERIC GENERAL CIRCULATION
 06/12/1998 - 06/14/2002 FY03: \$0 Total: \$216,000
Prin. Invest.: T CHEN
Tech. Officer: GSFC/S SCHUBERT
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8293 **IOWA STATE UNIV**
 DIAGNOSIS AND SIMULATION OF THE SOUTHEAST ASIAN-INDUCED WAVETRAIN THAT OCCURS DURING TROPICAL PACIFIC
 02/25/1999 - 02/28/2003 FY03: \$0 Total: \$101,626
Prin. Invest.: T C CHEN
Tech. Officer: GSFC/M RIENECKER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8352 **IOWA STATE UNIV**
 THEORETICAL MODELS FOR SEISMOLOGICAL STUDIES OF HOT COMPACT STARS (ATP98)
 03/01/1999 - 02/28/2002 FY03: \$7,256 Total: \$201,315
Prin. Invest.: S D KAWALER
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8465 **IOWA STATE UNIV**
 THE RESPONSE OF THE SOLAR ATMOSPHERE TO TIME-VARYING AND SPATIALLY INHOMOGENEOUS BOUNDARY CONDITIONS
 04/21/1999 - 03/31/2003 FY03: \$0 Total: \$130,214
Prin. Invest.: L A WILLSON
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 12428 **IOWA STATE UNIV**
 EXCITATION AND WORLDWIDE IMPACT OF CIRCUMGLOBAL ATMOSPHERIC WAVETRAINS
 08/02/2002 - 07/31/2004 FY03: \$0 Total: \$35,000
Prin. Invest.: T CHEN
Tech. Officer: GSFC/M RIENECKER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13559 **IOWA STATE UNIV**
 MODELING THE DIFFUSE GALACTIC GAMMA-RAY EMISSION
 08/12/2003 - 12/31/2009 FY03: \$43,014 Total: \$43,014
Prin. Invest.: M POHL
Tech. Officer: GSFC/M S SEIDLECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1637 **IOWA STATE UNIV**
 AN ADVANCED ENTRY GUIDANCE CONCEPT BASED ON TRAJECTORY REGULATION
 10/28/1999 - 01/31/2002 FY03: \$0 Total: \$105,974
Prin. Invest.: P LU
Tech. Officer: MSFC/G DUKEMAN
CASE Category: 46 – MECHANICAL ENGR

NAG 8 1681 **IOWA STATE UNIV**
 DYNAMICAL SELECTION OF THREE-DIMENSIONAL INTERFACE PATTERNS IN DIRECTIONAL SOLIDIFICATION
 05/25/2000 - 11/30/2003 FY03: \$239,320 Total: \$602,620
Prin. Invest.: R K TRIVETI
Tech. Officer: MSFC/A JACKSON
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 9 1115 **IOWA STATE UNIV**
 EXAMINATION OF BACTERIA MATERIALS
 05/10/1999 - 05/09/2004 FY03: \$10,000 Total: \$80,000
Prin. Invest.: P A BAZLINSKI
Tech. Officer: JSC/E K GIBSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 9 1184 **IOWA STATE UNIV**
 EXPERIMENTS TO DETERMINE THE AERODYNAMIC COEFFICIENT OF THE X38 PARAFOL
 01/28/2000 - 12/31/2003 FY03: \$0 Total: \$23,200
Prin. Invest.: L M LILJEGREN
Tech. Officer: JSC/R L BARTON, JSC/W D GOODRICH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 9 1191 **IOWA STATE UNIV**
 RAPID SPECIFIC CHEMICAL SENSORS AND TEST KIT
 02/28/2000 - 04/30/2003 FY03: \$0 Total: \$751,562
Prin. Invest.: M D PORTER
Tech. Officer: JPL/D JAN
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1493 **IOWA STATE UNIV**
 FACULTY FELLOWSHIP PROGRAM: LIPID BIOMARKERS AS IN DICATORS OF
 EXTANT OR EXTINCT LIFE ON MARS
 01/14/2003 - 01/13/2004 FY03: \$18,250 Total: \$18,250
Prin. Invest.: J FANG
Tech. Officer: JSC/D S MCKAY
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 01510 **IOWA STATE UNIV**
 SENSORS FOR MONITORING WATER QUALITY
 05/19/2003 - 09/30/2005 FY03: \$207,011 Total: \$207,011
Prin. Invest.: M PORTER
Tech. Officer: JSC/D RUSSO, JSC/D SICKOREZ
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 1 01038 **IOWA STATE UNIV**
 SYNTHESIS METHODS FOR RUBUST PASSIFICATION AND CONTROL - 11
 03/20/2001 - 06/15/2002 FY03: \$4,096 Total: \$9,132
Prin. Invest.: A G KELKAR
Tech. Officer: LARC/S M JOSHI
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 01039 **IOWA STATE UNIV**
 AN INTEGRATED APPROACH TO NOISE CONTROL WITH APPLICATIONS TO
 AIRCRAFT CABINS
 03/28/2001 - 01/31/2004 FY03: \$77,838 Total: \$219,137
Prin. Invest.: A G KELKAR
Tech. Officer: LARC/S M JOSHI
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 01047 **IOWA STATE UNIV**
 PREDICTIVE AND NEURAL PREDICTIVE CONTROL OF UNCERTAIN SYS-
 TEMS - II
 04/17/2001 - 02/28/2003 FY03: -\$1 Total: \$12,198
Prin. Invest.: A G KELKAR
Tech. Officer: LARC/P J HALEY
CASE Category: 21 – MATHEMATICS

NCC 1 02016 **IOWA STATE UNIV**
 SYNTHESIS OF ANALYTIC & COMPUTATN METHODS TO EN HANCE PRE-
 DICTION OF HYPERSONIC VEH FLOW FIELDS
 03/04/2002 - 03/03/2004 FY03: \$0 Total: \$25,621
Prin. Invest.: G R INGER
Tech. Officer: LARC/P A GNOFFO
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1425 **IOWA STATE UNIV**
 DEVELOPMENT OF A UNIFIED CONTROL ARCHITECTURE FOR GUIDANCE
 NAVIGATION RECONFIGURABILITY AND COLLISIO
 09/17/2003 - 09/14/2004 FY03: \$83,219 Total: \$83,219
Prin. Invest.: A KELKAR
Tech. Officer: ARC/D SOLOWAY, ARC/E M HUFF
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 2 5379 **IOWA STATE UNIV**
 STOKES CODE FOR COMPUTING MAGNETO-HYDRODYNAMIC FLO
 WFIELDS
 04/07/2000 - 04/30/2003 FY03: \$0 Total: \$58,000
Prin. Invest.: J C TANNEHILL
Tech. Officer: ARC/U B MEHTA
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5517 **IOWA STATE UNIV**
 NUMERICAL SIMULATION OF A SUPERSONIC MHD FLOWS USI NG AN
 ITERATIVE PNS ALGORITHM
 08/08/2002 - 07/31/2004 FY03: \$0 Total: \$15,000
Prin. Invest.: J C TANNEHILL
Tech. Officer: ARC/U B MEHTA, ARC/S LAWRENCE
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 846 **IOWA STATE UNIV**
 QUENCHING OF PARTIAL-GAS COMBUSTIBLE MIXTURES USIN G ELECTRIC
 PARTICULATE SUSPENSION (EPS) AND DISPE
 01/09/2001 - 12/07/2004 FY03: \$100,000 Total: \$265,996
Prin. Invest.: G M COLVER
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1088 **IOWA STATE UNIV**
 ANALYTICAL/NUMERICAL MODELING OF FLUID PHENOMENA C REATED BY
 HIGH INTENSITY SOUND
 08/11/2003 - 07/31/2005 FY03: \$15,000 Total: \$15,000
Prin. Invest.: J A MANN
Tech. Officer: GRC/R C OEFTERING
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 8 98 **IOWA STATE UNIV**
 INTERFACE PATTERN SELECTION CRITERION FOR CELLULAR STRUC-
 TURES IN DIRECTIONAL SOLIDIFICATION
 06/28/1996 - 06/15/2004 FY03: \$191,000 Total: \$1,405,990
Prin. Invest.: R K TRIVEDI
Tech. Officer: MSFC/M HAMMOND
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 9 100 **IOWA STATE UNIV**
 60 DAY DEFINITION PHASE
 08/01/1999 - 10/03/2004 FY03: \$500,000 Total: \$2,275,000
Prin. Invest.: D OLSEN
Tech. Officer: JSC/H LANE
CASE Category: 55 – AGRICULTURE

NGT 3 52380 **IOWA STATE UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM GRADUATE STUDENT
 RESEARCHERS PROGRAM
 06/29/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: D ROTHMAYER
Tech. Officer: GRC/F J MONTGOMERY
CASE Category: 49 – ENGINEERING, OTHER

NGT 4 52433 **IOWA STATE UNIV**
 GRADUATE STUDENT RESEARCH PROGRAM - FORMULATION OF A COM-
 PLETE AIRCRAFT STRUCTURAL VARIATIONMODEL F
 06/17/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: F R CHAVEZ
Tech. Officer: DFRC/K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 4 52437 **IOWA STATE UNIV**
 GSRP - FORMULATION OF A COMPLETE AIRCRAFT STRUCTUR AL VARIA-
 TION MODEL FOR ROBUST FLUTTER PREDICTION
 06/26/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: F R CHAVEZ
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 30419 IOWA STATE UNIV
 INTERANNUAL VARIATION OF THE NORTH AMERICAN MONSOON RAINFALL
 STUDENT: JIN-HO YOON
 09/06/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: T CHEN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 40081 IOWA STATE UNIV
 IOWA STATE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/08/2001 - 01/31/2005 FY03: \$510,750 Total: \$1,479,124
Prin. Invest.: W J BYRD
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2305 UNIV OF IOWA
 IMPACT OF MINERAL AND OTHER AEROSOLS AND ASIAN EMISSIONS ON
 THE CHEMISTRY OF THE TROPOSPHERE
 06/15/2000 - 03/31/2003 FY03: -\$1 Total: \$332,000
Prin. Invest.: G R CARMICHAEL, H LEVY
Tech. Officer: LARC/G L MADDREA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02097 UNIV OF IOWA
 SYNTHETIC VISION DISPLAY: OPTIMAL DISPLAY CHARACTERISTICS
 05/14/2002 - 09/30/2003 FY03: \$108,333 Total: \$216,666
Prin. Invest.: T SCHNELL, K LEMOS
Tech. Officer: LARC/L J GLAAB
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2128 UNIV OF IOWA
 PLASMA DUST CRYSTALLIZATION PLASMA DUST CRYSTALLIZATION
 02/27/1998 - 12/31/2002 FY03: \$0 Total: \$459,000
Prin. Invest.: J A GOREE
Tech. Officer: GRC/R B ROGERS
CASE Category: 13 – PHYSICS

NAG 3 2368 UNIV OF IOWA
 RIVULET DYNAMICS WITH VARIABLE GRAVITY AND WIND SHEAR
 04/03/2000 - 11/30/2003 FY03: \$89,968 Total: \$301,330
Prin. Invest.: D S MARSHALL
Tech. Officer: GRC/C E NIEDERHAUS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2375 UNIV OF IOWA
 THEORY AND SIMULATION OF GROUND-BASED AND MICROGRAVITY
 DUSTY PLASMA EXPERIMENTS
 03/28/2000 - 11/30/2003 FY03: \$100,000 Total: \$335,000
Prin. Invest.: A BHATTACHARJEE
Tech. Officer: GRC/R B ROGERS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2771 UNIV OF IOWA
 OPTICALLY-EXCITED WAVES IN 3D DUSTY PLASMAS OPTICALLY-EXCITED
 WAVES IN 3D DUSTY PLASMAS
 04/22/2002 - 03/31/2006 FY03: \$186,000 Total: \$286,000
Prin. Invest.: D A GOREE
Tech. Officer: GRC/R B ROGERS
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 5232 UNIV OF IOWA
 ROCKET AURORAL CORRELATOR EXPERIMENT PI DR. CRAIG KLETZING
 02/12/1999 - 02/09/2004 FY03: \$0 Total: \$428,376
Prin. Invest.: C A KLETZING
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5319 UNIV OF IOWA
 PLASMA DIAGNOSTIC FOR THE HIBAR EXPERIMENT PLASMA DIAGNOSTIC
 FOR THE HIBAR EXPERIMENT
 03/19/2001 - 02/28/2004 FY03: \$89,305 Total: \$307,175
Prin. Invest.: C A KLETZING
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 7187 UNIV OF IOWA
 RESTORATION AND ARCHIVING OF THE ISEE 1 AND 2 PLASMA WAVE
 INVESTIGATION DATA SETS
 03/26/1998 - 06/30/2002 FY03: \$0 Total: \$134,117
Prin. Invest.: D ANDERSON
Tech. Officer: GSFC/J BREDEKAMP
CASE Category: 11 – ASTRONOMY

NAG 5 7390 UNIV OF IOWA
 GENERATION AND SCATTERING OF RADIATION OBSERVED BY VOYAGER
 IN THE OUTER HELIOSPHERE
 05/07/1998 - 02/28/2002 FY03: \$0 Total: \$43,200
Prin. Invest.: I H CAIRNS
Tech. Officer: GSFC/J LING
CASE Category: 11 – ASTRONOMY

NAG 5 7684 UNIV OF IOWA
 FUNDING OF THE ANALYSIS OF PLASMA MEASUREMENTS FOR THE
 GEOTAIL EXTENDED MISSION / FUNDING FOR YR 1
 09/09/1998 - 09/30/2002 FY03: \$0 Total: \$1,270,000
Prin. Invest.: L A FRANK
Tech. Officer: GSFC/D H FAIRFIELD
CASE Category: 13 – PHYSICS

NAG 5 7943 UNIV OF IOWA
 POLAR PLASMA WAVE INVESTIGATION DATA ANALYSIS IN THE EXTENDED
 MISSION
 01/27/1999 - 03/31/2002 FY03: \$0 Total: \$1,018,757
Prin. Invest.: D GURNATT
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8119 UNIV OF IOWA
 GGS-POLAR-HYDRA EXTENDED MISSION SCIENCE INVESTIGATION
 01/29/1999 - 01/31/2002 FY03: \$0 Total: \$1,696,000
Prin. Invest.: J SCUDDER
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8873 UNIV OF IOWA
 COUPLING SATELLITE REMOTE SENSING & UNSTEADY FLOW MODELING
 FOR DISCHARGE ESTIMATION
 11/16/1999 - 10/31/2003 FY03: \$0 Total: \$171,426
Prin. Invest.: A BRADLEY
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8918 **UNIV OF IOWA**
 ANALYSIS AND MODELING OF JOVIAN RADIO EMISSIONS OBSERVED BY GALILEO
 01/18/2000 - 06/30/2003 FY03: \$0 Total: \$105,000
Prin. Invest.: J MENIETTI
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9499 **UNIV OF IOWA**
 NEW GRANT EXTEND SOLAR MAX: COLLISIONLESS RECOMME NDATION THEORY AND HIGH RESOLUTION SIMULATIONS
 05/04/2000 - 05/14/2002 FY03: \$0 Total: \$100,000
Prin. Invest.: J SCUDDER
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9561 **UNIV OF IOWA**
 WAVE AND PARTICLE INTERACTIONS IN THE HIGH AND LOW -ALTITUDE AURORAL REGION DURING RISING SOLARACTI
 05/04/2000 - 05/14/2003 FY03: \$0 Total: \$90,041
Prin. Invest.: D GURNETT
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9664 **UNIV OF IOWA**
 GROUND-BASED RAINFALL ESTIMATION STUDIES FOR TRMM VALIDATION
 06/08/2000 - 12/14/2003 FY03: \$259,561 Total: \$672,561
Prin. Invest.: W F KRAJEWSKI
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9964 **UNIV OF IOWA**
 X-RAY EMISSION FROM SINGLE WOLF-RAYET STARS
 09/25/2000 - 08/31/2002 FY03: \$0 Total: \$12,224
Prin. Invest.: R IGNACE
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9974 **UNIV OF IOWA**
 A PROPOSAL FOR CLUSTER II WIDEBAND (WBD) PLASMA WAVE INVESTIGATION MISSION OPERATIONS & DATA
 09/21/2000 - 10/31/2003 FY03: \$1,561,200 Total: \$3,858,530
Prin. Invest.: D GURNETT
Tech. Officer: GSFC/M GOLDSTEIN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10329 **UNIV OF IOWA**
 BALLOONING INSTABILITIES OF COLLISIONLESS THIN CURRENT SHEETS: A MECHANISM FOR SUBSTORM ONSET
 01/29/2001 - 01/31/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: A BHATTACHARJEE
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11485 **UNIV OF IOWA**
 PLASMA MEASUREMENTS FOR GEOTAIL
 12/19/2001 - 12/31/2004 FY03: \$190,000 Total: \$360,000
Prin. Invest.: L FRANK
Tech. Officer: GSFC/DFAIRFIELD
CASE Category: 11 – ASTRONOMY

NAG 5 11528 **UNIV OF IOWA**
 THE ANALYSIS OF IMAGES FROM THE VISIBLE IMAGING SY STEM ON POLAR SPACECRAFT FOR THE ISTP MISSION
 01/14/2002 - 12/31/2004 FY03: \$560,000 Total: \$1,106,000
Prin. Invest.: L FRANK
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11676 **UNIV OF IOWA**
 GGS-POLAR-HYDRA EXTENDED MISSION SCIENCE INVESTIGA TION
 01/30/2002 - 12/31/2004 FY03: \$400,000 Total: \$800,000
Prin. Invest.: J SCUDDER
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11688 **UNIV OF IOWA**
 "IMPACT OF FIELD-SCALE HETEROGENEITY IN SURFACE MO ISTURE AND VEGETATION COVER ON REGIONAL SCALE FLU
 02/12/2002 - 01/31/2005 FY03: \$9,000 Total: \$58,000
Prin. Invest.: W EICHINGER
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11707 **UNIV OF IOWA**
 PLASMA WAVE DATA FROM GEOTAIL
 02/14/2002 - 03/31/2003 FY03: \$0 Total: \$115,195
Prin. Invest.: R ANDERSON
Tech. Officer: GSFC/D FAIRFIELD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11867 **UNIV OF IOWA**
 ALFVEN WAVE ELECTRON ACCELERATION ON REALISTIC AUR ORAL FIELD LINES
 03/18/2002 - 03/14/2005 FY03: \$87,440 Total: \$161,894
Prin. Invest.: C A KLETZING
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11942 **UNIV OF IOWA**
 A PROPOSAL FOR POLAR PLASMA WAVE INVESTIGATION (PW I) DATA ANALYSIS IN THE EXTENDED MISSION
 03/29/2002 - 12/31/2004 FY03: \$232,000 Total: \$406,000
Prin. Invest.: D A GURNETT
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11969 **UNIV OF IOWA**
 AMSR VALIDATION SITE IN IOWA CITY, IOWA
 04/05/2002 - 04/14/2005 FY03: \$80,000 Total: \$238,250
Prin. Invest.: W KRAJEWSKI
Tech. Officer: GSFC/R ADLER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11981 **UNIV OF IOWA**
 DATA-CENTRIC ANALYSIS OF SCIENCE RETURN FOR HUMAN- DIRECTED ROBOTIC GEOLOGY
 05/14/2002 - 05/14/2005 FY03: \$117,854 Total: \$235,494
Prin. Invest.: G W THOMAS
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NASA'S UNIVERSITY PROGRAM

KANSAS

NAG 5 12777 **UNIV OF IOWA**
 NEXT GENERATION GEOSPACE CAMERA FOR LWS
 01/27/2003 - 01/31/2005 FY03: \$164,080 Total: \$164,080
Prin. Invest.: J SIGWARTH
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12940 **UNIV OF IOWA**
 STUDY OF JUPITER'S MAGNETOSPHERE & PROCESSES RELATED TO
 FORMATION OF THE AURORA USING IN-SITU MEASUREMENTS
 03/03/2003 - 02/28/2005 FY03: \$90,282 Total: \$90,282
Prin. Invest.: W PATERSON
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13315 **UNIV OF IOWA**
 A PROPOSAL TO RE-ENGINEER AND RE-PROGRAM GEOTAIL PLASMA
 DATA ANALYSIS
 04/10/2003 - 04/14/2004 FY03: \$27,200 Total: \$27,200
Prin. Invest.: R R ANDERSON
Tech. Officer: GSFC/D H FAIRFIELD
CASE Category: 13 – PHYSICS

NAG 8 1591 **UNIV OF IOWA**
 EVALUATING OXIDATIVE STRESS IN VIRALLY-INFECTED CELLS IN SIMU-
 LATED MICROGRAVITY
 03/19/1999 - 11/30/2003 FY03: \$0 Total: \$525,850
Prin. Invest.: V G RODGERS
Tech. Officer: JSC/M ANDERSON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1592 **UNIV OF IOWA**
 R/S MONITORING AND CONTROL OF ROTATING WALL VESSELS AND
 APPLICATION TO THE STUDY OF PROSTATE
 03/30/1999 - 11/30/2003 FY03: \$0 Total: \$950,950
Prin. Invest.: D W MURHAMMER
Tech. Officer: JSC/S GONDA
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1593 **UNIV OF IOWA**
 R/S EXTREMOPHILIC INTERFACIAL SYSTEMS FOR WASTE PROCESSING IN
 SPACE
 03/15/1999 - 11/30/2002 FY03: \$0 Total: \$422,450
Prin. Invest.: T L PEEPLES
Tech. Officer: MSFC/B GUYNES, MSFC/D CHAFEE
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1835 **UNIV OF IOWA**
 NONINVASIVE NEAR-INFRARED MONITORS FOR PROTEIN CRYSTALLIZA-
 TION
 08/30/2001 - 11/30/2004 FY03: \$133,000 Total: \$609,000
Prin. Invest.: M A ARNOLD
Tech. Officer: MSFC/B GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 1 422 **UNIV OF IOWA**
 REGIONAL SCALE FORECASTING AND EXPERIMENT-SPECIFIC EMISSION
 ESTIMATES OF GAS AND AEROSOL DISTRIBUTION
 09/26/2000 - 09/30/2003 FY03: \$0 Total: \$263,099
Prin. Invest.: G R CARMICHAEL
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 3 666 **UNIV OF IOWA**
 REFLIGHT OF ELF (ENCLOSED LAMINAR FLAMES) INVESTIGATION
 02/02/1999 - 01/03/2004 FY03: \$20,625 Total: \$325,850
Prin. Invest.: D CHEN
Tech. Officer: GRC/D P STOCKER
CASE Category: 49 – ENGINEERING, OTHER

NCC 8 94 **UNIV OF IOWA**
 EQUIAXED DENDRITIC SOLIDIFICATION EXPERIMENT (EDSE)
 05/31/1996 - 05/03/2003 FY03: \$0 Total: \$1,066,480
Prin. Invest.: C BECKERMANN
Tech. Officer: MSFC/A JACKMAN, MSFC
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 8 199 **UNIV OF IOWA**
 DENDRITIC ALLOY SOLIDIFICATION EXPERIMENT (DASE)
 04/12/2000 - 11/30/2003 FY03: \$0 Total: \$318,250
Prin. Invest.: C BECKERMANN
Tech. Officer: GSFC/P DOTY
CASE Category: 47 – METAL & MATERIALS ENGR

NGT 5 30199 **UNIV OF IOWA**
 ASSESSMENT OF THE IMPACT OF ASIAN EMISSIONS ON A LOCAL,
 REGIONAL & GLOBAL SCALE/STUDENT: SARATHG
 08/25/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: G CARMICHAEL
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30531 **UNIV OF IOWA**
 CHARACTERIZATION OF THE SPATIAL VARIABILITY OF RAINFALL FROM
 REMOTE SENSING MEKONGEN WOLDEMARIAM
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: W KRAJEWSKI
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50377 **UNIV OF IOWA**
 ARCHAEAL CHAPERONINS CAN BE USED TO EXTEND THE FUNCTIONAL
 RANGE OF CONDITIONS IN WHICH ENZYMES
 09/05/2001 - 09/14/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: T PEEPLES
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

KANSAS

NAG 1 02014 **KANSAS STATE UNIV**
 STIFFNESS & STRENGTH OF POLYMER NETWORK & CARBON NANOTUBE
 REINFORCED POLYMER NETWORK
 12/07/2001 - 12/09/2004 FY03: \$51,316 Total: \$86,413
Prin. Invest.: Y WANG
Tech. Officer: LARC/J A HINKLEY
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 02041 **KANSAS STATE UNIV**
 COMPUTATIONAL MODELS FOR ELECTROSTRICTIVE GRAFT ELASTOMER
 01/18/2002 - 01/17/2005 FY03: \$46,170 Total: \$96,030
Prin. Invest.: Y WANG
Tech. Officer: LARC/J SU
CASE Category: 47 – METAL & MATERIALS ENGR

KANSAS

NASA'S UNIVERSITY PROGRAM

NAG 1 03009 **KANSAS STATE UNIV**
 VORTEX DYNAMIC MECHANISMS AND INNOVATIVE MODELING OF AERO-DYNAMIC NOISE GENERATION IN SLATES
 12/16/2002 - 12/15/2005 FY03: \$39,375 Total: \$39,375
Prin. Invest.: Z C ZHENG
Tech. Officer: LARC/M KHORRAMI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01011 **UNIV OF KANSAS**
 ESTIMATION OF UNSTEADY AERODYNAMIC MODELS FROM FLIGHT TEST DATA
 12/08/2000 - 06/30/2003 FY03: \$0 Total: \$128,545
Prin. Invest.: C E LAN
Tech. Officer: LARC/J M BRANDON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1274 **KANSAS STATE UNIV**
 DIFFERENTIATION OF BONE MARROW MACROPHAGES IN SPAC E-PHASE A
 12/28/1998 - 01/31/2004 FY03: \$285,171 Total: \$871,775
Prin. Invest.: S K CHAPES
Tech. Officer: ARC/W E HINDS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 7053 **UNIV OF KANSAS**
 ANALYSIS OF AIRCRAFT LASER ALTIMETER DATA FROM GRE ENLAND
 02/25/1998 - 02/28/2002 FY03: -\$1,267 Total: \$89,505
Prin. Invest.: D A BRAATEN
Tech. Officer: GSFC/R THOMAS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 3 2360 **KANSAS STATE UNIV**
 GELATION IN AEROSOLS: NON-MEAN-FIELD AGGREGATION KINECTICS
 03/27/2000 - 11/30/2003 FY03: \$90,000 Total: \$300,000
Prin. Invest.: C SORENSEN
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 13 – PHYSICS

NAG 5 8758 **UNIV OF KANSAS**
 MEASUREMENT OF THE THICKNESS OF THE GREENLAND ICE SHEET & HIGH RESOLUTION MAPPING OF INTERNALLAYERS
 08/24/1999 - 12/31/2002 FY03: \$0 Total: \$745,189
Prin. Invest.: S GOGINENI
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11337 **KANSAS STATE UNIV**
 SCALING UP THE ECOSYSTEM CONSEQUENCES OF FOREST EX PANSION IN THE GREAT PLAINS REGION
 09/07/2001 - 09/14/2004 FY03: \$143,242 Total: \$385,751
Prin. Invest.: L JOHNSON
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9841 **UNIV OF KANSAS**
 INCUBATING COMMERCIAL REMOTE SENSING PRODUCTS
 07/28/2000 - 01/14/2002 FY03: -\$571 Total: \$99,429
Prin. Invest.: K P PRICE
Tech. Officer: GSFC/A J TUYAHOV
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1687 **KANSAS STATE UNIV**
 RESEARCH ENTITLED, "NANOCRYSTAL SUPERLATTICES: SYNTHESIS AND PROPERTIES"
 06/01/2000 - 11/30/2003 FY03: \$70,000 Total: \$241,500
Prin. Invest.: C M KLABUNDE
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11106 **UNIV OF KANSAS**
 VALIDATION OF AMSR-E & AMSU/HSB LEVEL 1 BRIGHTNESS TEMPERATURES & LEVEL 2 CLOUD & PRECIPITATION
 07/13/2001 - 08/31/2004 FY03: -\$105,934 Total: \$62,540
Prin. Invest.: R BENNARTZ
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1702 **KANSAS STATE UNIV**
 RESEARCH, "CRYSTAL GROWTH OF NEW FAMILIES OF FERROELASTIC MATERIALS"
 06/07/2000 - 11/30/2003 FY03: \$90,000 Total: \$305,500
Prin. Invest.: M D HOLLINGSWORTH
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11788 **UNIV OF KANSAS**
 VALIDATIONS OF AMSR SNOW DEPTH ON SEA ICE RETREIVA LS USING AN AIRBORNE PULSE RADAR
 02/26/2002 - 02/28/2005 FY03: \$181,401 Total: \$302,985
Prin. Invest.: S GOGINENI
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG10 325 **KANSAS STATE UNIV**
 USEFUL LIFE PREDICTION FOR PAYLOAD CARRIER HARDWAR E
 09/19/2002 - 08/31/2005 FY03: \$115,339 Total: \$210,842
Prin. Invest.: D BEN-ARIEH
Tech. Officer: KSC/L GOSPER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11988 **UNIV OF KANSAS**
 INCUBATING COMMERCIAL REMOTE SENSING PRODUCTS
 04/09/2002 - 09/30/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: K P PRICE
Tech. Officer: GSFC/A J TUYAHOV
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT10 52641 **KANSAS STATE UNIV**
 PREDICTING USEFUL LIFE OF PAYLOAD CARRIER HARDWARE PREDICTING USEFUL LIFE OF PAYLOAD CARRIER HARDWAR
 08/08/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D BEN-ARIEH
Tech. Officer: KSC/L N GOSPER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 12439 **UNIV OF KANSAS**
 RADAR SOUNDING AND AIRBORNE HIGH RESOLUTION MAPPING OF NEAR SURFACE LAYERS OF THE GREENLAND ICE
 08/12/2002 - 07/31/2005 FY03: \$239,431 Total: \$362,512
Prin. Invest.: P GOGINENI
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NASA'S UNIVERSITY PROGRAM

KANSAS

NAG 5 12588 **UNIV OF KANSAS**
 ICE THICKNESS MEASUREMENTS OVER THE PATAGONIAN GLACIERS AND
 THE PINE ISLAND AND THWAITES GLACIER
 09/18/2002 - 12/15/2003 FY03: \$0 Total: \$80,000
Prin. Invest.: P KANAGARATNAM
Tech. Officer: GSFC/W ABDALATI
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12659 **UNIV OF KANSAS**
 POLAR RADAR FOR ICE SHEET MEASUREMENTS PROJECT
 10/29/2002 - 10/31/2004 FY03: \$102,500 Total: \$102,500
Prin. Invest.: P GOGINENI
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12980 **UNIV OF KANSAS**
 POLAR RADAR FOR ICE SHEET MEASUREMENTS PROJECT
 03/05/2003 - 02/28/2006 FY03: \$75,000 Total: \$75,000
Prin. Invest.: P GOGINENI
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 01008 **UNIV OF KANSAS**
 LINKING REMOTE SENSING, LAND USE, AND CARBON SEQUESTRATION:
 INSIGHTS LEAF TO LANDSCAPE SCALE
 09/18/2001 - 09/17/2004 FY03: \$0 Total: \$997,800
Prin. Invest.: K P PRICE
Tech. Officer: SSC/B DAVIS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 99009 **UNIV OF KANSAS**
 CONSORTIUM FOR PRODUCTS AND TECHNOLOGY TO SUPPORT THE
 GREAT PLAINS AGROECOSYSTEM
 03/01/1999 - 03/01/2003 FY03: \$0 Total: \$1,550,000
Prin. Invest.: E A MARTINKO
Tech. Officer: SSC/C HILL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 99019 **UNIV OF KANSAS**
 REMOTE SENSING-BASED GEOSTATISTICAL MODELING FOR CONIFEROUS
 FOREST INVENTORY & CHARACTERIZATION
 08/10/1999 - 08/09/2003 FY03: \$0 Total: \$560,000
Prin. Invest.: M JAKUBAUSKAS
Tech. Officer: SSC/R MCKALLIP
CASE Category: 32 – GEOLOGICAL SCIENCE

NAS 3 00162 **UNIV OF KANSAS**
 NRA 99-OES-08 ESTO AIST SBI
 08/01/2000 - 08/02/2002 FY03: \$0 Total: \$362,311
Prin. Invest.: G, J P EVANS
Tech. Officer: GRC/K BHASIN
CASE Category: 45 – ELECTRICAL ENGR

NCC 5 168 **UNIV OF KANSAS**
 KANSAS SPACE AND LIFE SCIENCES, GEOPHYSICAL INFORM AERONAU-
 TICS AND FLIGHT ENGINEERING TECHNOLOGY (K-
 01/27/1997 - 12/31/2002 FY03: \$13,739 Total: \$2,513,739
Prin. Invest.: D R DOWNING
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 415 **UNIV OF KANSAS**
 EPSCOR PREPARATION PROGRAM
 06/24/1999 - 03/01/2002 FY03: \$0 Total: \$450,000
Prin. Invest.: D DOWNING
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 600 **UNIV OF KANSAS**
 KANSAS NASA EPSCOR PROGRAM: EXPERIMENTAL PROGRAM TO STIMU-
 LATE COMPETITIVE RESEARCH
 12/17/2001 - 11/30/2004 FY03: \$225,689 Total: \$542,861
Prin. Invest.: D R DOWNING
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 3 52361 **UNIV OF KANSAS**
 NASA GRADUATE STUDENT RESEARCHERS PROGRAM NASA GRADUATE
 STUDENT RESEARCHERS PROGRAM
 08/18/1999 - 08/14/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: R TAGHAVI
Tech. Officer: GRC/M MEYER
CASE Category: 41 – AERONAUTICAL ENGR

NGT 4 52439 **UNIV OF KANSAS**
 SPACE STRUCTURES FOR LOW-STRESS ENVIRONMENTS
 07/01/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: B S BENJAMIN
Tech. Officer: DFRK/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 30404 **UNIV OF KANSAS**
 DETERMINATION OF THERMAL RESPONSE PATTERNS FROM LAND SUR-
 FACES & THEIR RELATIONSHIP WITH CLIMATIC
 08/14/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: S EGBERT
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30449 **UNIV OF KANSAS**
 DEVELOPMENT OF A MONOSTATIC/BISTATIC SYNTHETIC APE RTURE RA-
 DAR SYSTEM FORTWO DIMENSAIONAL MAPPING OF
 08/23/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: P GOGINENI
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30508 **UNIV OF KANSAS**
 MODEL BASED DATA INVERSION TO ESTIMATE ACCUMULATION RATE OF
 POLAR ICE SHEETS V. RAMASAMI
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P GOGINENI
Tech. Officer: GSFC/M WEI
CASE Category: 45 – ELECTRICAL ENGR

NGT 5 40121 **UNIV OF KANSAS**
 KANSAS SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 03/20/2001 - 03/31/2005 FY03: \$297,250 Total: \$821,250
Prin. Invest.: D R DOWNING
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

KENTUCKY

NASA'S UNIVERSITY PROGRAM

NGT 5 50421 **UNIV OF KANSAS**
 DEVELOPMENT OF A NEAR REAL-TIME MAPPING & MONITORING PROTOCOL FOR THE U.S. GREAT PLAINS AGRO-ECOSYSTEM
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: S EGBERT
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPLINARY, OTHER

NAG 2 1491 **UNIV OF KANSAS MEDICAL CENTER**
 LONG-TERM SIMULATED MICROGRAVITY INHIBITS SPERMATOGENESIS IN ADULT MALE RATS
 07/11/2001 - 06/30/2004 FY03: \$217,235 Total: \$532,145
Prin. Invest.: J S TASH
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIRONMENTAL)

NAG 5 11038 **UNIV OF KANSAS MEDICAL CENTER**
 STUDIES IN PLANETARY AERONOMY
 06/14/2001 - 08/31/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: T E CRAVENS
Tech. Officer: GSFC/D J BOGAN
CASE Category: 11 – ASTRONOMY

NAG 2 1649 **WICHITA STATE UNIV**
 ANALYSIS OF AEROSOL SIZE DISTRIBUTION MEASUREMENTS ACQUIRED IN THE UPPER TROPOSPHERE AND LOWER STRATOSPHERE
 09/23/2003 - 06/30/2004 FY03: \$183,760 Total: \$183,760
Prin. Invest.: A S MASUD
Tech. Officer: LARC/E B DEAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2137 **WICHITA STATE UNIV**
 PILOT SIMULATOR TRAINING FOR AIRCRAFT ICING PILOT SIMULATOR TRAINING FOR AIRCRAFT ICING
 03/06/1998 - 08/31/2002 FY03: \$0 Total: \$1,014,319
Prin. Invest.: D ELLIS, M PAODAKIS
Tech. Officer: GRC/T H BOND
CASE Category: 41 – AERONAUTICAL ENGINEERING

NAG 3 2324 **WICHITA STATE UNIV**
 WATER DROPLET IMPINGEMENT PROGRAM - PHASE II WATER DROPLET IMPINGEMENT PROGRAM - PHASE II
 02/01/2000 - 11/30/2003 FY03: \$45,000 Total: \$331,434
Prin. Invest.: D PAPANAKIS
Tech. Officer: GRC/C BIDWELL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2838 **WICHITA STATE UNIV**
 WATER DROPLET IMPINGEMENT ON SIMULATED GLAZE, MIXED AND RIME ICE ACCRETIONS
 01/16/2003 - 11/30/2004 FY03: \$80,022 Total: \$80,022
Prin. Invest.: M PAPANAKIS
Tech. Officer: GRC/C BIDWELL
CASE Category: 41 – AERONAUTICAL ENGINEERING

NAG 5 3435 **WICHITA STATE UNIV**
 SPECTROSCOPIC PROPERTIES OF SUBSTELLAR OBJECTS
 10/01/1996 - 09/30/2004 FY03: \$0 Total: \$386,400
Prin. Invest.: D ALEXANDER
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAS 1 03056 **WICHITA STATE UNIV**
 HIGH TEMPERATURE ADHESIVES FOR APPLICATION TO AEROCAPTURE
 04/11/2003 - 12/31/2003 FY03: \$65,000 Total: \$65,000
Prin. Invest.: C YANG
Tech. Officer: LARC/T J COLLINS, LARC/S S SMELZER
CASE Category: 46 – MECHANICAL ENGINEERING

NCC 3 624 **WICHITA STATE UNIV**
 TAILPLANE ICING PROGRAM - PHASE II TAILPLANE ICING PROGRAM - PHASE II
 06/08/1998 - 05/31/2002 FY03: \$0 Total: \$464,712
Prin. Invest.: M PAPANAKIS, D ELLIS
Tech. Officer: GRC/T P RATVASKY
CASE Category: 41 – AERONAUTICAL ENGINEERING

KENTUCKY

NAG 8 1375 **EASTERN KENTUCKY UNIV**
 METASTABLE SOLUTION STRUCTURE AND OPTIMIZATION STRATEGIES IN PROTEIN CRYSTAL GROWTH
 06/18/1997 - 09/30/2005 FY03: \$86,000 Total: \$617,479
Prin. Invest.: L WILSON
Tech. Officer: MSFC/B GUYNES, MSFC/J MAYO
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 5 12319 **MOREHEAD STATE UNIV**
 DEVELOPMENT OF A HYBRID 18-METER ANTENNA SYSTEM FOR RESEARCH IN RADIO ASTRONOMY AND SATELLITE TELESCOPY
 07/17/2002 - 07/14/2003 FY03: \$0 Total: \$500,000
Prin. Invest.: B K MALPHRUS
Tech. Officer: GSFC/V OXENHAM
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 13585 **MOREHEAD STATE UNIV**
 DEVELOPMENT OF THE MOREHEAD STATE UNIV SPACE TRACKING ANTENNA AND RADIO TELESCOPE (M-STAR)
 08/26/2003 - 08/31/2004 FY03: \$447,000 Total: \$447,000
Prin. Invest.: B MALPHRUS
Tech. Officer: GSFC/V L OXENHAM
CASE Category: 99 – MULTI INTERDISCIPLINARY, OTHER

NAG 1 01036 **UNIV OF KENTUCKY**
 DEVELOPMENT OF MAGNETOELASTIC & MAGNETOACOUSTIC REMOTE SENSING ENVIRONMENTAL SENSORS
 06/05/2001 - 06/30/2004 FY03: \$82,800 Total: \$395,472
Prin. Invest.: V SINGH, E DICKEY, C A GRIMES
Tech. Officer: LARC/C H ROLLINS
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1363 **UNIV OF KENTUCKY**
 BIOMIMETIC DETECTION SCHEMES ON MICROCENTRIFUGE PLATFORMS (LABCD)
 07/27/1999 - 07/14/2003 FY03: \$0 Total: \$840,354
Prin. Invest.: S DAUNERT
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIRONMENTAL)

NAG 3 2099 **UNIV OF KENTUCKY**
 LARGE EDDY SIMULATION OF FLOWS IN TURBINE CASCADES USING CONSERVATIVE UPWIND-BIASED 5TH ORDER NUMERICAL SCHEMES
 12/23/1997 - 09/30/2003 FY03: \$0 Total: \$293,707
Prin. Invest.: P G HANG
Tech. Officer: GRC/D E ASHPIS
CASE Category: 41 – AERONAUTICAL ENGINEERING

NAG 3 2567 **UNIV OF KENTUCKY**
 MAGNETICALLY ASSISTED COMBUSTION EXPERIMENT (MACE)
 03/16/2001 - 12/31/2004 FY03: \$10,000 Total: \$29,000
Prin. Invest.: K SAITO
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2613 **UNIV OF KENTUCKY**
 AN EXPERIMENTAL AND COMPUTATIONAL INVESTIGATION OF OSCILLATING AIRFOIL UNSTEADY AERODYNAMICS AT LAR
 06/06/2001 - 05/31/2005 FY03: \$100,000 Total: \$260,216
Prin. Invest.: V CAPECE
Tech. Officer: GRC/D MIN
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2695 **UNIV OF KENTUCKY**
 UNSTEADY AERODYNAMIC RESPONSE OF A LINEAR CASCADE OF AIRFOILS IN SEPARATED FLOW
 01/18/2002 - 12/31/2003 FY03: \$70,645 Total: \$104,722
Prin. Invest.: D CAPICE
Tech. Officer: GRC/E R MCFARLAND
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 4235 **UNIV OF KENTUCKY**
 THEORETICAL STUDIES OF INFRARED EMISSION FROM STAR
 03/24/1997 - 09/30/2001 FY03: \$0 Total: \$253,900
Prin. Invest.: D A VERNER
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8212 **UNIV OF KENTUCKY**
 FUNDAMENTAL PROBLEMS IN ASTROPHYSICAL PLASMAS (LTS A98)
 02/26/1999 - 02/28/2004 FY03: \$87,478 Total: \$405,313
Prin. Invest.: G J FERLAND
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 10518 **UNIV OF KENTUCKY**
 DUST EVOLUTION IN THE EARLY UNIVERSE AND GALACTIC SYSTEMS: OBSERVATIONAL CONSEQUENCES & COSMOLOGICAL
 03/07/2001 - 03/14/2003 FY03: \$0 Total: \$168,387
Prin. Invest.: M ELITZUR
Tech. Officer: GSFC/E DWEK
CASE Category: 11 – ASTRONOMY

NAG 5 10823 **UNIV OF KENTUCKY**
 CENTRAL REGIONS IN DISK GALAXIES (ATP 2000)
 05/01/2001 - 05/14/2004 FY03: \$87,265 Total: \$225,434
Prin. Invest.: I SHLOSMAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11732 **UNIV OF KENTUCKY**
 ROBUST REQUIREMENTS TRACING VIA INTERNET SEARCH TECHNOLOGY
 02/14/2002 - 02/28/2003 FY03: \$0 Total: \$46,000
Prin. Invest.: J HAYES
Tech. Officer: GSFC/K MCGILL
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12020 **UNIV OF KENTUCKY**
 THE HYDRODYNAMICS OF PHOTOIONIZED FLOWS: PROBING CONDITIONS IN STARBUST GALAXIES AND STAR-FORMING
 04/17/2002 - 04/14/2005 FY03: \$65,736 Total: \$144,841
Prin. Invest.: G J FERLAND
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12868 **UNIV OF KENTUCKY**
 ROBUST REQUIREMENTS TRACING VIA INTERNET SEARCH TECHNOLOGY: IMPROVING AN IV&V TECHNIQUE: PHASE
 02/12/2003 - 02/14/2004 FY03: \$84,600 Total: \$84,600
Prin. Invest.: J HAYES
Tech. Officer: GSFC/S FERGUSON
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 13030 **UNIV OF KENTUCKY**
 CARBON ISOTOPES IN PLANETARY NEBULAE AND H II REGIONS
 03/11/2003 - 03/14/2004 FY03: \$51,100 Total: \$51,100
Prin. Invest.: G FERLAND
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13199 **UNIV OF KENTUCKY**
 DUST EVOLUTION IN THE EARLY UNIVERSE AND GALACTIC SYSTEMS: OBSERVATIONAL CONSEQUENCES & COSMOLOGICAL
 04/01/2003 - 05/31/2006 FY03: \$98,280 Total: \$98,280
Prin. Invest.: M ELITZUR
Tech. Officer: GSFC/E DWEK
CASE Category: 11 – ASTRONOMY

NCC 1 385 **UNIV OF KENTUCKY**
 FIGURE CONTROL OF LIGHTWEIGHT OPTICAL STRUCTURES (NASA HQS COMPETITION)
 03/15/2000 - 12/31/2003 FY03: \$45,882 Total: \$300,000
Prin. Invest.: J A MAIN
Tech. Officer: LARC/R S PAPPAS
CASE Category: 46 – MECHANICAL ENGR

NCC 2 5486 **UNIV OF KENTUCKY**
 A DEVICE APPLICATIONS OF CARBON NANOTUBES A SIMULATIONS APPROACH
 03/12/2002 - 03/14/2004 FY03: \$0 Total: \$45,000
Prin. Invest.: M MENON
Tech. Officer: ARC/H PARTRIDGE, ARC/M MEYYAPEAN
CASE Category: 13 – PHYSICS

NCC 2 5491 **UNIV OF KENTUCKY**
 SIMULATIONS OF SIGNAL TRANSMISSIONS AND SWITCHING IN NANOTUBE NETWORKS
 05/21/2002 - 12/31/2002 FY03: \$0 Total: \$23,366
Prin. Invest.: M MENON
Tech. Officer: ARC/B BIEGEL, ARC/T R GOVINDAN
CASE Category: 13 – PHYSICS

NCC 2 5541 **UNIV OF KENTUCKY**
 STRUCTURE, STABILITY AND SIGNAL PROCESSING IN BRANCHED CARBON NANOTUBE STRUCTURES
 08/11/2003 - 07/31/2004 FY03: \$19,800 Total: \$19,800
Prin. Invest.: M MENON
Tech. Officer: ARC/B A BIEGEL, ARC/T R GOVINDAN
CASE Category: 13 – PHYSICS

KENTUCKY

NASA'S UNIVERSITY PROGRAM

NCC 3 590 **UNIV OF KENTUCKY**
 TURBULENCE & TRANSITION MODELING OF LOW PRESSURE TURBINE FLOWS
 12/17/1997 - 12/31/2002 FY03: \$0 Total: \$525,444
Prin. Invest.: G HUANG
Tech. Officer: GRC/D E ASHPIS
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 940 **UNIV OF KENTUCKY**
 MODELING, VALIDATION AND IMPLEMENTATION OF TURBULENCE MODELS FOR 21ST CENTURY AIRCRAFT
 02/26/2002 - 12/31/2004 FY03: \$165,000 Total: \$319,570
Prin. Invest.: D HUANG
Tech. Officer: GRC/D ASHIPS
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1032 **UNIV OF KENTUCKY**
 HYBRID STRUCTURAL CONCEPTS AND FEA TOOL DEVELOPMENT FOR ADVANCED TURBINE ENGINES
 02/06/2003 - 02/05/2004 FY03: \$80,000 Total: \$80,000
Prin. Invest.: H S TZOU
Tech. Officer: GRC/S M ARNOLD
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1040 **UNIV OF KENTUCKY**
 TRANSITION AND TURBULENCE MODELING FOR UNSTEADY WAKE/BLADE INTERACTIONS
 02/13/2003 - 12/31/2003 FY03: \$100,000 Total: \$100,000
Prin. Invest.: G HUANG
Tech. Officer: GRC/D E ASHPIS
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 01006 **UNIV OF KENTUCKY**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/05/2001 - 06/30/2004 FY03: \$9,999 Total: \$46,000
Prin. Invest.: S W SMETH
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1647 **UNIV OF LOUISVILLE**
 HOST RESPONSES TO SIMULATED SPACE TRAVEL STRESSES
 09/18/2003 - 09/30/2004 FY03: \$1,341,225 Total: \$1,341,225
Prin. Invest.: E WANG
Tech. Officer: ARC/J W HINES, ARC/P P FUNG
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 11040 **UNIV OF LOUISVILLE**
 GENERAL CIRCULATION OF PLANETARY ATMOSPHERES
 06/13/2001 - 06/14/2004 FY03: \$0 Total: \$167,000
Prin. Invest.: T DOWLING
Tech. Officer: GSFC/D J BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 12874 **UNIV OF LOUISVILLE**
 SHARED FUNCTIONAL GENOMICS BETWEEN SPACE FLIGHT & AGING
 02/03/2003 - 01/31/2004 FY03: \$1,450,000 Total: \$1,450,000
Prin. Invest.: E WANG
Tech. Officer: GSFC/L P CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13715 **UNIV OF LOUISVILLE**
 QUASI-MOLECULAR SATELLITES OF LYMAN LINES IN ZZ CETIS
 09/25/2003 - 09/30/2004 FY03: \$5,100 Total: \$5,100
Prin. Invest.: J F KIEKOPF
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 13 – PHYSICS

NCC 2 5373 **UNIV OF LOUISVILLE**
 MICROARRAY ANALYSIS OF MICROGRAVITY-DEPENDENT GENE EXPRESSIONS IN NORMAL HUMAN FIBROBLASTS
 03/30/2000 - 08/14/2003 FY03: \$0 Total: \$185,250
Prin. Invest.: E WANG
Tech. Officer: ARC/J W HINES, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5374 **UNIV OF LOUISVILLE**
 CLONING AND FUNCTIONAL CHARACTERIZATION OF NOVEL GENES WHOSE EXPRESSIONS ARE MICROGRAVITY-DEPENDENT
 03/30/2000 - 08/14/2003 FY03: \$10,374 Total: \$195,624
Prin. Invest.: E WANG
Tech. Officer: ARC/J W HINES, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 8762 **WESTERN KENTUCKY UNIV**
 STARBASE NETWORK
 08/27/1999 - 09/14/2004 FY03: \$0 Total: \$1,915,000
Prin. Invest.: C H MCGRUDER, 111
Tech. Officer: GSFC/JD ROSENDHAL
CASE Category: 11 – ASTRONOMY

NAG 5 13716 **WESTERN KENTUCKY UNIV**
 SPECTACULAR WIND-COLLISION EFFECTS IN THE LMC BINARIES
 09/24/2003 - 09/30/2004 FY03: \$21,900 Total: \$21,900
Prin. Invest.: S MARCHENKO
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 13 – PHYSICS

NCC 5 222 **WESTERN KENTUCKY UNIV**
 TO SUPPORT THE KENTUCKY NASA EXPERIMENTAL PROGRAM COMPETITIVE RESEARCH
 08/11/1997 - 06/30/2002 FY03: \$0 Total: \$1,800,000
Prin. Invest.: R HACKNEY
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 396 **WESTERN KENTUCKY UNIV**
 NASA EPSCOR: PREPARATORY GRANT PROPOSAL
 05/13/1999 - 05/31/2002 FY03: \$0 Total: \$450,000
Prin. Invest.: R HACKNEY
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 571 **WESTERN KENTUCKY UNIV**
 KENTUCKY NASA EPSCOR PROGRAM
 07/16/2001 - 07/31/2004 FY03: \$746,330 Total: \$2,146,330
Prin. Invest.: R HACKNEY
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40105 **WESTERN KENTUCKY UNIV**
 KENTUCKY SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 03/06/2001 - 02/28/2005 FY03: \$362,000 Total: \$880,900
Prin. Invest.: R HACKNEY
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

LOUISIANA

NAG 2 1460 **LOUISIANA STATE UNIV - BATON ROUGE**
 DEVELOPMENT OF A PROTOCOL FOR STERILING MINERAL SAMPLES
 RETURNED TO EARTH FROM MARS USING GAMMA RAY
 03/08/2001 - 01/31/2004 FY03: \$61,819 Total: \$231,799
Prin. Invest.: J R BATTISTA
Tech. Officer: ARC/M FONDA, ARC/D DIVINCENZI
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1511 **LOUISIANA STATE UNIV - BATON ROUGE**
 THE EFFECTS OF MICROGRAVITY ON PROTEIN-LIGAND INTERACTIONS
 07/23/2001 - 07/31/2004 FY03: \$154,282 Total: \$395,704
Prin. Invest.: V J LICATA
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2361 **LOUISIANA STATE UNIV - BATON ROUGE**
 THEORETICAL AND EXPERIMENTAL INVESTIGATION OF THE STABILITY OF
 AN EVAPORATING CONSTRAINED VAPOR BUBBLE
 04/03/2000 - 11/30/2003 FY03: \$46,000 Total: \$160,900
Prin. Invest.: H WONG
Tech. Officer: GRC/J SKARDA
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 5208 **LOUISIANA STATE UNIV - BATON ROUGE**
 ULTRA-LONG DURATION MISSION CONCEPT FOR PROPOSAL FOR A
 MINUTE-OF-ARC RESOLUTION GAMMA-RAY EXPERIMENT
 09/24/1998 - 11/30/2002 FY03: \$0 Total: \$210,000
Prin. Invest.: M CHERRY
Tech. Officer: WFF/B A MERRITT
CASE Category: 19 – PHYSICALSCIENCE, OTHER

NAG 5 5306 **LOUISIANA STATE UNIV - BATON ROUGE**
 ADVANCED THIN IONIZATION CALORIMETER BALLOON EXPERIMENT
 01/09/2001 - 11/30/2003 FY03: \$354,873 Total: \$1,149,873
Prin. Invest.: J P WEFEL
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5307 **LOUISIANA STATE UNIV - BATON ROUGE**
 INITIAL FUNDING FOR THE ABOVE REFERENCED GRANT IN THE AMOUNT
 OF 55K PI: FAZELY/LSU; GRANT TITLE:
 06/05/2001 - 11/30/2003 FY03: \$55,000 Total: \$165,000
Prin. Invest.: D FAZELY
Tech. Officer: WFF/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5323 **LOUISIANA STATE UNIV - BATON ROUGE**
 A WIDE-FIELD HIGH-RESOLUTION HARD X-RAY/GAMMA-RAY IMAGING
 TELESCOPE FOR ULTRA LONG BALLOON MISSION
 03/21/2001 - 11/30/2003 FY03: \$255,000 Total: \$557,500
Prin. Invest.: M L CHERRY
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5359 **LOUISIANA STATE UNIV - BATON ROUGE**
 CONTINUED DEVELOPMENT OF SCINTILLATING FIBER DETECTORS FOR
 GAMMA-RAY ASTRONOMY.
 07/15/2002 - 04/30/2003 FY03: \$0 Total: \$6,000
Prin. Invest.: M CHERRY
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 7933 **LOUISIANA STATE UNIV - BATON ROUGE**
 EXTRAGALACTIC INTERSTELLAR DUST ____ (LTSA - NEW)
 12/14/1998 - 12/31/2003 FY03: \$65,034 Total: \$319,574
Prin. Invest.: G C CLAYTON
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8497 **LOUISIANA STATE UNIV - BATON ROUGE**
 NUMERICAL HYDRODYNAMICS OF MASS-TRANSFERRING BINARIES (ATP -
 98)
 05/18/1999 - 10/31/2003 FY03: \$0 Total: \$176,520
Prin. Invest.: J FRANK
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9203 **LOUISIANA STATE UNIV - BATON ROUGE**
 MOVING BEYOND THE STANDARD PARADIGM/THE IMPORTANCE OF INTER-
 STELLAR DUST FROM THE MILKY WAY TO HIGH REDSHIFT
 03/16/2000 - 03/14/2004 FY03: \$0 Total: \$147,510
Prin. Invest.: G CLAYTON
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9245 **LOUISIANA STATE UNIV - BATON ROUGE**
 WORLD DELTAS: A BASELINE AND CHANGES.
 03/14/2000 - 12/31/2003 FY03: \$0 Total: \$297,898
Prin. Invest.: O HUH
Tech. Officer: GSFC/H FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9709 **LOUISIANA STATE UNIV - BATON ROUGE**
 USING IR EMISSION TO CONSTRAIN THE ROLE OF DUST IN GALAXIES
 07/25/2000 - 06/30/2004 FY03: \$0 Total: \$148,540
Prin. Invest.: G C CLAYTON
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10185 **LOUISIANA STATE UNIV - BATON ROUGE**
 FAR-ULTRAVIOLET INTERSTELLAR EXTINCTION IN THE LARGE MAGEL-
 LANIC CLOUD - FUSE-2000
 01/25/2001 - 01/31/2004 FY03: \$0 Total: \$73,200
Prin. Invest.: G C CLAYTON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13033 **LOUISIANA STATE UNIV - BATON ROUGE**
 FUV EXTINCTION: UNIQUE INSIGHTS INTO THE NATURE & ROLE OF SMALL
 DUST GRAINS
 03/13/2003 - 03/14/2006 FY03: \$59,000 Total: \$59,000
Prin. Invest.: G CLAYTON
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13036 **LOUISIANA STATE UNIV - BATON ROUGE**
 OBSERVATIONAL SIGNATURES OF CURRENT SHEET STRUCTURES USING
 NONLINEAR DYNAMICS MODELING & GEOTAIL
 03/17/2003 - 05/31/2006 FY03: \$74,928 Total: \$74,928
Prin. Invest.: D HOLLAND
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

LOUISIANA

NASA'S UNIVERSITY PROGRAM

NAG 5 13430 **LOUISIANA STATE UNIV - BATON ROUGE**
 NUMERICAL MODELLING OF GRAVITATIONAL WAVE SOURCES FOR THE
 LISA MISSION
 04/24/2003 - 04/30/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: J PULLIN
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13533 **LOUISIANA STATE UNIV - BATON ROUGE**
 COLLABORATIVE: ROTATION PERIODS AND OPPOSITION SURGES OF
 SMALL ICY BODIES IN THE OUTER SOLAR
 05/13/2003 - 04/14/2006 FY03: \$40,000 Total: \$40,000
Prin. Invest.: B SCHAEFER
Tech. Officer: GSFC/L JOHNSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1731 **LOUISIANA STATE UNIV - BATON ROUGE**
 ADVANCED LIGHT WEIGHT MAGNET PROGRAM
 07/25/2000 - 10/31/2003 FY03: \$0 Total: \$114,256
Prin. Invest.: R G GOODRICH
Tech. Officer: MSFC/T ROBERTSON
CASE Category: 13 – PHYSICS

NAS 8 01042 **LOUISIANA STATE UNIV - BATON ROUGE**
 MECHANICS OF GRANULAR MATERIAL MGM III
 03/23/2001 - 10/31/2004 FY03: \$88,464 Total: \$290,000
Prin. Invest.: K ALSHIBLI
Tech. Officer: MSFC/B GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 5440 **LOUISIANA STATE UNIV - BATON ROUGE**
 MULTISCALE SIMULATIONS OF PROTEIN NANOTUBES ON A G RID
 07/02/2001 - 08/31/2003 FY03: \$45,000 Total: \$190,000
Prin. Invest.: P VASHISTA, R K KALIA, ANAKANO
Tech. Officer: ARC/M MEYYAPPAN, ARC/H PATRIDGE
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5469 **LOUISIANA STATE UNIV - BATON ROUGE**
 CHANGES IN MICROBIAL DIVERSITY & THE OCCURANCE OF IONIZING
 RADIATION RESISTANT ORGANISMS ACROSS MOIST
 10/15/2001 - 09/14/2003 FY03: \$0 Total: \$67,763
Prin. Invest.: F A RAINEY
Tech. Officer: ARC/C MCKAY, ARC/B SMITH
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 5484 **LOUISIANA STATE UNIV - BATON ROUGE**
 SCALABLE ALGORITHMS ON THE INFORMATION POWER GRID
 03/06/2002 - 05/31/2004 FY03: \$80,000 Total: \$175,000
Prin. Invest.: A NAKANO
Tech. Officer: ARC/S SAINI, ARC/A GRADY
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5528 **LOUISIANA STATE UNIV - BATON ROUGE**
 STUDIES ON THE MICROBIAL COMMUNITIES ASSOCIATED WITH EXTREME
 ENVIRONMENTS THAT ARE CONSIDERED TO RE
 02/10/2003 - 01/31/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: F A RAINEY
Tech. Officer: ARC/C MACKAY, ARC/B F SMITH
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NCC 5 167 **LOUISIANA STATE UNIV - BATON ROUGE**
 NASA EPSCOR PROGRAM
 11/02/1996 - 10/31/2001 FY03: -\$43,792 Total: \$2,256,208
Prin. Invest.: J P WEFEL
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 393 **LOUISIANA STATE UNIV - BATON ROUGE**
 NASA EPSCOR PREPARATION PROGRAM
 05/13/1999 - 08/14/2002 FY03: -\$7,400 Total: \$442,600
Prin. Invest.: J WEFEL
Tech. Officer: HQ/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC13 02003 **LOUISIANA STATE UNIV - BATON ROUGE**
 ADAPTING AND VALIDATING PRECISION TECHNOLOGIES FOR COTTON
 PRODUCTION IN THE MID-SOUTHERN U S
 02/28/2002 - 02/27/2006 FY03: \$294,618 Total: \$623,827
Prin. Invest.: B R LEONARD
Tech. Officer: SSC/R MCKELLIP
CASE Category: 55 – AGRICULTURE

NGT 5 40115 **LOUISIANA STATE UNIV - BATON ROUGE**
 LOUISIANA SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 03/06/2001 - 02/28/2005 FY03: \$347,000 Total: \$987,260
Prin. Invest.: J WEFEL
Tech. Officer: HQ/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52919 **LOUISIANA STATE UNIV - BATON ROUGE**
 COMPUTED TOMOGRAPHY: A POTENTIAL TECHNOLOGY TO UNDERSTAND
 FRICTION PROPERTIES OF GRANULAR MATERIA
 05/08/2002 - 06/30/2005 FY03: \$21,000 Total: \$45,000
Prin. Invest.: K ALSHIBLI
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 44 – CIVIL ENGR

NGT13 52743 **LOUISIANA STATE UNIV - BATON ROUGE**
 A TESTING OF REMOTE SENSING METHODS AT THE BROUSSARD MOUNDS
 ITE
 07/12/2000 - 11/30/2002 FY03: -\$15 Total: \$43,985
Prin. Invest.: B S GOODWIN
Tech. Officer: SSC/R TRAVIS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT13 52755 **LOUISIANA STATE UNIV - BATON ROUGE**
 GRADUATE STUDY RESEARCH - IMPROVEMENT OF RANS MODE LS FOR
 ENGINE FLOWS USING DIRECT NUMERICAL SIMULA
 06/24/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: S ACHARYS
Tech. Officer: SSC/R TRAVIS
CASE Category: 46 – MECHANICALENGR

NAG 2 1468 **SOUTHERN UNIV & A&M COLLEGE**
 INTEGRATED APPROACH TO REASONING UNDER MULTIPLE PE RESPEC
 TIVES
 03/28/2001 - 03/14/2004 FY03: \$90,000 Total: \$291,320
Prin. Invest.: C DEBESSONER
Tech. Officer: ARC/R MORRIS, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NAG 4 232 **SOUTHERN UNIV & A&M COLLEGE**
DEVELOPMENT OF COMPUTER AIDED RISK MITIGATION AND CATEGORIZATION PRODUCT
08/20/2002 - 09/30/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: D F MENSAH
Tech. Officer: DFRC/L DAVIS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 7157 **SOUTHERN UNIV & A&M COLLEGE**
DEVELOPMENT OF BALLOON-BORNE X-RAY/GAMMA DETECTORS FOR STUDIES OF HIGH ENERGY ASTROPHYSICAL SOURCE
03/11/1998 - 06/30/2004 FY03: \$0 Total: \$297,660
Prin. Invest.: J STACY
Tech. Officer: GSFC/J TUELLER
CASE Category: 13 – PHYSICS

NAG 5 10253 **SOUTHERN UNIV & A&M COLLEGE**
PARTNERSHIPS IN ASTRONOMY & ASTROPHYSICS EDUCATION & RESEARCH AT SOUTHERN UNIV
01/10/2001 - 01/14/2004 FY03: \$185,000 Total: \$580,000
Prin. Invest.: G STACY
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NAG 8 1627 **SOUTHERN UNIV & A&M COLLEGE**
EDUCATION GRANT "AN INTEGRATED THEORY AND LAB LEARNING EXPERIENCE
09/09/1999 - 09/08/2002 FY03: \$0 Total: \$140,582
Prin. Invest.: L L LAURENCE
Tech. Officer: MSFC/W J LOVE, MSFC/A C BEAM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1633 **SOUTHERN UNIV & A&M COLLEGE**
VIRTUAL REALITY INNOVATIONS IN TRAINING AND SCIENCE, ENGINEERING AND MATHEMATICS EDUCATION.
09/15/1999 - 09/30/2002 FY03: \$0 Total: \$199,354
Prin. Invest.: M C DUNN
Tech. Officer: MSFC/A BEAM, MSFC/W LOVE
CASE Category: 21 – MATHEMATICS

NAG10 322 **SOUTHERN UNIV & A&M COLLEGE**
DEVELOPMENT OF A SMART MATERIAL INTEGRATED SENSOR THERMAL SWITCH FOR CRYOGENIC SYSTEMS
09/04/2002 - 12/30/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: D F MENSAH
Tech. Officer: KSC/B NOTARDONATO
CASE Category: 46 – MECHANICAL ENGR

NAG13 98003 **SOUTHERN UNIV & A&M COLLEGE**
NOISE REMOVAL DECONVULTION AND VIBRATION RELAXATION STUDIES TO ENHANCE PLUME DIAGNOSTIC TECH.
03/11/1998 - 05/14/2002 FY03: -\$70,119 Total: \$229,653
Prin. Invest.: A AMINI
Tech. Officer: SSC/B B ST. CYR
CASE Category: 49 – ENGINEERING, OTHER

NAG13 98013 **SOUTHERN UNIV & A&M COLLEGE**
MATHEMATICS AND SCIENCE ENRICHMENT ACTIVITIES FOR MIDDLE AND HIGH SCHOOL STUDENTS
07/15/1998 - 06/30/2002 FY03: -\$19,555 Total: \$280,445
Prin. Invest.: M SUBBLEFIELD
Tech. Officer: SSC/A JOYCE
CASE Category: 21 – MATHEMATICS

NCC 2 1344 **SOUTHERN UNIV & A&M COLLEGE**
PREDICTIVE CALCULATION AND SIMULATION FOR NANOSEMI-CONDUCTORS AND RELATED HETEROSTRUCTURES FOR AEROS
05/29/2002 - 05/31/2005 FY03: \$53,773 Total: \$107,646
Prin. Invest.: G L ZHAO
Tech. Officer: ARC/B J COLLINS, ARC/A CARDENAS
CASE Category: 22 – COMPUTER SCIENCE

NCC13 00010 **SOUTHERN UNIV & A&M COLLEGE**
PROGRAM TO INCREASE PURSUIT OF EDUCATION AND LEARNING IN ENGINEERING AND SCIENCES (PIPLINES)
09/25/2000 - 09/24/2003 FY03: \$0 Total: \$1,915,800
Prin. Invest.: D BAGAYOKO
Tech. Officer: SSC/R TRAVIS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC13 03001 **SOUTHERN UNIV & A&M COLLEGE**
THE CENTER FOR COASTAL ZONE ASSESSMENT AND REMOTE SENSING
04/25/2003 - 04/25/2008 FY03: \$1,098,507 Total: \$1,098,507
Prin. Invest.: M STUBBLEFIELD
Tech. Officer: SSC/R TRAVIS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 03011 **SOUTHERN UNIV - NEW ORLEANS**
INPUT/OUTPUT DATA MANAGEMENT FOR EARTH SCIENCE HYPERSPECTRAL DATA
05/01/2003 - 02/19/2004 FY03: \$10,000 Total: \$10,000
Prin. Invest.: W ZHANG
Tech. Officer: SSC/R E TRAVIS
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 02070 **TULANE UNIV**
TULANE INST FOR MACROMOLECULAR ENGINEERING AND SCIENCE (TIMES)
03/25/2002 - 09/30/2004 FY03: \$0 Total: \$1,500,000
Prin. Invest.: D C DEKEEKEE, B S MITCHELL
Tech. Officer: LARC/J G SMITH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1378 **TULANE UNIV**
EFFECT OF SIMULATED MICROGRAVITY ON GENE EXPRESSION IN THE ENTERIC PATHOGEN SALMONELLA TYPHIMURIUM
08/19/1999 - 07/31/2004 FY03: \$149,988 Total: \$611,087
Prin. Invest.: C A NICKERSON
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2689 **TULANE UNIV**
LIFE PREDICTION MODEL FOR THERMAL BARRIER COATINGS LIFE PREDICTION MODEL FOR THERMAL BARRIER COATING
01/10/2002 - 08/31/2004 FY03: \$91,594 Total: \$182,939
Prin. Invest.: D A RUBINSTEIN
Tech. Officer: GRC/A M CALOMINO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2734 **TULANE UNIV**
INVESTIGATIONS OF THE INFLUENCE OF AIR-LIQUID INTERFACIAL STRESSES ON PULMONARY EPITHELIAL CELLS
03/14/2002 - 11/30/2005 FY03: \$107,190 Total: \$179,180
Prin. Invest.: D P GAVER
Tech. Officer: GRC/P A PARSONS-WINGERT
CASE Category: 49 – ENGINEERING, OTHER

LOUISIANA

NASA'S UNIVERSITY PROGRAM

NAG 9 1344 **TULANE UNIV**
 GENETICALLY ENGINEERED COLLAGEN II FOR SMART BIOMA TERIALS
 08/22/2001 - 09/30/2004 FY03: \$193,000 Total: \$422,000
Prin. Invest.: T HAMMOND
Tech. Officer: JSC/D RISEN
CASE Category: 56 – MEDICL

NAG 9 1350 **TULANE UNIV**
 NOVEL TISSUE ASSEMBLIES;MODELS FOR ENTERIC PAYTHOGENIS
 08/08/2001 - 09/30/2004 FY03: \$127,076 Total: \$306,370
Prin. Invest.: C A NICKERSON
Tech. Officer: JSC/D RISIN
CASE Category: 56 – MEDICL

NAG 9 1351 **TULANE UNIV**
 SPATIAL ORGANIZATION WITHIN PROSTATE CANCER SPHEROIDS
 08/01/2001 - 09/30/2004 FY03: \$152,000 Total: \$374,000
Prin. Invest.: K C O'CONNOR, S CLEJAN, D C.R. DE KEE
Tech. Officer: JSC/D RIIN
CASE Category: 56 – MEDICL

NCC 2 1362 **TULANE UNIV**
 EFFECT OF SPACEFLIGHT ON MICROBIAL GENE EXPRESSION AND VIRU-
 LANCE
 09/06/2002 - 04/30/2004 FY03: \$291,555 Total: \$311,555
Prin. Invest.: C A NICKERSON
Tech. Officer: ARC/B E GIRTEN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 3 946 **TULANE UNIV**
 TULANE INST FOR MACROMOLECULAR ENGINEERING AN D SCIENCE
 (TIMES)
 03/25/2002 - 09/30/2004 FY03: \$1,782,000 Total: \$2,782,000
Prin. Invest.: D DEKEE
Tech. Officer: GRC/M A MEADOR
CASE Category: 47 – METAL & MATERIALS ENGR

NGT13 52722 **TULANE UNIV**
 DYNAMIC PARTICLE PROCESSES & BIOGEOCHEMICAL MATER- IAL FLUX IN
 RIVER DOMINATED OCEAN MARGINS
 07/28/1999 - 07/31/2002 FY03: -\$2,100 Total: \$63,900
Prin. Invest.: B MCKEE
Tech. Officer: JSC/R TRAVIS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT13 52754 **TULANE UNIV**
 GRADUATE STUDENT RESEARCH - ARCHAEOLOGICAL REMOTE SENSING
 SURVEY OF THE CHUNCHUCMIL ECONOMIC REGION
 06/24/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: W ANDREWS
Tech. Officer: SSC/T TRAVIS
CASE Category: 71 – ANTHROPOLOGY

NAG 2 1423 **UNIV OF LOUISIANA AT LAFAYETTE**
 ANALYSIS OF THE GRAVISENSING SYSTEM IN CHARA
 07/18/2000 - 06/30/2004 FY03: \$62,985 Total: \$324,233
Prin. Invest.: K H HASENSTEIN
Tech. Officer: ARC/R D MACELROY, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1600 **UNIV OF LOUISIANA AT LAFAYETTE**
 RCCS EFFECTS ON FISH ONTOGENY AND MORPHOGENISIS
 11/26/2002 - 11/14/2003 FY03: \$121,611 Total: \$121,611
Prin. Invest.: K COLE
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG10 190 **UNIV OF LOUISIANA AT LAFAYETTE**
 RESPONSE SYSTEM OF PLANTS
 03/25/1996 - 11/30/2003 FY03: \$90,000 Total: \$802,358
Prin. Invest.: K H HASENSTEIN
Tech. Officer: KSC/W M KNOTT
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2447 **UNIV OF NEW ORLEANS**
 GEOPHYSICAL FLOW EXPERIMENT IN A ROTATING SPHERICA L CAPACITOR
 05/30/2000 - 11/30/2003 FY03: \$101,027 Total: \$333,507
Prin. Invest.: J HEGSETH
Tech. Officer: GRC/F P CHIARAMONTEH
CASE Category: 49 – ENGINEERING, OTHER

NCC 8 223 **UNIV OF NEW ORLEANS**
 DEVELOPMENT OF INNOVATIVE ADVANCED COMPOSITE MFG TECHNOLO-
 GIES UTILIZING NCAM/LOUISIANA PARTNERSHIP
 03/19/2001 - 03/18/2006 FY03: \$5,738,225 Total: \$11,227,225
Prin. Invest.: J N CRISP
Tech. Officer: MSFC/J VICKERS, MSFC/M NIEDERMEYER
CASE Category: 49 – ENGINEERING, OTHER

NGT13 52721 **UNIV OF NEW ORLEANS**
 NUMERICAL ANALYSIS OF THERMAL STRATIFICATION AND BEYSERING IN
 LIQUID PROPELLANT STORAGE TANKS
 07/22/1999 - 07/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: K M AKYUZLU
Tech. Officer: SSC/R TRAVIS
CASE Category: 21 – MATHEMATICS

NGT13 52749 **UNIV OF NEW ORLEANS**
 FACTORS AFFECTING THE EARLY LIFE HISTORY OF FISHES IN LAKE
 PONTCHATRAIN, LOUISIANA
 06/08/2001 - 06/30/2004 FY03: \$11,825 Total: \$57,125
Prin. Invest.: J CORBINO
Tech. Officer: SSC/R MILLER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT13 52762 **UNIV OF NEW ORLEANS**
 AN EXPERIMENTAL AND NUMERICAL STUDY OF COMBUSTION STABIL-
 TIES IN ROCKET MOTORS
 09/15/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: K M AKYUZLU
Tech. Officer: SSC/W W ST. CYR
CASE Category: 46 – MECHANICAL ENGR

NAG 1 03063 **XAVIER UNIV - LOUISIANA**
 2003 PRE-SERVICE TEACHERS INST
 05/12/2003 - 05/11/2004 FY03: \$58,494 Total: \$58,494
Prin. Invest.: T C TAYLOR
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 5 13751 **XAVIER UNIV - LOUISIANA**
 SOAR 2 SUMMER BRIDGE PROGRAM
 09/23/2003 - 09/30/2004 FY03: \$75,000 Total: \$75,000
Prin. Invest.: A Z CHATTERS
Tech. Officer: GSFC/C HOLLINGSWORTH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 02036 **XAVIER UNIV - LOUISIANA**
 2002 PRE-SERVICE TEACHER INST (PSTI)
 06/26/2002 - 09/30/2002 FY03: \$0 Total: \$54,758
Prin. Invest.: T C TAYLOR
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 70010 **XAVIER UNIV - LOUISIANA**
 SOAR 2 SUMMER BRIDGE PROGRAM
 06/12/2002 - 05/31/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: A CHATTERS
Tech. Officer: GSFC/C COLLINGSWORTH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 90086 **XAVIER UNIV - LOUISIANA**
 SOAR 2 SUMMER BRIDGE PROGRAM
 05/07/2001 - 04/30/2002 FY03: \$0 Total: \$150,000
Prin. Invest.: A Z CHATTERS
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

MAINE

NAG 1 03027 **UNIV OF MAINE - ORONO**
 STRUCTURAL CONTROL OF CELLULAR SOLIDS
 02/25/2003 - 02/24/2006 FY03: \$120,000 Total: \$120,000
Prin. Invest.: E N LANDIS
Tech. Officer: LARC/G C HORNER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 6604 **UNIV OF MAINE - ORONO**
 PHYTOPLANKTON VARIABILITY IN EASTERN BOUNDARY CURR ENTS:
 CONNECTIONS TO PHYSICAL FORCING
 12/11/1997 - 11/30/2002 FY03: \$30,897 Total: \$529,836
Prin. Invest.: A THOMAS
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8712 **UNIV OF MAINE - ORONO**
 MONITORING THE MESOAMERICAN BIOLOGICAL CORRIDOR
 07/26/1999 - 05/31/2004 FY03: \$108 Total: \$270,276
Prin. Invest.: S A SADER
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9913 **UNIV OF MAINE - ORONO**
 RASCAL-A REMOTE AUTONOMOUS SYSTEM FOR THE CONTROL OF ALTIM-
 ETRY
 09/14/2000 - 09/14/2002 FY03: \$0 Total: \$12,619
Prin. Invest.: G S HAMILTON
Tech. Officer: GSFC/J ZWALLY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9959 **UNIV OF MAINE - ORONO**
 CIS NET: IN SITU AND REMOTE MONITORING OF PRODUCTIVITY AND
 NUTRIENT CYCLES IN PUGET SOUND
 09/12/2000 - 12/31/2002 FY03: \$4,270 Total: \$151,537
Prin. Invest.: M PERRY
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10620 **UNIV OF MAINE - ORONO**
 MULTI-SENSOR & MODELING ANALYSES OF GULF OF MAINE PHYTOPLANK-
 TON VARIABILITY
 03/19/2001 - 03/31/2004 FY03: \$30,519 Total: \$242,901
Prin. Invest.: A THOMAS
Tech. Officer: GSFC/J MARRA
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11132 **UNIV OF MAINE - ORONO**
 ASTTEX VALIDATION MOORING
 07/26/2001 - 07/31/2002 FY03: \$8,288 Total: \$28,288
Prin. Invest.: D A BYRNE
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12385 **UNIV OF MAINE - ORONO**
 PRIMARY PRODUCTION IN THE MIXED LAYER
 07/17/2002 - 06/30/2004 FY03: \$0 Total: \$42,353
Prin. Invest.: E BOSS
Tech. Officer: GSFC/M BEHRENFELD
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12393 **UNIV OF MAINE - ORONO**
 SCATTERING CHARACTERISTICS OF PHYTOPLANKTON TAXONOMIC
 GROUPS AND THEIR EFFECT ON REFLECTANCE
 07/19/2002 - 07/31/2005 FY03: \$0 Total: \$39,675
Prin. Invest.: L KARP-BOSS
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12473 **UNIV OF MAINE - ORONO**
 A ONE YEAR PILOT STUDY FOR THE INCLUSION OF ACTIVE OPTICAL
 SENSORS INTO PALACE FLOATS
 08/20/2002 - 07/31/2003 FY03: \$0 Total: \$15,292
Prin. Invest.: E BOSS
Tech. Officer: GSFC/C TREES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12714 **UNIV OF MAINE - ORONO**
 ANTARCTIC GLACIOLOGY USING HIGH-RESOLUTION ASTER SATELLITE
 IMAGERY
 12/30/2002 - 12/31/2003 FY03: \$50,340 Total: \$50,340
Prin. Invest.: G HAMILTON
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 98008 **UNIV OF MAINE - ORONO**
 FOREST MONITORING AND MULTISENSOR RESEARCH IN MAINE'S INDUS-
 TRIAL FOREST
 04/30/1998 - 04/29/2002 FY03: -\$26,405 Total: \$623,595
Prin. Invest.: S SADER
Tech. Officer: JSC/B GRAHAM
CASE Category: 55 – AGRICULTURE

MARYLAND

NASA'S UNIVERSITY PROGRAM

NGT 5 30353 **UNIV OF MAINE - ORONO**
 THE ROLE OF CLAY MINERALOGY ON SOIL C ACCUMULATION & LOSS
 ALONG A TROPICAL FOREST ELEVATION (CLIMATE
 08/24/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: L M MAYER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30426 **UNIV OF MAINE - ORONO**
 DISTRIBUTION OF SNOW ACCUMULATION AND MASS BALANCE ACROSS
 THE WEST ANTARCTIC ICESHEET/STUDENT
 09/19/2001 - 09/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: G HAMILTON
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT13 52751 **UNIV OF MAINE - ORONO**
 NEURAL NETWORK MODELING OF CHLOROPHYLL-A CONCENTRATION
 FROM REMOTE SENSING DATA
 06/08/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: W SLADE
Tech. Officer: SSC/R MILLER, SSC/R TRAVIS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 03027 **UNIV OF NEW ENGLAND**
 JOINT NASA CENTER FOR MARINE REMOTE SENSING AT THE UNIV OF
 NEW ENGLAND
 09/15/2003 - 09/14/2004 FY03: \$581,000 Total: \$581,000
Prin. Invest.: S I ZEEMAN
Tech. Officer: SSC/C DELCASTILLO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9128 **UNIV OF SOUTHERN MAINE**
 ACCESS EARTH: PROMOTING ACCESSIBILITY TO THE EARTH SYSTEM
 SCIENCES FOR PERSONS WITH DISABILITIES
 03/01/2000 - 02/28/2003 FY03: \$0 Total: \$234,813
Prin. Invest.: S M LOCKE
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

MARYLAND

NAG 2 1572 **BOWIE STATE UNIV**
 BIOMOLECULAR RECOGNITION OF FULLERNESS AND CARBON NANO-
 TUBES
 07/24/2002 - 07/31/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: B BRADEN
Tech. Officer: ARC/A CARDENAS
CASE Category: 43 – CHEMICAL ENGR

NAG 5 6476 **BOWIE STATE UNIV**
 ASSESSING THE IMPACT OF EXPANDING URBAN LAND USE ON AGRICUL-
 TURAL PRODUCTIVITY USING REMOTE S
 12/08/1997 - 09/14/2002 FY03: \$0 Total: \$471,184
Prin. Invest.: W LAWRENCE
Tech. Officer: GSFC/M L IMHOFF
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7669 **BOWIE STATE UNIV**
 SUPPORT FOR DATA ANALYSIS, PRESENTATION, FIELD & M EETING
 TRAVEL NASA/DODLEGACY CENTRAL AMERICA DEPL
 09/28/1998 - 09/30/2001 FY03: \$0 Total: \$163,957
Prin. Invest.: W LAWRENCE
Tech. Officer: GSFC/M L IMHOFF
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8370 **BOWIE STATE UNIV**
 A FAST TRACK PLAN TOWARD TEACHER CERTIFICATION FOR THE PUBLIC
 SCHOOL SYSTEM OF PRINCE GEORGE'S C
 03/12/1999 - 08/31/2002 FY03: \$0 Total: \$600,000
Prin. Invest.: D W CRIM
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8787 **BOWIE STATE UNIV**
 TRAINING UNDERGRADUATES IN SPACE SCIENCE AND SATEL LITE OPERA-
 TION AND TECHNOLOGY
 08/31/1999 - 11/30/2001 FY03: \$0 Total: \$200,000
Prin. Invest.: N WAKIM
Tech. Officer: GSFC/P CROUSE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9458 **BOWIE STATE UNIV**
 A 2000 SUMMER INST IN ENGINEERING & COMPUTER
 04/14/2000 - 10/31/2001 FY03: \$0 Total: \$207,900
Prin. Invest.: D LANGDON
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9843 **BOWIE STATE UNIV**
 PROJECT ACCESS (ACADEMY FOR THE COLLABORATIVE ENHANCEMENT
 OF STUDENT SKILLS)
 08/07/2000 - 03/31/2002 FY03: -\$4,730 Total: \$95,270
Prin. Invest.: V B GUILFORD
Tech. Officer: GSFC/C HOLLINGSWORTH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10034 **BOWIE STATE UNIV**
 CONTINUED SUPPORT OF EOS-IDS URBAN IMPACTS ON GLOB AL PRO-
 DUCTIVITY
 10/10/2000 - 12/14/2002 FY03: \$46,958 Total: \$106,859
Prin. Invest.: W LAWRENCE
Tech. Officer: GSFC/M L IMHOFF
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10697 **BOWIE STATE UNIV**
 TO MANAGE A 2001 SUMMER INST IN ENGINEERING & COMPUTER
 APPLICATIONS PROGRAM
 04/24/2001 - 07/31/2002 FY03: -\$114,373 Total: \$93,427
Prin. Invest.: D LANGDON
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11361 **BOWIE STATE UNIV**
 BOWIE SEEKS TO INTEGRATE THE WIRE MISSION INTO ITS BSOCC
 PROGRAM TO PROVIDE OPPORTUNITIES TO ST
 09/27/2001 - 09/30/2004 FY03: \$77,500 Total: \$171,347
Prin. Invest.: N T WAKIM
Tech. Officer: GSFC/P L CROUSE
CASE Category: 22 – COMPUTER SCIENCE

NASA'S UNIVERSITY PROGRAM

MARYLAND

NAG 5 11450 **BOWIE STATE UNIV**
 "LOCATING HUMAN RISKS TO BIODIVERSITY, A CARBON BA LANCE
 APPROACH"
 12/17/2001 - 12/31/2004 FY03: \$0 Total: \$75,200
Prin. Invest.: W LAWRENCE
Tech. Officer: GSFC/M L IMHOFF
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12165 **BOWIE STATE UNIV**
 A 2002 SUMMER INST IN ENGINEERING AND COMPUTE R APPLICATIONS
 (SIECA)PROGRAM
 05/16/2002 - 08/14/2003 FY03: \$0 Total: \$216,655
Prin. Invest.: D LANGDON
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12237 **BOWIE STATE UNIV**
 PROGRAM DEVELOPMENT IN MICROELECTROMECHANICAL SYSTEMS
 (MEMS)
 05/31/2002 - 11/30/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: J E TAYLOR
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12553 **BOWIE STATE UNIV**
 UTILIZING COLLEGE STUDENT SCIENCE MENTORS TO DEVEL OP RE-
 SEARCH SKILLS OF SECONDARY PUBLIC SCHOOL STU
 09/12/2002 - 09/30/2003 FY03: \$0 Total: \$29,970
Prin. Invest.: P A SINSKY
Tech. Officer: GSFC/J L HARRINGTON
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 5 13363 **BOWIE STATE UNIV**
 A 2003 SUMMER INST IN ENGINEERING & COMPUTER APPLICATIONS
 (SIECA)
 04/18/2003 - 04/30/2004 FY03: \$275,800 Total: \$275,800
Prin. Invest.: J S LANGDON
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13410 **BOWIE STATE UNIV**
 BOWIE STATE'S SCIENCE, MATHEMATICS, ENGINEERING & TECHNOLOGY
 EDUCATION REFORM: A PROGRAM OF THE MI
 05/01/2003 - 09/30/2006 FY03: \$1,100,000 Total: \$1,100,000
Prin. Invest.: E J DAVIS
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13484 **BOWIE STATE UNIV**
 FACULTY SUMMER FELLOWSHIP
 05/02/2003 - 04/30/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: D LANGDON
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 507 **BOWIE STATE UNIV**
 FOLIAR OPTICAL PROPERTY MEASUREMENTS OF BOREAL SPE CIES (A
 CONTINUATION OF THE BOREAL RESEARCH PROGR
 08/07/2000 - 08/14/2003 FY03: \$0 Total: \$23,625
Prin. Invest.: W T LAWRENCE
Tech. Officer: GSFC/E MIDDLETON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 516 **BOWIE STATE UNIV**
 MODEL INSTS FOR EXCELLENCE
 10/05/2000 - 09/30/2003 FY03: \$2,020,000 Total: \$6,520,000
Prin. Invest.: E J DAVIS
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12066 **CAPITOL COLLEGE**
 A PRE-COLLEGE MINORITY ENGINEERING PROGRAM
 04/30/2002 - 04/30/2003 FY03: \$0 Total: \$55,000
Prin. Invest.: H JARRELL
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12463 **CAPITOL COLLEGE**
 CAPITOL COLLEGE SPACE OPERATIONS INST
 08/19/2002 - 08/14/2005 FY03: \$2,605,455 Total: \$3,012,465
Prin. Invest.: P D SMIT
Tech. Officer: GSFC/E CHANG
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 12939 **CAPITOL COLLEGE**
 A PRE-COLLEGE MINORITY ENGINEERING PROGRAM
 03/03/2003 - 02/29/2004 FY03: \$55,000 Total: \$55,000
Prin. Invest.: E E GOTTSMAN
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 400 **CHARLES COUNTY COMM COLLEGE**
 LABORATORY INVESTIGATION OF THE FORMATION, PROPERT IES AND
 METAMORPHISM OF PRE-SOLAR MATERAILS
 05/14/1999 - 05/31/2002 FY03: \$0 Total: \$67,586
Prin. Invest.: G KRAUSE
Tech. Officer: GSFC/J A NUTH
CASE Category: 12 – CHEMISTRY

NAG 5 11846 **COPPIN STATE COLLEGE**
 EDUCATION AND RESEARCH MERIT OFM PROPOSED COPPIN/ GSFC
 ACTIVITIES
 03/27/2002 - 06/30/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: D C WILSON
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2043 **JOHNS HOPKINS UNIV**
 INFERRING ASPECTS OF TRANSPORT AND MIXING IN THE STRATO-
 SPHEREAND TROPOSPHERE FROM CHEMICAL TRACER
 04/01/1998 - 09/30/2001 FY03: -\$12 Total: \$208,010
Prin. Invest.: D W WAUGH
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2194 **JOHNS HOPKINS UNIV**
 DYNAMICAL COUPLING OF THE TROPOSPHERE WITH THE POLAR STRATO-
 SPHERE
 05/14/1999 - 04/30/2002 FY03: \$0 Total: \$124,376
Prin. Invest.: D W WAUGH
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2304 **JOHNS HOPKINS UNIV**
 NONDESTRUCTIVE EVALUATION OF SPACECRAFT & AIRCRAFT WIRING
 06/06/2000 - 12/31/2003 FY03: \$80,000 Total: \$300,000
Prin. Invest.: J M GREEN
Tech. Officer: LARC/W P WINFREE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 1 2329 **JOHNS HOPKINS UNIV**
 COMPREHENSIVE ASSESSMENT OF HEALTH AND THE AIR- CRAFT CABIN
 ENVIRONMENT: PHASE I
 09/26/2000 - 09/30/2003 FY03: \$0 Total: \$458,005
Prin. Invest.: P S LEES
Tech. Officer: LARC/R R ARTCLIFF
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03050 **JOHNS HOPKINS UNIV**
 DEVELOPMENT OF MIRCO-ELECTROMECHANICAL SYSTEMS CLUSTER IN-
 FRASTRUCTURE
 05/12/2003 - 11/11/2003 FY03: \$70,000 Total: \$70,000
Prin. Invest.: M A DARRIN
Tech. Officer: LARC/K D WRIGHT
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 03056 **JOHNS HOPKINS UNIV**
 CHARACTERIZATION OF POLYMERIC AND CERMIC FOAMS AND THEIR
 ADHESION TO METAL STRUCTURES
 05/15/2003 - 09/30/2006 FY03: \$35,000 Total: \$35,000
Prin. Invest.: R E GREEN
Tech. Officer: LARC/W P WINFREE, LARC/D M HEATH
CASE Category: 13 – PHYSICS

NAG 1 03057 **JOHNS HOPKINS UNIV**
 TERAHERTZ SPECTROSCOPY AND SPECTRAL IMAGING OF POROUS MA-
 TERIALS
 05/12/2003 - 02/11/2004 FY03: \$40,000 Total: \$40,000
Prin. Invest.: J B SPICER
Tech. Officer: LARC/W P WINFREE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 2 1476 **JOHNS HOPKINS UNIV**
 KNOWLEDGE RETENTION TOOLS FOR LONG DURATION MISSIO NS
 04/20/2001 - 09/30/2002 FY03: \$0 Total: \$180,000
Prin. Invest.: K J HEERES
Tech. Officer: ARC/H STEWART, ARC/M SHIRLEY
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1477 **JOHNS HOPKINS UNIV**
 MINIME DIAGNOSTICS ENGINE DEVELOPMENT SUPPORT
 04/20/2001 - 10/14/2002 FY03: \$0 Total: \$150,000
Prin. Invest.: K J HEERES
Tech. Officer: ARC/M SHIRLEY, ARC/H STEWART
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1559 **JOHNS HOPKINS UNIV**
 COMPILATION OF MODEL BASED PROGRAMS FOR REACTIVE A UTONO-
 MIOUS CONTROL
 05/09/2002 - 04/30/2003 FY03: \$0 Total: \$72,413
Prin. Invest.: D P WATSON
Tech. Officer: ARC/M SHIRLEY, ARC/R MORRIS
CASE Category: 12 – CHEMISTRY

NAG 3 1815 **JOHNS HOPKINS UNIV**
 EXPERIMENTAL INVESTIGATION; POOL BOILING HEAT TRAN SFER EN-
 HANCEMENT IN THE PRESENCE OF ELECTRIC FIEL
 03/25/1996 - 05/14/2002 FY03: \$0 Total: \$352,889
Prin. Invest.: D HERMAN
Tech. Officer: GRC/H K NAHRA, GRC/B MOTIL
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2118 **JOHNS HOPKINS UNIV**
 PRODUCTION AND REMOVAL OF GAS BUBBLES IN MICROGRAV ITY
 02/26/1998 - 08/16/2002 FY03: \$0 Total: \$220,332
Prin. Invest.: H N OGUZ
Tech. Officer: GRC/H K NAHRA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 3 2333 **JOHNS HOPKINS UNIV**
 ANALYTICAL AND EXPERIMENTAL INVESTIGATIONS OF A HY DROCARBON
 FUELED AIR-AUGMENTED ROCKET ENGINE CYCL
 02/16/2000 - 07/31/2002 FY03: \$0 Total: \$301,612
Prin. Invest.: T RICE
Tech. Officer: GRC/T D SMITH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2362 **JOHNS HOPKINS UNIV**
 ACOUSTIC BUBBLE REMOVAL FROM BOILING SURFACES AND ITS OPTIMI-
 ZATION
 04/03/2000 - 11/30/2003 FY03: \$85,778 Total: \$292,822
Prin. Invest.: A PROSPERETTI
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2460 **JOHNS HOPKINS UNIV**
 DESIGN OF EXHAUST NOZZLES FOR THE RBCC-GTX CONCEPT DESIGN OF
 EXHAUST NOZZLES FOR THE RBCC-GTX CONCEP
 06/09/2000 - 06/30/2003 FY03: \$0 Total: \$203,572
Prin. Invest.: T RICE
Tech. Officer: GRC/T D SMITH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2569 **JOHNS HOPKINS UNIV**
 PULSED DETONATION WAVE ENGINE COMPONENT DESIGN AND ANALYSIS
 STUDY
 03/23/2001 - 09/30/2003 FY03: \$0 Total: \$500,001
Prin. Invest.: P WALTRUP
Tech. Officer: GRC/H D PERKINS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2622 **JOHNS HOPKINS UNIV**
 LOW TEMPERATURE DIFFERENTIAL STIRLING ENGINE
 09/26/2001 - 12/31/2003 FY03: \$93,589 Total: \$170,310
Prin. Invest.: D MEHOKE
Tech. Officer: GRC/J G SCHREIBER
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2690 **JOHNS HOPKINS UNIV**
 MICROSAMPLE CHARACTERIZATION OF COATING FOR GRCOP 84 FOR
 HIGH TEMPERATURE HIGH HEAT FLUX APPLICATION
 01/11/2002 - 09/30/2004 FY03: \$99,817 Total: \$197,689
Prin. Invest.: D J HEMKER
Tech. Officer: GRC/S V RAJ
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2726 **JOHNS HOPKINS UNIV**
 ENHANCEMENT OF POOL BOILING HEAT TRANSFER AND CONT ROL OF
 BUBBLE MOTION IN MICROGRAVITY USING ELECTR
 03/13/2002 - 12/30/2005 FY03: \$130,200 Total: \$249,200
Prin. Invest.: D HERMAN
Tech. Officer: GRC/M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2727 **JOHNS HOPKINS UNIV**
 NOVEL NEMS STIRLING COOLER #AD-22598 NOVEL NEMS STIRLING
 COOLER #AD-22598
 03/07/2002 - 02/24/2004 FY03: \$125,000 Total: \$218,589
Prin. Invest.: A G DARRIN
Tech. Officer: GRC/M MORAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2825 **JOHNS HOPKINS UNIV**
 HIGH POWER ELECTRIC PROPULSION HIGH POWER ELECTRIC PROPUL-
 SION
 01/21/2003 - 02/28/2004 FY03: \$25,239 Total: \$25,239
Prin. Invest.: R L HENDERSON
Tech. Officer: GRC/V K RAWLIN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 3255 **JOHNS HOPKINS UNIV**
 THE STRUCTURE OF ACTIVE GALACTIC NUCLEI
 06/06/1996 - 12/31/2001 FY03: -\$41 Total: \$317,659
Prin. Invest.: G A KRISS
Tech. Officer: GSFC/D WEST
CASE Category: 11 – ASTRONOMY

NAG 5 3485 **JOHNS HOPKINS UNIV**
 DIFFUSE IONIZED GAS IN GALACTIC ENVIRONMENTS
 10/31/1996 - 10/31/2003 FY03: \$0 Total: \$561,400
Prin. Invest.: K R SEMBACH
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 3503 **JOHNS HOPKINS UNIV**
 THE EVOLUTION AND CLUSTERING OF GALAXIES AT Z=1 AN
 11/27/1996 - 11/30/2003 FY03: \$0 Total: \$648,611
Prin. Invest.: A S SZALAY
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 4168 **JOHNS HOPKINS UNIV**
 PLANETARY AERONOMY
 03/15/1997 - 08/31/2002 FY03: \$0 Total: \$426,943
Prin. Invest.: D F STROBEL
Tech. Officer: GSFC/D BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 5047 **JOHNS HOPKINS UNIV**
 WIND-WAVE-CURRENT COUPLED MODEL
 08/22/1995 - 02/14/2004 FY03: \$9,625 Total: \$474,640
Prin. Invest.: O PHILLIPS
Tech. Officer: GSFC/S R LONG, GSFC/N E HUANG
CASE Category: 33 – OCEANOGRAPHY

NAG 5 5301 **JOHNS HOPKINS UNIV**
 GRANT ENTITLED: ALTIMETER SEA-STATE BIAS MODEL STUDY
 07/18/2000 - 07/17/2003 FY03: \$0 Total: \$74,699
Prin. Invest.: D R THOMPSON
Tech. Officer: WFF/D C VANDEMARK, WFF/D W HANCOCK
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 5314 **JOHNS HOPKINS UNIV**
 SUPPORT OF THE INTERNATIONAL WORKSHOP ENTITLED: COUPLING
 COASTAL OCEAN, COASTAL ATMOSPHERE WIND
 03/22/2001 - 12/31/2002 FY03: \$0 Total: \$35,000
Prin. Invest.: E GROSS
Tech. Officer: GSFC/S R LONG, GSFC/N E HUANG
CASE Category: 33 – OCEANOGRAPHY

NAG 5 5315 **JOHNS HOPKINS UNIV**
 ROCKET AND LABORATORY STUDIES IN ASTRONOMY ROCKET AND LABO-
 RATORY STUDIES IN ASTRONOMY
 02/14/2001 - 02/28/2004 FY03: \$420,000 Total: \$1,260,000
Prin. Invest.: P D FELDMAN
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 6113 **JOHNS HOPKINS UNIV**
 PROJECT ULYSSES HI-SCALE DATA ANALYSIS PHASE ACTIV
 07/28/1997 - 03/31/2002 FY03: \$0 Total: \$1,616,000
Prin. Invest.: R E GOLD
Tech. Officer: GSFC/V JONESS
CASE Category: 13 – PHYSICS

NAG 5 6178 **JOHNS HOPKINS UNIV**
 CRITICAL COMPARISON OF SUBSTORM TRIGGER MODELS AGA HE NEAR-
 EARTH TAIL
 07/28/1997 - 05/14/2002 FY03: \$0 Total: \$296,538
Prin. Invest.: D OHTANI
Tech. Officer: GSFC/D EVANS
CASE Category: 13 – PHYSICS

NAG 5 6400 **JOHNS HOPKINS UNIV**
 SPACE OBSERVATIONS OF STARBURST GALAXIES (LTSA)
 10/10/1997 - 09/30/2003 FY03: \$0 Total: \$677,200
Prin. Invest.: T HECKMAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 7080 **JOHNS HOPKINS UNIV**
 PYROTECHNIC ROCK CHIPPER
 03/10/1998 - 07/31/2002 FY03: \$0 Total: \$247,576
Prin. Invest.: A F CHENG
Tech. Officer: GSFC/B CAMPBELL
CASE Category: 11 – ASTRONOMY

NAG 5 7186 **JOHNS HOPKINS UNIV**
 INFRARED INVESTIGATION OF COMETARY VOLATILES
 03/25/1998 - 02/28/2002 FY03: -\$705 Total: \$199,351
Prin. Invest.: H WEAVER
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 7552 **JOHNS HOPKINS UNIV**
 TROPOSPHERIC AND STRATOSPHERIC COMPOSITION RETRIEVALS USING
 THE STELLAR OCCULTATION TECHNIQUE
 06/22/1998 - 08/31/2002 FY03: -\$5,793 Total: \$477,020
Prin. Invest.: J YEE
Tech. Officer: GSFC/J A KAYE
CASE Category: 59 – LIFE SCIENCE, OTHER

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NAG 5 7697 **JOHNS HOPKINS UNIV**
 PROPOSAL TITLED "A PROPOSAL TO INVESTGATE OUTSTAND ING PROBLEMS IN ASTRONOMY BY THE INSTRUMENT DEFIN
 09/17/1998 - 11/30/2003 FY03: \$2,057,293 Total: \$11,010,728
Prin. Invest.: H FORD
Tech. Officer: GSFC/J JELETIC
CASE Category: 11 – ASTRONOMY

NAG 5 8331 **JOHNS HOPKINS UNIV**
 FLARE GENESIS EXPERIMENT
 05/05/1999 - 03/31/2002 FY03: \$0 Total: \$520,789
Prin. Invest.: D M RUST
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 7797 **JOHNS HOPKINS UNIV**
 TURBULENCE IN MAGNETOTAL PLASMA SHEET
 12/15/1998 - 12/31/2002 FY03: \$0 Total: \$272,087
Prin. Invest.: D Y LUI
Tech. Officer: GSFC/D EVANS
CASE Category: 11 – ASTRONOMY

NAG 5 8347 **JOHNS HOPKINS UNIV**
 OPTIMAL COADDITION OF DITHERED IMAGES USING THE KA RHUNEN-LOEVE TRANSFORM
 02/25/1999 - 02/28/2003 FY03: \$0 Total: \$265,600
Prin. Invest.: A S SZALAY
Tech. Officer: GSFC/J BREDEDAMP
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 7921 **JOHNS HOPKINS UNIV**
 SOLAR FILAMENTS AT 1 AU
 12/10/1998 - 09/30/2002 FY03: \$0 Total: \$278,713
Prin. Invest.: D M RUST
Tech. Officer: GSFC/D C LING
CASE Category: 11 – ASTRONOMY

NAG 5 8516 **JOHNS HOPKINS UNIV**
 MINIATURIZED ENERGETIC PARTICLE DETECTOR DEVELOP MENT
 06/14/1999 - 05/31/2003 FY03: \$0 Total: \$456,327
Prin. Invest.: R L MCNUTT
Tech. Officer: GSFC/B BETTS
CASE Category: 11 – ASTRONOMY

NAG 5 8019 **JOHNS HOPKINS UNIV**
 CORONAL MASS EJECTION EVENTS: COMPARATIVE GEOEFFEC TIVENESS FROM SOLAR MINIMUM THROUGH SOLAR MAXIMU
 01/06/1999 - 12/31/2002 FY03: \$0 Total: \$238,636
Prin. Invest.: N J FOX
Tech. Officer: GSFC/M H ACUNA
CASE Category: 13 – PHYSICS

NAG 5 8572 **JOHNS HOPKINS UNIV**
 CLOUD & WATER VAPOR EFFECTS ON CLIMATE SENSITIVITY
 06/02/1999 - 05/31/2002 FY03: \$0 Total: \$539,600
Prin. Invest.: A ARKING
Tech. Officer: GSFC/W LAU
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8062 **JOHNS HOPKINS UNIV**
 ANALYSIS OF 3-D IMAGERY OF POLAR MESOSPHERIC CLOUD S OBSERVED FROM MSX
 01/12/1999 - 01/14/2002 FY03: \$0 Total: \$185,500
Prin. Invest.: D MORRISON
Tech. Officer: GSFC/M MELLOTT
CASE Category: 13 – PHYSICS

NAG 5 8590 **JOHNS HOPKINS UNIV**
 STANDARDIZED SKY PARTITIONING FOR THE NEXT GENERAT ION ASTRONOMY AND SPACE ARCHIVES
 06/03/1999 - 05/31/2003 FY03: \$0 Total: \$287,492
Prin. Invest.: A SZALAY
Tech. Officer: GSFC/P E HUNTER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8149 **JOHNS HOPKINS UNIV**
 DEV. OF MISSION INDEPENDENCE DATA FORMAT FOR PARTI CLE FIELD MEASUREMENT WITH APPLICATIONTO AMPTE/C
 02/05/1999 - 12/31/2002 FY03: \$0 Total: \$356,989
Prin. Invest.: S R NYLUND
Tech. Officer: GSFC/P HUNTER
CASE Category: 11 – ASTRONOMY

NAG 5 8665 **JOHNS HOPKINS UNIV**
 CROSSLINK NAVIGATION AND COMMUNICATION SYSTEM FOR MULTIPLE DISTRIBUTED SPACECRAFT.
 08/17/1999 - 08/31/2002 FY03: \$0 Total: \$474,781
Prin. Invest.: P A STADTER
Tech. Officer: GSFC/G H MUCKLOW
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 8171 **JOHNS HOPKINS UNIV**
 SPATIAL VARIATIONS IN ROCK SPECTRAL PROPERTIES AT THE SAGAN MEMORIAL STATION
 02/22/1999 - 09/30/2003 FY03: \$0 Total: \$116,000
Prin. Invest.: S L MURCHIE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8687 **JOHNS HOPKINS UNIV**
 ADVANCED TECHNIQUES FOR ENERGETIC ION AND NEUTRAL ATOM TOF/IMAGING SENSORS
 07/20/1999 - 07/31/2002 FY03: \$0 Total: \$139,443
Prin. Invest.: D G MITCHELL
Tech. Officer: GSFC/G H MUCKLOW
CASE Category: 11 – ASTRONOMY

NAG 5 8279 **JOHNS HOPKINS UNIV**
 RECONCILING STARBURSTS AND NORMAL STAR FORMATION (ADP98)
 02/25/1999 - 08/14/2003 FY03: \$0 Total: \$48,051
Prin. Invest.: G R MEURER
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8688 **JOHNS HOPKINS UNIV**
 DATA COMPRESSION FOR TIME SERIES AND SPECTRAL DATA
 07/20/1999 - 07/31/2002 FY03: \$0 Total: \$204,374
Prin. Invest.: S HAWKINS, 111
Tech. Officer: GSFC/G H MUCKLOW
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 8862 **JOHNS HOPKINS UNIV**
 HIGH RESOLUTION IMAGING FROM THE STRATOSPHERE: AT MOSPHERIC
 SEEING AND TETHER DYNAMICS
 10/22/1999 - 10/14/2002 FY03: \$0 Total: \$10,000
Prin. Invest.: H FORD
Tech. Officer: GSFC/T GRUNER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 8964 **JOHNS HOPKINS UNIV**
 INVESTIGATION OF MAGNETOSPHERIC WAVEGUIDE MODE USING SATEL-
 LITE & RADAR OBSERVATIONS
 02/23/2000 - 02/29/2004 FY03: \$0 Total: \$205,582
Prin. Invest.: K TAKAHASHI
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8965 **JOHNS HOPKINS UNIV**
 THE HOTTEST STARS IN M31 AND M33 - FUUSE
 01/24/2000 - 01/31/2002 FY03: \$0 Total: \$28,000
Prin. Invest.: L BIANCHI
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9078 **JOHNS HOPKINS UNIV**
 INVESTIGATION OF THE MAGNETIC FIELD LINE STRETCHING AT SUB-
 STORM ONSET
 02/23/2000 - 02/28/2003 FY03: \$0 Total: \$223,762
Prin. Invest.: K LIU
Tech. Officer: GSFC/J SHARBER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9109 **JOHNS HOPKINS UNIV**
 SIMULATING TRANSIENT PROCESSES AT THE MAGNETOPAUSE
 02/23/2000 - 09/30/2003 FY03: \$0 Total: \$229,125
Prin. Invest.: H KU
Tech. Officer: GSFC/J SHARBER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9187 **JOHNS HOPKINS UNIV**
 PREDICTING THE SPECTRA OF GALACTIC BLACK HOLES (ATP 99)
 03/07/2000 - 03/14/2004 FY03: \$0 Total: \$280,157
Prin. Invest.: J H KROLIK
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9219 **JOHNS HOPKINS UNIV**
 HOT MASSIVE STARS IN LOCAL GROUP GALAXIES: A MULTI WAVELENGTH
 SPECTRAL ANALYSIS
 03/13/2000 - 03/14/2004 FY03: \$109,417 Total: \$419,372
Prin. Invest.: L BIANCHI
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9240 **JOHNS HOPKINS UNIV**
 ANALYSIS OF POLAR MESOSPHERIC CLOUDS USING SPECTROGRAPHIC
 IMAGES ON A SATELLITE
 03/13/2000 - 02/28/2004 FY03: \$0 Total: \$226,250
Prin. Invest.: J CARBARY
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9426 **JOHNS HOPKINS UNIV**
 SENSITIVITY OF COUPLED LAND-ATMOSPHERE BOUNDARY LAYER DY-
 NAMICS TO SURFACE HETEROGENEITY USING
 04/11/2000 - 04/30/2004 FY03: \$67,408 Total: \$601,532
Prin. Invest.: M B PARLANGE
Tech. Officer: GSFC/K H BERGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9432 **JOHNS HOPKINS UNIV**
 SPACE PHYSICS DATA MARKUP LANGUAGE
 04/18/2000 - 04/14/2004 FY03: \$0 Total: \$342,100
Prin. Invest.: D MORRISON
Tech. Officer: GSFC/N LAL
CASE Category: 13 – PHYSICS

NAG 5 9456 **JOHNS HOPKINS UNIV**
 ADAPTIVE INSTRUMENT MODULE (AIM)
 04/13/2000 - 01/31/2003 FY03: -\$5,926 Total: \$72,766
Prin. Invest.: R F CONDE
Tech. Officer: GSFC/P LUERS
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 9837 **JOHNS HOPKINS UNIV**
 CONTEMPORANEOUS XMM & HST OBSERVATIONS OF SEYFERT GALAXIES
 11/06/2000 - 11/14/2003 FY03: \$0 Total: \$22,600
Prin. Invest.: M E KAISER
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9872 **JOHNS HOPKINS UNIV**
 A LOW POWER CROSSLINK TRANSCEIVER FOR NANOSAT COMMUNICA-
 TIONS EXPERIMENT
 08/10/2000 - 09/30/2001 FY03: -\$891 Total: \$399,109
Prin. Invest.: P STADTER
Tech. Officer: GSFC/J BRISTOW
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 9878 **JOHNS HOPKINS UNIV**
 ASTROPHYSICAL PROPERTIES OF ACCRETING BLACK HOLES IN NORMAL
 GALAXY NUCLEI (LISA 99)
 08/28/2000 - 08/31/2002 FY03: \$0 Total: \$80,000
Prin. Invest.: E COLBERT
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9903 **JOHNS HOPKINS UNIV**
 ACTIVITIES TO SUPPORT SCIENCE PLANNING AND COORDINATION IN
 ASSOCIATION WITH THE INTERNATIONAL SOLAR
 08/30/2000 - 09/30/2003 FY03: \$0 Total: \$160,919
Prin. Invest.: N J FOX
Tech. Officer: GSFC/R A HOFFMAN
CASE Category: 11 – ASTRONOMY

NAG 5 9910 **JOHNS HOPKINS UNIV**
 THE X-RAY PROPERTIES OF ULTRALUMINOUS GALAXIES: COSMOLOGICAL
 IMPLICATIONS
 09/05/2000 - 09/30/2003 FY03: \$0 Total: \$37,600
Prin. Invest.: T HECKMAN
Tech. Officer: GSFC/R M MUSHOTZKY
CASE Category: 11 – ASTRONOMY

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NAG 5 9948 **JOHNS HOPKINS UNIV**
 STARBURST-DRIVEN OUTFLOWS & THE EVOLUTION OF DWARF GALAXIES
 09/07/2000 - 08/31/2002 FY03: \$0 Total: \$39,200
Prin. Invest.: T HECKMAN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9963 **JOHNS HOPKINS UNIV**
 CHARACTERIZING THE X-RAY SPECTRUM OF THE GALACTIC HALO
 09/22/2000 - 09/30/2004 FY03: \$0 Total: \$39,900
Prin. Invest.: W BLAIR
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9988 **JOHNS HOPKINS UNIV**
 VALIDATION OF MSX/UVISI STELLAR OCCULTATION RETRIE VALS OF
 LOWER STRATOSPHERE/UPPER TROPOSPHERE
 10/04/2000 - 09/30/2004 FY03: \$41,883 Total: \$332,871
Prin. Invest.: J YEE
Tech. Officer: GSFC/A C AIKIN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10060 **JOHNS HOPKINS UNIV**
 SUPERDARN CONTRIBUTIONS TO TIMED/CEDAR COLLABORATIVE STUD-
 IES
 10/23/2000 - 10/31/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: R A GREENWALD
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10084 **JOHNS HOPKINS UNIV**
 FLAT PLASMA SPECTROMETER
 11/07/2000 - 11/14/2002 FY03: \$0 Total: \$167,226
Prin. Invest.: J L CHAMPION
Tech. Officer: GSFC/F HERRERO
CASE Category: 13 – PHYSICS

NAG 5 10176 **JOHNS HOPKINS UNIV**
 THE PHYSICAL PROPERTIES OF THE INTRA-CLUSTER MEDIUM AT Z 1
 12/18/2000 - 12/31/2003 FY03: \$0 Total: \$8,300
Prin. Invest.: H FORD
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10234 **JOHNS HOPKINS UNIV**
 A SELF-HEALING SPACECRAFT ARCHITECTURE FOR LONG DURATION LOW
 POWER MISSION.
 01/30/2001 - 01/31/2004 FY03: \$103,786 Total: \$288,710
Prin. Invest.: B ANDREWS
Tech. Officer: GSFC/P LUERS
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 10242 **JOHNS HOPKINS UNIV**
 GEOTAIL ENERGETIC PARTICLE AND ION COMPOSITION (EPIC) PROGRAM
 01/12/2001 - 12/31/2003 FY03: \$190,000 Total: \$821,731
Prin. Invest.: R MCENTIRE
Tech. Officer: GSFC/M ACUNA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10248 **JOHNS HOPKINS UNIV**
 INVESTIGATION OF SUPERNOVA REMNANT SHOCKS IN THE VELA-PUPPIUS
 REGION
 02/12/2001 - 02/14/2004 FY03: \$0 Total: \$61,900
Prin. Invest.: R SANKRIT
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10261 **JOHNS HOPKINS UNIV**
 CONTINUED PARTICIPATION IN CRYOSAT SCIENCE ADVISORY GROUP
 01/09/2001 - 12/31/2003 FY03: \$0 Total: \$54,478
Prin. Invest.: R RANEY
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10281 **JOHNS HOPKINS UNIV**
 COMPARATIVE MAGNETOSPHERES INVESTIGATION OF PLASMA INJEC-
 TION PHENOMENA
 01/23/2001 - 01/31/2004 FY03: \$0 Total: \$139,175
Prin. Invest.: B MAUK
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10285 **JOHNS HOPKINS UNIV**
 STRUCTURE OF THE MAGNETOPAUSE
 01/23/2001 - 01/31/2004 FY03: -\$72,917 Total: \$69,449
Prin. Invest.: D G SIBECK
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10302 **JOHNS HOPKINS UNIV**
 THE FAR-UV SPECTRA OF POWERFUL STARBURSTS - FUSE- 00
 01/25/2001 - 01/31/2003 FY03: \$0 Total: \$103,210
Prin. Invest.: T M HECKMAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10304 **JOHNS HOPKINS UNIV**
 SEARCH FOR X-RAY SPECTRAL FEATURES IN BL LAC OBJECTS MKN 180
 AND 1ES1517+656
 01/29/2001 - 07/31/2003 FY03: \$0 Total: \$16,500
Prin. Invest.: J H KROLIK
Tech. Officer: GSFC/R MUSHOTSKY
CASE Category: 11 – ASTRONOMY

NAG 5 10355 **JOHNS HOPKINS UNIV**
 SMALL-SCALE INTERSTELLAR STRUCTURE TOWARD THE OPEN CLUSTER
 CHI PERSEI - FUSE 00
 02/13/2001 - 08/31/2002 FY03: -\$10,000 Total: \$0
Prin. Invest.: S D FRIEDMAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10364 **JOHNS HOPKINS UNIV**
 CENTRAL STARS OF PLANETARY NEBULAE IN THE LARGE MAGELLANIC
 CLOUD-FUSE00
 02/05/2001 - 02/14/2003 FY03: \$0 Total: \$65,700
Prin. Invest.: L BIANCHI
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10380 **JOHNS HOPKINS UNIV**
 MOLECULAR HYDROGEN FLUORESCENCE IN IC 63 (FUSE 00)
 02/08/2001 - 02/14/2004 FY03: \$0 Total: \$72,500
Prin. Invest.: R SANKRIT
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10394 **JOHNS HOPKINS UNIV**
 O VI EMISSION FROM THE INTERSTELLAR MEDIUM (FUSE 00)
 02/12/2001 - 02/14/2003 FY03: \$0 Total: \$79,000
Prin. Invest.: R L SHELTON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10397 **JOHNS HOPKINS UNIV**
 "PROGRAMMABLE CIRCUIT INTERCONNECT USING MEMS LIQUID-METAL
 MICROSWITCHES".
 02/12/2001 - 02/14/2004 FY03: \$260,000 Total: \$864,333
Prin. Invest.: R EDWARDS
Tech. Officer: GSFC/P YEP
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10402 **JOHNS HOPKINS UNIV**
 DETECTOR ANALOG INTERFACE APPLICATION SPECIFIC INTEGRATED
 CIRCUIT (ASIC)
 02/27/2001 - 06/14/2003 FY03: \$13,964 Total: \$322,133
Prin. Invest.: D STROHBEHN
Tech. Officer: GSFC/J F SUTTON
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10403 **JOHNS HOPKINS UNIV**
 SYMBIOTIC BINARIES LABORATORIES FOR WIND STUDIES (FUSE 00)
 02/15/2001 - 02/14/2003 FY03: \$0 Total: \$53,000
Prin. Invest.: S R MCCANDLISS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10405 **JOHNS HOPKINS UNIV**
 FUSE SPECTROSCOPY OF HOT POST-AGB STARS IN GLOBULA R CLUS-
 TERS - FUSE
 03/28/2001 - 03/31/2003 FY03: \$0 Total: \$31,540
Prin. Invest.: W V DIXON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10464 **JOHNS HOPKINS UNIV**
 CONCEPT STUDY FOR INFRARED BASED BUS SYSTEM (IRCOM M)
 03/05/2001 - 12/31/2002 FY03: \$0 Total: \$160,000
Prin. Invest.: M G DARRIN
Tech. Officer: GSFC/P J LUERS
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 10475 **JOHNS HOPKINS UNIV**
 ISTP: NONLINEAR DYNAMICS OF THE MAGNETOSPHERE FROM AURORAL
 ACTIVITY
 02/27/2001 - 02/28/2004 FY03: \$99,687 Total: \$286,453
Prin. Invest.: A LUI
Tech. Officer: GSFC/J SPAN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10479 **JOHNS HOPKINS UNIV**
 ISTP: TRANSIENT EVENTS AT THE MAGNETOPAUSE & IN THE IONOSPHERE
 02/27/2001 - 02/28/2003 FY03: -\$61,159 Total: \$82,168
Prin. Invest.: D G SIBECK
Tech. Officer: GSFC/J SPANN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10597 **JOHNS HOPKINS UNIV**
 PROPOSED ACTIVITIES FOR SUPERDARN GROUND-BASED INV ESTIGA-
 TION IN SUPPORT OF ISTP SOLAR MAX AND CLUST
 03/19/2001 - 03/31/2003 FY03: \$0 Total: \$205,735
Prin. Invest.: R GREENWALD
Tech. Officer: GSFC/S CURTIS
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10647 **JOHNS HOPKINS UNIV**
 DIFFUSION & WEAK STELLAR WINDS IN HOT B SUBDWARFS - LTSA-2000
 03/27/2001 - 06/30/2004 FY03: \$0 Total: \$20,500
Prin. Invest.: P CHAYER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10650 **JOHNS HOPKINS UNIV**
 CNO ABUNDANCES IN LMC BN AND BC SUPERGIANTS (FUSE 00)
 04/04/2001 - 04/14/2004 FY03: \$0 Total: \$10,824
Prin. Invest.: A FULLERTON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10693 **JOHNS HOPKINS UNIV**
 LASER/EVOLVED-GAS TIME-OF-FLIGHT MASS SPECTROMETER AND
 SAMPLE HANDLING SYSTEM FOR IN SITU COMPOSITIO
 04/16/2001 - 04/14/2004 FY03: \$163,239 Total: \$467,257
Prin. Invest.: W BRINCKERHOFF
Tech. Officer: GSFC/B BETTS
CASE Category: 11 – ASTRONOMY

NAG 5 10742 **JOHNS HOPKINS UNIV**
 PARALLEL SCANNING FOR THE NVO.
 04/12/2001 - 04/30/2004 FY03: \$110,000 Total: \$315,000
Prin. Invest.: P Z KUNSZT
Tech. Officer: GSFC/N LAL
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 10762 **JOHNS HOPKINS UNIV**
 HIGH-REDSHIFT QUASAR HOSTS AND ENVIRONMENTS (LTSA 2000)
 04/23/2001 - 04/30/2006 FY03: \$116,694 Total: \$270,950
Prin. Invest.: S RIDGWAY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10769 **JOHNS HOPKINS UNIV**
 BLACK HOLES IN ACTIVE GALACTIC NUCLEI (LTSA 2000)
 04/23/2001 - 04/30/2006 FY03: \$134,658 Total: \$358,439
Prin. Invest.: T YAQOOB
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10778 **JOHNS HOPKINS UNIV**
 STUDY FOR SPACE APPLICATION SWITCH/HUB FOR ETHERNET
 05/18/2001 - 05/30/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: P EISENREICH
Tech. Officer: GSFC/E WEBB
CASE Category: 45 – ELECTRICAL ENGR

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NAG 5 10787 **JOHNS HOPKINS UNIV**
 SOLAR ENERGETIC PARTICLE EVENTS IN THE INNER HELIO SPHERE AND
 DEEP SPACE:A MODEL FOR FORECASTING PRO
 04/27/2001 - 04/30/2004 FY03: \$88,884 Total: \$255,086
Prin. Invest.: D LARIO
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10798 **JOHNS HOPKINS UNIV**
 CONCEPT STUDY FOR THE "THE PRIMORDIAL EXPLORER" PRIME MISSION
 AO-99-OSS-05
 04/30/2001 - 04/30/2003 FY03: \$0 Total: \$418,500
Prin. Invest.: D ZHENG
Tech. Officer: GSFC/J R BYRD
CASE Category: 11 – ASTRONOMY

NAG 5 10807 **JOHNS HOPKINS UNIV**
 THE GALACTIC HALO AND LOCAL BUBBLE (LTSA 2000)
 04/23/2001 - 04/30/2006 FY03: \$117,518 Total: \$300,739
Prin. Invest.: C A NORMAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10836 **JOHNS HOPKINS UNIV**
 INTERPLANETARY SHOCK PREDICTION USING REAL TIME ENERGETIC
 PARTICLE OBSERVATIONS
 04/27/2001 - 04/30/2003 FY03: \$0 Total: \$80,564
Prin. Invest.: G HO
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10849 **JOHNS HOPKINS UNIV**
 GLOBAL MAGNETOSPHERE/IONOSPHERE SPECIFICATION: LOW EARTH
 ORBIT CONSTELLATION OBSERVATIONS& GLOBAL
 05/07/2001 - 05/14/2004 FY03: \$108,000 Total: \$312,000
Prin. Invest.: B J ANDERSON
Tech. Officer: GSFC/J F SPANN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10900 **JOHNS HOPKINS UNIV**
 SOLAR PROTON PENETRATION AT HIGH LATITUDES: MODEL CALCULA-
 TIONS OF CUTOFF LATITUDES & VARIATIONS WIT
 05/07/2001 - 05/14/2004 FY03: \$0 Total: \$139,988
Prin. Invest.: R B DECKER
Tech. Officer: GSFC/J F SPANN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10902 **JOHNS HOPKINS UNIV**
 A STATISTICAL MODEL OF HIGH-LATITUDE CONVECTION REFERENCED TO
 AURORAL BOUNDARIES
 05/07/2001 - 11/14/2003 FY03: \$0 Total: \$161,539
Prin. Invest.: J M RUOHONIEMI
Tech. Officer: GSFC/J F SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10916 **JOHNS HOPKINS UNIV**
 FUV AND OPTICAL SPECTROSCOPY OF HOT POST-AGB STARS IN GLOBU-
 LAR CLUSTERS
 05/10/2001 - 05/14/2004 FY03: \$0 Total: \$49,400
Prin. Invest.: W V DIXON
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10921 **JOHNS HOPKINS UNIV**
 INVESTIGATING THE EXCITATION MECHANISM FOR COMETARY X-RAY, EUV,
 AND FUV EMISSIONS
 05/21/2001 - 06/30/2003 FY03: \$0 Total: \$52,500
Prin. Invest.: H A WEAVER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10922 **JOHNS HOPKINS UNIV**
 EVOLUTIONARY SYNTHESIS OF EARLY-TYPE GALAXIES (ATP 00)
 05/21/2001 - 05/31/2004 FY03: \$112,194 Total: \$322,450
Prin. Invest.: M A HOUDASHELT
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10941 **JOHNS HOPKINS UNIV**
 WINTER-SUMMER ASYMMETRY OF IONOSPHERIC ELECTRO- DYNAMICS
 05/15/2001 - 05/14/2003 FY03: \$0 Total: \$38,000
Prin. Invest.: S OHTANI
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10957 **JOHNS HOPKINS UNIV**
 OBSERVATIONS OF O VI EMISSION IN THE HOT HALO OF NGC 891 (FUSE
 00)
 05/30/2001 - 05/31/2002 FY03: \$0 Total: \$12,006
Prin. Invest.: C HOWK
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10971 **JOHNS HOPKINS UNIV**
 PREPARING FOR MULTI-SPACECRAFT MISSIONS: AURORAL SPACE-TIME
 SCALES AND MAGNETOTAIL ASSIMILATION MOD
 05/25/2001 - 05/31/2004 FY03: \$59,900 Total: \$179,800
Prin. Invest.: S WING
Tech. Officer: GSFC/J SPANN
CASE Category: 11 – ASTRONOMY

NAG 5 10998 **JOHNS HOPKINS UNIV**
 A SOLAR BOLOMETRIC IMAGER FOR STUDYING SOLAR ENERGY INPUT TO
 EARTH
 06/07/2001 - 05/31/2004 FY03: \$356,378 Total: \$1,188,261
Prin. Invest.: D M RUST
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 11029 **JOHNS HOPKINS UNIV**
 TOMS DATA VALIDATION: SOLAR FLUX, QUIKTOMS AND TOTAL OZONE
 RETRIEVALS AT HIGH LATITUDES.
 06/25/2001 - 06/30/2004 FY03: \$44,000 Total: \$132,000
Prin. Invest.: S A LLOYD
Tech. Officer: GSFC/R MCPETERS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11034 **JOHNS HOPKINS UNIV**
 ATMOSPHERIC LOSS PROCESSES AT IO
 06/20/2001 - 05/31/2004 FY03: \$92,000 Total: \$180,000
Prin. Invest.: B MAUK
Tech. Officer: GSFC/D BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11035 **JOHNS HOPKINS UNIV**
 RADIATION FIELD MODELING & DATA ANALYSIS IN SUPPORT OF NASA
 STRATOSPHERE AND UPPER TROPOSPHERE
 06/20/2001 - 06/14/2004 FY03: \$54,643 Total: \$156,596
Prin. Invest.: S A LLOYD
Tech. Officer: GSFC/M KURYLO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11051 **JOHNS HOPKINS UNIV**
 SATURN'S UPPER ATMOSPHERIC STRUCTURE AS DERIVED FROM A
 RE-ANALYSIS OF THE VOYAGER ULTRAVIOLET
 06/20/2001 - 06/14/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: R J VERVACK, JR
Tech. Officer: GSFC/D J BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11060 **JOHNS HOPKINS UNIV**
 LOW ENERGY CHARGED PARTICLES ON THE VOYAGER INTER STELLAR
 MISSION
 06/28/2001 - 06/30/2003 FY03: \$0 Total: \$475,000
Prin. Invest.: S M KRIMIGIS
Tech. Officer: GSFC/V W JONES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 11193 **JOHNS HOPKINS UNIV**
 AN AUTOMATED SYSTEM FOR THE REDUCTION AND ANALYSIS OF X-RAY
 DATA FROM GALAXIES
 08/29/2001 - 01/31/2003 FY03: \$0 Total: \$72,700
Prin. Invest.: A F PTAK
Tech. Officer: GSFC/P E HUNTER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11211 **JOHNS HOPKINS UNIV**
 INFERENCE FROM TOPOGRAPHY ON THE EMPLACEMENT OF FLUIDIZED
 EJECTA ON MARS
 08/09/2001 - 08/14/2003 FY03: \$0 Total: \$53,000
Prin. Invest.: O BARNOUIN-JHA
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11283 **JOHNS HOPKINS UNIV**
 INFERRING STRATOSPHERIC AND TROPOSPHERIC TRANSPORT FROM
 CHEMICAL TRACER MEASUREMENTS
 08/17/2001 - 08/31/2004 FY03: \$96,311 Total: \$188,892
Prin. Invest.: D WAUCH
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11297 **JOHNS HOPKINS UNIV**
 DETAILED MODELING AND ANALYSIS OF THE CPFM DATASET
 08/22/2001 - 08/31/2003 FY03: \$0 Total: \$52,090
Prin. Invest.: W SWARTZ
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11332 **JOHNS HOPKINS UNIV**
 TIME-RESOLVED STUDY OF FLUORESCENCE IN FLUORESCENT PROTEIN
 BIOSENSORS
 09/28/2001 - 08/31/2002 FY03: -\$361 Total: \$32,047
Prin. Invest.: J B KHURGIN
Tech. Officer: GSFC/H SHAW
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 11350 **JOHNS HOPKINS UNIV**
 AURORAL INVESTIGATIONS USING THE POLAR UV AND VISIBL IMAGERS
 11/19/2001 - 11/30/2004 FY03: \$293,978 Total: \$512,941
Prin. Invest.: C MENG
Tech. Officer: GSFC/T E MOORE, GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11378 **JOHNS HOPKINS UNIV**
 XMM SEARCHES FOR IRON LINES IN LOW LUMINOSITY AGN: A TEST OF
 ACCRETION THEORIES
 10/29/2001 - 06/30/2003 FY03: \$0 Total: \$15,011
Prin. Invest.: A F PTAK
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11412 **JOHNS HOPKINS UNIV**
 TIMED PHASE E - SABER FLIGHT EXPERIMENT - PAXTON.
 12/20/2001 - 12/31/2005 FY03: \$644,271 Total: \$1,933,981
Prin. Invest.: L PAXTON
Tech. Officer: GSFC/B A CAMPBELL
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11456 **JOHNS HOPKINS UNIV**
 FUV WINDOWLESS LAMPS
 12/05/2001 - 12/31/2005 FY03: \$85,000 Total: \$160,000
Prin. Invest.: S R MCCANDLISS
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11570 **JOHNS HOPKINS UNIV**
 A SEARCH FOR TRACE ELEMENTS IN ULTRAMASSIVE WHITE DWARF
 PHOTOSPHERES (FUZE 00)
 01/04/2002 - 12/31/2002 FY03: \$0 Total: \$34,195
Prin. Invest.: J DUPUIS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11572 **JOHNS HOPKINS UNIV**
 X-RAY SPECTROSCOPY OF LOW-LUMINOSITY ACTIVE GALACTIC NUCLEI
 WITH XMM
 01/04/2002 - 12/31/2003 FY03: \$0 Total: \$13,239
Prin. Invest.: A F PTAK
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11581 **JOHNS HOPKINS UNIV**
 A STUDY OF HOT GAS IN SHOCK WAVE--INTERSTELLAR CLOUD INTERAC-
 TIONS - FUZE
 01/17/2002 - 01/31/2004 FY03: \$0 Total: \$63,700
Prin. Invest.: W P BLAIR
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11584 **JOHNS HOPKINS UNIV**
 SOLAR FILAMENTS NEAR 1 AU
 01/16/2002 - 09/30/2005 FY03: \$98,438 Total: \$193,732
Prin. Invest.: D M RUST
Tech. Officer: GSFC/TKUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

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NAG 5 11670 **JOHNS HOPKINS UNIV**
 INTERMEDIATE-LUMINOSITY X-RAY OBJECTS (LTSA 2001)
 01/28/2002 - 08/31/2005 FY03: \$0 Total: \$123,277
Prin. Invest.: E COLBERT
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11717 **JOHNS HOPKINS UNIV**
 SURFACE ABUNDANCE PATTERN OF ACCRETING WHITE DWARF S IN
 NON-INTERACTING CLOSE BINARIES_ (FUSE 00)
 02/08/2002 - 02/14/2004 FY03: \$0 Total: \$8,000
Prin. Invest.: J DUPUIS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11728 **JOHNS HOPKINS UNIV**
 TOMOGRAPHIC DIAGNOSIS OF THE IONIZATION CONE IN NG C 1068 (FUSE
 99)
 02/13/2002 - 02/28/2003 FY03: \$0 Total: \$64,100
Prin. Invest.: W ZHENG
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11783 **JOHNS HOPKINS UNIV**
 MINIATURE NEUTRON-ALPHA ACTIVATION SPECTROMETER
 02/26/2002 - 02/28/2004 FY03: \$200,000 Total: \$400,000
Prin. Invest.: E RHODES
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11829 **JOHNS HOPKINS UNIV**
 TECHNICAL SUPPORT FOR THE DEPLOYMENT OF RADAR AND LASER
 ALTIMETERS DURING LARA-2002
 03/04/2002 - 02/28/2003 FY03: \$0 Total: \$181,401
Prin. Invest.: R RANEY
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11844 **JOHNS HOPKINS UNIV**
 ORIGIN AND EVOLUTION OF WHITE DWARF STARS: THE EARLY YRS (LTSA)
 04/03/2002 - 11/30/2004 FY03: \$0 Total: \$228,238
Prin. Invest.: J DUPUIS
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11845 **JOHNS HOPKINS UNIV**
 EVALUATION OF SPACE RADIATION TOLERANCE OF CRITICAL LASER
 SYSTEM COMPONENTS
 03/27/2002 - 03/31/2003 FY03: \$0 Total: \$172,461
Prin. Invest.: B BOONE
Tech. Officer: GSFC/W S HEAPS
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 11876 **JOHNS HOPKINS UNIV**
 RESEARCH WITH THE FLARE GENESIS DATA ON VECTOR MAGNETIC
 FIELDS IN ACTIVE REGION FLUX ROPES
 03/18/2002 - 03/31/2004 FY03: \$203,802 Total: \$385,767
Prin. Invest.: D M RUST
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 11894 **JOHNS HOPKINS UNIV**
 CONTINUATION OF THE ULYSSES: HI-SCALE INVESTIGATION N
 03/20/2002 - 03/31/2005 FY03: \$252,548 Total: \$508,096
Prin. Invest.: R E GOLD
Tech. Officer: GSFC/V JONES
CASE Category: 13 – PHYSICS

NAG 5 11909 **JOHNS HOPKINS UNIV**
 CLOUD & WATER VAPOR EFFECTS ON CLIMATE SENSITIVITY
 04/17/2002 - 10/31/2003 FY03: \$49,998 Total: \$149,998
Prin. Invest.: A ARKING
Tech. Officer: GSFC/D ANDERSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11945 **JOHNS HOPKINS UNIV**
 STARBURST SUPERWINDS (FUSE 2001)
 04/01/2002 - 03/31/2004 FY03: \$0 Total: \$34,100
Prin. Invest.: C HOWK
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11962 **JOHNS HOPKINS UNIV**
 INVESTIGATION OF TITAN'S ATMOSPHERE
 04/04/2002 - 04/14/2005 FY03: \$96,761 Total: \$189,474
Prin. Invest.: X ZHU
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11967 **JOHNS HOPKINS UNIV**
 A FUSE DETERMINATION OF THE GRAVITATIONAL REDSHIFT AND SPEC-
 TROSCOPIC MASS OF SIRIUS B
 04/03/2002 - 04/14/2003 FY03: \$0 Total: \$5,000
Prin. Invest.: J KRUK
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12017 **JOHNS HOPKINS UNIV**
 THE DISTRIBUTION OF SHOCK VELOCITIES IN N49 - A BRIGHT SUPERNOVA
 REMNANT IN THE LMC
 04/30/2002 - 05/14/2004 FY03: \$0 Total: \$47,100
Prin. Invest.: R SANKRIT
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12050 **JOHNS HOPKINS UNIV**
 PLASMA SHEET CONVICTION AND NEAR-EARTH SUBSTORM PROCESSES
 04/18/2002 - 04/30/2005 FY03: \$94,248 Total: \$184,545
Prin. Invest.: S OHTANI
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12051 **JOHNS HOPKINS UNIV**
 PLANETARY AERONOMY
 04/18/2002 - 04/30/2005 FY03: \$125,000 Total: \$250,470
Prin. Invest.: D F STROBEL
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12085 **JOHNS HOPKINS UNIV**
 INTERBALL AND VEGA DATA ARCHIVING.
 04/25/2002 - 04/30/2005 FY03: \$0 Total: \$24,836
Prin. Invest.: A Y LUI
Tech. Officer: GSFC/N LAL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12092 **JOHNS HOPKINS UNIV**
 A HIGH-SPEED DATA ACCESS COMPONENT FOR NATIONAL VI RTUAL
 OBSERVATORY DATA GRID NODE
 04/23/2002 - 04/30/2004 FY03: \$130,990 Total: \$266,942
Prin. Invest.: A R THAKAR
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12108 **JOHNS HOPKINS UNIV**
 A COMPREHENSIVE STUDY OF RELATIONSHIPS BETWEEN SOLAR WIND
 DESTINY AND AURORAL ELECTROJECTS
 05/09/2002 - 05/31/2004 FY03: \$68,625 Total: \$133,637
Prin. Invest.: J SHUE
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12169 **JOHNS HOPKINS UNIV**
 TIME-OF-FLIGHT MASS SPECTROMETER TECHNOLOGY FOR IN SITU
 05/09/2002 - 05/14/2004 FY03: \$135,394 Total: \$265,126
Prin. Invest.: W B BRINCKERHOFF
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12201 **JOHNS HOPKINS UNIV**
 MODELING GEOSPACE PLASMA MASS DENSITY BASED ON THE FRE-
 QUENCY OF ULF WAVES
 05/14/2002 - 05/14/2005 FY03: \$127,760 Total: \$245,958
Prin. Invest.: K TAKAHASHI
Tech. Officer: GSFC/J Q SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12209 **JOHNS HOPKINS UNIV**
 CONCEPT STUDY FOR INFRARED BASED BUS SYSTEM (IRCOM M)
 06/04/2002 - 05/31/2003 FY03: \$0 Total: \$65,000
Prin. Invest.: M DARRIN
Tech. Officer: GSFC/P LUERS
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 12213 **JOHNS HOPKINS UNIV**
 WHY DO SOME DWARF NOVAE STAND STILL?
 05/20/2002 - 05/31/2004 FY03: \$0 Total: \$99,200
Prin. Invest.: T M HECKMAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12224 **JOHNS HOPKINS UNIV**
 MAGNETOSPHERES OF THE OUTER PLANETS 2002
 05/21/2002 - 05/14/2003 FY03: \$0 Total: \$36,000
Prin. Invest.: B MAUK
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12261 **JOHNS HOPKINS UNIV**
 THE METALLICITY DEPENDENCE OF THE BESTIBILITY JUMP IN HOST-STAR
 WINDS.
 06/04/2002 - 06/30/2003 FY03: \$0 Total: \$11,900
Prin. Invest.: A FULLERTON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12291 **JOHNS HOPKINS UNIV**
 CONTINUATION OF THE VOYAGER INTERSTELLAR MISSION: LECP INVE-
 TIGATION
 06/17/2002 - 09/30/2003 FY03: \$0 Total: \$315,000
Prin. Invest.: S M KRIMIGIS
Tech. Officer: GSFC/M GUTATHAKURTA
CASE Category: 11 – ASTRONOMY

NAG 5 12294 **JOHNS HOPKINS UNIV**
 CENTRAL STARS OF PLANETARY NEBULAR IN THE SMALL MAGELLANIC
 CLOUD
 06/14/2002 - 06/30/2004 FY03: \$0 Total: \$60,400
Prin. Invest.: L BIANCHI
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12303 **JOHNS HOPKINS UNIV**
 IMAGE-IRIDIUM INTERCOMPARISON: BIRKELAND CURRENTS, AURORA,
 RING CURRENT AND PLASMASPHERE
 06/21/2002 - 06/14/2005 FY03: \$72,580 Total: \$142,546
Prin. Invest.: B J ANDERSON
Tech. Officer: GSFC/J SPANN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12354 **JOHNS HOPKINS UNIV**
 STUDIES OF ORGANIC SYNTHESIS IN HYPERVELOCITY IMPA CTS WITH
 PULSED LASER ABLATION
 07/03/2002 - 06/30/2005 FY03: \$188,152 Total: \$364,300
Prin. Invest.: W B BRINCKERHOFF
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12363 **JOHNS HOPKINS UNIV**
 LASER ABLATION HYPERVELOCITY IMPACT SIMULATION MIC ROPROBE
 (LA-HISM) FOR STUDIES OF ORGANIC SYNTHESI
 07/09/2002 - 07/14/2004 FY03: \$25,857 Total: \$118,244
Prin. Invest.: W B BRINCKERHOFF
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12423 **JOHNS HOPKINS UNIV**
 ABSORPTION-EMISSION LINE STUDY OF THE NORTHEAST CYGNUS LOOP
 (FUSE 2001)
 08/06/2002 - 08/14/2004 FY03: \$0 Total: \$16,100
Prin. Invest.: W P BLAIR
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12448 **JOHNS HOPKINS UNIV**
 KINEMATICS AND COMPOSITION OF O-RICH MATERIAL IN P UPPIS A
 08/15/2002 - 08/14/2004 FY03: \$0 Total: \$36,900
Prin. Invest.: W P BLAIR
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12456 **JOHNS HOPKINS UNIV**
 TRACING THE MOLECULAR ENVIRONMENTS OF HERBIG AE ST ARS WITH
 FUSE.
 09/03/2002 - 08/31/2004 FY03: \$0 Total: \$7,000
Prin. Invest.: G WILLIGER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

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NAG 5 12479 **JOHNS HOPKINS UNIV**
 SOLAR ENERGETIC ELECTRONS AS PREDATORS OF GEO-EFFECTIVE
 CME-DRIVEN SHOCKS AND SOLAR ENERGETIC
 08/21/2002 - 08/14/2005 FY03: \$0 Total: \$90,801
Prin. Invest.: D HAGGERTY
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12695 **JOHNS HOPKINS UNIV**
 LUNAR CRUSTAL EVOLUTION
 12/16/2002 - 09/30/2004 FY03: \$189,000 Total: \$189,000
Prin. Invest.: P SPUDIS
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 11 – ASTRONOMY

NAG 5 12481 **JOHNS HOPKINS UNIV**
 THE HALO'S O VI INTENSITY (FUSE 01)
 08/21/2002 - 08/31/2004 FY03: \$0 Total: \$63,400
Prin. Invest.: R L SHELTON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12767 **JOHNS HOPKINS UNIV**
 TESTING THE ELECTRICAL CONNECTIVITY BETWEEN THE MAGNETO-
 SPHERE & IONOSPHERE USING CLUSTER & SUPERD
 01/17/2003 - 01/14/2006 FY03: \$85,352 Total: \$85,352
Prin. Invest.: R GREENWALD
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12518 **JOHNS HOPKINS UNIV**
 THE YOUNGEST, MASSIVE STAR CLUSTERS IN M33
 08/21/2002 - 08/31/2003 FY03: \$0 Total: \$24,400
Prin. Invest.: L BIANCHI
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12772 **JOHNS HOPKINS UNIV**
 INTER RELATIONSHIP BETWEEN THE RING CURRENT AND ELECTRIC
 FIELDS IN THE INNER MAGNETOSPHERE DURING
 01/21/2003 - 01/31/2006 FY03: \$86,300 Total: \$86,300
Prin. Invest.: P BRANDT
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12525 **JOHNS HOPKINS UNIV**
 RESEARCH AND ACTIVITIES TO SUPPORT SCIENCE PLANNING AND
 COORDINATION IN ASSOCIATION WITH THE POLAR
 09/19/2002 - 09/30/2005 FY03: \$0 Total: \$73,334
Prin. Invest.: N FOX
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 13 – PHYSICS

NAG 5 12791 **JOHNS HOPKINS UNIV**
 HOT WIND & COOL GIANT - FUSE CYCLE 3 OBSERVATIONS OF EG &
 ECLIPSE INGRESS PHASES
 02/28/2003 - 02/29/2004 FY03: \$37,100 Total: \$37,100
Prin. Invest.: S R MCCANDLISS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12555 **JOHNS HOPKINS UNIV**
 GSFC MISSION SERVICES EVOLUTION CENTER (GMSEC) ARCHITECTURE
 ASSESSMENT TASK
 09/12/2002 - 09/30/2003 FY03: \$0 Total: \$38,756
Prin. Invest.: D P WATSON
Tech. Officer: GSFC/J BRISTOW
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12828 **JOHNS HOPKINS UNIV**
 MINIATURIZED ELECTRON MAGNETIC SPECTROMETER
 01/27/2003 - 01/31/2005 FY03: \$201,294 Total: \$201,294
Prin. Invest.: G HO
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12621 **JOHNS HOPKINS UNIV**
 DETAILED GLOBAL MAP OF EROS STRUCTURAL FEATURES TO CONSTRAIN
 INTERNAL CONFIGURATION AND REGOLITH
 10/03/2002 - 09/30/2004 FY03: \$111,661 Total: \$111,661
Prin. Invest.: L PROCKTER
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12845 **JOHNS HOPKINS UNIV**
 THE HIRACE SPECTROMETER
 03/05/2003 - 02/14/2005 FY03: \$184,120 Total: \$184,120
Prin. Invest.: D HAGGERTY
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12623 **JOHNS HOPKINS UNIV**
 IMPROVED SIGNAL PROCESSING STRATEGIES FOR EXTRACTING ICE
 THICKNESS FROM RADAR DEPTH SOUNDING MEASUREMENTS
 09/30/2002 - 09/30/2005 FY03: \$0 Total: \$73,409
Prin. Invest.: C LEUSCHEN
Tech. Officer: GSFC/M WEI
CASE Category: 13 – PHYSICS

NAG 5 12949 **JOHNS HOPKINS UNIV**
 LUNAR POLAR INVESTIGATIONS
 02/27/2003 - 01/31/2005 FY03: \$56,000 Total: \$56,000
Prin. Invest.: B BUSEY
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12646 **JOHNS HOPKINS UNIV**
 TEXTURAL & SCATTERING PROPERTIES OF EROS REGOLITH FROM
 PHOTOMETRIC CHARACTERIZATION
 10/23/2002 - 02/14/2004 FY03: \$40,000 Total: \$40,000
Prin. Invest.: D L DOMINGUE
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12963 **JOHNS HOPKINS UNIV**
 HOT AND COLD GAS IN BETA PIC FUSE 2001
 03/13/2003 - 03/14/2004 FY03: \$19,000 Total: \$19,000
Prin. Invest.: P D FELDMAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13001 **JOHNS HOPKINS UNIV**
STROFIO-MINIATURIZED MASS SPECTROMETER FOR PLANETA RY ATMO-
SPHERES MEASUREMENTS
03/14/2003 - 03/14/2006 FY03: \$202,851 Total: \$202,851
Prin. Invest.: S LIVI
Tech. Officer: GSFC/S NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13016 **JOHNS HOPKINS UNIV**
FAST 3D ION COMPOSITION PLASMA SPECTROMETER
03/14/2003 - 03/14/2006 FY03: \$57,000 Total: \$57,000
Prin. Invest.: S LIVI
Tech. Officer: GSFC/E SITTLER
CASE Category: 13 – PHYSICS

NAG 5 13020 **JOHNS HOPKINS UNIV**
"CURRENT SHEETS IN THE SOLAR ATMOSPHERE," PREVIOUSLY SUBMIT-
TED UNDER AD-23177
03/20/2003 - 03/31/2005 FY03: \$58,386 Total: \$58,386
Prin. Invest.: B J LABONTE
Tech. Officer: GSFC/T A KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 13024 **JOHNS HOPKINS UNIV**
PLASMA SHEET DYNAMICS: IMPLICATIONS FOR COUPLING BETWEEN
NEAR-EARTH & MIDTAIL SUBSTORM PROCESSES
03/11/2003 - 02/28/2006 FY03: \$93,601 Total: \$93,601
Prin. Invest.: S OHTANI
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13037 **JOHNS HOPKINS UNIV**
INVESTIGATION OF NIGHTTIME OZONE CHEMISTRY IN THE UPPER MESO-
SPHERE & LOWER THERMOSPHERE
03/17/2003 - 04/30/2005 FY03: \$96,494 Total: \$96,494
Prin. Invest.: J YEE
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13071 **JOHNS HOPKINS UNIV**
COMPARISONS OF OBSERVATIONS WITH THE PREDICTION OF MAGNETO-
SHEATH STRUCTURE BY THEMHD MODEL
03/27/2003 - 03/31/2004 FY03: \$40,000 Total: \$40,000
Prin. Invest.: H KU
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13083 **JOHNS HOPKINS UNIV**
COSMIC STAR FORMATION IN NEUTRAL GAS GALAXIES
03/13/2003 - 03/14/2008 FY03: \$122,370 Total: \$122,370
Prin. Invest.: G MEURER
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13085 **JOHNS HOPKINS UNIV**
H2 FLUORESCENCE IN NGC 2023 FUSE 2001
03/13/2003 - 03/14/2004 FY03: \$38,858 Total: \$38,858
Prin. Invest.: S R MCCANDLISS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13114 **JOHNS HOPKINS UNIV**
MOLECULAR ASTROPHYSICS FROM SPACE: THE PHYSICAL & CHEMICAL
EFFECTS OF STAR FORMATION & THE DESTRUC
03/15/2003 - 03/14/2008 FY03: \$105,472 Total: \$105,472
Prin. Invest.: D NEUFELD
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13119 **JOHNS HOPKINS UNIV**
ORIGIN OF NIGHTSIDE ULF WAVES
03/15/2003 - 03/31/2006 FY03: \$94,699 Total: \$94,699
Prin. Invest.: K TAKAHASHI
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13120 **JOHNS HOPKINS UNIV**
SCALE-MODEL EXPERIMENT FOR EXPLORING MARS WITH ORB ITAL
RADAR SOUNDERS
03/18/2003 - 04/30/2005 FY03: \$50,000 Total: \$50,000
Prin. Invest.: C LEUSCHEN
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13132 **JOHNS HOPKINS UNIV**
INVESTIGATION OF HIGH-LATITUDE NEGATIVE MAGNETIC BAYS WITHOUT
APPARENT OPTICAL & OTHER SIGNATURES
03/20/2003 - 03/14/2004 FY03: \$38,000 Total: \$38,000
Prin. Invest.: K LIOU
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13159 **JOHNS HOPKINS UNIV**
TESTING THE PARADIGM OF THE WIND-DRIVEN EVOLUTION OF DWARF
GALAXIES
03/20/2003 - 03/31/2004 FY03: \$46,900 Total: \$46,900
Prin. Invest.: T M HECKMAN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13162 **JOHNS HOPKINS UNIV**
QUANTIFYING THE ENERGETICS OF STARBURST-DRIVEN SUPERWINDS
03/20/2003 - 03/31/2004 FY03: \$41,400 Total: \$41,400
Prin. Invest.: D K STRICKLAND
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13188 **JOHNS HOPKINS UNIV**
SOFT X-RAY OBSERVATIONS OF THE GALACTIC HALO
03/29/2003 - 03/31/2004 FY03: \$15,511 Total: \$15,511
Prin. Invest.: R SHELTON
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13198 **JOHNS HOPKINS UNIV**
RADIATION EFFECTS ON OPTICAL COMPONENTS.
04/16/2003 - 04/14/2004 FY03: \$168,383 Total: \$168,383
Prin. Invest.: M BEVAN
Tech. Officer: GSFC/W HEAPS
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 13228 **JOHNS HOPKINS UNIV**
 PHYSICS-BASED SPECTRA OF ACCRETION DISKS AROUND BLACK HOLES
 04/02/2003 - 04/14/2006 FY03: \$151,584 Total: \$151,584
Prin. Invest.: J KROLIK
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13241 **JOHNS HOPKINS UNIV**
 TECHNICAL SUPPORT FOR THE DEPLOYMENT OF RADAR AND LASER
 ALTIMETERS DURING LARA-2002
 04/02/2003 - 03/31/2004 FY03: \$76,892 Total: \$76,892
Prin. Invest.: R RANEY
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13268 **JOHNS HOPKINS UNIV**
 O STARS IN M33 (FUZE 2001)
 04/04/2003 - 06/30/2004 FY03: \$12,800 Total: \$12,800
Prin. Invest.: L BIANCHI
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13312 **JOHNS HOPKINS UNIV**
 INVESTIGATING THE GEOMORPHOLOGY AND TOPOGRAPHY OF FLUIDIZED
 EJECTA ON MARS
 04/08/2003 - 04/14/2006 FY03: \$52,000 Total: \$52,000
Prin. Invest.: O BARINOUIIN-JA
Tech. Officer: GSFC/C NIEBUR
CASE Category: 11 – ASTRONOMY

NAG 5 13316 **JOHNS HOPKINS UNIV**
 SAMPLE ANALYSIS AT MARS (SAM)
 04/11/2003 - 04/14/2005 FY03: \$101,737 Total: \$101,737
Prin. Invest.: W B BRINCKERHOFF
Tech. Officer: GSFC/P R MAHAFFY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 13357 **JOHNS HOPKINS UNIV**
 TEMPERATURE SCALE & METAL ABUNDANCES OF HOT HYDROGEN-RICH
 CENTRAL STARS OF PLANETARY NEBULAE
 04/17/2003 - 04/30/2004 FY03: \$10,500 Total: \$10,500
Prin. Invest.: J KRUK
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13433 **JOHNS HOPKINS UNIV**
 EFFECTS OF PHYSICAL TARGET HETEROGENEITY ON THE CRATERING
 PROCESS
 04/23/2003 - 04/30/2006 FY03: \$50,000 Total: \$50,000
Prin. Invest.: O BARNOUIN-JHA
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13486 **JOHNS HOPKINS UNIV**
 EFFICIENCY OF ENERGY TRANSFER FROM THE SOLAR WIND, STORAGE IN
 THE MAGNETOSPHERE AND RELEASE I
 05/05/2003 - 04/30/2006 FY03: \$93,969 Total: \$93,969
Prin. Invest.: F NICOLA
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13487 **JOHNS HOPKINS UNIV**
 ENERGETIC PARTICLE ACCELERATION AT CME-DRIVEN SHOCKS
 05/05/2003 - 04/30/2006 FY03: \$98,149 Total: \$98,149
Prin. Invest.: D LARIO
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13491 **JOHNS HOPKINS UNIV**
 STORM-TIME RING CURRENT: DEVELOPMENT OF A NEW STORAGE INDEX
 AND ITS PREDICTION
 05/05/2003 - 04/30/2006 FY03: \$94,720 Total: \$94,720
Prin. Invest.: S OHANTI
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13495 **JOHNS HOPKINS UNIV**
 CONTINUATION OF VOYAGER INTERSTELLAR MISSION:LECP INVESTIGATION
 05/05/2003 - 06/30/2004 FY03: \$312,000 Total: \$312,000
Prin. Invest.: S M KRIMIGIS
Tech. Officer: GSFC/C HOLMES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13504 **JOHNS HOPKINS UNIV**
 INJECTION OF MAGNETIC HELICITY INTO THE CORONA
 05/05/2003 - 05/31/2006 FY03: \$153,432 Total: \$153,432
Prin. Invest.: B LABONTE
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13509 **JOHNS HOPKINS UNIV**
 STORM TIME ULF WAVES IN THE INNER MAGNETOSPHERE
 05/07/2003 - 04/30/2006 FY03: \$97,534 Total: \$97,534
Prin. Invest.: K TAKAHASHI
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13549 **JOHNS HOPKINS UNIV**
 ANTARCTIC ICE SHEET ALTIMETRY DURING THE AMSR-E CAL/VAL 2003
 CAMPAIGN
 08/01/2003 - 04/30/2004 FY03: \$100,001 Total: \$100,001
Prin. Invest.: R K RANEY
Tech. Officer: GSFC/J C COMISO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13596 **JOHNS HOPKINS UNIV**
 FURROW SYSTEMS ON GANYMEDE
 09/30/2003 - 09/14/2005 FY03: \$45,000 Total: \$45,000
Prin. Invest.: L PROCKTER
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13657 **JOHNS HOPKINS UNIV**
 FUSE OBSERVATIONS OF CORONAL GAS IN THE NUCLEAR OUTFLOW OF
 NGC 3079
 09/12/2003 - 09/14/2004 FY03: \$40,000 Total: \$40,000
Prin. Invest.: C G HOOPES
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13658 **JOHNS HOPKINS UNIV**
 CIRCUMSTELLAR GAS IN YOUNG PLANETARY DEBRIS DISKS
 09/12/2003 - 09/14/2004 FY03: \$10,000 Total: \$10,000
Prin. Invest.: P D FELDMAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13679 **JOHNS HOPKINS UNIV**
 CENTRAL STARS OF PLANETARY NEBULAE IN THE LARGE MEGELLANIC CLOUD
 09/23/2003 - 09/14/2004 FY03: \$60,201 Total: \$60,201
Prin. Invest.: L BIANCHI
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13680 **JOHNS HOPKINS UNIV**
 CHARACTERIZING THE GENERATION OF O VI IONS IN A HOT-COLD INTERFACE
 09/24/2003 - 09/30/2004 FY03: \$23,200 Total: \$23,200
Prin. Invest.: B ANDERSON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13688 **JOHNS HOPKINS UNIV**
 PROBING THE EVOLUTION OF STELLAR ACTIVITY IN YOUNG STARS WITH FUZE
 09/23/2003 - 09/30/2004 FY03: \$11,575 Total: \$11,575
Prin. Invest.: G WILLIGER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13690 **JOHNS HOPKINS UNIV**
 MEASURING D/O BEYOND THE LOCAL BUBBLE USING CENTRAL STARS OF PLANETARY NEBULAE
 09/23/2003 - 09/30/2004 FY03: \$28,000 Total: \$28,000
Prin. Invest.: J W KRUK
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13698 **JOHNS HOPKINS UNIV**
 CHLORINE IN THE INTERSTELLAR MEDIUM
 09/22/2003 - 09/14/2004 FY03: \$37,500 Total: \$37,500
Prin. Invest.: W BLAIR
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13704 **JOHNS HOPKINS UNIV**
 NEW FUZE STELLAR OBSERVATIONS IN THE LARGE MEGELLANIC CLOUD
 09/23/2003 - 09/30/2004 FY03: \$34,100 Total: \$34,100
Prin. Invest.: W P BLAIR
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13714 **JOHNS HOPKINS UNIV**
 QUASI-MOLECULAR SATELLITES OF LYMAN LINES IN ZZ CETIS
 09/24/2003 - 09/30/2004 FY03: \$10,250 Total: \$10,250
Prin. Invest.: J DUPUIS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13719 **JOHNS HOPKINS UNIV**
 FLUORESCENT MOLECULAR-HYDROGEN IN IC 405 AND NGC 7023--- THE ROLE OF ENVIRONMENT
 09/24/2003 - 09/30/2004 FY03: \$29,664 Total: \$29,664
Prin. Invest.: S R MCCANDLISS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 8 1527 **JOHNS HOPKINS UNIV**
 AXAF INTERDISCIPLINARY SCIENTIST
 03/30/1998 - 09/30/2003 FY03: \$0 Total: \$466,000
Prin. Invest.: R GIACCONI, C NORMAN
Tech. Officer: MSFC/M SMITH, MSFC/B HAMBRICK
CASE Category: 11 – ASTRONOMY

NAG 8 1695 **JOHNS HOPKINS UNIV**
 DEVELOPMENT OF A NEUTRON SPECTROMETER TO ASSESS BIOLOGICAL RADIATION DAMAGE BEHIND SPACECRAFT MAT.
 05/01/2000 - 11/30/2003 FY03: \$89,785 Total: \$310,285
Prin. Invest.: R MAUER
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1146 **JOHNS HOPKINS UNIV**
 CALCIUM KINETICS DURING SPACE FLIGHT
 09/14/1999 - 09/30/2003 FY03: \$47,950 Total: \$203,035
Prin. Invest.: K O O'BRIEN
Tech. Officer: SSC/S M SMITH
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1345 **JOHNS HOPKINS UNIV**
 MODULAR LIBRARY OF SELF ASSEMBLING ARTIFICIAL PROTEINS FOR 3 DIMENSIONAL TISSUE CULTURE
 08/01/2001 - 09/30/2004 FY03: \$140,000 Total: \$318,000
Prin. Invest.: J L HARDEN
Tech. Officer: KSC/D RISIN
CASE Category: 43 – CHEMICAL ENGR

NAS 3 01146 **JOHNS HOPKINS UNIV**
 EPIREP/FIS ARCHITECTURE WORK
 04/30/2001 - 06/30/2002 FY03: \$0 Total: \$651,439
Prin. Invest.: L BACHMAN
Tech. Officer: GRC/G CHOMOS
CASE Category: 49 – ENGINEERING, OTHER

NAS 3 02205 **JOHNS HOPKINS UNIV**
 RESEARCH AND DEVELOPMENT FOR WINCOMM PROJECT
 06/27/2003 - 10/11/2006 FY03: \$200,000 Total: \$200,000
Prin. Invest.: G PREZIOTTI, J D PHILIPS, E D WILDER
Tech. Officer: GRC/G J CHOMOS, GRC/T E TANGER
CASE Category: 45 – ELECTRICAL ENGR

NAS 5 00166 **JOHNS HOPKINS UNIV**
 DEVELOPMENT OF SOLID STATE UV SOURCE/ORIGINAL POP 7/13/01
 06/14/2000 - 07/25/2003 FY03: \$12 Total: \$370,879
Prin. Invest.: J KANG
Tech. Officer: GSFC/F SELDON- JONES
CASE Category: 45 – ELECTRICAL ENGR

MARYLAND

NASA'S UNIVERSITY PROGRAM

NAS 5 01072 **JOHNS HOPKINS UNIV**
 SUN EARTH CONNECTION LIVING WITH A STAR PROGRAM LETTER
 CONTRACT.
 12/21/2000 - 12/20/2012 FY03: \$7,428,042 Total: \$14,305,267
Prin. Invest.: N AVAILABLE
Tech. Officer: GSFC/J E ROBINSON
CASE Category: 11 – ASTRONOMY

NCC 3 961 **JOHNS HOPKINS UNIV**
 TESTING AND MODELING OF MICRO AND NANO SCALE STRUC TURAL
 MATERIALS SYSTEMS
 05/02/2002 - 10/31/2003 FY03: \$38,000 Total: \$60,500
Prin. Invest.: D N SHARPE
Tech. Officer: GRC/N N NEMETH
CASE Category: 46 – MECHANICAL ENGR

NAS 5 30403 **JOHNS HOPKINS UNIV**
 SPACE TELESCOPE IMAGING SPECTROGRAPH PROGRAM SUPPORT
 02/04/1988 - 09/30/2003 FY03: \$16,416 Total: \$2,922,281
Prin. Invest.: W MOOS
Tech. Officer: GSFC/D VITABLANO
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 1085 **JOHNS HOPKINS UNIV**
 HYBRID INFLATABLE ANTENNA FOR HIGH DATA RATE SPACE CRAFT
 COMMUNICATION
 08/22/2003 - 09/30/2003 FY03: \$133,458 Total: \$133,458
Prin. Invest.: R SCHULZE
Tech. Officer: GRC/R R ROMANOFKY
CASE Category: 45 – ELECTRICAL ENGR

NAS 5 32865 **JOHNS HOPKINS UNIV**
 DESIGN & DEVELOPMENT OF ADVANCED CAMERA SCIENCE
 08/25/1995 - 06/30/2003 FY03: \$50,000 Total: \$3,894,177
Prin. Invest.: D FORD, D I ILLINGWORTH
Tech. Officer: GSFC/C KREBS
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 5 447 **JOHNS HOPKINS UNIV**
 COOPERATIVE RESEARCH IN HIGH ENERGY ASTROPHYSICS BETWEEN
 JHU AND GSFC
 12/21/1999 - 12/31/2003 FY03: \$93,518 Total: \$780,398
Prin. Invest.: E T VISHNIAC
Tech. Officer: GSFC/K E WEAVER
CASE Category: 11 – ASTRONOMY

NAS 5 32985 **JOHNS HOPKINS UNIV**
 PHASE C/D DESIGN AND DEVELOPMENT OF THE FAR ULTRA- VOILET
 SPECTROSCOPIC EXPLORER (FUSE) MISSION
 11/22/1995 - 03/31/2008 FY03: \$9,391,575 Total: \$156,634,330
Prin. Invest.: H W MOOS
Tech. Officer: GSFC/D R MENGERS
CASE Category: 11 – ASTRONOMY

NCC 5 500 **JOHNS HOPKINS UNIV**
 ATMOSPHERIC TRANSPORT: COMPARISON OF OBSERVATIONS AND MOD-
 ELS
 05/08/2000 - 05/14/2003 FY03: \$0 Total: \$74,701
Prin. Invest.: D WAUGH
Tech. Officer: GSFC/A R DOUGLASS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 97179 **JOHNS HOPKINS UNIV**
 TIMED PHASE C/D LETTER CONTRACT
 06/16/1997 - 01/06/2006 FY03: \$3,420,162 Total: \$132,534,620
Prin. Invest.: D GRANT
Tech. Officer: GSFC/J J WOLFF
CASE Category: 11 – ASTRONOMY

NCC 5 635 **JOHNS HOPKINS UNIV**
 INTEGRATED DISCRETE EVENT CONTROLLER FOR AUTONOMOU DISTRIB-
 UTED SPACECRAFT COORDINATION
 02/28/2002 - 02/29/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: P A STADTER
Tech. Officer: GSFC/J BRISTOW
CASE Category: 22 – COMPUTER SCIENCE

NAS 5 97271 **JOHNS HOPKINS UNIV**
 AEROSPACE RESEARCH, DESIGN, AND DEVELOPMENT TASKS FOR NASA
 10/01/1997 - 12/31/2018 FY03: \$152,512,516 Total: \$489,495,303
Prin. Invest.: T COUGHLIN
Tech. Officer: GSFC/J WOLFF
CASE Category: 11 – ASTRONOMY

NGT 5 40079 **JOHNS HOPKINS UNIV**
 MARYLAND SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 02/09/2001 - 01/31/2005 FY03: \$549,750 Total: \$1,521,423
Prin. Invest.: R C HENRY
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 01019 **JOHNS HOPKINS UNIV**
 ADAPTIVE DATA ANALYSIS AND PROCESSING TECHNOLOGY (ADAPT)--NRA-
 99-OES-08
 01/16/2001 - 03/10/2004 FY03: \$75,329 Total: \$312,346
Prin. Invest.: M A DARRIN, M A DARRIN
Tech. Officer: LARC/M E BEATTY, III
CASE Category: 45 – ELECTRICAL ENGR

NGT 5 50268 **JOHNS HOPKINS UNIV**
 SURFACTANT FACILITATED SPREADING
 07/08/1999 - 06/30/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: K J STEBE, VAN NGUYE
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 3 812 **JOHNS HOPKINS UNIV**
 USING SURFACTANTS TO CONTROL BUBBLE GROWTH COALESC ENCE IN
 NUCLEATE POOL BOILING
 07/06/2000 - 05/31/2004 FY03: \$82,178 Total: \$312,188
Prin. Invest.: K J STEBE
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 50328 **JOHNS HOPKINS UNIV**
 THE IMPACT OF DATA CONSTRAINTS IN GLOBAL CLIMATE MODELS
 (STUDENT: ANDREA MOLOD)
 08/17/2000 - 08/31/2003 FY03: \$24,000 Total: \$68,000
Prin. Invest.: D WAUGH
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50372 **JOHNS HOPKINS UNIV**
 SYNTHESIS, GROWTH KINETICS, AND ASSEMBLY OF NANO PARTICLES
 06/13/2001 - 07/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: P C SEARSON
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50437 **JOHNS HOPKINS UNIV**
 BIOACTIVE, SELF-ASSEMBLING SCAFFOLDS FOR THE EXPAN SION OF
 UNDIFFEREN- TIATED MESENCHYMAL STEM CEL
 04/16/2003 - 09/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J HARDEN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50439 **JOHNS HOPKINS UNIV**
 COMPUTATIONAL STUDY OF SURFACE COMPRESSION IN ADSORPTION
 SYSTEMS (STUDENT: TIMOTHY WETZEL)
 04/17/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M DONOHUE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 9 65 **JOHNS HOPKINS UNIV**
 MICROMECHANICAL RESPONSE OR LIVING CELLS TO CYTOSK ELETAL
 REORGANIZATION
 08/06/2002 - 07/31/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D WIRTZ
Tech. Officer: JSC/C SAMS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 10230 **LOYOLA COLLEGE**
 APPLICATION OF GRADIENT-DESCENT IMAGE REGISTRATION TO SATEL-
 LITE IMAGERY.
 01/16/2001 - 04/30/2002 FY03: -\$101 Total: \$24,710
Prin. Invest.: P EASTMAN
Tech. Officer: GSFC/J LE MOIGNE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12313 **LOYOLA COLLEGE**
 SYSTEM ENGINEERING ISSUES IN IMPLEMENTATION OF IMAGE REGISTRA-
 TION ALGORITHMS WITH EMPHASIS ON
 07/12/2002 - 12/14/2004 FY03: \$15,269 Total: \$30,093
Prin. Invest.: P D EASTMAN
Tech. Officer: GSFC/J LEMOIGNE
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1622 **MORGAN STATE UNIV**
 ADVANCED CFD ANALYSIS/EXPERIMENTAL VALIDATION AND TRANSIENT
 MODEL DEVELOPMENT FOR THE FLOWIN SSME E
 03/03/2003 - 02/28/2004 FY03: \$79,828 Total: \$79,828
Prin. Invest.: S W LEE
Tech. Officer: ARC/A CARDENAS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 8574 **MORGAN STATE UNIV**
 SEM MULTIPURPOSE FACILITY/PHASE I
 07/21/1999 - 06/30/2003 FY03: \$0 Total: \$1,098,252
Prin. Invest.: H WILLIAMS
Tech. Officer: GSFC/P HOLLOWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8857 **MORGAN STATE UNIV**
 INVESTIGATION OF THE MAGNETIC & ELECTRONIC PROPER TIES OF
 METAL & METAL OXIDE FILMS & MULTILAYER FOR
 09/28/1999 - 06/30/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: C WILLIAMS
Tech. Officer: GSFC/J CHITWOOD
CASE Category: 13 – PHYSICS

NAG 5 8860 **MORGAN STATE UNIV**
 SCIENCE ENGINEERING & MATHEMATICS (SEM) ENRICH MENT PROGRAM
 FOR BALTIMORE MIDDLE & HIGH SCHOOL
 09/28/1999 - 03/31/2003 FY03: \$0 Total: \$357,205
Prin. Invest.: H WILLIAMS
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9710 **MORGAN STATE UNIV**
 A PROPOSAL FOR NASA-RELATED RESEARCH CAPACITY BUIL DING AND
 OUTREACH BUILDING AND OUTREACHAT MORGAN
 06/29/2000 - 03/31/2002 FY03: \$0 Total: \$1,600,000
Prin. Invest.: D N WILLIAMS
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10104 **MORGAN STATE UNIV**
 SPACE TECHNOLOGY 5 PROJECT. APPLICATION OF PRODUC- TION DESIGN
 CONSIDERATIONS TO NANO-SATELLITES
 12/13/2000 - 12/14/2001 FY03: -\$645 Total: \$4,355
Prin. Invest.: G CHEN
Tech. Officer: GSFC/J OBERRIGHT
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10913 **MORGAN STATE UNIV**
 DEVELOPING A SSPA UTILIZING WIDE BAND GAP SEMICON- DUCTOR
 MATERIAL
 05/22/2001 - 09/30/2001 FY03: -\$3,440 Total: \$9,804
Prin. Invest.: C WHITE
Tech. Officer: GSFC/D NGUYEN
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 10934 **MORGAN STATE UNIV**
 IMAGE REGISTRATION AND FUSION FOR FUTURE FORMATION FLYING
 SYSTEMS
 06/06/2001 - 06/14/2004 FY03: \$18,000 Total: \$54,000
Prin. Invest.: D COLE-RHODES
Tech. Officer: GSFC/J MOIGNE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 10947 **MORGAN STATE UNIV**
 A PROPOSAL CAPACITY BUILDING FOR NASA RELATED AND OUTREACH AT
 MORGAN STATE UNIV
 05/25/2001 - 03/31/2003 FY03: \$0 Total: \$1,600,000
Prin. Invest.: E N ISUK
Tech. Officer: GSFC/B WHITE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11229 **MORGAN STATE UNIV**
 EXAMINE SAMPLES OF CARBON CARBONADOS.
 08/15/2001 - 02/14/2004 FY03: \$0 Total: \$3,000
Prin. Invest.: E C HAMMOND
Tech. Officer: GSFC/P TAYLOR
CASE Category: 32 – GEOLOGICAL SCIENCE

MARYLAND

NASA'S UNIVERSITY PROGRAM

NAG 5 11405 **MORGAN STATE UNIV**
 "FORGING A PARTNERSHIP"
 12/03/2001 - 05/31/2003 FY03: \$0 Total: \$850,000
Prin. Invest.: E DELOATCH
Tech. Officer: GSFC/J BENNETT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11837 **MORGAN STATE UNIV**
 DESIGN OF HIGH SPEED COMPARATOR ARCHITECTURES FOR ANALOG-
 TO-DIGITAL CONVERTERS.
 03/11/2002 - 03/14/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: C T JOHNSON-BEY
Tech. Officer: GSFC/J PIEMEIER
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 11852 **MORGAN STATE UNIV**
 A PLANNING GRANT PROPOSAL FOR FACULTY RESEARCH DEV ELOPMENT
 AND CAPACITY BUILDING FOR NASA-RELATED R
 03/12/2002 - 12/31/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: E ISUK
Tech. Officer: GSFC/D MENCAHN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12678 **MORGAN STATE UNIV**
 RADIO FREQUENCY ANALOG-TO-DIGITAL CONVERTER
 12/06/2002 - 11/30/2005 FY03: \$93,955 Total: \$93,955
Prin. Invest.: C Y JOHNSON-BEY
Tech. Officer: GSFC/J PIEPMEIER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13365 **MORGAN STATE UNIV**
 COST REDUCTION FOR MULTIPLE PRODUCTION RUNS OF NANOSATS
 04/18/2003 - 08/14/2006 FY03: \$72,275 Total: \$72,275
Prin. Invest.: G CHEN
Tech. Officer: GSFC/D MCLENNAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1847 **MORGAN STATE UNIV**
 POLYMERIAZTION OF ADVANCED THERMOSETS IN MICROGRAV ITY TO
 DEVELOP ULTRA LOW PLOYMERS
 08/06/2001 - 07/31/2004 FY03: \$99,983 Total: \$299,874
Prin. Invest.: A KENNEDY
Tech. Officer: MSFC/E ORDONEZ
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 03033 **MORGAN STATE UNIV**
 CHESAPEAKE INFORMATION-BASED AERONAUTICS CONSORTIUM
 09/30/2003 - 09/30/2004 FY03: \$2,981,000 Total: \$2,981,000
Prin. Invest.: E M DELOATCH
Tech. Officer: LARC/R E GILLIAN, LARC/D R CROOM
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 532 **MORGAN STATE UNIV**
 NRTS CONTINUATION/MUSPIN NRTS PROGRAM.
 02/01/2001 - 01/31/2004 FY03: \$350,000 Total: \$1,050,000
Prin. Invest.: W LUPTON
Tech. Officer: GSFC/J HARRINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 682 **MORGAN STATE UNIV**
 CENTER OF ADVANCED MICROWAVE RESEARCH AND APPLICAT IONS
 01/03/2003 - 12/31/2007 FY03: \$1,037,536 Total: \$1,037,536
Prin. Invest.: C WHITE
Tech. Officer: GSFC/J H DAY
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 5342 **SALISBURY STATE UNIV**
 UNDERSTANDING TAXONOMIC AND PHYSIOLOGICAL PROPERTIES OF
 PHYTOPLANKTON
 10/31/2001 - 05/31/2003 FY03: \$4,775 Total: \$12,275
Prin. Invest.: T JONES
Tech. Officer: WFF/T MOISAN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 7602 **U OF MD CTR FOR ENVIR SCI - CAMBRIDGE**
 REMOTE OBSERVATIONS IN THE CHOPTANK RIVER INDEX SI TE: OCEAN
 COLOR, SALINITY, TEMPERATURE AND C
 07/21/1998 - 08/31/2002 FY03: -\$417 Total: \$447,006
Prin. Invest.: L W HARDING
Tech. Officer: GSFC/J W CAMPBELL
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11083 **U OF MD CTR FOR ENVIR SCI - CAMBRIDGE**
 EFFECTS OF LAND USE, SOILS & HUMAN POPULATIONS ON EXPORT OF
 WATER, C, N, & P FROM THE MID-ATLANTIC
 07/19/2001 - 08/14/2004 FY03: \$102,711 Total: \$327,579
Prin. Invest.: T FISHER
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11302 **U OF MD CTR FOR ENVIR SCI - CAMBRIDGE**
 INDICES OF NUTRIENT ENRICHMENT IN U.S. ATLANTIC ES TUARIES
 FROMREMOTE SENSING OF OCEAN COLOR AND
 08/30/2001 - 08/31/2005 FY03: \$224,527 Total: \$370,453
Prin. Invest.: L HARDING
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12749 **U OF MD CTR FOR ENVIR SCI - CAMBRIDGE**
 UNDERSTANDING CIO-PHYSICAL COUPLING IN THE ATLANTIC USING
 COMBINED SATELLITE OBSERVATIONS &
 01/13/2003 - 01/14/2006 FY03: \$26,191 Total: \$26,191
Prin. Invest.: V COLES
Tech. Officer: GSFC/C TREE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 5 00195 **U OF MD CTR FOR ENVIR SCI - CAMBRIDGE**
 R&D TO SUPPORT GSFC'S SIMBIOS PROJECT ORG POP 11/30/2001
 12/18/2000 - 11/30/2003 FY03: \$105,037 Total: \$321,137
Prin. Invest.: L W HARDING
Tech. Officer: GSFC/C R MCCLAIN
CASE Category: 33 – OCEANOGRAPHY

NCC 5 493 **U OF MD CTR FOR ENVIR SCI - CAMBRIDGE**
 REMOTE SENSING OF FOREST COMPOSITION AND STRUCTURE IN THE
 CENTRAL APPALACHIANS USING EO-1 HYPE
 04/19/2000 - 09/30/2003 FY03: \$0 Total: \$192,177
Prin. Invest.: P A TOWNSEND
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30485 **U OF MD CTR FOR ENVIR SCI - CAMBRIDGE**
 INFLUENCE OF SYNOPTIC-SCALE CLIMATE VARIABILITY ON PHYTOPLANK-
 TON BIOMASS STUDENT: WILLIAM MILLER
 09/30/2003 - 08/31/2006 FY03: \$23,426 Total: \$23,426
Prin. Invest.: L HARDING
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1195 **UNIV OF MD - BIOTECH INST - COLLEGE PARK**
 OCCURRENCE OF V CHOLERAE IN THE BAY OF BENGAL & APPLICATION OF REMOTE SENSING METHODS FOR PREDICTION
 03/26/1998 - 02/28/2003 FY03: \$0 Total: \$141,067
Prin. Invest.: R R COLWELL
Tech. Officer: ARC/B L WOOD, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 1 2285 **UNIV OF MARYLAND - COLLEGE PARK**
 INTERACTION OF A BOUNDARY LAYER WITH A TURBULANT WAKE
 03/30/2000 - 03/31/2003 FY03: -\$1 Total: \$164,931
Prin. Invest.: U PIOMELLI
Tech. Officer: LARC/C L STREET
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01084 **UNIV OF MARYLAND - COLLEGE PARK**
 WHIRL FLUTTER OF TWO BLADED PROPELLOR/PYLON SYSTEM
 05/17/2001 - 03/14/2002 FY03: -\$450 Total: \$59,051
Prin. Invest.: I CHOPRA
Tech. Officer: LARC/A S POTOTZKY, LARC/R G KVATERNIK
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1352 **UNIV OF MARYLAND - COLLEGE PARK**
 MECHANOSENSITIVE CHANNELS IN BACTERIA: FUNCTIONAL DOMAINS & MECHANISMS OF GATING
 07/27/1999 - 07/31/2003 FY03: \$0 Total: \$421,801
Prin. Invest.: S I SUKHAREV
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1405 **UNIV OF MARYLAND - COLLEGE PARK**
 QUAD TILTROTOR COMPUTATIONAL FLUID DYNAMICS PROGRAM
 04/28/2000 - 04/30/2003 FY03: \$0 Total: \$899,999
Prin. Invest.: F SCHMITZ, J BAEDER
Tech. Officer: ARC/R A STRAWN, ARC/C TUNG
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1407 **UNIV OF MARYLAND - COLLEGE PARK**
 DYNAMICS OF HELICOPTERS WITH ON-BLADE CONTROLS
 05/22/2000 - 05/31/2004 FY03: \$10,000 Total: \$101,849
Prin. Invest.: R CELI
Tech. Officer: ARC/M B TISCHER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1536 **UNIV OF MARYLAND - COLLEGE PARK**
 MODEL BASED HAZARD ANALYSIS METHOD AND SIMULATION TOOL
 02/13/2002 - 02/14/2005 FY03: \$249,445 Total: \$407,445
Prin. Invest.: A MOSLEH
Tech. Officer: ARC/M SHIRLEY
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 2 1549 **UNIV OF MARYLAND - COLLEGE PARK**
 RUNWAY INDEPENDENT AIRCRAFT (RIA) OPERATIONAL NOISE PREDICTION/VALIDATION
 04/12/2002 - 04/14/2004 FY03: \$175,000 Total: \$350,000
Prin. Invest.: F H SCHMITZ
Tech. Officer: ARC/W A DECKER, ARC/J A SCHROEDER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1577 **UNIV OF MARYLAND - COLLEGE PARK**
 NEURAL NETWORK BASED ROBUST INDIVIDUAL BALDWIN CONTROLLER
 08/13/2002 - 07/31/2003 FY03: \$0 Total: \$35,125
Prin. Invest.: I CHOPRA
Tech. Officer: ARC/W WARBRODT, ARC/S KOTTAPOLLI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1590 **UNIV OF MARYLAND - COLLEGE PARK**
 MECHANOSENSITIVE CHANNELS IN BACTERIA: THE ROLE OF PROTEIN LIPID INTERACTIONS IN THE MECHANISM OF GATING
 10/31/2002 - 10/31/2005 FY03: \$196,266 Total: \$196,266
Prin. Invest.: S SUKHAREV
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1597 **UNIV OF MARYLAND - COLLEGE PARK**
 ASSESSMENT OF TESTING TECHNIQUES AND PREDICTION METHODS FOR FULL SCALEROTOR SYSTEMS
 11/18/2002 - 11/14/2005 FY03: \$80,000 Total: \$80,000
Prin. Invest.: I CHOPRA
Tech. Officer: ARC/T R NORMAN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2337 **UNIV OF MARYLAND - COLLEGE PARK**
 DATA-BASE ON FUEL AIR MIXING AND COMBUSTION FOR NAUTICAL COMBUSTION
 02/24/2000 - 12/31/2003 FY03: \$25,000 Total: \$305,094
Prin. Invest.: A K GUPTA
Tech. Officer: GRC/R R TACINA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2479 **UNIV OF MARYLAND - COLLEGE PARK**
 GEOPHYSICAL FLOW EXPERIMENT IN A ROTATING SPHERICAL CAPACITOR, UM #000508-7778
 07/26/2000 - 11/30/2003 FY03: \$48,973 Total: \$151,494
Prin. Invest.: D DEANE
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2568 **UNIV OF MARYLAND - COLLEGE PARK**
 MATERIAL PROPERTIES GOVERNING COCURRENT FLAME SPREAD IN MICROGRAVITY
 03/20/2001 - 11/30/2004 FY03: \$100,000 Total: \$300,000
Prin. Invest.: J L TORERO
Tech. Officer: GRC/G A RUFF
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2736 **UNIV OF MARYLAND - COLLEGE PARK**
 GRANULAR FLOW INSTABILITIES: TRANSIENTS, AGING AND SEGREGATION DYNAMICS
 03/15/2002 - 11/30/2005 FY03: \$93,000 Total: \$186,511
Prin. Invest.: W LOSERT
Tech. Officer: GRC/J H AGUI
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2805 **UNIV OF MARYLAND - COLLEGE PARK**
 PACKAGE TECHNOLOGY EVALUATION FOR HIGH TEMPERATURE SIC ELECTRONICS AND MEMSPRESSURE
 09/09/2002 - 09/30/2004 FY03: \$40,000 Total: \$79,686
Prin. Invest.: D MCCLUSKEY
Tech. Officer: GRC/R S OKOJIE
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2844 **UNIV OF MARYLAND - COLLEGE PARK**
 FLEXIBLE AND SECURE ACCESS FOR HIGH DATA RATE COMMUNICATIONS
 02/10/2003 - 01/30/2006 FY03: \$120,000 Total: \$120,000
Prin. Invest.: M HADJITHEODOSIOU
Tech. Officer: GRC/B ELLIS
CASE Category: 45 – ELECTRICAL ENGR

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NAG 3 2874 **UNIV OF MARYLAND - COLLEGE PARK**
 SHORT RANGE INVERSE-SQUARE LAW EXPERIMENT IN SPACE (ISLES)
 04/07/2003 - 09/30/2006 FY03: \$45,000 Total: \$45,000
Prin. Invest.: H PAIK
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2901 **UNIV OF MARYLAND - COLLEGE PARK**
 EXPERIMENTAL INVESTIGATION OF IMPURITY EFFECTS ON THE ISOCH-
 ORIC HEAT CAPACITY NEAR THE CRITICAL
 05/21/2003 - 03/31/2008 FY03: \$11,000 Total: \$11,000
Prin. Invest.: M ANISIMOV
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2941 **UNIV OF MARYLAND - COLLEGE PARK**
 THEORY OF PHASE TRANSITIONS & SIMULATIONS IN SUPER -FLUID
 HELIUM OF COSMOLOGICAL PHENOMENA
 09/16/2003 - 07/31/2005 FY03: \$84,166 Total: \$84,166
Prin. Invest.: R A FERRELL
Tech. Officer: GRC/C W LEK
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3454 **UNIV OF MARYLAND - COLLEGE PARK**
 TERRESTRIAL MONITORING AT HIGH SPATIAL RESOLUTION: THE ROLE OF
 LANDSAT-TYPESENSORS IN MISSION.....
 10/07/1996 - 06/01/2002 FY03: \$0 Total: \$1,695,179
Prin. Invest.: S N GOWARD
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 3960 **UNIV OF MARYLAND - COLLEGE PARK**
 THE EFFECT OF VARIATIONS IN PACIFIC FRESH-WATER AN INDIAN OCEAN
 02/18/1997 - 01/31/2002 FY03: -\$729 Total: \$350,155
Prin. Invest.: R WAJSOWICZ
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 33 – OCEANOGRAPHY

NAG 5 4313 **UNIV OF MARYLAND - COLLEGE PARK**
 A SPACE PHYSICS ANALYSIS AND PLANNING TOOL
 05/09/1997 - 12/31/2001 FY03: -\$859 Total: \$311,641
Prin. Invest.: D C GOODRICH
Tech. Officer: GSFC/J BREDEKAMP
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 5062 **UNIV OF MARYLAND - COLLEGE PARK**
 THE ADVANCED THIN IONIZATION CALORIMETER (ATIC) BALLOON EXPERI-
 MENT
 03/29/1996 - 09/30/2001 FY03: -\$1 Total: \$1,534,596
Prin. Invest.: E S SEO
Tech. Officer: GSFC/H C NEEDLEMAN, GSFC/B A MARRITT
CASE Category: 13 – PHYSICS

NAG 5 5204 **UNIV OF MARYLAND - COLLEGE PARK**
 COSMIC-RAY ORIGIN, ACCELERATION, AND PROPAGATION SELECTED
 UNDER THE PRESIDENTIAL EARLY CAREER AWARD
 06/24/1998 - 06/30/2004 FY03: \$0 Total: \$500,000
Prin. Invest.: E S SEO
Tech. Officer: GSFC/B A MARRITT
CASE Category: 13 – PHYSICS

NAG 5 5225 **UNIV OF MARYLAND - COLLEGE PARK**
 GRANT NAG5-5225 FOR ANTIMATTER AND COSMIC RAY STUDIES USING
 BESS. PI DR. EUN-SUK SEO
 03/16/1999 - 09/30/2002 FY03: -\$470 Total: \$280,630
Prin. Invest.: E S SEO
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5249 **UNIV OF MARYLAND - COLLEGE PARK**
 COSMIC RAY ENERGETICS AND MASS (CREAM) COSMIC RAY ENERGETICS
 AND MASS (CREAM)
 03/13/2000 - 11/30/2003 FY03: \$896,213 Total: \$4,044,413
Prin. Invest.: E SEO
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5263 **UNIV OF MARYLAND - COLLEGE PARK**
 SOUNDING ROCKET EXPERIMENT TO EXPLORE ELECTRO- DYNAMICS
 COUPLING
 03/02/2000 - 02/21/2004 FY03: \$5,908 Total: \$203,042
Prin. Invest.: M A COPLAN
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5308 **UNIV OF MARYLAND - COLLEGE PARK**
 FIRST YEAR FUNDING FOR NAG5-5308 FIRST YEAR FUNDING FOR NAG5-
 5308
 02/01/2001 - 11/30/2003 FY03: \$250,000 Total: \$750,000
Prin. Invest.: E S SEO
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5347 **UNIV OF MARYLAND - COLLEGE PARK**
 SEARCHING FOR ANTIMATTER AND OTHER EXOTICS USING T H BALLOON
 BORNE EXPERIMENT WITH A SUPERCOND
 01/16/2002 - 01/07/2005 FY03: \$123,000 Total: \$246,000
Prin. Invest.: J WANG
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 6464 **UNIV OF MARYLAND - COLLEGE PARK**
 EOS VALIDATION ACTIVITY IN A DESERT ENCROACHMENT ZONE OF
 SUB-SAHEL AFRICA
 10/14/1997 - 09/30/2004 FY03: \$0 Total: \$495,819
Prin. Invest.: R PINKER
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 6547 **UNIV OF MARYLAND - COLLEGE PARK**
 ORIGIN AND IMPACT OF NUCLEAR ACTIVITY IN GALAXIES (L TSA)
 10/29/1997 - 10/31/2003 FY03: \$0 Total: \$150,752
Prin. Invest.: S VEILLEUX
Tech. Officer: GSFC/D WEST
CASE Category: 11 – ASTRONOMY

NAG 5 6699 **UNIV OF MARYLAND - COLLEGE PARK**
 ENHANCED METADATA EXTRACTION FOR NASA'S REGIONAL V ALIDATION
 CENTER SYSTEM.
 12/12/1997 - 03/31/2003 FY03: \$0 Total: \$254,208
Prin. Invest.: J JAJA
Tech. Officer: GSFC/J LEMONIGNE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 7058 **UNIV OF MARYLAND - COLLEGE PARK**
ICE FLOW IN THE NORTHEAST GREENLAND ICE STREAM: MEASUREMENT AND ANALYSIS
03/04/1998 - 02/28/2003 FY03: \$0 Total: \$272,998
Prin. Invest.: M FAHNESTOCK
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7634 **UNIV OF MARYLAND - COLLEGE PARK**
ISOTOPIIC AND GEOCHEMICAL INVESTIGATIONS OF METEORITES
09/10/1998 - 07/31/2002 FY03: \$0 Total: \$209,000
Prin. Invest.: R J WALKER
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 7762 **UNIV OF MARYLAND - COLLEGE PARK**
WIND/SOHO GUEST OBSERVER PROGRAM FOR STUDY OF SOLAR ENERGETIC PARTICLES AND GALACTIC
12/24/1998 - 12/31/2002 FY03: \$0 Total: \$251,100
Prin. Invest.: F B MCDONALD
Tech. Officer: GSFC/M GUHATHAKURTA
CASE Category: 11 – ASTRONOMY

NAG 5 8079 **UNIV OF MARYLAND - COLLEGE PARK**
A PROPOSAL TO ASSIST IN THE INTERPRETATION OF DATA FROM THE COSMIC RAY ISOTOPE SPECTROMETER EXPERIMENT
01/14/1999 - 12/31/2001 FY03: \$0 Total: \$140,400
Prin. Invest.: D LUKASIAK
Tech. Officer: GSFC/D C LING
CASE Category: 11 – ASTRONOMY

NAG 5 8121 **UNIV OF MARYLAND - COLLEGE PARK**
GENERATION OF A CONSISTENT TERRESTRIAL NET PRIMARY PRODUCTION DATA SET: PART II
01/26/1999 - 12/31/2001 FY03: \$0 Total: \$187,510
Prin. Invest.: S D PRINCE
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8189 **UNIV OF MARYLAND - COLLEGE PARK**
OCULTATION SYSTEM UPGRADE
03/08/1999 - 03/14/2002 FY03: \$0 Total: \$128,231
Prin. Invest.: M F A'HEARN
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 8192 **UNIV OF MARYLAND - COLLEGE PARK**
RESEARCH IN SOLAR RADIO ASTRONOMY AT SHORT WAVELENGTHS
05/13/1999 - 05/31/2003 FY03: \$0 Total: \$342,214
Prin. Invest.: M R KUNDU
Tech. Officer: GSFC/W J WAGNER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8263 **UNIV OF MARYLAND - COLLEGE PARK**
SALINITY EFFECTS ON INTRA-SEASONAL TO INTERANNUAL VARIABILITY OF A COUPLED CLIMATE PREDICTION MODEL
02/22/1999 - 12/31/2003 FY03: \$0 Total: \$429,840
Prin. Invest.: R MURTUQUDE
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8366 **UNIV OF MARYLAND - COLLEGE PARK**
SURFACE RADIATION BUDGETS FOR LBA
03/08/1999 - 02/29/2004 FY03: \$0 Total: \$386,480
Prin. Invest.: R T PINKER
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8398 **UNIV OF MARYLAND - COLLEGE PARK**
CONDUCT RESEARCH IN RAREFIED GAS DYNAMICS TO SUPPORT THE DEVELOPMENT OF NASA'S GLOBAL ELECTRODYNAMICS
05/10/1999 - 05/14/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: D J LEWIS
Tech. Officer: GSFC/J FLORA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8528 **UNIV OF MARYLAND - COLLEGE PARK**
ENSEMBLE OCEAN-ATMOSPHERE PERTURBATIONS WITH GROWING ENSO USING BREEDING
05/26/1999 - 05/31/2003 FY03: \$0 Total: \$584,118
Prin. Invest.: E KALNAY
Tech. Officer: GSFC/M RIENECKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8678 **UNIV OF MARYLAND - COLLEGE PARK**
ROLE OF GRAY SQUIRRELS IN MAINTAINING LIFE CYCLE
07/09/1999 - 08/31/2002 FY03: \$0 Total: \$18,885
Prin. Invest.: L W ADAMS
Tech. Officer: GSFC/D E WALTER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIRONMENTAL)

NAG 5 8764 **UNIV OF MARYLAND - COLLEGE PARK**
MODELS & ALGORITHMS FOR FOREST DYNAMIC STUDIES IN SIBERIA & NORTHEASTERN CHINA USING MULTI-SATELLITE
09/10/1999 - 11/30/2002 FY03: \$0 Total: \$224,080
Prin. Invest.: G SUN
Tech. Officer: GSFC/K J RANSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8833 **UNIV OF MARYLAND - COLLEGE PARK**
THE REDSHIFT DEPENDENCE OF THE INTERACTION- ACTIVITY CONNECTION AMONG ULTRALUMINOUS STARBURSTS
09/12/2000 - 09/14/2003 FY03: \$0 Total: \$17,432
Prin. Invest.: P J TEUBEN
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 8842 **UNIV OF MARYLAND - COLLEGE PARK**
AWARD FUNDING TO THE UNIV OF MARYLAND FOR PROPOSAL ENTITLED "OCTOBER ASTROPHYSICS CONFERENCE"
09/24/1999 - 09/30/2004 FY03: \$50,000 Total: \$125,000
Prin. Invest.: J D TRASCO
Tech. Officer: GSFC/D NORTON
CASE Category: 11 – ASTRONOMY

NAG 5 8877 **UNIV OF MARYLAND - COLLEGE PARK**
SOLAR CYCLE DYNAMICS STUDIES WITH SAMPEX
11/24/1999 - 11/30/2003 FY03: \$684,628 Total: \$2,736,000
Prin. Invest.: G MASON
Tech. Officer: GSFC/T VON ROSENINGE
CASE Category: 11 – ASTRONOMY

MARYLAND

NASA'S UNIVERSITY PROGRAM

NAG 5 8936 **UNIV OF MARYLAND - COLLEGE PARK**
 AN INVESTIGATION OF TROPICAL UPPER TROPOSPHERIC HUMIDITY
 01/18/2000 - 11/30/2003 FY03: \$123,831 Total: \$501,573
Prin. Invest.: A DESSLER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9075 **UNIV OF MARYLAND - COLLEGE PARK**
 ULTRA-WIDEBAND MICROWAVE SPECTROMETERS FOR HETERODYNE SPECTROSCOPY
 02/16/2000 - 02/28/2004 FY03: \$0 Total: \$268,000
Prin. Invest.: A HARRIS
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9108 **UNIV OF MARYLAND - COLLEGE PARK**
 MAGNETIC RECONNECTION & ASSOCIATED WAVE & PARTICLE SIGNATURES IN COLLISIONLESS PLASMA
 02/23/2000 - 02/28/2003 FY03: \$0 Total: \$270,958
Prin. Invest.: J F DRAKE
Tech. Officer: GSFC/J SHARBER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9167 **UNIV OF MARYLAND - COLLEGE PARK**
 EVOLUTIONARY MODELS OF COLD, MAGNETIZED, INTERSTELLAR CLOUDS (ATP 99)
 03/15/2000 - 03/14/2004 FY03: \$0 Total: \$269,050
Prin. Invest.: E OSTRICKER
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9271 **UNIV OF MARYLAND - COLLEGE PARK**
 PDRS IN GALAXIES: FROM THE LOCAL UNIVERSE TO HIGH Z STARBURSTS (LTSA 99)
 03/15/2000 - 03/14/2005 FY03: \$111,804 Total: \$346,641
Prin. Invest.: M WOLFIRE
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9282 **UNIV OF MARYLAND - COLLEGE PARK**
 MISSION OPERATIONS & DATA ANALYSIS FOR THE CELIAS/ MT OF EXPERIMENT
 04/06/2000 - 04/30/2003 FY03: \$0 Total: \$810,000
Prin. Invest.: F IPAVICH
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9319 **UNIV OF MARYLAND - COLLEGE PARK**
 AN INTEGRATED FOREST MONITORING SYSTEM FOR CENTRAL ASIA
 03/22/2000 - 03/31/2003 FY03: \$41,581 Total: \$366,996
Prin. Invest.: N LAPORTE
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9329 **UNIV OF MARYLAND - COLLEGE PARK**
 INTER-ANNUAL LAND SURFACE VARIATION
 03/24/2000 - 04/30/2004 FY03: \$235,687 Total: \$674,343
Prin. Invest.: S D PRINCE
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9337 **UNIV OF MARYLAND - COLLEGE PARK**
 IMPROVEMENTS IN LANDSAT PATHFINDER METHODS FOR MONITORING TROPICAL DEFORESTATION & THEIR EXTENSION
 03/27/2000 - 04/30/2003 FY03: \$40,974 Total: \$454,739
Prin. Invest.: J R TOWNSHEND
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9338 **UNIV OF MARYLAND - COLLEGE PARK**
 MONITORING FOREST DYNAMICS IN NORTHEASTERN CHINA IN SUPPORT OF GOFCC
 03/31/2000 - 04/30/2004 FY03: \$36,788 Total: \$322,001
Prin. Invest.: G SUN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9339 **UNIV OF MARYLAND - COLLEGE PARK**
 TOWARDS METHODOLOGIES FOR GLOBAL MONITORING OF FOREST COVER CHARACTERISTICS WITH COARSE
 03/31/2000 - 12/31/2003 FY03: \$37,043 Total: \$342,062
Prin. Invest.: R DEFRIES
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9411 **UNIV OF MARYLAND - COLLEGE PARK**
 UNDERSTANDING WATER, ENERGY AND CLIMATE: A GEWEX GLOBAL WATER & ENERGY BUDGET PATHFINDER DATA SET
 04/10/2000 - 04/30/2004 FY03: \$0 Total: \$150,000
Prin. Invest.: R DUBAYAH
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9440 **UNIV OF MARYLAND - COLLEGE PARK**
 CONTRIBUTION OF EMISSIONS FROM BOREAL FOREST FIRES
 04/13/2000 - 12/31/2003 FY03: \$70,626 Total: \$686,863
Prin. Invest.: K KASISCHKE
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9447 **UNIV OF MARYLAND - COLLEGE PARK**
 TERRESTRIAL HYDROLOGY & CLIMATE STUDIES USING EOS- ERA DATA
 04/12/2000 - 04/14/2004 FY03: \$93,642 Total: \$275,479
Prin. Invest.: R DUBAYAH
Tech. Officer: GSFC/P HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9620 **UNIV OF MARYLAND - COLLEGE PARK**
 A GLOBAL NETWORK OF SITES FOR ASSESSING BIOGEOCHEMICAL & BIOPHYSICAL CONSEQUENCES OF LAND COVER DIS
 05/18/2000 - 05/14/2003 FY03: \$0 Total: \$280,042
Prin. Invest.: R DEFRIES
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9621 **UNIV OF MARYLAND - COLLEGE PARK**
 A FEDERATION INTEROPERABILITY SUBSTRATE USING MOCHA
 05/19/2000 - 10/14/2001 FY03: \$0 Total: \$40,000
Prin. Invest.: N ROUSSOPOULOS
Tech. Officer: GSFC/C CHEUNG
CASE Category: 11 – ASTRONOMY

NAG 5 9632 **UNIV OF MARYLAND - COLLEGE PARK**
 INVESTIGATIONS OF THE TROPICAL TROPOPAUSE REGION
 06/07/2000 - 05/31/2004 FY03: \$0 Total: \$307,618
Prin. Invest.: A DESSLER
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9634 **UNIV OF MARYLAND - COLLEGE PARK**
 IMPROVED GLOBAL SCALE MODELS FOR SURFACE RADIATION BUDGETS
 05/26/2000 - 04/30/2004 FY03: \$66,667 Total: \$503,000
Prin. Invest.: R T PINKER
Tech. Officer: GSFC/R CURAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9672 **UNIV OF MARYLAND - COLLEGE PARK**
 TROPOSPHERIC CONVECTION & STRATOSPHERE-TROPOSPHERE EX-
 CHANGE: EFFECTS ON PHOTOCHEMISTRY, AEROSOLS
 06/12/2000 - 05/31/2004 FY03: \$89,475 Total: \$790,299
Prin. Invest.: K E PICKERING
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9750 **UNIV OF MARYLAND - COLLEGE PARK**
 "WIDE-FIELD IMAGING INTERFEROMETRY"
 07/20/2000 - 07/31/2004 FY03: \$0 Total: \$60,960
Prin. Invest.: L G MUNDY
Tech. Officer: GSFC/D LEISAWITZ
CASE Category: 11 – ASTRONOMY

NAG 5 9756 **UNIV OF MARYLAND - COLLEGE PARK**
 PERIODIC, QUASI-PERIODIC, AND BURSTING BEHAVIOR OF NEUTRON
 STAR X-RAY SOURCES
 06/28/2000 - 06/30/2002 FY03: -\$147 Total: \$39,873
Prin. Invest.: M MILLER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9809 **UNIV OF MARYLAND - COLLEGE PARK**
 STUDY OF LAND-ATMOSPHERE INTERACTIONS USING SATEL- LITE DATA
 ASSIMILATION
 07/18/2000 - 01/31/2003 FY03: \$0 Total: \$46,561
Prin. Invest.: R DUBAYAH
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9890 **UNIV OF MARYLAND - COLLEGE PARK**
 RAREFIED FLOW AERODYNAMICS FOR STABILITY & CONTROL OF
 FORMATION-FLYING SATELLITES
 08/23/2000 - 08/31/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: M J LEWIS
Tech. Officer: GSFC/M CONCHA
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 5 9892 **UNIV OF MARYLAND - COLLEGE PARK**
 NASA-CENTRAL AFRICAN REGIONAL PROGRAM FOR THE ENVI RONMENT
 (CARPE) ACTIVITY
 08/24/2000 - 08/31/2002 FY03: \$0 Total: \$80,000
Prin. Invest.: C O JUSTICE
Tech. Officer: GSFC/C J TUCKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9916 **UNIV OF MARYLAND - COLLEGE PARK**
 REPROCESSING OF GOES NOAA/NESDIS SURFACE RADIATION BUDGET
 PRODUCTS FOR GCIP
 09/01/2000 - 08/31/2004 FY03: \$300,000 Total: \$600,000
Prin. Invest.: R T PINKER
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9935 **UNIV OF MARYLAND - COLLEGE PARK**
 X-RAY PERIODOCOTY & THE BROAD IRON K LINE IN IRAS 18325-5926
 09/06/2000 - 05/14/2003 FY03: \$0 Total: \$10,500
Prin. Invest.: A J YOUNG
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10090 **UNIV OF MARYLAND - COLLEGE PARK**
 COMPARISON OF THE RADIATIVE & PHYSIOLOGICAL EFFECT OF DOUBLED
 CO2 ON THE GLOBAL CLIMATE & THE
 11/29/2000 - 12/31/2003 FY03: \$164,961 Total: \$335,023
Prin. Invest.: L BOUNOUA
Tech. Officer: GSFC/G J COLLATZ
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10097 **UNIV OF MARYLAND - COLLEGE PARK**
 INTEGRATING RADAR DATA WITH OTHER SATELLITE IMAGERGY TO ESTI-
 MATE NET PRIMARYPRODUCTIVITY IN
 11/20/2000 - 03/31/2004 FY03: \$111,504 Total: \$386,812
Prin. Invest.: E KASISCHKE
Tech. Officer: GSFC/K PARTINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10126 **UNIV OF MARYLAND - COLLEGE PARK**
 RECENT ADVANCES IN REMOTE SENSING OF BIOPHYSICAL VARIABLES
 12/11/2000 - 12/14/2002 FY03: \$0 Total: \$5,920
Prin. Invest.: S GOETZ
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10175 **UNIV OF MARYLAND - COLLEGE PARK**
 MILLIMETER OBSERVATIONS OF MEV-ENERGY ELECTRONS IN CONJUNC-
 TION WITH THE HESSI MISSION
 12/18/2000 - 12/31/2003 FY03: \$0 Total: \$137,822
Prin. Invest.: S WHITE
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10179 **UNIV OF MARYLAND - COLLEGE PARK**
 MICROWAVE EMISSION DEPTH IN FIRN AND LONG-TERM ACC UMULATION
 RATES FROM INTERNAL LAYER DISTRIBUTION
 01/10/2001 - 02/28/2003 FY03: -\$36,202 Total: \$75,236
Prin. Invest.: M FAHNESTOCK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10180 **UNIV OF MARYLAND - COLLEGE PARK**
 SOLAR FLARE PHYSICS
 01/11/2001 - 01/14/2006 FY03: \$118,437 Total: \$351,896
Prin. Invest.: E J SCHUMAHL
Tech. Officer: GSFC/B DENNIS
CASE Category: 11 – ASTRONOMY

MARYLAND

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NAG 5 10235 **UNIV OF MARYLAND - COLLEGE PARK**
 NASA/UMD: MONITORING THE STATE OF THE RAINFOREST IN THE REPUBLIC DEMOCRATIC OF THE CONGO
 02/05/2001 - 02/14/2003 FY03: \$0 Total: \$45,291
Prin. Invest.: C J TUCKER
Tech. Officer: GSFC/C J TUCKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10298 **UNIV OF MARYLAND - COLLEGE PARK**
 NONLOCAL KINETIC ANALYSIS OF MAGNETOTAIL THIN CURRENT SHEET STRUCTURE & DYNAMICS DURING SUBSTORMS
 01/24/2001 - 01/31/2004 FY03: \$81,481 Total: \$242,125
Prin. Invest.: S SHARMA
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10388 **UNIV OF MARYLAND - COLLEGE PARK**
 IMPROVED SIBERIAN LANDSCAPE MAPPING USING SRTM AND VCL DATA
 02/08/2001 - 02/14/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: G SUN
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10425 **UNIV OF MARYLAND - COLLEGE PARK**
 ISOTOPIIC & GEOCHEMICAL INVESTIGATIONS OF METEORITES
 02/15/2001 - 07/31/2004 FY03: \$80,000 Total: \$235,000
Prin. Invest.: R WALKER
Tech. Officer: GSFC/J M BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10502 **UNIV OF MARYLAND - COLLEGE PARK**
 NANOTECHNOLOGY OPTICS FOR INFRARED ASTRONOMY
 02/28/2001 - 05/31/2002 FY03: -\$492 Total: \$5,395
Prin. Invest.: L G MUNDY
Tech. Officer: GSFC/M M FREUND
CASE Category: 11 – ASTRONOMY

NAG 5 10527 **UNIV OF MARYLAND - COLLEGE PARK**
 SATELLITE MAPPING OF THE AFRICAN & ASIAN ARID & SEMI-ARID BOUNDARIES
 03/09/2001 - 09/14/2002 FY03: -\$2,939 Total: \$72,697
Prin. Invest.: D R TOWNSEND
Tech. Officer: GSFC/C J TUCKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10563 **UNIV OF MARYLAND - COLLEGE PARK**
 AUTOMATION OF SAMPEX ORBIT DETERMINATION
 03/19/2001 - 09/14/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: B SHAPIRO
Tech. Officer: GSFC/J TOTH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 10611 **UNIV OF MARYLAND - COLLEGE PARK**
 THE STRUCTURE OF YOUNG STELLAR SYSTEMS: ESTABLISHING THE INITIAL CONDITIONS FOR PLANET FORMATION
 03/17/2001 - 03/31/2004 FY03: \$45,000 Total: \$135,000
Prin. Invest.: L MUNDY
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10626 **UNIV OF MARYLAND - COLLEGE PARK**
 ADVANCED MHD MODELS FOR SOLAR WIND TURBULENCE
 03/22/2001 - 03/31/2004 FY03: \$243,118 Total: \$583,220
Prin. Invest.: A DEANE
Tech. Officer: GSFC/D GOLDSTEIN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10746 **UNIV OF MARYLAND - COLLEGE PARK**
 SEA ICE VARIABILITY, TRENDS AND CLIMATE CHANGE
 04/17/2001 - 04/30/2004 FY03: \$65,000 Total: \$195,000
Prin. Invest.: K Y VINNIKOV
Tech. Officer: GSFC/D CAVALIERI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10751 **UNIV OF MARYLAND - COLLEGE PARK**
 WITS: THE WEB INFRARED TOOLSHED.
 04/13/2001 - 04/14/2004 FY03: \$76,000 Total: \$216,000
Prin. Invest.: M G WOLFIRE
Tech. Officer: GSFC/N LAL
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 5 10858 **UNIV OF MARYLAND - COLLEGE PARK**
 LAND COVER LAND USE CHANGE PROJECT SCIENTIST SUPPORT
 05/03/2001 - 04/30/2004 FY03: \$154,222 Total: \$591,524
Prin. Invest.: C JUSTICE
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10859 **UNIV OF MARYLAND - COLLEGE PARK**
 INTER-COMPARISON OF GLOBAL SCALE ECOLOGICAL MODELS
 05/02/2001 - 07/31/2002 FY03: \$0 Total: \$100,000
Prin. Invest.: S PRINCE
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10882 **UNIV OF MARYLAND - COLLEGE PARK**
 PREDICTION OF THE THREE DIMENSIONAL STRUCTURE OF THE SOLAR WIND AT THE EARTH FROM L1 ORBIT
 05/03/2001 - 10/30/2003 FY03: \$0 Total: \$204,593
Prin. Invest.: C S GOODRICH
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10895 **UNIV OF MARYLAND - COLLEGE PARK**
 TOWARDS UNDERSTANDING STARBURST GALAXIES AT LOW & HIGH REDSHIFT (FUSE 2000)
 05/14/2001 - 05/31/2003 FY03: \$0 Total: \$36,000
Prin. Invest.: T LANZ
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10898 **UNIV OF MARYLAND - COLLEGE PARK**
 DEVELOPMENT OF ALGORITHMS FOR MONITORING & MAPPING FIRE BURNED AREAS OF NORTH AMERICA'S BOREAL & TEMPERATE ZONES
 05/22/2001 - 07/31/2003 FY03: \$0 Total: \$142,320
Prin. Invest.: L ZHANQUING
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10929 **UNIV OF MARYLAND - COLLEGE PARK**
 SOLAR ULTRAVIOLET RADIATION AND THE ORIGIN OF LIFE ON EARTH
 (FUSE 2000)
 05/14/2001 - 05/31/2003 FY03: \$0 Total: \$35,000
Prin. Invest.: T LANZ
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10959 **UNIV OF MARYLAND - COLLEGE PARK**
 IMPROVING HURRICANE FORECASTS THROUGH 3D RETRIEVAL & 4D VAR
 ASSIMILATION IN THE GEOS DATA SYSTEM ASS
 06/04/2001 - 06/14/2004 FY03: \$100,000 Total: \$298,821
Prin. Invest.: D ZHANG
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10981 **UNIV OF MARYLAND - COLLEGE PARK**
 INTRASEASONAL VARIABILITY IN THE INDIAN OCEAN
 05/31/2001 - 06/30/2004 FY03: \$39,997 Total: \$104,999
Prin. Invest.: R MURTUGUDDE
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11054 **UNIV OF MARYLAND - COLLEGE PARK**
 STUDIES OF THE SOLAR MODULATION OF GALACTIC AND ANOMALOUS
 COSMIC RAYS IN THE HELIOSPHERE
 06/20/2001 - 06/14/2004 FY03: \$70,000 Total: \$210,000
Prin. Invest.: F B MCDONALD
Tech. Officer: GSFC/W J WAGNER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11091 **UNIV OF MARYLAND - COLLEGE PARK**
 THE PROPAGATION OF HIGH-ENERGY COSMIC RAYS IN THE GALAXY
 07/06/2001 - 07/14/2004 FY03: \$0 Total: \$110,000
Prin. Invest.: F B MCDONALD
Tech. Officer: GSFC/F C JONES
CASE Category: 11 – ASTRONOMY

NAG 5 11149 **UNIV OF MARYLAND - COLLEGE PARK**
 SPATIAL PREDICTIVE MODELING AND REMOTE SENSING OF LAND USE
 CHANGE IN THE CHESAPEAKE BAY WATERSHED
 07/26/2001 - 08/14/2004 FY03: \$42,636 Total: \$254,640
Prin. Invest.: N BOCKSTAEEL
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11151 **UNIV OF MARYLAND - COLLEGE PARK**
 GLOBAL 3D MODEL STUDIES OF POLAR PROCESSES & RADI ONUCLIDES
 WITH APPLICATION TO THE GLOBAL
 07/27/2001 - 07/31/2004 FY03: \$0 Total: \$77,909
Prin. Invest.: K PICKERING
Tech. Officer: GSFC/P DE COLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11161 **UNIV OF MARYLAND - COLLEGE PARK**
 LAND USE LAND CHANGE AROUND PROTECTED AREAS IN LCL UC SITES:
 SYNTHESIS OF RATES, CONSEQUENCES FOR
 08/08/2001 - 08/14/2004 FY03: \$0 Total: \$101,095
Prin. Invest.: R DEFRIES
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11246 **UNIV OF MARYLAND - COLLEGE PARK**
 EVALUATION OF ASIAN OUTFLOW USING A STRETCHED GRID CTM
 08/16/2001 - 08/14/2004 FY03: \$52,342 Total: \$102,685
Prin. Invest.: D ALLEN
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11247 **UNIV OF MARYLAND - COLLEGE PARK**
 TRENDS IN TOTAL AND PROFILE OZONE SORTED BY METEOROLOGICAL
 REGIMES
 08/16/2001 - 08/14/2004 FY03: \$99,999 Total: \$199,998
Prin. Invest.: R HUDSON
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11251 **UNIV OF MARYLAND - COLLEGE PARK**
 BURNED AREA MAPPING IN SOUTHERN AFRICA: CASE STUDY SYNTHESIS
 AND REGIONAL APPLICATION OF MOD
 08/20/2001 - 08/14/2004 FY03: \$0 Total: \$313,019
Prin. Invest.: D ROY
Tech. Officer: GSFC/G GUTMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11252 **UNIV OF MARYLAND - COLLEGE PARK**
 BEYOND POTENTIAL VEGETATION: IMPROVING MODEL CARBON PROJEC-
 TIONS OF THE LAND SURFACE USING LUDAR RE
 08/20/2001 - 08/14/2004 FY03: \$84,848 Total: \$326,954
Prin. Invest.: R DUBAYAH
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11274 **UNIV OF MARYLAND - COLLEGE PARK**
 MOORING BASED OPTICAM MEASUREMENTS IN THE TROPICAL ATLANTIC
 OCEAN
 08/22/2001 - 08/31/2002 FY03: -\$497 Total: \$60,025
Prin. Invest.: A SUBRAMANIAN
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11276 **UNIV OF MARYLAND - COLLEGE PARK**
 REPRESENTATION IN THE GMI MODEL AND EFFECTS ON CHEMISTRY AND
 CLIMATE
 08/22/2001 - 08/31/2004 FY03: \$57,249 Total: \$112,091
Prin. Invest.: K PICKERING
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11291 **UNIV OF MARYLAND - COLLEGE PARK**
 AN INVESTIGATION OF THE INDO-PACIFIC CLIMATE IN THE NSIPP
 COUPLED CLIMATE SYSTEM
 08/22/2001 - 08/31/2002 FY03: \$0 Total: \$60,000
Prin. Invest.: R WAJSOWICZ
Tech. Officer: GSFC/M RIENECKER
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11306 **UNIV OF MARYLAND - COLLEGE PARK**
 GLOBAL FOREST COVER ASSESSMENT
 08/31/2001 - 08/31/2003 FY03: \$0 Total: \$240,266
Prin. Invest.: J TOWNSHEND
Tech. Officer: GSFC/G GUTMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NAG 5 11313 **UNIV OF MARYLAND - COLLEGE PARK**
 OPTIMAL PLANNING & CONTROL OF A VIRTUAL RIGID BODY SATELLITE
 CONSTELLATION.
 09/05/2001 - 09/14/2002 FY03: \$0 Total: \$82,630
Prin. Invest.: R SANNER
Tech. Officer: GSFC/S STRARIN
CASE Category: 41 – AERONAUTICAL ENGNR

NAG 5 11399 **UNIV OF MARYLAND - COLLEGE PARK**
 BIODIVERSITY SURVEY OF GODDARD SPACE FLIGHT CENTER
 11/27/2001 - 11/30/2003 FY03: \$0 Total: \$45,066
Prin. Invest.: L W ADAMS
Tech. Officer: GSFC/D E SQUIBB
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG 5 11468 **UNIV OF MARYLAND - COLLEGE PARK**
 INFRARED OBSERVATIONS OF COMETARY DUST AND NUCLEI
 12/10/2001 - 01/31/2004 FY03: \$0 Total: \$175,281
Prin. Invest.: C M LISSE
Tech. Officer: GSFC/J J HILMAN
CASE Category: 11 – ASTRONOMY

NAG 5 11523 **UNIV OF MARYLAND - COLLEGE PARK**
 CONTEMPORANEOUS XMM AND HST OBSERVATIONS OF SEYFER T GAL-
 AXIES
 01/08/2002 - 11/14/2003 FY03: \$0 Total: \$22,600
Prin. Invest.: C S REYNOLDS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11544 **UNIV OF MARYLAND - COLLEGE PARK**
 OXYGEN ISOTOPE STUDY OF CARBONATE AND SULFATE IN CARBON-
 ACEOUS CHONDRITES
 01/04/2002 - 12/31/2004 FY03: \$45,000 Total: \$100,000
Prin. Invest.: J FARGUHAR
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11577 **UNIV OF MARYLAND - COLLEGE PARK**
 "CLIMATE STUDIES ON VARIABILITY AND PREDICTABILITY OF WATER AND
 ENERGY CYCLES USING A VARIABLE RES
 01/16/2002 - 01/14/2005 FY03: \$128,000 Total: \$256,000
Prin. Invest.: E BERBERY
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11600 **UNIV OF MARYLAND - COLLEGE PARK**
 FRESH WATER FLUXES OF THE OB' RIVER, RUSSIA: CONTR IBUTION OF
 SNOWPACK IN COMPLEX TERRAIN.
 01/28/2002 - 01/31/2005 FY03: \$94,000 Total: \$187,000
Prin. Invest.: K L BRUBAKER
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11654 **UNIV OF MARYLAND - COLLEGE PARK**
 GLOBAL EARTHQUAKE SATELLITE SYSTEM REQUIREMENTS DE RIVED
 FROM A SUITE OF SCIENTIFIC OBSERVATIONAL AN
 02/01/2002 - 01/31/2003 FY03: \$0 Total: \$11,180
Prin. Invest.: M HOFTON
Tech. Officer: GSFC/B F CHAO
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11672 **UNIV OF MARYLAND - COLLEGE PARK**
 CARPE FOREST COVER AND INFORMATION SYSTEM
 01/30/2002 - 01/31/2003 FY03: \$0 Total: \$253,500
Prin. Invest.: C JUSTICE
Tech. Officer: GSFC/C J TUCKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11693 **UNIV OF MARYLAND - COLLEGE PARK**
 ANALYSIS OF ISTEP EVENTS FOR STRONG GEOMAGNETIC ACT IVITY
 02/12/2002 - 12/14/2003 FY03: \$0 Total: \$212,690
Prin. Invest.: K PAPADOPOLOUS
Tech. Officer: GSFC/S A CURTIS
CASE Category: 13 – PHYSICS

NAG 5 11698 **UNIV OF MARYLAND - COLLEGE PARK**
 COUPLING SATELLITE REMOTE SENSING & UNSTEADY FLOW MODELING
 FOR DISCHARGEESTIMATION.
 02/12/2002 - 09/30/2002 FY03: -\$3,910 Total: \$4,122
Prin. Invest.: C BIRKETT
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11699 **UNIV OF MARYLAND - COLLEGE PARK**
 EFFECTS OF FRESHWATER FORCING ON SEASONAL-TO-INTER ANNUAL
 VARIABILITY OF TROPICAL OCEANS AND ECOSYST
 02/12/2002 - 09/30/2004 FY03: \$0 Total: \$26,053
Prin. Invest.: C BIRKETT
Tech. Officer: GSFC/A J BUSSALACCHI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11700 **UNIV OF MARYLAND - COLLEGE PARK**
 FLOODS AND DROUGHTS IN AFRICA: RELATION TO SHORT- TERM CLIMATE
 VARIABILITY.
 02/12/2002 - 09/30/2004 FY03: \$0 Total: \$91,201
Prin. Invest.: C M BIRKETT
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11722 **UNIV OF MARYLAND - COLLEGE PARK**
 RUBBLE PILE DYNAMICS
 02/11/2002 - 02/14/2005 FY03: \$47,000 Total: \$92,000
Prin. Invest.: D C RICHARDSON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11767 **UNIV OF MARYLAND - COLLEGE PARK**
 MAGNETOHYDRODYNAMICS OF DUSTY PROTOSTELLAR DISKS
 02/21/2002 - 02/28/2005 FY03: \$50,000 Total: \$100,000
Prin. Invest.: J M STONE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11786 **UNIV OF MARYLAND - COLLEGE PARK**
 BIOMASS BURNING EMISSIONS WORKSHOP
 02/22/2002 - 02/29/2004 FY03: \$16,163 Total: \$53,255
Prin. Invest.: E KASISCHKE
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11812 **UNIV OF MARYLAND - COLLEGE PARK**
MISSION OPERATIONS AND DATA ANALYSIS (MO&DA PHASE) FOR THE
SOLAR WIND AND SUPRATHERMAL ION COMPOSITION
02/28/2002 - 03/31/2005 FY03: \$65,000 Total: \$130,000
Prin. Invest.: G GLOECKLER
Tech. Officer: GSFC/K OGILVIE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11854 **UNIV OF MARYLAND - COLLEGE PARK**
STEPS TOWARD AN ULTRAVIOLET/OPTICAL FIZEAU INTERFEROMETER
03/28/2002 - 03/31/2005 FY03: \$34,521 Total: \$68,016
Prin. Invest.: L MUNDY
Tech. Officer: GSFC/K CARPENTER
CASE Category: 11 – ASTRONOMY

NAG 5 11872 **UNIV OF MARYLAND - COLLEGE PARK**
RESEARCH IN SOLAR RADIO ASTRONOMY AT SHORT WAVELENGTHS
03/15/2002 - 05/31/2004 FY03: \$0 Total: \$30,000
Prin. Invest.: M R KUNDU
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 11939 **UNIV OF MARYLAND - COLLEGE PARK**
ALTIMETRIC REMOTE SENSING OF THE AMAZON: CONTRIBUTION TO
SURFACE WATER DYNAMICS
03/28/2002 - 06/30/2004 FY03: \$0 Total: \$97,962
Prin. Invest.: C BIRKETT
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11952 **UNIV OF MARYLAND - COLLEGE PARK**
EVALUATION OF SOFTWARE ENGINEERING METHODOLOGIES
04/08/2002 - 04/14/2004 FY03: \$0 Total: \$125,000
Prin. Invest.: D SMIDTS
Tech. Officer: GSFC/L H ROSENBERG
CASE Category: 42 – AERONAUTICAL ENGR

NAG 5 11956 **UNIV OF MARYLAND - COLLEGE PARK**
CHEMICAL TRACER TRANSPORT IN CRYSTAL-FACE: MESOSCALE FORE-
CASTS AND CLOUD MODEL ANALYSIS
03/29/2002 - 03/31/2004 FY03: \$106,144 Total: \$240,357
Prin. Invest.: K PICKERING
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11994 **UNIV OF MARYLAND - COLLEGE PARK**
COMPUTATIONAL FRAMEWORK FOR LWS.
05/30/2002 - 07/31/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: C C GOODRICH
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12011 **UNIV OF MARYLAND - COLLEGE PARK**
"ELECTROMECHANICAL CHARACTERIZATION OF MEMS MATERIALS AT
CRYOGENIC TEMPERATURE"
04/16/2002 - 04/30/2004 FY03: \$151,000 Total: \$211,000
Prin. Invest.: R GHODSSI
Tech. Officer: GSFC/T T KING
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 12063 **UNIV OF MARYLAND - COLLEGE PARK**
DATA ANALYSIS, SCIENTIFIC INTERPRETATION, AND MISSION OPERATIONS
FOR SOHO/CELIAS
05/07/2002 - 05/14/2004 FY03: \$350,000 Total: \$750,000
Prin. Invest.: F M IPAVICH
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12073 **UNIV OF MARYLAND - COLLEGE PARK**
INVESTIGATION OF DEEP CUMULUS FORMATION DURING CRYSTALLINE
04/23/2002 - 04/14/2004 FY03: \$0 Total: \$48,118
Prin. Invest.: A DESSLER
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12112 **UNIV OF MARYLAND - COLLEGE PARK**
LARGE AREA LIDAR REMOTE SENSING OF VEGETATION HEIGHT, VERTI-
CAL STRUCTURE, AND BIOMASS IN TROPICAL
04/30/2002 - 04/30/2005 FY03: \$141,072 Total: \$190,509
Prin. Invest.: M HOFFTON
Tech. Officer: GSFC/S B LUTHCKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12130 **UNIV OF MARYLAND - COLLEGE PARK**
THE CONTRIBUTION OF SATELLITE RADAR ALTIMETRY TO THE DETERMI-
NATION OF RIVER DISCHARGE AND LAKE/RESERVOIR
04/30/2002 - 09/30/2003 FY03: \$0 Total: \$37,000
Prin. Invest.: C BIRKETT
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12136 **UNIV OF MARYLAND - COLLEGE PARK**
2002 ASEE-NASA SUMMER FACULTY FELLOWSHIP PROGRAM (AERONAU-
TICS AND SPACE RESEARCH)
05/01/2002 - 04/30/2003 FY03: \$0 Total: \$389,909
Prin. Invest.: M GAVRILAS
Tech. Officer: GSFC/M S BURRELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12149 **UNIV OF MARYLAND - COLLEGE PARK**
BIOMASS BURNING OVER NORTH AMERICA
05/10/2002 - 12/31/2003 FY03: \$0 Total: \$36,808
Prin. Invest.: I CSISZAR
Tech. Officer: GSFC/G GUTMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12175 **UNIV OF MARYLAND - COLLEGE PARK**
INTEGRATED NUMERICAL SIMULATION OF THE SOLAR-TERRRESTRIAL
ENVIRONMENT FOR THE LIVING WITH A STAR
05/13/2002 - 07/31/2002 FY03: -\$537,567 Total: \$0
Prin. Invest.: C C GOODRICH
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12246 **UNIV OF MARYLAND - COLLEGE PARK**
STUDY OF THE CIRCULATIONS THAT CONNECT THE TROPICAL, SUBTROPICAL,
AND SUBPOLAR REGIONS IN THE PACIFIC
06/20/2002 - 06/14/2005 FY03: \$33,755 Total: \$135,019
Prin. Invest.: A BUSALACCHI
Tech. Officer: GSFC/B EMERY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

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NAG 5 12276 **UNIV OF MARYLAND - COLLEGE PARK**
 MICROPHYSICS AND FLUID MODELING OF MAGNETOSPHERIC DYNAMICS
 06/18/2002 - 06/30/2005 FY03: \$51,000 Total: \$97,500
Prin. Invest.: J DRAKE
Tech. Officer: GSFC/M HESSE
CASE Category: 13 – PHYSICS

NAG 5 12337 **UNIV OF MARYLAND - COLLEGE PARK**
 EMPIRICAL ESTIMATES OF PROTEROZOIC CO2 LEVELS BY IN-SITU ION
 MICROPROBE CARBON ISOTOPE ANALYSIS OF
 07/15/2002 - 06/30/2005 FY03: \$0 Total: \$41,880
Prin. Invest.: A KAUFMAN
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12350 **UNIV OF MARYLAND - COLLEGE PARK**
 EXPERIMENTAL INVESTIGATION OF PHOTOCHEMICAL SULFUR ISOTOPE
 EFFECTS: APPLICATIONS TO EARTH'S EAR
 07/03/2002 - 06/30/2005 FY03: \$70,575 Total: \$138,076
Prin. Invest.: J FARQUHAR
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12375 **UNIV OF MARYLAND - COLLEGE PARK**
 MODELING OCEANIC AND COUPLED PROCESSES RELEVANT TO
 SEASONAL-TO- INTERANNUAL VARIABILITY
 08/09/2002 - 07/31/2005 FY03: \$80,000 Total: \$160,000
Prin. Invest.: R C WAJSOWICZ
Tech. Officer: GSFC/M RIENECKER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12376 **UNIV OF MARYLAND - COLLEGE PARK**
 ON THE ROLE OF OCEAN SALINITY VARIABILITY ON THE RECONDITION-
 ING OF MAJOR WARM EVENTS IN THE TR
 07/15/2002 - 07/14/2005 FY03: \$91,135 Total: \$135,927
Prin. Invest.: R MURTUGUDDE
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12383 **UNIV OF MARYLAND - COLLEGE PARK**
 THE FORMATION MECHANISM OF HELIUM-RICH SUBDWARF B STARS
 07/17/2002 - 06/30/2003 FY03: \$0 Total: \$15,100
Prin. Invest.: T LANZ
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12414 **UNIV OF MARYLAND - COLLEGE PARK**
 SUPPORT, CHARACTERIZATION, ASSESSMENT, PORTOTYPING AND DISTRI-
 BUTION OF GLOBAL LAND PRODUCTS FROM THE
 08/02/2002 - 07/31/2007 FY03: \$154,634 Total: \$302,208
Prin. Invest.: D ROY
Tech. Officer: GSFC/E J MASUOKA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12417 **UNIV OF MARYLAND - COLLEGE PARK**
 DYNAMICAL DIAGNOSIS OF THE NSIPP ATMOSPHERIC SIMULATIONS AND
 PREDICTIONS
 08/01/2002 - 07/31/2005 FY03: \$110,000 Total: \$183,000
Prin. Invest.: S NIGAM
Tech. Officer: GSFC/M RIENECKER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12418 **UNIV OF MARYLAND - COLLEGE PARK**
 IMPROVING NSIPP DATA ASSIMILATION USING ENSEMBLES OF BRED
 VECTORS
 10/02/2002 - 09/30/2005 FY03: \$250,000 Total: \$250,000
Prin. Invest.: E KALNAY
Tech. Officer: GSFC/M RIENECKER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12436 **UNIV OF MARYLAND - COLLEGE PARK**
 CORONAE AND COMAE IN THE INNER SOLAR SYSTEM
 11/07/2002 - 05/14/2004 FY03: \$199,503 Total: \$199,503
Prin. Invest.: R KILLEN
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12464 **UNIV OF MARYLAND - COLLEGE PARK**
 METHODOLOGIES AND TOOLS FOR SYNTHESIS AND MANAGEMEN T OF
 NASA GLOBAL PRECIPITATION MEASUREMENT (
 08/21/2002 - 09/30/2005 FY03: \$50,000 Total: \$100,000
Prin. Invest.: M AUSTIN
Tech. Officer: GSFC/D EVERETT
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 12480 **UNIV OF MARYLAND - COLLEGE PARK**
 DBA AND DAB WHITE DWARFS (FUZE 2001)
 08/21/2002 - 08/31/2004 FY03: \$0 Total: \$38,000
Prin. Invest.: T LANZ
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12499 **UNIV OF MARYLAND - COLLEGE PARK**
 INVESTIGATION OF SURFACE CONTAMINATION CHEMISTRY ON OPTICAL
 COMPONENT SURFACE COATINGS
 09/09/2002 - 09/14/2003 FY03: \$0 Total: \$90,316
Prin. Invest.: A CHRISTOU
Tech. Officer: GSFC/J ABSHIRE
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 12550 **UNIV OF MARYLAND - COLLEGE PARK**
 OBSERVATION OF CALCIUM AND SEARCH FOR NEW SPECIES IN MERCU-
 RY'S ATMOSPHERE
 09/06/2002 - 08/14/2004 FY03: \$72,000 Total: \$208,402
Prin. Invest.: R KILLEN
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12566 **UNIV OF MARYLAND - COLLEGE PARK**
 ORIGINS OF THE ATMOSPHERES OF MERCURY AND THE MOON
 09/11/2002 - 05/31/2004 FY03: \$64,983 Total: \$186,859
Prin. Invest.: R M KILLEN
Tech. Officer: GSFC/J HILLMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12636 **UNIV OF MARYLAND - COLLEGE PARK**
 EROS AND MATHILDE CALIBRATION AND ANALYSIS OF SPEC TROSCOPY
 AND PHOTOMETRY
 10/02/2002 - 09/30/2003 FY03: \$60,000 Total: \$60,000
Prin. Invest.: L MCFADDEN
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12650 **UNIV OF MARYLAND - COLLEGE PARK**
 INVESTIGATION OF ZNMGO ALLOYS FOR PHOTOCATHODE ELE CTRON
 EMITTERS
 11/15/2002 - 04/30/2003 FY03: \$24,400 Total: \$24,400
Prin. Invest.: R D VISPUTE
Tech. Officer: GSFC/B WOODGATE
CASE Category: 11 – ASTRONOMY

NAG 5 12667 **UNIV OF MARYLAND - COLLEGE PARK**
 INTERCALIBRATION OF FIRE PRODUCTS FROM AVHRR AND M ODIS
 01/13/2003 - 01/14/2006 FY03: \$96,888 Total: \$96,888
Prin. Invest.: I CSISZAR
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12717 **UNIV OF MARYLAND - COLLEGE PARK**
 INVESTIGATION OF ADVANCED WIDEBAND HETERODYNE CORRELATORS
 AND SPECTROMETERS
 12/30/2002 - 12/31/2004 FY03: \$48,000 Total: \$48,000
Prin. Invest.: A HARRIS
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12732 **UNIV OF MARYLAND - COLLEGE PARK**
 THE EARLY DEVELOPMENT OF EIT WAVES: RADIO OBSERVA- TIONS OF
 ONSET
 01/27/2003 - 01/31/2006 FY03: \$49,377 Total: \$49,377
Prin. Invest.: S WHITE
Tech. Officer: GSFC/T A KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12744 **UNIV OF MARYLAND - COLLEGE PARK**
 PRECESSION TIME-OF-FLIGHT MASS ANALYZER DEVELOPMENT
 01/21/2003 - 01/14/2004 FY03: \$57,700 Total: \$57,700
Prin. Invest.: M COPLAN
Tech. Officer: GSFC/J W KELLER
CASE Category: 13 – PHYSICS

NAG 5 12852 **UNIV OF MARYLAND - COLLEGE PARK**
 IPA RE-ENTRY GRANT: NEW SPECTROSCOPIC PARAMETERI- ZATION OF
 THE BREAK-DOWN OF THE BORN-OPPENHEIMER
 02/06/2003 - 01/31/2004 FY03: \$42,250 Total: \$42,250
Prin. Invest.: J J HILLMAN
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12860 **UNIV OF MARYLAND - COLLEGE PARK**
 RESEARCH IN SOLAR RADIO ASTRONOMY AT SHORT WAVE LENGTHS
 01/31/2003 - 01/31/2006 FY03: \$118,236 Total: \$118,236
Prin. Invest.: M R KUNDO
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12866 **UNIV OF MARYLAND - COLLEGE PARK**
 MULTI-SENSOR REMOTE SENSING DATA FUSION FOR FOREST DYNAMICS
 & CARBON CYCLE STUDIES IN SIBERIA FOREST
 02/03/2003 - 01/31/2006 FY03: \$103,619 Total: \$103,619
Prin. Invest.: G SUN
Tech. Officer: GSFC/K J RANSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12892 **UNIV OF MARYLAND - COLLEGE PARK**
 PRODUCING HIGH-RESOLUTION LAND SURFACE INCIDENT PAR PRODUCT
 FROM MULTIPLE SATELLITE DATA
 02/11/2003 - 02/14/2007 FY03: \$76,502 Total: \$76,502
Prin. Invest.: S LIANG
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12904 **UNIV OF MARYLAND - COLLEGE PARK**
 ASSESSING EASTERN NORTH AMERICAN FOREST DISTURBANCE AND
 REGROWTH
 02/26/2003 - 02/28/2006 FY03: \$110,581 Total: \$110,581
Prin. Invest.: S N GOWARD
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12928 **UNIV OF MARYLAND - COLLEGE PARK**
 "FAST 3D ION COMPOSITION PLASMA SPECTROMETER"
 02/28/2003 - 02/28/2006 FY03: \$28,500 Total: \$28,500
Prin. Invest.: M A COPLAN
Tech. Officer: GSFC/E SITTLER
CASE Category: 13 – PHYSICS

NAG 5 12961 **UNIV OF MARYLAND - COLLEGE PARK**
 CARPE FOREST COVER AND INFORMATION SYSTEMS
 03/12/2003 - 07/31/2004 FY03: \$212,852 Total: \$212,852
Prin. Invest.: C JUSTICE
Tech. Officer: GSFC/C TUCKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13023 **UNIV OF MARYLAND - COLLEGE PARK**
 MECHANISMS OF DEEP CHLOROPHYLL MAXIMAN IN THE BAY OF BENGAL
 03/11/2003 - 02/28/2004 FY03: \$60,835 Total: \$60,835
Prin. Invest.: R MURTUGUDDE
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13047 **UNIV OF MARYLAND - COLLEGE PARK**
 KINETIC THEORY AND SIMULATIONS OF THE RECONNECTION ONSET
 03/11/2003 - 03/14/2006 FY03: \$96,005 Total: \$96,005
Prin. Invest.: M SITNOV
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13052 **UNIV OF MARYLAND - COLLEGE PARK**
 MAGNETIC RECONNECTION & ASSOCIATED WAVE & PARTICLE SIGNA-
 TURES IN COLLISIONLESS PLASMA
 03/12/2003 - 03/14/2006 FY03: \$110,650 Total: \$110,650
Prin. Invest.: J DRAKE
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13065 **UNIV OF MARYLAND - COLLEGE PARK**
 ACTIVE GALACTIC NUCLEI IN LOW LUMINOSITY AGN AND ULTRA LUMI-
 NOUS INFRARED GALAXIES
 03/12/2003 - 03/14/2008 FY03: \$112,292 Total: \$112,292
Prin. Invest.: A WILSON
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NAG 5 13100 **UNIV OF MARYLAND - COLLEGE PARK**
 ORIGIN & EARLY EVOLUTION OF PLANETARY SATELLITES U SING "HN-
 BODY" AN EXTENDABLE TOOLKIT FOR ADVA
 03/17/2003 - 03/14/2006 FY03: \$49,000 Total: \$49,000
Prin. Invest.: D HAMILTON
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13108 **UNIV OF MARYLAND - COLLEGE PARK**
 STELLAR MASSES FROM 2MASS INFRARED DATA AND THE DEN-
 SITY DISTRIBUTION OF DARK MATTER HALOS
 03/14/2003 - 03/14/2006 FY03: \$39,227 Total: \$39,227
Prin. Invest.: S MCGAUGH
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13187 **UNIV OF MARYLAND - COLLEGE PARK**
 MASSIVE STARS IN THE MAGELLANIC CLOUDS & STARBURST GALAXIES
 (ADP 2001)
 03/28/2003 - 03/31/2005 FY03: \$21,821 Total: \$21,821
Prin. Invest.: T M LANZ
Tech. Officer: GSFC/R J OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 13193 **UNIV OF MARYLAND - COLLEGE PARK**
 RAPID RESPONSE WITH THE USDA FOREST SERVICE - USE OF NASA EOS
 DATA TO IMPROVE FEDERAL RESPONSE TO
 05/01/2003 - 04/30/2006 FY03: \$240,780 Total: \$240,780
Prin. Invest.: R SOHLBERG
Tech. Officer: GSFC/H FREY
CASE Category: 32 – GEOLOGICALSCIENCE

NAG 5 13214 **UNIV OF MARYLAND - COLLEGE PARK**
 ROLE OF ROTATION IN MASSIVE-STAR EVOLUTION (FUSE 4)
 04/01/2003 - 03/31/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: T LANZ
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13216 **UNIV OF MARYLAND - COLLEGE PARK**
 INTEGRATING SOFTWARE INTO PROBABILISTIC RISK ASSESSMENT
 04/01/2003 - 03/31/2004 FY03: \$180,000 Total: \$180,000
Prin. Invest.: D S SMIDTS
Tech. Officer: GSFC/A M GALLO
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 13229 **UNIV OF MARYLAND - COLLEGE PARK**
 DYNAMICS OF BLACK HOLES IN DENSE STELLAR REGIONS
 04/02/2003 - 04/14/2006 FY03: \$88,440 Total: \$88,440
Prin. Invest.: C MILLER
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13240 **UNIV OF MARYLAND - COLLEGE PARK**
 INFRARED SPECTROSCOPIC STUDIES OF ORGANIC ICES: DATABASE FOR
 THE ANALYSES OF TITAN IR SPECTRA
 04/26/2003 - 04/30/2006 FY03: \$54,612 Total: \$54,612
Prin. Invest.: R KHANNA
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13247 **UNIV OF MARYLAND - COLLEGE PARK**
 ASSESSING THE EFFECTS OF SEA LEVEL RISE ON THE PATTERNS OF
 COASTAL FLOODING AND THE DISTRIBUTION
 04/03/2003 - 03/31/2006 FY03: \$140,761 Total: \$140,761
Prin. Invest.: E KASISCHKE
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 13259 **UNIV OF MARYLAND - COLLEGE PARK**
 SNOW MEASUREMENTS FROM GROUND AND SPACE
 04/16/2003 - 04/30/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: R T PINKER
Tech. Officer: GSFC/D K HALL
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13295 **UNIV OF MARYLAND - COLLEGE PARK**
 STUDIES OF SOHO COMETS
 04/05/2003 - 04/14/2006 FY03: \$55,000 Total: \$55,000
Prin. Invest.: M A'HEARN
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13358 **UNIV OF MARYLAND - COLLEGE PARK**
 BASIC ROBUST AND EFFICIENT TOOLS FOR NASA'S INFORMATION SCI-
 ENCE TECHNOLOGY
 04/17/2003 - 04/30/2006 FY03: \$42,001 Total: \$42,001
Prin. Invest.: D JAJA
Tech. Officer: GSFC/J LEMOIGNE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 13383 **UNIV OF MARYLAND - COLLEGE PARK**
 S.T.A.N.D. (SCIENCE & TECHNOLOGY: ADDRESSING THE NEED FOR DIVER-
 SITY). EDUCATION & OUTREACH PROGRAM
 04/17/2003 - 04/30/2006 FY03: \$30,000 Total: \$30,000
Prin. Invest.: S HALPERIN
Tech. Officer: GSFC/J E RICHARDS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13400 **UNIV OF MARYLAND - COLLEGE PARK**
 SUPPORT OF APPLICATION OF NASA EOS MODIS DATA BY USDA FOREIGN
 AGRICULTURAL SERVICE
 04/17/2003 - 04/14/2006 FY03: \$271,264 Total: \$271,264
Prin. Invest.: C JUSTICE
Tech. Officer: GSFC/E SHEFFNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13406 **UNIV OF MARYLAND - COLLEGE PARK**
 ANALYZE AND SIMULATE ATMOSPHERE-LAND SURFACE INTERACTIONS
 OVER URBAN AREAS
 04/25/2003 - 04/30/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: M JIN
Tech. Officer: GSFC/C PETER-LIDARD
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13452 **UNIV OF MARYLAND - COLLEGE PARK**
 ON THE PHYSICS OF STRONG MAGNETIC STORMS
 05/05/2003 - 05/14/2006 FY03: \$100,532 Total: \$100,532
Prin. Invest.: K PAPAPOPOULOS
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13522 **UNIV OF MARYLAND - COLLEGE PARK**
 WIND-INDUCED SHORT TIME-SCALE FLUCTUATIONS OF PHYTOPLANKTON BIOMASS
 05/06/2003 - 07/14/2004 FY03: \$68,453 Total: \$68,453
Prin. Invest.: B UZ
Tech. Officer: GSFC/C TREES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13557 **UNIV OF MARYLAND - COLLEGE PARK**
 X-RAY SPECTRAL SURVEY OF RADIO-SELECTED LOW- LUMINOSITY AGNS
 07/31/2003 - 07/31/2004 FY03: \$20,000 Total: \$20,000
Prin. Invest.: A S WILSON
Tech. Officer: GSFC/S L SNOWDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13627 **UNIV OF MARYLAND - COLLEGE PARK**
 MODIS FIRE PRODUCTS AND LANDCOVER DYNAMICS IN BRAZIL
 08/27/2003 - 08/31/2006 FY03: \$64,761 Total: \$64,761
Prin. Invest.: I A CSISZAR
Tech. Officer: GSFC/J T MORISSETTE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13636 **UNIV OF MARYLAND - COLLEGE PARK**
 APPLICATION OF HHT ANALYSIS TO EXTRACTION OF THE- MATIC COMPO-
 NENTS FROM OCEAN OSCILLATION MEASUREMENT
 09/04/2003 - 12/31/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: J CARTON
Tech. Officer: GSFC/N HUANG
CASE Category: 11 – ASTRONOMY

NAG 5 13642 **UNIV OF MARYLAND - COLLEGE PARK**
 SML- AND STEP-BASED FORMATS FOR EXCHANGE OF REQUIREMENTS
 AMONG SYSTEMS ENGINEERING TOOLS
 09/10/2003 - 01/14/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: M AUSTIN
Tech. Officer: GSFC/J ANDARY
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 13686 **UNIV OF MARYLAND - COLLEGE PARK**
 INTEGRAL OBSERVATION OF THE ULTRALUMINOUS INFRARED GALAXY
 MRK273
 09/23/2003 - 09/14/2004 FY03: \$13,885 Total: \$13,885
Prin. Invest.: S VEILLEUX
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13784 **UNIV OF MARYLAND - COLLEGE PARK**
 INTERFEROMETRY TECHNIQUES AND THEIR SPACE APPLICATIONS
 09/30/2003 - 09/30/2004 FY03: \$86,000 Total: \$86,000
Prin. Invest.: L MUNDY
Tech. Officer: GSFC/W C DANCHI
CASE Category: 11 – ASTRONOMY

NAG 8 1440 **UNIV OF MARYLAND - COLLEGE PARK**
 SEARCH FOR SPIN-MASS INTERACTION WITH A SUPER- CONDUCTING
 DIFFERENTIAL ANGULAR ACCELEROMETER
 02/02/1998 - 06/30/2003 FY03: \$0 Total: \$541,000
Prin. Invest.: H J PAIK, M V MOODY
Tech. Officer: MSFC/J W POE
CASE Category: 13 – PHYSICS

NAG 8 1762 **UNIV OF MARYLAND - COLLEGE PARK**
 THEORY OF PHASE TRANSITIONS AND SIMULATIONS IN USPERFLUID
 HELIUM OF COSMOLOGICAL PHENOMENA
 04/26/2001 - 02/01/2005 FY03: \$0 Total: \$168,332
Prin. Invest.: R FERRELL
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1180 **UNIV OF MARYLAND - COLLEGE PARK**
 GRANT DEVELOPEMENT/TESTING OF MECH COUNTERSPRESSURE SPACE
 SUIT GLOVE
 12/14/1999 - 12/31/2002 FY03: \$0 Total: \$442,500
Prin. Invest.: D L AKIN
Tech. Officer: JSC/B WOOLFORD
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1290 **UNIV OF MARYLAND - COLLEGE PARK**
 RESEARCH IN SPACE & TELEROBOTICS
 04/04/2001 - 09/30/2002 FY03: \$0 Total: \$500,000
Prin. Invest.: D AKIN
Tech. Officer: JSC/C CULBERT
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1920 **UNIV OF MARYLAND - COLLEGE PARK**
 COMPUTER SIMULATIONS OF THE VARIABLE SPECIFIC IMPU LSE MAGNE-
 TOPLASMA ROCKET
 06/23/2000 - 12/31/2001 FY03: \$0 Total: \$130,000
Prin. Invest.: R SAGDEEV
Tech. Officer: JSC/F R CHANG-DIAZ
CASE Category: 13 – PHYSICS

NAG13 02009 **UNIV OF MARYLAND - COLLEGE PARK**
 THE USE OF SATELLITE OCEAN COLOR DATA FOR COASTAL WATER
 QUALITY MONITORING
 12/10/2001 - 09/23/2004 FY03: \$6,500 Total: \$355,643
Prin. Invest.: A SUBRAMANIAM
Tech. Officer: SSC/G FLETCHERT
CASE Category: 33 – OCEANOGRAPHY

NAG13 02010 **UNIV OF MARYLAND - COLLEGE PARK**
 REMOTE SENSING APPLICATIONS TO FOREST RESOURCE ASS ESSMENT
 12/10/2001 - 09/16/2004 FY03: -\$241,999 Total: \$158,001
Prin. Invest.: S J GOETZ
Tech. Officer: SSC/T M STANLEY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 98001 **UNIV OF MARYLAND - COLLEGE PARK**
 ENHANCING EARTH SYSTEM SCIENCES USING COMMERCIAL TERRES-
 TRIAL REMOTE SENSING SYSTEMS
 11/03/1997 - 02/24/2004 FY03: \$0 Total: \$1,003,023
Prin. Invest.: S GOWARD
Tech. Officer: SSC/J JENNER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 99011 **UNIV OF MARYLAND - COLLEGE PARK**
 MID ATLANTIC RESAC CONSORTIUM SAME
 03/01/1999 - 02/28/2003 FY03: \$0 Total: \$1,730,000
Prin. Invest.: S D PRINCE
Tech. Officer: SSC/C HILL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

MARYLAND

NASA'S UNIVERSITY PROGRAM

NAS 5 00192 **UNIV OF MARYLAND - COLLEGE PARK**
 R & D TO SUPPORT GSFC'S SIMBIOS PROJECT
 12/18/2000 - 11/30/2002 FY03: \$160,449 Total: \$598,990
Prin. Invest.: A SUBRAMANIAM
Tech. Officer: GSFC/C R MCCLAIN
CASE Category: 33 – OCEANOGRAPHY

NAS 5 31365 **UNIV OF MARYLAND - COLLEGE PARK**
 EOS EXECUTION PHASE
 01/02/1992 - 06/14/2003 FY03: \$619,000 Total: \$5,866,490
Prin. Invest.: C JUSTICE
Tech. Officer: GSFC/H OSEROFF
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 96060 **UNIV OF MARYLAND - COLLEGE PARK**
 DEFINITION PHASE ACTIVITIES ASSOCIATED WITH THE MODIS INSTRUMENT OF THE EOS
 07/25/1996 - 12/14/2003 FY03: \$404,753 Total: \$2,738,753
Prin. Invest.: J TOWNSHEND
Tech. Officer: GSFC/D TOLL
CASE Category: 11 – ASTRONOMY

NAS 5 96062 **UNIV OF MARYLAND - COLLEGE PARK**
 DEFINITION PHASE ACTIVITIES ASSOCIATED WITH MODIS INSTRUMENT OF THE EOS
 07/02/1996 - 12/14/2003 FY03: \$405,549 Total: \$2,844,388
Prin. Invest.: E VERMONT
Tech. Officer: GSFC/D TOLL
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 97160 **UNIV OF MARYLAND - COLLEGE PARK**
 VEGETATION CANOPY LIDAR MISSION FOR ESSP
 05/15/1997 - 09/30/2005 FY03: \$296,000 Total: \$35,029,833
Prin. Invest.: R DUBAYAH
Tech. Officer: GSFC/J ROBINSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 99211 **UNIV OF MARYLAND - COLLEGE PARK**
 AWARD - SAMPEX MISSION SUPPORT
 08/27/1999 - 08/26/2004 FY03: \$0 Total: \$360,000
Prin. Invest.: W FOURNEY
Tech. Officer: GSFC/T STENGLE
CASE Category: 41 – AERONAUTICAL ENGR

NASW 00004 **UNIV OF MARYLAND - COLLEGE PARK**
 MESSENGER DISCOVERY PROJECTS (PI'S MANAGE PROJECT ORBIT & EXPLOR PLANET MERCURY PHASE B
 03/14/2000 - 02/29/2004 FY03: \$5,977,855 Total: \$36,496,398
Prin. Invest.: M F A'HEARN
Tech. Officer: JPL/D JARRETT
CASE Category: 11 – ASTRONOMY

NASW 02011 **UNIV OF MARYLAND - COLLEGE PARK**
 KTR WILL PROVIDE SOFTWARE ENHANCEMENTS, DEVELOP TRNG MATERIALS & PRESENT WORKSHOPS ON SOFTWARE
 03/29/2002 - 12/31/2002 FY03: \$0 Total: \$127,102
Prin. Invest.: A MOSLEH
Tech. Officer: HQ/P BOELINER
CASE Category: 22 – COMPUTER SCIENCE

NCC 1 03012 **UNIV OF MARYLAND - COLLEGE PARK**
 TRANSITION MECHANISMS ON MULTI-ELEMENT AIRFOILS
 04/07/2003 - 04/06/2006 FY03: \$66,583 Total: \$66,583
Prin. Invest.: U PIOMELLI
Tech. Officer: LARC/M M CHOUDHARI, LARC/C L STREET
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1129 **UNIV OF MARYLAND - COLLEGE PARK**
 WAVERIDER-BASED REENTRY CONFIGURATIONS FOR THE SHARP FLIGHT EXPERIMENT
 07/13/1999 - 12/14/2001 FY03: -\$22 Total: \$66,586
Prin. Invest.: M J LEWIS
Tech. Officer: ARC/P KOLODZIEJ, ARC/D J RASKY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1146 **UNIV OF MARYLAND - COLLEGE PARK**
 EVALUATION OF METHODOLOGY FOR TESTING AND ANALYSIS FOR ADVANCED ROTOR SYSTEMS
 12/01/1999 - 03/31/2003 FY03: \$0 Total: \$376,025
Prin. Invest.: F HARRIS, I CHROPA, G PRICE
Tech. Officer: ARC/W WARMBRODT
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1303 **UNIV OF MARYLAND - COLLEGE PARK**
 INTERSTELLAR ICES AND INTERSTELLAR POLYCYCLIC AROMATIC HYDRO-CARBON ION NANOCCLUSERS
 02/06/2002 - 01/31/2005 FY03: \$138,124 Total: \$220,024
Prin. Invest.: M GUDIPATI
Tech. Officer: ARC/L ALLAMANDOLA
CASE Category: 11 – ASTRONOMY

NCC 2 1427 **UNIV OF MARYLAND - COLLEGE PARK**
 ADAPTIVE FLIGHT PLANNING FOR THE PILOTS OPTIMAL WORKLOAD REDUCER (POWR)
 09/23/2003 - 09/14/2006 FY03: \$25,200 Total: \$25,200
Prin. Invest.: E ATKINS, R SANNER
Tech. Officer: ARC/K KRISHNAKUMAR, ARC/K GUNDY-BURLET
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 528 **UNIV OF MARYLAND - COLLEGE PARK**
 CENTER FOR SATELLITE AND HYBRID COMMUNICATION NETWORKS
 01/30/1997 - 08/31/2002 FY03: \$0 Total: \$3,430,000
Prin. Invest.: J S BARAS
Tech. Officer: GRC/J W BAGWELL, GRC/K B BHASIN
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 686 **UNIV OF MARYLAND - COLLEGE PARK**
 STUDIES ON THE BEHAVIOR OF HIGHLY PRE-HEATED AIR FLOW LAMES IN MICROGRAVITY
 03/11/1999 - 01/11/2004 FY03: \$26,500 Total: \$394,500
Prin. Invest.: A K GUPTA
Tech. Officer: GRC/D STOCKER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 783 **UNIV OF MARYLAND - COLLEGE PARK**
 POOL BOILING HEAT TRANSFER MECHANISMS IN MICROGRAVITY AND PARTIAL GRAVITY
 03/13/2000 - 03/01/2004 FY03: \$120,000 Total: \$429,000
Prin. Invest.: J KIM
Tech. Officer: GRC/J B MCQUILLEN
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 804 **UNIV OF MARYLAND - COLLEGE PARK**
 FLAMMABILITY DIAGRAMS OF COMBUSTIBLE MATERIALS IN MICROGRAVITY
 05/25/2000 - 04/30/2004 FY03: \$0 Total: \$129,092
Prin. Invest.: D L
Tech. Officer: GRC/H D ROSS
CASE Category: 46 – MECHANICAL ENGR

NCC 3 919 **UNIV OF MARYLAND - COLLEGE PARK**
 TRANSITION FROM IGNITION TO FLAME GROWTH UNDER EXT ERNAL RADIATION IN D-D
 09/27/2001 - 09/29/2004 FY03: \$146,160 Total: \$215,460
Prin. Invest.: T KASHIWAGI
Tech. Officer: GRC/S OLSON
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 989 **UNIV OF MARYLAND - COLLEGE PARK**
 MARYLAND-MICHIGAN-WASHINGTON THIRD GENERATION REUS ABLE LAUNCH TECHNOLOGY INST (URETI)
 08/19/2002 - 08/18/2007 FY03: \$2,000,000 Total: \$3,740,000
Prin. Invest.: D LEWIS
Tech. Officer: GRC/M HYATT
CASE Category: 41 – AERONAUTICAL ENGR

NCC 5 180 **UNIV OF MARYLAND - COLLEGE PARK**
 THIS GRANT PROVIDES POST-DOC SUPPORT, FELLOWSHIPS, LABORATORY FOR HIGH ENERGY ASTROPHYSICS
 02/06/1997 - 03/31/2002 FY03: -\$31 Total: \$9,020,519
Prin. Invest.: J D TRASCO
Tech. Officer: GSFC/A HARDING
CASE Category: 11 – ASTRONOMY

NCC 5 243 **UNIV OF MARYLAND - COLLEGE PARK**
 RANGER TELEROBOTIC FLIGHT EXPERIMENT
 11/03/1997 - 09/30/2002 FY03: \$0 Total: \$9,611,377
Prin. Invest.: D AKIN
Tech. Officer: GSFC/J PARRISH
CASE Category: 11 – ASTRONOMY

NCC 5 300 **UNIV OF MARYLAND - COLLEGE PARK**
 A LANDCOVER EARTH SCIENCE INFORMATION PARTNERSHIP
 04/21/1998 - 11/30/2003 FY03: \$520,500 Total: \$5,937,662
Prin. Invest.: J TOWNSENDE
Tech. Officer: GSFC/M MAIDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 353 **UNIV OF MARYLAND - COLLEGE PARK**
 FUNDS ARE PROVIDED FOR THE GRANT PROPOSAL BY THE UNIVERSITY RESEARCH FOUNDATION FOR ENVIRONET TO
 08/04/1998 - 12/31/2001 FY03: -\$765 Total: \$297,791
Prin. Invest.: C F MARTIN
Tech. Officer: GSFC/H PARK
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 372 **UNIV OF MARYLAND - COLLEGE PARK**
 COOPERATIVE RESEARCH IN SPACE SCIENCE WITH THE UNIVERSITY OF MARYLAND
 12/22/1998 - 12/31/2001 FY03: \$0 Total: \$1,787,208
Prin. Invest.: J D TRASCO
Tech. Officer: GSFC/T KOSTIUK
CASE Category: 11 – ASTRONOMY

NCC 5 374 **UNIV OF MARYLAND - COLLEGE PARK**
 EARTH SCIENCE INTER-DISCIPLINARY CENTER
 01/20/1999 - 08/31/2004 FY03: \$1,446,068 Total: \$6,212,545
Prin. Invest.: M BROWN
Tech. Officer: GSFC/R HARTLE, GSFC/C COTE
CASE Category: 11 – ASTRONOMY

NCC 5 408 **UNIV OF MARYLAND - COLLEGE PARK**
 PROTOTYPE IMPLEMENTATION OF A RESEARCH ENVIRONMENT FOR ADVANCED LANDSAT MONITORING (REALM)
 05/17/1999 - 10/31/2002 FY03: \$0 Total: \$473,680
Prin. Invest.: S GOWARD
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 449 **UNIV OF MARYLAND - COLLEGE PARK**
 A STUDY OF THE DEVELOPMENT OF REMOTE SENSING ALGORITHMS
 02/08/2000 - 12/31/2002 FY03: \$0 Total: \$515,894
Prin. Invest.: D ROY
Tech. Officer: GSFC/E J MASUOKA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 462 **UNIV OF MARYLAND - COLLEGE PARK**
 EO-1 VALIDATION AND EVALUATION FOR AGRICULTURAL MONITORING
 02/29/2000 - 09/30/2003 FY03: \$0 Total: \$344,502
Prin. Invest.: S LIANG
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 464 **UNIV OF MARYLAND - COLLEGE PARK**
 EVALUATION OF SOFTWARE ENGINEERING METHODOLOGIES
 02/29/2000 - 11/14/2002 FY03: \$0 Total: \$633,539
Prin. Invest.: D R BASILI
Tech. Officer: GSFC/D E JAMISON
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 5 497 **UNIV OF MARYLAND - COLLEGE PARK**
 SUMMER INST ON ATMOSPHERIC AND HYDROSPHERIC SCIENCES
 04/19/2000 - 09/30/2001 FY03: -\$90 Total: \$92,717
Prin. Invest.: F BAER
Tech. Officer: GSFC/R HARTLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 552 **UNIV OF MARYLAND - COLLEGE PARK**
 SUMMER INST ON ATMOSPHERIC AND HYDROSPHERIC SCIENCES
 04/24/2001 - 04/30/2004 FY03: \$132,290 Total: \$375,796
Prin. Invest.: F BAER
Tech. Officer: GSFC/R HARTLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 609 **UNIV OF MARYLAND - COLLEGE PARK**
 COOPERATIVE RESEARCH IN SPACE SCIENCE WITH THE UNIVERSITY OF MARYLAND
 12/19/2001 - 12/31/2005 FY03: \$778,649 Total: \$1,171,741
Prin. Invest.: J TRASCO
Tech. Officer: GSFC/T KOSTIUK
CASE Category: 13 – PHYSICS

NCC 5 640 **UNIV OF MARYLAND - COLLEGE PARK**
 CENTER FOR HIGH ENERGY ASTROPHYSICS RESEARCH (CHEAR)
 03/27/2002 - 03/31/2004 FY03: \$1,755,444 Total: \$2,879,066
Prin. Invest.: J TRASCO
Tech. Officer: GSFC/A HARDING
CASE Category: 11 – ASTRONOMY

MARYLAND

NASA'S UNIVERSITY PROGRAM

NCC 5 648 **UNIV OF MARYLAND - COLLEGE PARK**
 VALIDATION OF LANDSAT 7 LONG TERM ACQUISITION PLAN
 06/19/2002 - 06/30/2005 FY03: \$50,000 Total: \$100,000
Prin. Invest.: S N GOWARD
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 650 **UNIV OF MARYLAND - COLLEGE PARK**
 RAPID RESPONSE PATHFINDER FOR NATURAL HAZARDS
 08/02/2002 - 07/31/2004 FY03: \$0 Total: \$230,000
Prin. Invest.: R A SOHLBERG
Tech. Officer: GSFC/E J MASUOKA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 693 **UNIV OF MARYLAND - COLLEGE PARK**
 INTEGRATING COARSE AND FINE RESOLUTION SATELLITE DATA TO MONI-
 TOR LAND COVER CHANGE THROUGHOUT AMAZO
 01/15/2003 - 01/14/2006 FY03: \$135,688 Total: \$135,688
Prin. Invest.: R S DEFRIES
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 734 **UNIV OF MARYLAND - COLLEGE PARK**
 FORMATION FLYING STUDY - "VRB SATELLITE FORMATION CONTROL
 TECHNOLOGY USING RELATIVE VEHICLE DYNAMICS
 04/22/2003 - 04/30/2006 FY03: \$59,728 Total: \$59,728
Prin. Invest.: D SANNER
Tech. Officer: GSFC/D A QUINN
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 8 235 **UNIV OF MARYLAND - COLLEGE PARK**
 PROMOT COMMERICALLY FUNDED RESCH & TECH DEV IN THE FIELD OF
 SATELLITE & HYBRID COMMUNICATIONS NETWORK
 01/14/2002 - 10/31/2003 FY03: \$1,000,000 Total: \$2,000,000
Prin. Invest.: J BARAS
Tech. Officer: MSFC/S LAMBING
CASE Category: 49 – ENGINEERING, OTHER

NCC 9 147 **UNIV OF MARYLAND - COLLEGE PARK**
 MICROBIAL RESISTANCE TO SOLAR RADIATION
 12/10/2001 - 11/30/2003 FY03: \$0 Total: \$163,739
Prin. Invest.: J DIRUGGIERO, J M DAVILA, F T ROBB
Tech. Officer: JSC/D RISIN
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NGT 2 52273 **UNIV OF MARYLAND - COLLEGE PARK**
 CENTER FOR ROTORCRAFT EDUCATION & RESEARCH
 01/09/2001 - 12/31/2005 FY03: \$1,169,829 Total: \$3,145,658
Prin. Invest.: CHOPRA
Tech. Officer: ARC/Y YU, ARC/A
CASE Category: 41 – AERONAUTICAL ENGR

NGT 3 52367 **UNIV OF MARYLAND - COLLEGE PARK**
 SYNTHESIS OF MOLECULARLY DISPERSED CERAMIC POLYMER NANO-
 COMPOSITES
 06/14/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D C WILSON JR
Tech. Officer: GRC/F MONTEGANI
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 99 **UNIV OF MARYLAND - COLLEGE PARK**
 ESTIMATION OF TROPICAL FOREST ABOVEGROUND USING LARGE FOOT-
 PRINT LIDAR
 08/20/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: R DUBAYAH, J DRAKE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 100 **UNIV OF MARYLAND - COLLEGE PARK**
 GLOBAL CLIMATE CHANGE AND CHOLERA: MODELING OF CHO LERA
 OCCURRENCE IN SELECTED COASTAL AREAS USING S
 08/23/1999 - 05/31/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: E RUSSEK-COHEN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 107 **UNIV OF MARYLAND - COLLEGE PARK**
 FEASIBILITY OF ATMOSPHERIC PENETRATION FOR SATELLI TE FORMA-
 TION FLYING EXPERIMENTS/STUDENT: JOS SCHU
 06/07/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D PINES
Tech. Officer: GSFC/G SOFFEN
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 116 **UNIV OF MARYLAND - COLLEGE PARK**
 INVESTIGATION OF LIBRATION ORBITS IN THE EARTH-MOO N SYSTEM
 (STUDENT): RAQUEL JARABEK
 06/04/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: D SHAPIRO
Tech. Officer: GSFC/M S BURRELL
CASE Category: 42 – ASTRONAUTICAL ENGR

NGT 5 148 **UNIV OF MARYLAND - COLLEGE PARK**
 SOIL & ATMOSPHERE EXCHANGE: PREDICTING HOW SOIL DYNAMICS MAY
 MEDIATE CLIMATECHANGE
 08/26/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R DUBAYAH
Tech. Officer: GSFC/M BURRELL
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 150 **UNIV OF MARYLAND - COLLEGE PARK**
 CASE STUDY OF THE EFFECTS OF N. AMERICAN WILDFIRE SMOKE ON
 CLOUD MICROSTRUCTURE & PRECIPITATION
 08/14/2003 - 08/14/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: Z LI
Tech. Officer: GSFC/M S BURRELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30196 **UNIV OF MARYLAND - COLLEGE PARK**
 TORNADOES: COHERENT FLOW STRUCTURES IN ATMOSPHERIC TURBU-
 LENCE
 08/18/1999 - 02/28/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: F BAER, NAWRI
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30377 **UNIV OF MARYLAND - COLLEGE PARK**
 ANALYSIS OF MOPITT DATA FOR INVESTIGATION OF BOREAL FOREST FIRE
 EMISSIONS/EDWARD J. HYER
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$69,989
Prin. Invest.: E KASISCHKE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30429 **UNIV OF MARYLAND - COLLEGE PARK**
 MODELING AND MONITORING THE IMPACT OF LAND DEGRADATION ON
 PRIMARY PRODUCTIVITY IN SOUTHERN AFRICA
 08/15/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: S D PRINCE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30441 **UNIV OF MARYLAND - COLLEGE PARK**
 THE SPATIAL AND TEMPORAL DISTRIBUTION OF BIOMASS BURNING IN
 SOUTHERN AFRICA
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C JUSTICE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30450 **UNIV OF MARYLAND - COLLEGE PARK**
 A NOVEL APPROACH TOWARDS GLOBAL AEROSOL CLIMATOLOGY. STU-
 DENT: HONGQING LIU
 08/19/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: R PINKER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30459 **UNIV OF MARYLAND - COLLEGE PARK**
 IMPACTS OF LAND COVER CHANGE ON WILDBEEST MIGRATION AND
 ABUNDANCE IN THE SERENGETI-MARA REGION ()
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$47,980
Prin. Invest.: R DEFRIES
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30475 **UNIV OF MARYLAND - COLLEGE PARK**
 ANALYSIS OF CURRENT AEROSOL RETRIEVAL ALGORITHMS & DEVELOP-
 MENT OF A NEW RETRIEVAL METHOD OVER LAND
 01/16/2003 - 01/14/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: Z LI
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30476 **UNIV OF MARYLAND - COLLEGE PARK**
 RADAR MONITORING OF HYDROLOGIC VARIABILITY IN MD'S FORESTED
 COASTAL PLAIN WETLANDS STUDENT: M. WEINER
 09/29/2003 - 08/31/2005 FY03: \$24,000 Total: \$24,000
Prin. Invest.: E KASISCHKE
Tech. Officer: GSFC/M WEI
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 5 50454 **UNIV OF MARYLAND - COLLEGE PARK**
 PLANETESIMALS TO PROTOPLANETS (STUDENT: ZOE LEINHARDT)
 04/29/2003 - 04/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D RICHARDSON
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 5328 **UNIV OF MARYLAND - EASTERN SHORE**
 RESEARCH PARTICIPATION IN AIRBORNE OCEANOGRAPHIC LIDAR ON
 LONG RANGE MISSIONS
 03/19/2001 - 09/30/2003 FY03: \$0 Total: \$27,623
Prin. Invest.: D R LEVIN
Tech. Officer: GSFC/W B KRABILL
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9243 **UNIV OF MARYLAND - EASTERN SHORE**
 PRE-COLLEGE ACTIVITIES FOR ENHANCING MINORITY PARTICIPATION IN
 ENGINEERING.
 03/13/2000 - 03/14/2003 FY03: \$0 Total: \$294,742
Prin. Invest.: G SINGH
Tech. Officer: GSFC/M STOUTSENBERGER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10122 **UNIV OF MARYLAND - EASTERN SHORE**
 MATHEMATICS, ENGINEERING, SCIENCE ENRICHMENT PRE- COLLEGE
 PROGRAM
 11/28/2000 - 11/30/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: T DUBE
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11861 **UNIV OF MARYLAND - EASTERN SHORE**
 UMES/NASA COLLABORATIVE RESEARCH IN COMPUTATIONAL SCIENCES
 03/14/2002 - 03/14/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: I K DABIPI
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11897 **UNIV OF MARYLAND - EASTERN SHORE**
 UMES STUDENT INTERNSHIPS AT NASA WOLLOPS: AN OUTREACH PRO-
 POSAL
 03/20/2002 - 03/14/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: I K DABIPI
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13366 **UNIV OF MARYLAND - EASTERN SHORE**
 UMES STUDENT INTERNSHIPS AT NASA WOLLOPS: AN OUTREACH PRO-
 POSAL
 04/24/2003 - 04/30/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: I K DABIPI
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 668 **UNIV OF MARYLAND - EASTERN SHORE**
 EASTERN SHORE MATHEMATICS TEACHER EDUCATION PROJECT
 08/22/2002 - 08/31/2005 FY03: \$0 Total: \$199,966
Prin. Invest.: D SEATON
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 5339 **UNIV OF MARYLAND BALTIMORE**
 ASSIST GSFC CODE 972 DURING CAMEX-4 PROJECT A
 07/12/2001 - 09/30/2001 FY03: \$0 Total: \$9,000
Prin. Invest.: W MCMILLAN
Tech. Officer: WFF/F SCHMIDLIN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 8 1573 **UNIV OF MARYLAND BALTIMORE**
 IONS AND PROTEIN ASSOCIATION: AW AND PROTEIN CRYSTALS
 01/19/1999 - 11/30/2003 FY03: \$0 Total: \$487,750
Prin. Invest.: K COLLINS
Tech. Officer: MSFC/B GUYNE
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

MARYLAND

NASA'S UNIVERSITY PROGRAM

NCC 5 544 **UNIV OF MARYLAND BALTIMORE**
 IDENTIFICATION FOR RISK FACTORS FOR CHILDHOOD ASTH MA.
 03/22/2001 - 12/31/2002 FY03: \$210,000 Total: \$649,608
Prin. Invest.: D BLAISDELL
Tech. Officer: GSFC/J P GALLOWAY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8231 **UNIV OF MARYLAND BALTIMORE COUNTY**
 USE OF DATA FROM TRMM FIELD CAMPAIGNS IN IMPROVED INITIALIZA-
 TION AND VALIDATION OF HIGH RESOLUTION
 03/03/1999 - 03/14/2002 FY03: -\$1 Total: \$156,419
Prin. Invest.: B S FERRIER
Tech. Officer: GSFC/O W THIELE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2022 **UNIV OF MARYLAND BALTIMORE COUNTY**
 A CLIMATOLOGY OF TROPOSPHERIC CO OVER THE CENTRAL AND
 SOUTHEASTERN UNITED STATES AND THE SOUTHWESTERN
 03/12/1998 - 03/11/2002 FY03: -\$306 Total: \$233,814
Prin. Invest.: W W MCMILLAN, G MORRIS, L STROW
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9054 **UNIV OF MARYLAND BALTIMORE COUNTY**
 INNOVATIVE ANALYSIS OF GRAVITY MAPPING MISSION DATA
 02/10/2000 - 12/31/2001 FY03: -\$520 Total: \$49,480
Prin. Invest.: E C PAVLIS
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 6460 **UNIV OF MARYLAND BALTIMORE COUNTY**
 VALIDATION OF MOPITT COLUMN & PROFILE CO FROM SPAC EBORNE,
 AIRBORNE, & GROUND-BASED INTERFEROMETERS
 10/14/1997 - 09/30/2002 FY03: \$0 Total: \$317,893
Prin. Invest.: W MCMILLAN
Tech. Officer: GSFC/D O STARR
CASE Category: 19 – PHYSICALSCIENCE, OTHER

NAG 5 9588 **UNIV OF MARYLAND BALTIMORE COUNTY**
 LABORATORY QUANTITATIVE SPECTROSCOPY OF MOLECULES OF ATMO-
 SPHERIC RELEVANCE
 05/11/2000 - 12/31/2002 FY03: \$0 Total: \$207,296
Prin. Invest.: J M SIROTA
Tech. Officer: GSFC/M KURYLO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 6675 **UNIV OF MARYLAND BALTIMORE COUNTY**
 VALIDATION OF CLOUD OPTICAL DEPTHS RETRIEVED FROM EOS/MODIS
 DATA
 12/01/1997 - 09/30/2002 FY03: \$0 Total: \$309,020
Prin. Invest.: A MARSHAK
Tech. Officer: GSFC/D O STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9645 **UNIV OF MARYLAND BALTIMORE COUNTY**
 A COMPARATIVE STUDY OF FOREST MAPPING METHODS AND ALGO-
 RITHMS: TOWARDS OPTIMAL SOLUTIONS FOR OPERATIO
 06/12/2000 - 12/31/2003 FY03: \$0 Total: \$180,525
Prin. Invest.: Y SOHN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 6996 **UNIV OF MARYLAND BALTIMORE COUNTY**
 A STUDY OF UNCERTAINTIES FOR MODIS CLOUD RETRIEVAL S OF
 OPTICAL THICKNESS AND EFFECTIVE RADIUS
 02/06/1998 - 12/14/2001 FY03: -\$1,325 Total: \$201,029
Prin. Invest.: D PLATNICK
Tech. Officer: GSFC/D STARR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9698 **UNIV OF MARYLAND BALTIMORE COUNTY**
 IMPROVEMENT OF CONVECTIVE/STRATIFORM SEPARATION & LATENT
 HEATING PROFILE ESTIMATION FROM TRMM
 07/21/2000 - 06/30/2003 FY03: \$0 Total: \$329,906
Prin. Invest.: W S OLSON
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7385 **UNIV OF MARYLAND BALTIMORE COUNTY**
 X-RAY SPECTROSCOPY OF ACTIVE GALACTIC NUCLEI: (LT SA)
 05/15/1998 - 06/30/2003 FY03: \$0 Total: \$570,610
Prin. Invest.: T J TURNER
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 9699 **UNIV OF MARYLAND BALTIMORE COUNTY**
 ORGANIZATION, STRUCTURE, AND EVOLUTION OF TROPICAL CONVEC-
 TIONS IN SOUTH CHINA SEA MONSOON AND THEIR
 07/27/2000 - 05/31/2003 FY03: \$33,333 Total: \$242,000
Prin. Invest.: J WANG
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7774 **UNIV OF MARYLAND BALTIMORE COUNTY**
 CLOUDLESS SCENE IDENTIFICATION FOR AEROSOL RETRIEVAL FROM
 TOMS MEASUREMENTS
 10/28/1998 - 10/31/2001 FY03: \$0 Total: \$128,000
Prin. Invest.: O TORRES
Tech. Officer: GSFC/M I MISCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9707 **UNIV OF MARYLAND BALTIMORE COUNTY**
 US INDIA COLLABORATIVE RESEARCH ON ONSOON PREDICT ABILITY
 06/16/2000 - 08/31/2004 FY03: \$23,856 Total: \$71,568
Prin. Invest.: A MEHTA
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7909 **UNIV OF MARYLAND BALTIMORE COUNTY**
 TRMM PRECIPITATION RADAR: DEVELOPMENT OF A RAIN RE TRIEVAL
 ALGORITHM USING GROUND VALIDATION DAT
 12/08/1998 - 12/14/2002 FY03: \$0 Total: \$278,035
Prin. Invest.: E AMITAI
Tech. Officer: GSFC/O W THIELE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9718 **UNIV OF MARYLAND BALTIMORE COUNTY**
 INVESTIGATIONS OF MARITIME & CONTINENTAL TROPICAL CONVECTIVE
 SYSTEMS USING DATA FROM TRMM FIELD E
 06/19/2000 - 06/30/2004 FY03: \$46,000 Total: \$281,766
Prin. Invest.: J B HALVERSON
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9816 **UNIV OF MARYLAND BALTIMORE COUNTY**
CLIMATOLOGY AND EVOLUTION OF CONVECTIVE SYSTEMS CO MBINING
SURFACE RADAR & GEOSTATIONARY INFRARED SA
07/21/2000 - 07/31/2004 FY03: \$31,250 Total: \$225,000
Prin. Invest.: T M RICKENBACH
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9954 **UNIV OF MARYLAND BALTIMORE COUNTY**
MYERHOFF SCHOLARSHIP PROGRAM
09/08/2000 - 09/14/2005 FY03: \$0 Total: \$600,000
Prin. Invest.: E B BAKER
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9995 **UNIV OF MARYLAND BALTIMORE COUNTY**
A SPECTRAL STUDY OF A NEW CLASS OF RADIO QUASARS
09/20/2000 - 03/31/2002 FY03: \$0 Total: \$21,878
Prin. Invest.: E S PERLMAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9997 **UNIV OF MARYLAND BALTIMORE COUNTY**
THE PHYSICS OF EXTRAGALACTIC RADIO/OPTICAL/X-RAY JETS
09/20/2000 - 03/14/2005 FY03: \$55,000 Total: \$211,603
Prin. Invest.: E S PERLMAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10086 **UNIV OF MARYLAND BALTIMORE COUNTY**
THE X-RAY TEMPERATURE FUNCTION AND STRUCTURE OF CLUSTERS AT
Z=0.6-1
11/07/2000 - 11/14/2002 FY03: \$0 Total: \$6,213
Prin. Invest.: E S PERLMAN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10109 **UNIV OF MARYLAND BALTIMORE COUNTY**
HIGH RESOLUTION X-RAY PROPERTIES OF BL LACS: AN XMM SURVEY
01/26/2001 - 01/31/2004 FY03: \$0 Total: \$45,045
Prin. Invest.: E S PERLMAN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10206 **UNIV OF MARYLAND BALTIMORE COUNTY**
QUANTITATIVE INFRARED SPECTROSCOPY FOR STUDIES OF BROWN
DWARFS & EXTRASOLAR GIANT PLANETS
12/28/2000 - 02/26/2003 FY03: -\$28,000 Total: \$30,000
Prin. Invest.: D STEVERT
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10687 **UNIV OF MARYLAND BALTIMORE COUNTY**
CALIBRATION & NAVIGATION OF RAW INSAT IMAGERY & APPLICATION FOR
CLIMATE VARIABILITY ANALYSES
04/04/2001 - 04/14/2004 FY03: \$0 Total: \$115,778
Prin. Invest.: G I MOLNAR
Tech. Officer: GSFC/A J NEGRI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10876 **UNIV OF MARYLAND BALTIMORE COUNTY**
STUDY OF SOLAR AND SPECTRAL GRADIENCE VARIATIONS BASED ON
SOHO/VIRGO AND MDI
05/15/2001 - 11/30/2002 FY03: \$0 Total: \$136,748
Prin. Invest.: J M PAP
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10969 **UNIV OF MARYLAND BALTIMORE COUNTY**
DERIVING MICROPHYSICAL CLOUD PROFILES USING AIR- BORNE ACTIVE &
WIDEBAND PASSIVE MICROWAVE OBSERVA
06/06/2001 - 06/14/2004 FY03: \$44,750 Total: \$122,925
Prin. Invest.: G SKOFRONICK-JACK
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11092 **UNIV OF MARYLAND BALTIMORE COUNTY**
UNDERSTANDING ARK 564 (ADP 2000)
07/09/2001 - 09/30/2003 FY03: \$0 Total: \$47,536
Prin. Invest.: T J TURNER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11115 **UNIV OF MARYLAND BALTIMORE COUNTY**
STUDIES OF THE UPPER ATMOSPHERIC INNER CORE REGION OF HURRI-
CANES USING THENASA ER-2 DROPWINDSONDE
07/26/2001 - 07/31/2002 FY03: -\$490 Total: \$152,299
Prin. Invest.: J B HALVERSON
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11150 **UNIV OF MARYLAND BALTIMORE COUNTY**
MARS WATER CONSTRAINTS FROM VOLCANIC LANDFORM TOPO GRAPHY
07/26/2001 - 07/31/2002 FY03: \$0 Total: \$40,000
Prin. Invest.: S SAKIMOTO
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11156 **UNIV OF MARYLAND BALTIMORE COUNTY**
BBAERI AIRS OCEAN VALIDATION EXPERIMENT: BOAVE" AQUA-0056-0064
08/01/2001 - 08/31/2004 FY03: \$256,792 Total: \$557,334
Prin. Invest.: W MCMILLAN
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11206 **UNIV OF MARYLAND BALTIMORE COUNTY**
MODELING OF SHORTWAVE RADIATION FIELDS USING ATMOSPHERIC
RADIATION MEASUREMENTS (ARM) & LANDSAT DAT
08/14/2001 - 06/30/2002 FY03: -\$861 Total: \$128,294
Prin. Invest.: A MARSHAK
Tech. Officer: GSFC/W WISCOMBE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11230 **UNIV OF MARYLAND BALTIMORE COUNTY**
OBSERVATIONALLY-BASED PROCESS EVALUATION OF MODEL TRANS-
PORT: IMPROVING ATMOSPHERIC MODELS AND THE G
08/16/2001 - 08/14/2004 FY03: \$122,135 Total: \$237,280
Prin. Invest.: S STRAHAN
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

MARYLAND

NASA'S UNIVERSITY PROGRAM

NAG 5 11269 UNIV OF MARYLAND BALTIMORE COUNTY
 MICROPHYSICAL PROPERTIES OF CRYSTALLINE PSC PARTICLES
 DEVRIVED FROM AIRBORNE LADAR MEASUREMENTS
 08/22/2001 - 08/31/2004 FY03: \$67,498 Total: \$134,793
Prin. Invest.: R M HOFF
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTIINTERDISCIPL, OTHER

NAG 5 11653 UNIV OF MARYLAND BALTIMORE COUNTY
 MEASUREMENT OF CARBON DIOXIDE, METHANE, AND CARBON MONOX-
 IDE WITH THE ATMOSPHERIC INFRARED SOUNDER ON
 02/06/2002 - 01/31/2005 FY03: \$144,106 Total: \$283,310
Prin. Invest.: C BARNET
Tech. Officer: GSFC/J SUSSKIND
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11284 UNIV OF MARYLAND BALTIMORE COUNTY
 STATISTICAL INVESTIGATIONS OF SUBGRID SCALE VARIABILITY IN THE
 UT/LS
 08/17/2001 - 08/31/2004 FY03: \$78,501 Total: \$152,292
Prin. Invest.: L SPARLING
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11798 UNIV OF MARYLAND BALTIMORE COUNTY
 THE EFFECT OF SUBGRID VARIABILITY OF SNOW COVER IN VEGETATED
 REGION ON LAND ATMOSPHERE INTERACTIONS
 03/22/2002 - 03/31/2005 FY03: \$65,000 Total: \$130,000
Prin. Invest.: W NI
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11326 UNIV OF MARYLAND BALTIMORE COUNTY
 VARIATIONS IN THE SOLAR RADIATION ENERGY OUTPUT ON TIME SCALES
 OF YEARS AND THE SOLAR CYCLE
 09/05/2001 - 02/14/2003 FY03: \$0 Total: \$40,451
Prin. Invest.: J PAP
Tech. Officer: GSFC/C JACKSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12064 UNIV OF MARYLAND BALTIMORE COUNTY
 IMPROVEMENT OF GENERAL CIRCULATION MODEL SIMULATIONS USING
 GLOBAL OBSERVATIONS OF PRECIPITATION
 04/24/2002 - 04/30/2005 FY03: \$63,374 Total: \$130,552
Prin. Invest.: S YANG
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11373 UNIV OF MARYLAND BALTIMORE COUNTY
 A NEW "CLOUD MODE" FOR THE AERONET
 11/01/2001 - 10/31/2004 FY03: \$91,443 Total: \$196,615
Prin. Invest.: A MARSHAK
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12161 UNIV OF MARYLAND BALTIMORE COUNTY
 SOLAR VARIABILITY, CLIMATE & SPACE WEATHER
 05/13/2002 - 05/14/2003 FY03: \$0 Total: \$74,614
Prin. Invest.: J M PAP
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 11598 UNIV OF MARYLAND BALTIMORE COUNTY
 REMOTE SENSING OF THE RADIATIVE AND MICROPHYSICAL PROPERTIES
 OF CIRRUS CLOUDS DURING CRYSTAL-FACE W
 01/23/2002 - 01/31/2004 FY03: \$0 Total: \$72,176
Prin. Invest.: S PLATNICK
Tech. Officer: GSFC/M KING
CASE Category: 31 – ATMOSPHERICSCIENCE

NAG 5 12162 UNIV OF MARYLAND BALTIMORE COUNTY
 REANALYSIS FOR STRATOSPHERIC TRACE GAS STUDIES
 06/05/2002 - 05/31/2004 FY03: \$144,612 Total: \$286,847
Prin. Invest.: S PAWSON
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11601 UNIV OF MARYLAND BALTIMORE COUNTY
 ANALYSIS AND VALIDATION OF THE UARS/ACRIM II SOLAR TOTAL IRRADI-
 ANCE DATA
 01/15/2002 - 01/14/2003 FY03: \$0 Total: \$36,981
Prin. Invest.: J M PAP
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12199 UNIV OF MARYLAND BALTIMORE COUNTY
 LANDSLIDE MODELING AND FORECASTING UTILIZING REMOTELY SENSED
 DATA (LANDMOD)
 05/17/2002 - 02/14/2004 FY03: \$0 Total: \$187,429
Prin. Invest.: M H BULMER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11624 UNIV OF MARYLAND BALTIMORE COUNTY
 VARIATIONS IN TOTAL SOLAR AND SPECTRAL IRRADIANCE
 02/07/2002 - 01/31/2005 FY03: \$88,650 Total: \$168,045
Prin. Invest.: J PAP
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12227 UNIV OF MARYLAND BALTIMORE COUNTY
 CENTER FOR THE ADVANCED STUDIES IN PHOTONICS RESEARCH
 (CASPR)
 05/28/2002 - 03/31/2004 FY03: \$0 Total: \$2,000,000
Prin. Invest.: S A BASS
Tech. Officer: GSFC/A D SIMPSON
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 11631 UNIV OF MARYLAND BALTIMORE COUNTY
 USE OF NEW RADIATIVE TRANSFER SCHEMES & SATELLITE DATA FOR
 MORE REALISTIC CLOUD RADIATIVE FORCING &
 01/29/2002 - 01/31/2005 FY03: \$97,980 Total: \$196,960
Prin. Invest.: L OREOPOULOS
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12238 UNIV OF MARYLAND BALTIMORE COUNTY
 UNDERSTANDING AND COPING WITH THE EFFECT OF 3D CLOUD STRUC-
 TURE ON ARM DATA
 06/04/2002 - 06/14/2004 FY03: \$0 Total: \$141,808
Prin. Invest.: A MARSHAK
Tech. Officer: GSFC/W WISCOMBE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12271 **UNIV OF MARYLAND BALTIMORE COUNTY**
 WATER ON MARS: INFERENCES FROM MARS MOVEMENT STUD IES
 MASSMOVE
 08/01/2002 - 08/14/2004 FY03: \$90,800 Total: \$139,476
Prin. Invest.: M BULMER
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12287 **UNIV OF MARYLAND BALTIMORE COUNTY**
 PLAINS VOLCANISM & SMALL VOLCANIC EDIFICES ON MARS
 06/13/2002 - 07/31/2005 FY03: \$50,000 Total: \$100,000
Prin. Invest.: S SAKIMOTOS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12681 **UNIV OF MARYLAND BALTIMORE COUNTY**
 CALCULATIONS OF THE RATE COEFFICIENTS OF VIBRATION AL-
 VIBRATIONAL AND VIBRATIONAL-TRANSLATIONAL ENER
 11/27/2002 - 11/30/2003 FY03: \$66,000 Total: \$66,000
Prin. Invest.: W WANG
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12739 **UNIV OF MARYLAND BALTIMORE COUNTY**
 XMM OBSERVATIONS OF LOW MASS GROUPS
 01/14/2003 - 11/30/2003 FY03: \$44,200 Total: \$44,200
Prin. Invest.: D S DAVIS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13078 **UNIV OF MARYLAND BALTIMORE COUNTY**
 PROBING NON-THERMAL PHENOMENA IN THE ABELL 1750 GA LAXY
 CLUSTER
 03/13/2003 - 03/14/2004 FY03: \$41,992 Total: \$41,992
Prin. Invest.: M HENRIKSEN
Tech. Officer: GSFC/J HAYES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13260 **UNIV OF MARYLAND BALTIMORE COUNTY**
 USE OF NASA LAND DATA ASSIMILATED PRODUCTS TO IMPR OVE FLOOD
 AND DROUGHT RISK ANALYSIS & FORECASTING
 04/29/2003 - 04/30/2006 FY03: \$56,568 Total: \$56,568
Prin. Invest.: K ARSENUIT
Tech. Officer: GSFC/H FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 13414 **UNIV OF MARYLAND BALTIMORE COUNTY**
 IDEA TO OBSERVATIONS: USER SUPPORT TOOLS FOR THE NEXT DECADE
 05/13/2003 - 04/30/2004 FY03: \$58,698 Total: \$58,698
Prin. Invest.: A KORATKAR
Tech. Officer: GSFC/J BREDEKAMP
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13415 **UNIV OF MARYLAND BALTIMORE COUNTY**
 SEA SIMULATION PIPELINE
 05/05/2003 - 05/31/2004 FY03: \$148,411 Total: \$148,411
Prin. Invest.: A P KORATKAR
Tech. Officer: GSFC/P E HUNTER
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 13439 **UNIV OF MARYLAND BALTIMORE COUNTY**
 LABORATORY QUANTITATIVE SPECTROSCOPY OF MOLECULES OF ATMO-
 SPHERIC RELEVANCE
 04/29/2003 - 04/30/2006 FY03: \$79,451 Total: \$79,451
Prin. Invest.: J SIROTA
Tech. Officer: GSFC/M KURYLO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13513 **UNIV OF MARYLAND BALTIMORE COUNTY**
 LONG-TERM SOLAR IRRADIANCE VARIATIONS OVER SOLAR C YCLES 21 TO
 23
 05/02/2003 - 04/14/2006 FY03: \$41,734 Total: \$41,734
Prin. Invest.: J PAP
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13601 **UNIV OF MARYLAND BALTIMORE COUNTY**
 INTERNATIONAL GLOBAL ENERGY & WATER CYCLE EXPERIMENT (GEWEX)
 PROJECT OFFICE (IGPO)
 08/06/2003 - 07/31/2006 FY03: \$517,126 Total: \$517,126
Prin. Invest.: R SCHIFFER
Tech. Officer: GSFC/J ENTIN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13615 **UNIV OF MARYLAND BALTIMORE COUNTY**
 MEASUREMENTS OF THE HYDROMETEOR SIZE DISTRIBUTION
 08/27/2003 - 08/31/2006 FY03: \$57,500 Total: \$57,500
Prin. Invest.: A TOKAY
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1190 **UNIV OF MARYLAND BALTIMORE COUNTY**
 EFFECTS OF EXPOSURE TO HEAVY PARTICLES
 01/20/2000 - 06/14/2003 FY03: \$0 Total: \$562,549
Prin. Invest.: B M RABIN
Tech. Officer: JSC/F A CUCINOTTA
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG 9 1529 **UNIV OF MARYLAND BALTIMORE COUNTY**
 BEHAVIORIAL & NEUROCHEMICAL EFFECTS OF EXPOSURE TO HEAVY
 PARTICLES
 06/17/2003 - 06/14/2006 FY03: \$272,706 Total: \$272,706
Prin. Invest.: B M RABIN
Tech. Officer: JSC/J DARDANO
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAS 1 99107 **UNIV OF MARYLAND BALTIMORE COUNTY**
 PICASSO-CENA SCIENCE TEAM SUPPORT FOR AEROSOL RETRIEVAL
 STUDIES
 11/02/1999 - 10/30/2004 FY03: \$57,305 Total: \$186,492
Prin. Invest.: R M HOFF
Tech. Officer: LARC/G G GIBSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 00173 **UNIV OF MARYLAND BALTIMORE COUNTY**
 PARTICIPATION IN THE OZONE MONITORING INSTRUMENT SCIENCE TEAM.
 06/06/2000 - 10/31/2004 FY03: \$129,884 Total: \$443,370
Prin. Invest.: O TORRES
Tech. Officer: GSFC/J C RIVERA
CASE Category: 31 – ATMOSPHERIC SCIENCE

MASSACHUSETTS

NASA'S UNIVERSITY PROGRAM

NAS 5 00203 UNIV OF MARYLAND BALTIMORE COUNTY
 R & D TO SUPPORT GSFC'S SIMBIOS PROJECT
 12/15/2000 - 11/30/2003 FY03: \$113,926 Total: \$370,010
Prin. Invest.: M WANG
Tech. Officer: GSFC/C R MCCLAIN
CASE Category: 33 – OCEANOGRAPHY

NAS 5 01110 UNIV OF MARYLAND BALTIMORE COUNTY
 OZONE MONITORING INSTRUMENT (OMI) SCIENCE TEAM
 04/18/2001 - 10/31/2004 FY03: \$65,124 Total: \$356,900
Prin. Invest.: A KRUEGER
Tech. Officer: GSFC/J C RIVERA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 31378 UNIV OF MARYLAND BALTIMORE COUNTY
 EOS EXECUTION PHASE
 12/16/1991 - 12/14/2003 FY03: \$549,415 Total: \$4,137,415
Prin. Invest.: L L STROW
Tech. Officer: GSFC/E R KREINS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 99141 UNIV OF MARYLAND BALTIMORE COUNTY
 COMPACT HYPERSPECTRAL MAPPER FOR ENVIRONMENTAL APPLICATIONS (CHYMERA).
 02/08/1999 - 12/15/2001 FY03: \$0 Total: \$492,421
Prin. Invest.: S JANZ
Tech. Officer: GSFC/J HARTLEY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 1252 UNIV OF MARYLAND BALTIMORE COUNTY
 DISTRIBUTED DATA MINING FOR LARGE NASA DATABASES
 04/10/2001 - 02/28/2004 FY03: \$110,473 Total: \$478,953
Prin. Invest.: H KARGUPTA
Tech. Officer: ARC/J C COUGHLAN, ARC/M SCHWABACHER
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 339 UNIV OF MARYLAND BALTIMORE COUNTY
 JOINT CENTER FOR EARTH SYSTEM TECHNOLOGY NEW AWARD
 07/01/1998 - 06/30/2004 FY03: \$2,677,000 Total: \$16,182,110
Prin. Invest.: D CHRISTOU, R HOFF
Tech. Officer: GSFC/R AFZAL, GSFC/C E COTE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 367 UNIV OF MARYLAND BALTIMORE COUNTY
 LHEA/UMBC COOPERATIVE AGREEMENT (LUCA)
 10/20/1998 - 12/31/2001 FY03: \$0 Total: \$1,046,656
Prin. Invest.: M J HENRIKSEN
Tech. Officer: GSFC/N E WHITE
CASE Category: 11 – ASTRONOMY

NCC 5 494 UNIV OF MARYLAND BALTIMORE COUNTY
 ESTABLISHMENT OF GODDARD EARTH SCIENCE & TECHN CTR ESTABLISHING GODDARD EARTH SCIENCE AND TECHNOLOGY
 05/11/2000 - 05/10/2005 FY03: \$8,837,206 Total: \$29,143,081
Prin. Invest.: R CURRAN
Tech. Officer: GSFC/R HARTLEY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 610 UNIV OF MARYLAND BALTIMORE COUNTY
 LHEA/UMBC COOPERATIVE AGREEMENT (LUCA)
 12/21/2001 - 12/31/2005 FY03: \$1,828,756 Total: \$2,850,085
Prin. Invest.: M J HENRIKSEN
Tech. Officer: GSFC/N WHITE
CASE Category: 11 – ASTRONOMY

NCC 5 701 UNIV OF MARYLAND BALTIMORE COUNTY
 VALIDATION OF MICROPULSE LIDAR AEROSOL EXTINCTION MEASUREMENTS USING A RAMAN LIDAR
 01/30/2003 - 01/31/2004 FY03: \$38,229 Total: \$38,229
Prin. Invest.: R M HOFF
Tech. Officer: GSFC/V SALOMONSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 740 UNIV OF MARYLAND BALTIMORE COUNTY
 A PROPOSAL TO FACILITATE & COORDINATE PATHFINDER IT COLLABORATIONS BETWEEN THE CAL-IT2 & OTHER UNIV
 09/26/2003 - 12/31/2006 FY03: \$67,567 Total: \$67,567
Prin. Invest.: M HALEM
Tech. Officer: GSFC/H K RAMAPRIYAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

MASSACHUSETTS

NAG 1 01019 BOSTON COLLEGE
 INVESTIGATIONS OF FUNDAMENTAL PROCESSES IN LASER SOLIDS WITH REMOTE SENSING APPLICATIONS
 01/25/2001 - 11/30/2003 FY03: \$141,419 Total: \$418,679
Prin. Invest.: B DIBARTOLO, B WALSH
Tech. Officer: LARC/N P BARNES, LARC/J C BARNES
CASE Category: 13 – PHYSICS

NAG 1 03069 BOSTON COLLEGE
 ORGANIZATION OF A NATO ADVANCED STUDY INST & SPECTROSCOPY OF SYSTEMS SPATIALLY CONFINED STRUCT
 07/25/2003 - 07/24/2004 FY03: \$13,000 Total: \$13,000
Prin. Invest.: B R DIBARTOLO
Tech. Officer: LARC/J C BARNES, LARC/N P BARNES
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10824 BOSTON COLLEGE
 STAR FORMATION IN MSX INFRARED DARK CLOUDS (LISA 2000)
 05/01/2001 - 05/14/2002 FY03: \$38 Total: \$87,920
Prin. Invest.: S J CAREY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10833 BOSTON COLLEGE
 THE MAGNETIC STRUCTURE OF CMES: A COMPARISON OF HALO CMES WITH MAGNETIC CLOUDS AT 1 AU
 04/27/2001 - 04/30/2003 FY03: \$0 Total: \$129,520
Prin. Invest.: D F WEBB
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1432 BOSTON UNIV
 INTEGRATION OF ATMOSPHERIC, LABORATORY, & SATELLITE DATA TO ESTIMATE BIOSPHERIC SOURCES OF OXYGENATE
 08/15/2000 - 08/14/2004 FY03: \$16,290 Total: \$136,680
Prin. Invest.: R B MYNENI
Tech. Officer: ARC/C S POTTER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 3 2143 BOSTON UNIV
 SONOLUMINESCENCE IN SPACE: THE CRITICAL ROLE OF B OUYANCY IN STABILITY AND EMISSION MECHANISMS
 04/10/1998 - 01/08/2003 FY03: \$0 Total: \$517,500
Prin. Invest.: R G HOLT, R A ROY
Tech. Officer: GRC/N R HALL
CASE Category: 13 – PHYSICS

NAG 3 2392 **BOSTON UNIV**
 RHEOLOGY OF FOAM NEAR THE ORDER-DISORDER PHASE TRANSITION
 04/18/2000 - 11/30/2003 FY03: \$90,000 Total: \$305,500
Prin. Invest.: D HOLT
Tech. Officer: GRC/R B ROGERS
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3439 **BOSTON UNIV**
 MONITORING CHANGE IN TEMPERATURE CONIFEROUS FOREST ECOSYSTEMS
 10/07/1996 - 12/31/2001 FY03: \$0 Total: \$915,007
Prin. Invest.: C WOODCOCK
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5251 **BOSTON UNIV**
 A SUBORBITAL RESEARCH PROGRAM IN ULTRAVIOLET HIGH RESOLUTION
 AND IMAGING SPECTROSCOPY PI CHAKRABARTI
 02/04/2000 - 02/03/2004 FY03: \$0 Total: \$972,929
Prin. Invest.: S CHAKRABARTI
Tech. Officer: WFF/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5383 **BOSTON UNIV**
 SOUNDING ROCKET UV MEASUREMENT OF JUPITER'S UPPER ATMOSPHERIC
 DYNAMICS, THE VENUE UPPER ATMOSPHERE D
 08/20/2002 - 08/14/2004 FY03: \$50,000 Total: \$200,000
Prin. Invest.: J CLARKE
Tech. Officer: WFF/J BRINTIN
CASE Category: 13 – PHYSICS

NAG 5 7706 **BOSTON UNIV**
 STUDIES OF MAGNETOSPHERIC ENERGETIC PARTICLES IN THE SOLAR
 MAXIMUM AREA
 10/01/1998 - 12/31/2002 FY03: \$0 Total: \$355,000
Prin. Invest.: H E SPENCER
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8135 **BOSTON UNIV**
 "SIGNATURES OF MAGNETOPAUSE RECONNECTION".
 01/29/1999 - 01/31/2003 FY03: \$0 Total: \$687,075
Prin. Invest.: G L SISCOE
Tech. Officer: GSFC/J GREBOWSKY
CASE Category: 13 – PHYSICS

NAG 5 9110 **BOSTON UNIV**
 SUBSTORM EVOLUTION IN THE NEAR-EARTH PLASMA SHEET
 02/23/2000 - 02/28/2003 FY03: \$0 Total: \$279,724
Prin. Invest.: G ERICKSON
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9161 **BOSTON UNIV**
 RXTE OBSERVATIONS OF SELECTED BLAZARS - ADP - 99
 03/08/2000 - 03/14/2002 FY03: \$62 Total: \$23,642
Prin. Invest.: A MARSCHER
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9547 **BOSTON UNIV**
 MULTI-DECADAL PATHFINDER DATA SETS OF GLOBAL LAND BIOPHYSICAL
 VARIABLES FROM AVHRR & MODIS & THEIR
 05/16/2000 - 05/31/2002 FY03: \$0 Total: \$150,000
Prin. Invest.: R MYNENI
Tech. Officer: GSFC/DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9557 **BOSTON UNIV**
 MULTIPOINT ENERGETIC NEUTRAL ATOM IMAGING WITH POLAR GEOTAIL
 AND TIROS
 05/16/2000 - 05/14/2002 FY03: \$0 Total: \$58,999
Prin. Invest.: H SPENCE
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9582 **BOSTON UNIV**
 A LARGE FORMAT, MINIATURIZED, PHOTON COUNTING IMAGING SYSTEM
 WITH MICRO-CHANNEL PLATE PORE-LIMITED
 05/09/2000 - 05/14/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: S CHAKRABARTI
Tech. Officer: GSFC/P CRANE
CASE Category: 13 – PHYSICS

NAG 5 10108 **BOSTON UNIV**
 THE CLUSTER RAPID ON-ORBIT OPERATIONS AND DATA VERIFICATION
 12/28/2000 - 12/31/2004 FY03: \$710,200 Total: \$1,947,300
Prin. Invest.: T FRITZ
Tech. Officer: GSFC/M GOLDSTEIN
CASE Category: 13 – PHYSICS

NAG 5 10156 **BOSTON UNIV**
 RETRIEVING LAI AND FPAR FROM MERIS DATA WITH ADVANCED ALGORITHMS
 12/18/2000 - 12/31/2003 FY03: \$89,307 Total: \$266,248
Prin. Invest.: R B MYNENI
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10419 **BOSTON UNIV**
 CONSTELLATION PATHFINDER TECHNOLOGY DEVELOPMENT: SYSTEMS
 INTEGRATION AND MANUFACTURABILITY.
 03/13/2001 - 03/14/2004 FY03: \$0 Total: \$50,000
Prin. Invest.: D SPENCE
Tech. Officer: GSFC/P BUCHANAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10496 **BOSTON UNIV**
 HIGH DEFINITION IMAGES OF MERCURY'S SURFACE AND EXTENDED
 ATMOSPHERE
 02/28/2001 - 02/28/2003 FY03: \$0 Total: \$55,000
Prin. Invest.: J BAUMGARDNER
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10801 **BOSTON UNIV**
 CONCEPT STUDY FOR THE "A SMALL EXPLORER MISSION FOR SPECTROSCOPY &
 PHOTOMETRY OF IGM'S DIFFUSE
 04/30/2001 - 11/30/2002 FY03: \$2,073 Total: \$652,073
Prin. Invest.: P CHAKRABARTI
Tech. Officer: GSFC/J R BYRD
CASE Category: 11 – ASTRONOMY

NAG 5 10808 **BOSTON UNIV**
 INFRARED STUDIES OF 13CO CLUMPS IN THE GRS (L TSA 2 000)
 04/25/2001 - 04/30/2006 FY03: \$119,124 Total: \$334,331
Prin. Invest.: J M JACKSON
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10856 **BOSTON UNIV**
 HELIOSPHERIC CURRENT SHEET STRUCTURE
 05/01/2001 - 04/30/2004 FY03: \$77,588 Total: \$224,236
Prin. Invest.: N U CROOKER
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 10881 **BOSTON UNIV**
 HELIOSPHERIC CONSEQUENCES OF CORONAL MASS EJECTION
 05/14/2001 - 05/31/2004 FY03: \$77,588 Total: \$224,236
Prin. Invest.: N U CROOKER
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11077 **BOSTON UNIV**
 IONOSPHERE VARIABILITY AND STORMS ON MARS
 08/06/2001 - 08/14/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: M MENDILLO
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11165 **BOSTON UNIV**
 MODELING STUDIES OF TITAN'S THERMOSPHERE, IONOSPHERE, AND AURORA
 08/06/2001 - 08/14/2004 FY03: \$41,806 Total: \$82,004
Prin. Invest.: M MENDILLO
Tech. Officer: GSFC/D J BOGAN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 11263 **BOSTON UNIV**
 LAND SURFACE ALBEDO FROM MERIS REFLECTIONS USING MODIS DIRECTIONAL FACTORS
 08/29/2001 - 12/31/2003 FY03: \$46,344 Total: \$116,910
Prin. Invest.: C SCHAAF
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11338 **BOSTON UNIV**
 THE EFFECTS OF AGRICULTURAL EXPANSION ON REGIONAL HYDROLOGY IN SE TURKEY
 09/07/2001 - 09/15/2004 FY03: \$174,394 Total: \$408,949
Prin. Invest.: G SALVUCCI
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11397 **BOSTON UNIV**
 POLAR/CAMMICE
 11/20/2001 - 11/30/2004 FY03: \$406,000 Total: \$737,000
Prin. Invest.: T FRITZ
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11454 **BOSTON UNIV**
 RESEARCH PROGRAM FOR ADVANCED MICROCHANNEL PLATE UV DETECTOR TECHNOLOGY
 12/13/2001 - 12/31/2004 FY03: \$260,000 Total: \$495,000
Prin. Invest.: S CHAKRABARTI
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11695 **BOSTON UNIV**
 "NEW SCALE APPROPRIATE DIAGNOSTICS FOR EVALUATING LAND SURFACE PARAMETERIZATIONS AND WATER BALANCE
 02/06/2002 - 02/14/2005 FY03: \$90,000 Total: \$180,000
Prin. Invest.: G D SALVUCCI
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11751 **BOSTON UNIV**
 INTEGRATIVE SUN-EARTH SYSTEM STUDIES USING MAGNETOSPHERIC ENERGETIC PARTICLES.
 02/20/2002 - 02/14/2005 FY03: \$74,999 Total: \$149,998
Prin. Invest.: H SPENCE
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11790 **BOSTON UNIV**
 CROSS SECTIONS FOR THERMOSPHERIC-IONOSPHERIC NONADIABATIC REACTIONS FROM QUASI-CLASSICAL DYNAMICS
 02/28/2002 - 02/28/2005 FY03: \$82,978 Total: \$173,430
Prin. Invest.: D COKER
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11811 **BOSTON UNIV**
 FREQUENCY-DEPENDENT TIME LAGS IN THREE BLAZARS (AD P 2001)
 03/01/2002 - 02/29/2004 FY03: \$0 Total: \$80,444
Prin. Invest.: A P MARSCHER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 12003 **BOSTON UNIV**
 PERIODICITY AND TURBULENCE ASSOCIATED WITH MAGNETO TAIL FLOW BURSTS
 04/12/2002 - 04/14/2005 FY03: \$86,284 Total: \$169,644
Prin. Invest.: H E SPENCE
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12095 **BOSTON UNIV**
 SATURN THERMOSPHERE-IONOSPHERE MODEL
 04/26/2002 - 04/30/2005 FY03: \$0 Total: \$74,350
Prin. Invest.: M MENDILLO
Tech. Officer: GSFC/JHILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12292 **BOSTON UNIV**
 UNDERSTANDING AND COPING WITH THE EFFECT OF 3D CLOUD STRUCTURE ON ARM DATA
 06/13/2002 - 06/14/2005 FY03: \$27,151 Total: \$53,151
Prin. Invest.: Y KNYZAKHIN
Tech. Officer: GSFC/W WISCOMBE
CASE Category: 31 – ATMOSPHERIC SCIENCE

<p>NAG 5 12652 INTEGRATED NUMERICAL SIMULATION OF THE SOLAR-TERRE STRIAL ENVIRONMENT FOR THE LIVING WITH A STAR 10/28/2002 - 07/31/2005 FY03: \$537,567 <i>Prin. Invest.:</i> C C GOODRICH <i>Tech. Officer:</i> GSFC/J SPANN CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>BOSTON UNIV Total: \$537,567</p>	<p>NAS 5 03013 SPECTROSCOPY & PHOTOMETRY OF IGM'S BIFFUSE RADIATION (SPIDR) MISSION SPACECRAFT 01/02/2003 - 06/30/2010 FY03: \$10,132,000 <i>Prin. Invest.:</i> S CHAKRABARTI <i>Tech. Officer:</i> GSFC/T GEHRINGER CASE Category: 11 – ASTRONOMY</p>	<p>BOSTON UNIV Total: \$10,132,000</p>
<p>NAG 5 12748 MARS AND THE SOLAR WIND 01/13/2003 - 01/14/2006 FY03: \$80,000 <i>Prin. Invest.:</i> M MENDILLO <i>Tech. Officer:</i> GSFC/J GARVIN CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>BOSTON UNIV Total: \$80,000</p>	<p>NAS 5 31369 MODERATE RESOLUTION IMAGING SPECTROMETER INVESTIGATION - LAND COVER CHANGES 12/30/1991 - 12/14/2003 FY03: \$641,000 <i>Prin. Invest.:</i> W STRAHLER <i>Tech. Officer:</i> GSFC/H OSEROFF CASE Category: 31 – ATMOSPHERIC SCIENCE</p>	<p>BOSTON UNIV Total: \$6,738,303</p>
<p>NAG 5 12773 SATELLITE & GROUND BASED STUDIES OF PROTON AURORA 01/21/2003 - 01/31/2006 FY03: \$75,000 <i>Prin. Invest.:</i> M GALAND <i>Tech. Officer:</i> GSFC/W PETERSON CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>BOSTON UNIV Total: \$75,000</p>	<p>NAS 5 96061 MODIS 09/27/1996 - 12/14/2003 FY03: \$352,994 <i>Prin. Invest.:</i> R B MYNENI <i>Tech. Officer:</i> GSFC/D TOLL CASE Category: 31 – ATMOSPHERIC SCIENCE</p>	<p>BOSTON UNIV Total: \$2,748,860</p>
<p>NAG 5 12840 THE EFFECTS OF FORESTRY, AGRICULTURE, AND FIRE ON SOCIOECONOMIC DEVELOPMENT IN AMAZONIA 01/28/2003 - 01/31/2006 FY03: \$43,037 <i>Prin. Invest.:</i> R K KAUFMANN <i>Tech. Officer:</i> GSFC/D L WILLIAMS CASE Category: 39 – ENVIRONMENTAL SCI, OTHER</p>	<p>BOSTON UNIV Total: \$43,037</p>	<p>NCC 2 1233 A BENCHMARK DATASET OF MULTIDIMENSIONAL EARTH SCIENCE SATELLITE DATA FOR TESTING OF LEARNING ALGORITHMS 03/30/2001 - 02/29/2004 FY03: \$172,848 <i>Prin. Invest.:</i> R B MYNENI <i>Tech. Officer:</i> ARC/J C OUGHLAN, ARC/S LAU CASE Category: 22 – COMPUTER SCIENCE</p>	<p>BOSTON UNIV Total: \$380,606</p>
<p>NAG 5 12891 THE GREENING EARTH: PROPOSAL FOR MONITORING THE PULSE OF GLOBAL VEGETATION WITH DATA FROM MULTIPLE SATELLITES 02/11/2003 - 02/14/2006 FY03: \$189,426 <i>Prin. Invest.:</i> R B MYNENI <i>Tech. Officer:</i> GSFC/D WICKLAND CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>BOSTON UNIV Total: \$189,426</p>	<p>NCC 9 127 MICRO GRAVITY INDUCED CHANGES IN CONTROL OF MUSCLES 05/11/2001 - 05/31/2004 FY03: \$332,404 <i>Prin. Invest.:</i> C J DE LUCA <i>Tech. Officer:</i> JSC/M ANDERSON CASE Category: 56 – MEDICAL</p>	<p>BOSTON UNIV Total: \$1,034,616</p>
<p>NAG 5 13074 PROBING THE RELATIVISTIC JETS OF ACTIVE GALACTIC NUCLEI WITH MULTIWAVELENGTH MONITORING 03/13/2003 - 03/14/2004 FY03: \$45,000 <i>Prin. Invest.:</i> A MARSCHER <i>Tech. Officer:</i> GSFC/J FROGEL CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>BOSTON UNIV Total: \$45,000</p>	<p>NGT 5 30223 RELATION BETWEEN INTERANNUAL VARIABILITY IN ATMOSPHERIC CO₂, SEA (ENSO) AND LAND SURFACE TEMPERATURE 09/20/1999 - 08/31/2002 FY03: -\$198 <i>Prin. Invest.:</i> R MYNENI, L ZHOU <i>Tech. Officer:</i> GSFC/M WEI CASE Category: 39 – ENVIRONMENTAL SCI, OTHER</p>	<p>BOSTON UNIV Total: \$65,802</p>
<p>NAG 5 13223 INTERNATIONAL CONFERENCE: MILKY WAY SURVEYS: THE STRUCTURE AND EVOLUTION OF OUR GALAXY 03/31/2003 - 02/29/2004 FY03: \$16,473 <i>Prin. Invest.:</i> D P CLEMENTS <i>Tech. Officer:</i> GSFC/J FROGEL CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>BOSTON UNIV Total: \$16,473</p>	<p>NGT 5 30401 URBANIZATION AS A COMPONENT OF GLOBAL CHANGE. STUDENT: ANNE-MARIE SCHNEIDER 08/14/2001 - 08/31/2004 FY03: \$24,000 <i>Prin. Invest.:</i> C WOODSTOCK <i>Tech. Officer:</i> GSFC/M WEI CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>BOSTON UNIV Total: \$70,000</p>
<p>NAG 5 13305 HIGH DEFINITION IMAGING OF MERCURY'S ATMOSPHERE AND SURFACE 04/16/2003 - 04/30/2006 FY03: \$70,000 <i>Prin. Invest.:</i> J BAUMGARDNER <i>Tech. Officer:</i> GSFC/J HILLMAN CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>BOSTON UNIV Total: \$70,000</p>	<p>NGT 5 30405 ESTIMATION OF LAND SURFACE ENERGY BALANCE AND SURFACE PROPERTIES USING REMOTELY-SENSED OBSERVATION 08/16/2001 - 08/31/2004 FY03: \$24,000 <i>Prin. Invest.:</i> M FRIEDL <i>Tech. Officer:</i> GSFC/M WEI CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>BOSTON UNIV Total: \$70,000</p>

NGT 5 30462 **BOSTON UNIV**
 RETRIEVAL OF BIOMAS AND STRUCTURAL INFORMATION OF FORESTS
 FROM LIDAR WAVEFORMS USING TIME-DEPENDENT
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: R MYNENI
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30490 **BOSTON UNIV**
 CAUSALITY AND FEEDBACK IN REMOTE SENSING DATA. STUDENT: WEILE
 WANG
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: B ANDERSON
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30509 **BOSTON UNIV**
 EFFECTS OF MORPHOLOGY AND COMPOSITION ON HYGROSCOPICITY OF
 SOOT AEROSOLS STUDENT: J SLOWIK
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P DAVIDOVITS
Tech. Officer: GSFC/M WEI
CASE Category: 12 – CHEMISTRY

NGT 5 50288 **BOSTON UNIV**
 SIMULATION OF PLASMA TURBULENCE IN THE AURORAL IONOSPHERE
 06/26/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: M OPPENHEIM
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50307 **BOSTON UNIV**
 GENE EXPRESSION PROFILE OF UNLOADED SKELETAL MUSCLE - STUDENT:
 ERIC STEVENSON
 07/06/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: S KANDARIAN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50309 **BOSTON UNIV**
 A PROSTHETIC FOOT SOLE FOR THE MITIGATION OF BALANCE DEFICITS
 CAUSED BY REDUCED PLANTAR SENSATION
 07/07/2000 - 10/31/2002 FY03: \$0 Total: \$44,000
Prin. Invest.: L ODDSSON
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50438 **BOSTON UNIV**
 MICRODEVICES FOR CONTROLLED, TARGETED ORAL DRUG DELIVERY
 (STUDENT: SARAH TAO)
 04/17/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: T DESAI
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50482 **BOSTON UNIV**
 DEVELOPMENT OF A SPECTROSCOPIC LEARNING TOOL NETWORK
 (STUDENT: ERIN WEEKS)
 08/19/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: K BRECHER
Tech. Officer: GSFC/K BLANDING
CASE Category: 11 – ASTRONOMY

NAG 3 2386 **BRANDEIS UNIV**
 NUCLEATION OF COLLOIDAL AND PROTEIN CRYSTALS IN THE VICINITY OF
 A METASTABLE CRITICAL POINT
 04/07/2000 - 11/30/2003 FY03: \$100,000 Total: \$365,000
Prin. Invest.: D FRADEN
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1263 **BRANDEIS UNIV**
 DEVELOPING PROCEDURES FOR ALLEVIATING ASTRONAUTS POST
 FLIGHT DISTURBANCE OF POSTURE AND LOCOMOTION
 12/06/2000 - 11/30/2003 FY03: \$357,460 Total: \$1,049,837
Prin. Invest.: J R LACKNER
Tech. Officer: JSC/C W LLOYD
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 9 1466 **BRANDEIS UNIV**
 "COORDINATION OF TURNING & REACHING"
 12/02/2002 - 12/02/2005 FY03: \$374,967 Total: \$374,967
Prin. Invest.: J R LACKNER
Tech. Officer: JSC/C W LLOYD
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 01483 **BRANDEIS UNIV**
 ADAPTION OF ARTIFICIAL GRAVITY
 01/13/2003 - 01/10/2006 FY03: \$399,441 Total: \$399,441
Prin. Invest.: J R LACKNER
Tech. Officer: JSC/C W LLOYD
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 5 8559 **CLARK UNIV**
 PIXELING THE SOCIAL USING REMOTELY SENSED INFORMATION IN
 SOCIAL SCIENCE MODELS
 07/08/1999 - 06/30/2003 FY03: \$0 Total: \$344,368
Prin. Invest.: J GEOGHEGAN
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11134 **CLARK UNIV**
 LCLUC-SYPR II
 07/26/2001 - 07/31/2004 FY03: \$115,546 Total: \$384,521
Prin. Invest.: B TURNER
Tech. Officer: GSFC/G GUTMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1270 **CLARK UNIV**
 COFFEE HARVEST OPTIMIZATION USING UAV PLATFORMS FOR THE
 ACQUISITION OF HIGH SPATIAL RESOLUTION REAL
 06/07/2001 - 12/14/2004 FY03: \$220,700 Total: \$3,125,600
Prin. Invest.: S HERWITZ
Tech. Officer: ARC/S S WEGENER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 97 **CLARK UNIV**
 INTEGRATED ASSESSMENT AND PROJECTION OF LAND-USE/ COVER
 CHANGE IN THE SOUTHERN YUCATAN PENINSULAR
 08/24/1999 - 08/31/2002 FY03: -\$961 Total: \$65,039
Prin. Invest.: B L TURNER, S MANSON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30147 **CLARK UNIV**
 IDENTIFYING THE LAND-MANAGEMENT INSTS AND LANDSCAPE PATTERNS
 GOVERNING SAVANNA FIRE REGI
 08/31/1998 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: B L TURNER,11
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30197 **CLARK UNIV**
 CONSERVATION IN THE SOUTHERN YUCATAN PENINSULAR REGION,
 MEXICO: LINKING LANDSCAPE ECOLOGY AND SOCIA
 08/18/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: B L TURNER, 11
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30217 **CLARK UNIV**
 SOCIALIZING MIOMBO GEOLOGY: CHANGE IN WOODLAND USE AND ITS
 MEANING FOR SUSTAINABLE LIVELIHOODS/STUD
 08/24/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: B L TURNER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 8 1796 **COLLEGE OF THE HOLY CROSS**
 FOR RESEARCH "TRANSIENT DENDRITIC SOLIDIFICATION EXPERIMENT"
 03/07/2001 - 05/31/2003 FY03: \$59,596 Total: \$298,571
Prin. Invest.: M KOSS
Tech. Officer: MSFC/A JACKSON
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 1 2307 **HARVARD UNIV**
 GLOBAL THREE-DIMENSIONAL MODELING STUDIES OF TROPOSPHERIC
 OZONE
 06/28/2000 - 03/31/2003 FY03: \$59,999 Total: \$812,000
Prin. Invest.: D J JACOB
Tech. Officer: LARC/G L MADDREA, HQ/P DE COLA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2328 **HARVARD UNIV**
 ANALYSIS OF ASIAN OUTFLOW OVER THE PACIFIC USING OBSERVATIONS
 FROM TRACE-P, NRA 00-OES-01
 09/20/2000 - 06/30/2003 FY03: \$0 Total: \$541,830
Prin. Invest.: D J JACOB
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01095 **HARVARD UNIV**
 CHEMISTRY, DYNAMICS, AND RADIATION OF OZONE LOSS AIRBORNE
 MEAS OF OH, HO₂, NO₂, ClO, IO, ClONO₂
 07/18/2001 - 12/31/2003 FY03: \$2,199,694 Total: \$5,998,416
Prin. Invest.: J G ANDERSON
Tech. Officer: LARC/L R POOLE, LARC/G L MADDREA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1310 **HARVARD UNIV**
 IN SITU MEASUREMENT OF CONCENTRATION OF ATMOSPHERIC CO₂ IN
 THE SGAE-3 OZONE LOSS & VALIDATION EXPER
 03/19/1999 - 12/31/2002 FY03: \$0 Total: \$557,000
Prin. Invest.: S C WOFSY
Tech. Officer: ARC/C P SCOFIELD, ARC/R S HIPSKIND
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1417 **HARVARD UNIV**
 BIOMECHANICS OF ARABIDOPSIS THALIANA WAVY ROOT DEVELOPMENT
 07/11/2000 - 08/31/2003 FY03: \$0 Total: \$121,609
Prin. Invest.: N M HOLBROOK
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1509 **HARVARD UNIV**
 CONTROL OF CELL MECHANICS AND FUNCTION BY CELL MICROENVIRON-
 MENT
 07/26/2001 - 07/31/2004 FY03: \$240,169 Total: \$582,477
Prin. Invest.: N WANG
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1617 **HARVARD UNIV**
 IN SITU MEASUREMENT OF CONCENTRATION OF ATMOSPHERIC CO₂
 FROM HIGH ALTITUDE PLATFORMS
 02/28/2003 - 02/15/2004 FY03: \$196,927 Total: \$196,927
Prin. Invest.: S C WOFSY
Tech. Officer: ARC/R S HIPSKIN, ARC/C P SCOFIELD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 3 2284 **HARVARD UNIV**
 PHYSICS OF COLLOIDS IN SPACE PHYSICS OF COLLOIDS IN SPACE
 08/02/1999 - 06/30/2004 FY03: \$553,000 Total: \$1,776,000
Prin. Invest.: D WEITZ
Tech. Officer: GRC/B S SINGH
CASE Category: 13 – PHYSICS

NAG 3 2376 **HARVARD UNIV**
 MICROGRAVITY DRIVEN INSTABILITIES IN GAS-FLUIDIZED BEDS
 03/27/2000 - 11/30/2003 FY03: \$40,000 Total: \$116,000
Prin. Invest.: D A WEITZ
Tech. Officer: GRC/B MOTIL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2381 **HARVARD UNIV**
 FABRICATION OF PHOTONIC STRUCTURE WITH COLLOIDAL ENGINEERING
 04/07/2000 - 11/30/2003 FY03: \$90,000 Total: \$316,000
Prin. Invest.: D A WHITE
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2492 **HARVARD UNIV**
 ENGINEERING OF NOVEL BIOCOLLOIDAL SUSPENSIONS ENGINEERING OF
 NOVEL BIOCOLLOIDAL SUSPENSIONS
 10/17/2000 - 11/30/2003 FY03: \$30,000 Total: \$90,000
Prin. Invest.: D A WEITZ
Tech. Officer: GRC/D GRIFFIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2909 **HARVARD UNIV**
 ULTRA-SLOW AND STOPPED LIGHT IN MICROGRAVITY ULTRA-SLOW AND
 STOPPED LIGHT IN MICROGRAVITY
 06/10/2003 - 04/30/2007 FY03: \$40,000 Total: \$40,000
Prin. Invest.: L HAU
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 4348 **HARVARD UNIV**
 ABSOLUTE TRANSITION PROBABILITIES FOR LINES IN THE ASTROPHYSICAL ATOMS, MOLECULES AND IONS
 04/17/1997 - 03/31/2003 FY03: \$0 Total: \$426,197
Prin. Invest.: A H DALGARNO
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 4430 **HARVARD UNIV**
 ISOTOPIC STUDIES OF SOLAR SYSTEMS ORIGINS
 05/06/1997 - 02/28/2003 FY03: \$0 Total: \$178,000
Prin. Invest.: D B JACOBSEN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 5279 **HARVARD UNIV**
 DEVELOPMENT OF A HARD X-RAY IMAGING DETECTOR AND SURVEY TELESCOPE (EXITE 3) FOR AN LDB MISSION
 05/31/2000 - 05/17/2004 FY03: \$0 Total: \$642,811
Prin. Invest.: G GRINDLAY
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5396 **HARVARD UNIV**
 PROTOTYPING EXISTS: DETECTOR & TELESCOPE DEVELOPMENT
 08/19/2003 - 08/18/2006 FY03: \$321,000 Total: \$321,000
Prin. Invest.: J GRINDLAY
Tech. Officer: WFF/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 9019 **HARVARD UNIV**
 1. H2 IN HH2: FLUORESCENCE OR COLLISIONS? - FUSE 2. NON-RADIATIVE SHOCKS IN THE CYGNUS LOOP - FUSE
 02/02/2000 - 01/31/2003 FY03: \$0 Total: \$61,100
Prin. Invest.: J C RAYMOND
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9643 **HARVARD UNIV**
 CHEMISTRY, AEROSOLS, AND CLIMATE: TROPOSPHERIC UNIFIED SIMULATION (CACTUS)
 06/28/2000 - 12/31/2003 FY03: \$123,000 Total: \$1,137,000
Prin. Invest.: D J JACOB
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9823 **HARVARD UNIV**
 MEASUREMENT, ANALYSIS, & MODELING OF THE SPATIAL & TEMPORAL VARIABILITY OF OROGRAPHIC PRECIP.
 07/24/2000 - 11/30/2003 FY03: \$0 Total: \$382,080
Prin. Invest.: A P BARROS
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10040 **HARVARD UNIV**
 ON THE ORIGIN OF DIPS IN 4U1915-05
 10/03/2000 - 09/30/2002 FY03: -\$1 Total: \$7,399
Prin. Invest.: J E GRINDLAY
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10046 **HARVARD UNIV**
 XMM OBSERVATIONS OF LARGE CORE CLUSTERS
 09/28/2000 - 09/30/2002 FY03: -\$1 Total: \$8,099
Prin. Invest.: J E GRINDLAY
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10484 **HARVARD UNIV**
 ISOTOPIC STUDIES OF THE FORMATION & EARLY DIFFERENTIATION OF PLANETS
 03/05/2001 - 03/31/2004 FY03: \$70,000 Total: \$210,000
Prin. Invest.: S JACOBSEN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10631 **HARVARD UNIV**
 THE EVOLUTION OF ATMOSPHERIC OXYGEN AND THE COMPOSITION OF SEAWATER
 03/17/2001 - 03/14/2004 FY03: \$150,000 Total: \$450,000
Prin. Invest.: H D HOLLAND
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 10780 **HARVARD UNIV**
 MODELS OF LOW-LUMINOSITY ACCRETION FLOWS (ATP 2000)
 04/20/2001 - 04/30/2004 FY03: \$103,021 Total: \$296,185
Prin. Invest.: R NARAYAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10906 **HARVARD UNIV**
 THE ORIGINS OF AUTOTROPHY: DISTRIBUTION, DIVERSITY AND EVOLUTION OF RUBISCO
 05/22/2001 - 07/31/2004 FY03: \$0 Total: \$190,247
Prin. Invest.: C M CAVANAUGH
Tech. Officer: GSFC/M MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 11154 **HARVARD UNIV**
 FLUXES OF CARBON, WATER, AND ENERGY IN A BOREAL FOREST-PEAT ECOSYSTEM: SHORT TERM VARIANCE, LONG
 08/02/2001 - 07/31/2004 FY03: \$366,939 Total: \$911,111
Prin. Invest.: S C WOFSY
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11270 **HARVARD UNIV**
 EVALUATION AND INTERCOMPARISON OF TROPOSPHERIC CHEMISTRY SIMULATIONS FOR GLOBAL MODEL INITIATIVE (GM)
 08/22/2001 - 08/31/2004 FY03: \$151,400 Total: \$296,530
Prin. Invest.: D JACOB
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11431 **HARVARD UNIV**
 CONSTRAINTS OF CHEMICAL TRACERS ON THE GLOBAL BUDGETS OF CO2 AND CH4
 12/03/2001 - 11/30/2004 FY03: \$195,000 Total: \$400,000
Prin. Invest.: M MCELROY
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11547	HARVARD UNIV	NAG 5 13292	HARVARD UNIV
TOTAL WATER MEASUREMENTS USING IN SITU UV FRAGMENT FLUORESCENCE SPECTROSCOPY IN SUPPORT OF		PRODUCTION OF NON-THERMAL PARTICLES BY STRUCTURE FORMATION IN THE INTERGALACTIC MEDIUM	
01/14/2002 - 01/31/2004	FY03: \$34,369	04/07/2003 - 03/31/2006	FY03: \$127,000
Total: \$86,803		Total: \$127,000	
<i>Prin. Invest.:</i> J ANDERSON		<i>Prin. Invest.:</i> A LEOB	
<i>Tech. Officer:</i> GSFC/D ANDERSON		<i>Tech. Officer:</i> GSFC/M SALAMON	
<i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 11548	HARVARD UNIV	NAG 5 13472	HARVARD UNIV
IN SITU WATER VAPOR MEASUREMENTS USING COUPLED UV FRAGMENT FLUORESCENCE/ABSORPTION SPECTROSCOPY IN S		KINETIC AND MECHANISMS OF CO AND CO2 REDUCTION BY THERMAL- AND PHOTO-PROCESSES ON ALABANDITE (MNS)	
01/14/2002 - 01/31/2004	FY03: \$34,531	04/26/2003 - 05/31/2006	FY03: \$124,217
Total: \$98,364		Total: \$124,217	
<i>Prin. Invest.:</i> J ANDERSON		<i>Prin. Invest.:</i> S MARTIN	
<i>Tech. Officer:</i> GSFC/D ANDERSON		<i>Tech. Officer:</i> GSFC/M NEW	
<i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 11638	HARVARD UNIV	NAG 5 13474	HARVARD UNIV
CO2 MEASUREMENTS FROM THE WB-57F IN CRYSTAL-FACE		MAPPING WATER ON MARS USING FLUIDIZED CRATER MORPHOLOGIES: A NEW PHYSICAL APPROACH	
01/22/2002 - 01/31/2004	FY03: \$70,000	04/26/2003 - 05/31/2006	FY03: \$66,097
Total: \$120,000		Total: \$66,097	
<i>Prin. Invest.:</i> S C WOFSY		<i>Prin. Invest.:</i> S MUKHOPADHYAY	
<i>Tech. Officer:</i> GSFC/D ANDERSON		<i>Tech. Officer:</i> GSFC/C NIEBUR	
<i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 11925	HARVARD UNIV	NAG 5 13749	HARVARD UNIV
ISOTOPIIC STUDIES OF SOLAR SYSTEM ORIGINS		SYNTHESIS OF SATELLITE MAGNETIC FIELD OBSERVATIONS WITH NUMERICAL DYNAMO MODELING	
03/27/2002 - 06/30/2003	FY03: \$0	09/26/2003 - 09/30/2006	FY03: \$73,000
Total: \$45,000		Total: \$73,000	
<i>Prin. Invest.:</i> S JACOBSEN		<i>Prin. Invest.:</i> J BLOXHAM	
<i>Tech. Officer:</i> GSFC/J BOYCE		<i>Tech. Officer:</i> GSFC/H V FREY	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 12140	HARVARD UNIV	NAG 8 1680	HARVARD UNIV
GALAXY EVOLUTION IN A COSMOLOGICAL CONTEXT		"GLASS FORMATION, NUCLEATION AND DIFFUSION IN METALLIC MELTS"	
05/06/2002 - 04/30/2005	FY03: \$103,977	06/06/2000 - 11/30/2003	FY03: \$100,000
Total: \$240,831		Total: \$340,000	
<i>Prin. Invest.:</i> L E HERNQUIST		<i>Prin. Invest.:</i> F A SPAEPEN, M J AZIZ	
<i>Tech. Officer:</i> GSFC/M SALAMON		<i>Tech. Officer:</i> MSFC/P DOTY	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 47 – METAL & MATERIALS ENGR	
NAG 5 13032	HARVARD UNIV	NAG 8 1822	HARVARD UNIV
IN A SPIN: THE ORIGIN AND FATE OF NEUTRON STAR ROTATION		RESEARCH ENTITLED, "STUDY OF METASTABILITY OF HYDROGEN AGAINST A TRANSITION TO PRESSURE"	
03/13/2003 - 04/30/2008	FY03: \$91,748	06/29/2001 - 07/15/2002	FY03: \$50,000
Total: \$91,748		Total: \$149,972	
<i>Prin. Invest.:</i> B GAENSLER		<i>Prin. Invest.:</i> I F SILVERA	
<i>Tech. Officer:</i> GSFC/J FROGEL		<i>Tech. Officer:</i> MSFC/S D BAI	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 43 – CHEMICAL ENGR	
NAG 5 13087	HARVARD UNIV	NAS 1 18946	HARVARD UNIV
PSR B1338-62 AND SNR G308.8-0.1: AN INTERACTING SYSTEM?		SAGE III SCIENCE SUPPORT; P.I. - WOFSY	
03/24/2003 - 03/31/2004	FY03: \$39,000	11/28/1989 - 12/31/2002	FY03: \$0
Total: \$39,000		Total: \$586,117	
<i>Prin. Invest.:</i> B M GAENSLER		<i>Prin. Invest.:</i> S C WOFSY	
<i>Tech. Officer:</i> GSFC/R MUSHOTZKY		<i>Tech. Officer:</i> LARC/G MADDREA	
<i>CASE Category:</i> 11 – ASTRONOMY		<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER	
NAG 5 13164	HARVARD UNIV	NAS 5 02037	HARVARD UNIV
ISOTOPIIC STUDIES OF SOLAR SYSTEM ORIGINS		NRA FOR R & D ENTITLED "INSTRUMENT INCUBATOR PROGRAM, ICOS, CAPS & CRDS: NEW TECHNIQUES	
04/01/2003 - 03/31/2006	FY03: \$75,000	03/14/2002 - 03/13/2004	FY03: \$900,740
Total: \$75,000		Total: \$1,847,590	
<i>Prin. Invest.:</i> S B JACOBSON		<i>Prin. Invest.:</i> J ANDERSON	
<i>Tech. Officer:</i> GSFC/D LINDSTROM		<i>Tech. Officer:</i> GSFC/F PERI	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 42 – ASTRONAUTICAL ENGR	
NAG 5 13203	HARVARD UNIV		
A SEARCH FOR THE YOUNG AND ENERGETIC PULSAR IN G32 8.4+0.2			
04/01/2003 - 03/31/2004	FY03: \$44,650		
Total: \$44,650			
<i>Prin. Invest.:</i> B M GAENSLER			
<i>Tech. Officer:</i> GSFC/R MUSHOTZKY			
<i>CASE Category:</i> 11 – ASTRONOMY			

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NCC 2 1053 HARVARD UNIV
 THE PLANETARY CONTEXT OF BIOLOGICAL EVOLUTION
 09/14/1998 - 10/31/2004 FY03: \$929,147 Total: \$4,387,450
Prin. Invest.: A H KNOLL
Tech. Officer: ARC/R A GRYMES, ARC/W W DOLCI
CASE Category: 59 – LIFE SCIENCE, OTHER

NGT 5 30366 HARVARD UNIV
 CHARACTERIZING THE HYDROLOGICAL AND ENVIRONMENTAL CONTROLS
 ON THE CARBON BALANCE OF BOREAL FORESTS/AL
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S WOFSY
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1236 HARVARD UNIV
 PROBABILISTIC REASONING FOR COMPLEX DYNAMIC SYSTEM S
 04/11/2001 - 02/29/2004 FY03: \$178,315 Total: \$311,981
Prin. Invest.: A J PFEFFER
Tech. Officer: ARC/R A MORRIS, ARC/D J CLANCY
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 30410 HARVARD UNIV
 A NEW METHOD FOR IN SITU MEASUREMENTS OF THE ISOTO PIC
 COMPOSITION OF WATER IN THE TROPICAL UPPER
 08/15/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J ANDERSON
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 5505 HARVARD UNIV
 COLLECTIVE INTELLIGENCE MECHANISM DESIGN FOR COMPL EX SYS-
 TEMS
 07/24/2002 - 07/31/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: D PARKES
Tech. Officer: ARC/K TURNER, ARC/D WOLPERT
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 30466 HARVARD UNIV
 UNDERSTANDING GLOBAL SOURCES OF CARBON MONOXIDE: AN INTE-
 GRATED OBSERVATIONAL STRATEGY_STUDENT NAME
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D JACOB
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 341 HARVARD UNIV
 NET ECOSYSTEM EXCHANGE OF CO2 AND H2O FROM PRIMARY TROPICAL
 FOREST IN CENTRAL AMAZONIA
 07/07/1998 - 12/31/2002 FY03: \$0 Total: \$1,712,000
Prin. Invest.: S C WOFSY
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30482 HARVARD UNIV
 CONSTRAINING PREDICTIONS OF HALOGEN CATA STUDENT: YI-WEN
 HUANG
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J ANDERSON
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 590 HARVARD UNIV
 CO2 BUDGET REGIONAL AIRBORNE STUDY (COBRA) - BRAZI L
 11/01/2001 - 10/31/2004 FY03: \$1,125,079 Total: \$1,376,980
Prin. Invest.: S C WOFSY
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30495 HARVARD UNIV
 EDDY FLUX/ REMOTE SENSING IN THE AMAZON BASIN. STUDENT: DANIEL
 MATROSS
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S WOFSY
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 684 HARVARD UNIV
 ECOSYSTEM CARBON BALANCE IN A PRIMARY TROPICAL FOR EST IN
 CENTRAL AMAZONIA: INTEGRATING LONG-TERM ED
 01/03/2003 - 12/31/2005 FY03: \$420,000 Total: \$420,000
Prin. Invest.: S WOFSY
Tech. Officer: GSFC/D WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50258 HARVARD UNIV
 STUDIES IN LOW TEMPERATURE ATOMIC PHYSICS USING A CRYOGENIC
 HYDROGEN MASER STUDENT: MARC HUMPHR
 07/07/1999 - 06/30/2002 FY03: -\$411 Total: \$65,589
Prin. Invest.: W H PARKINSON
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 101 HARVARD UNIV
 NATURAL SELECTION IN ELEMENTS OF PHOTOSYNTHESIS STUDENT:
 LUCAS MIX
 05/25/2000 - 08/31/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: C CAVANAUGH
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 5 50433 HARVARD UNIV
 APPLICATION OF STORED LIGHT TO THE DEVELOPMENT OF A QUANTUM
 REPEATER (STUDENT: MASON KLEIN)
 04/15/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R WALSWORTH
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30336 HARVARD UNIV
 LABORATORY STUDIES OF TROPOSPHERIC SOURCES & SINKS OF THE
 HYDROXYL RADICAL: OXIDATION OF ALKENE
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: J ANDERSON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 8 52922 HARVARD UNIV
 EFFECTIVENESS OF ENGINEERING DESIGN AN DTECHNOLOGY BASED
 CHALLENGES ON URBAN MIDDLE SCHOOL STUDENTS
 08/27/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: R PETERKIN
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 21 – MATHEMATICS

NAG 3 2937 **MASSACHUSETTS BAY COMM COLLEGE**
TOWARDS PRECISION EXPERIMENTS WITH BOSE-EINSTEIN CONDENSATES
09/24/2003 - 09/30/2005 FY03: \$100,000 Total: \$100,000
Prin. Invest.: W KETTERLE
Tech. Officer: GRC/C W LEK
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 2152 **MASSACHUSETTS INST OF TECHNOLOGY**
STUDIES OF TRACE GAS CHEMICAL CYCLES USING INVERSE METHODS & GLOBAL CHEMICALTRANSPORT MODELS
02/25/1999 - 12/31/2001 FY03: -\$917 Total: \$427,263
Prin. Invest.: R G PRINN
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2173 **MASSACHUSETTS INST OF TECHNOLOGY**
PHYS PROCESSES GOV'G ATMOSPHERIC TRACECONSTITUENTS MEAS'D FROM A/C IN PEM-TROPICS-B (NRA-97-MTPE-04)
05/03/1999 - 02/28/2002 FY03: \$0 Total: \$445,109
Prin. Invest.: R E NEWELL
Tech. Officer: LARC/J L RAPER, LARC/R J BENDURA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2203 **MASSACHUSETTS INST OF TECHNOLOGY**
TRACER EVOLUTION AT HIGHER LATITUDES IN WINTER (SOLVE)
06/17/1999 - 09/30/2001 FY03: -\$1 Total: \$23,845
Prin. Invest.: R PLUMB
Tech. Officer: LARC/G MADDREA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2239 **MASSACHUSETTS INST OF TECHNOLOGY**
REQUIREMENT ENGINEERING FOR SOFTWARE INTEGRITY AND SAFETY (NRA 98-LARC-8)
09/23/1999 - 09/30/2002 FY03: -\$1 Total: \$352,739
Prin. Invest.: N LEVESON
Tech. Officer: LARC/D E ECKMARDT
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 2275 **MASSACHUSETTS INST OF TECHNOLOGY**
DEVELOPMENT OF AN OUTPUT-BASED ADAPTIVE METHOD FOR MULTI-DIMENSIONAL EULER AND NAVIER STOKES SIMUL-
02/29/2000 - 06/30/2002 FY03: -\$220 Total: \$165,058
Prin. Invest.: D L DARMOTAL
Tech. Officer: LARC/J L THOMAS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2306 **MASSACHUSETTS INST OF TECHNOLOGY**
USE OF GTE, MOZAIC, SONEX AND UARS-MLS DATA IN UNDERSTANDING TROPOSPHERIC CRITICAL TO MODEL DEV.
06/08/2000 - 03/31/2003 FY03: \$0 Total: \$270,000
Prin. Invest.: R E NEWELL
Tech. Officer: LARC/D L MODDREA
CASE Category: 31 – ATMOSPHERICSCIENCE

NAG 1 01025 **MASSACHUSETTS INST OF TECHNOLOGY**
PERFORMANCE AND RELIABILITY OPTIMIZATION FOR AERO- SPACE SYSTEMS SUBJECT TO UNCERTAINTY & DEGRADATIO
02/16/2001 - 12/31/2003 FY03: \$90,995 Total: \$271,982
Prin. Invest.: D W MILLER
Tech. Officer: LARC/P G MAGHAMI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01102 **MASSACHUSETTS INST OF TECHNOLOGY**
ACTIVE TAILORING OF A FLEXIBLE WING USING LANGLEY MACRO-FIBER COMPOSITE (MFC) ACTUATORS
06/20/2001 - 12/31/2002 FY03: \$0 Total: \$39,988
Prin. Invest.:
Prin. Invest.: C CESNIK
Prin. Invest.: NONE
Tech. Officer: LARC/H K WILKIE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02006 **MASSACHUSETTS INST OF TECHNOLOGY**
INVESTIGATE AIRCRAFT DYNAMIC STATE AND INTENT RQMTS IN FUTURE AIR TRAFFIC CONTROL ENVIRONMENTS
11/29/2001 - 11/30/2004 FY03: \$86,733 Total: \$170,840
Prin. Invest.: R J HANSMAN
Tech. Officer: LARC/R BARNYDT
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02037 **MASSACHUSETTS INST OF TECHNOLOGY**
AN OUTPUT-BASED ADAPTIVE METHOD FOR MULTI- DIMENSIONAL EULER AND NAVIER-STOKES
01/15/2002 - 05/31/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: D L DARMOFAL
Tech. Officer: LARC/J L THOMAS, LARC/E J NIELSEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02038 **MASSACHUSETTS INST OF TECHNOLOGY**
IDENTIFICATION OF KEY CONSTRAINTS AND SYSTEM DYNAMICS IN THE NAS TO SUPPORT EVALUATION
01/25/2002 - 01/31/2005 FY03: \$142,467 Total: \$281,433
Prin. Invest.: R J HANSMAN
Tech. Officer: LARC/R E YACKOVETSKY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02040 **MASSACHUSETTS INST OF TECHNOLOGY**
CAPRI: USING A GEOMETRIC FOUNDATION FOR COMPUTATIONAL ANALYSIS AND DESIGN
01/18/2002 - 01/17/2005 FY03: \$71,940 Total: \$141,453
Prin. Invest.: R HAIMES
Tech. Officer: LARC/W T JONES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03035 **MASSACHUSETTS INST OF TECHNOLOGY**
APPLICATION OF A GRID ADAPTIVE METHOD WITHIN AERODYNAMIC DESIGN OPTIMIZATION
03/27/2003 - 12/31/2005 FY03: \$106,425 Total: \$106,425
Prin. Invest.: D L DARMOFAL
Tech. Officer: LARC/J L THOMAS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1272 **MASSACHUSETTS INST OF TECHNOLOGY**
APPLYING ATC AUTOMATION TO ADDRESS ENVIRONMENTAL CONSIDERATIONS
12/22/1998 - 05/31/2002 FY03: \$0 Total: \$486,178
Prin. Invest.: J P CLARKE
Tech. Officer: ARC/T TOBIAS, ARC/T J DAVIS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1299 **MASSACHUSETTS INST OF TECHNOLOGY**
HUMAN PERFORMANCE CONSIDERATIONS FOR SHARED INFORMATION IN DATALINKED AIR TRAFFIC MANAGEMENT SYSTEM
03/03/1999 - 05/31/2004 FY03: \$0 Total: \$370,533
Prin. Invest.: R J HANSMAN
Tech. Officer: ARC/S C LOZITO
CASE Category: 69 – PSYCHOLOGY, OTHER

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NAG 2 1350 **MASSACHUSETTS INST OF TECHNOLOGY**
 EFFECT OF GROWTH STARVATION UNDER SIMULATED MICRO- GRAVITY
 ON THE BACTERIAL STRESS & SECONDARY METAB
 07/21/1999 - 07/14/2002 FY03: \$0 Total: \$653,789
Prin. Invest.: A L DEMAIN
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1543 **MASSACHUSETTS INST OF TECHNOLOGY**
 MODEL BASED HAZARD ANALYSIS RESEARCH
 03/20/2002 - 03/14/2005 FY03: \$241,942 Total: \$464,632
Prin. Invest.: N LEVESON
Tech. Officer: ARC/M SHIRLEY, ARC/A WANG
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 2 1425 **MASSACHUSETTS INST OF TECHNOLOGY**
 MODELING & ANALYSIS OF MULTIPLE ALERTING SYSTEM IN TERACTIONS
 07/26/2000 - 02/28/2003 FY03: \$0 Total: \$288,739
Prin. Invest.: J K KUCHAR
Tech. Officer: ARC/S C LOZITO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1548 **MASSACHUSETTS INST OF TECHNOLOGY**
 STOCHASTIC MODELS FOR THE MIT EXTENSIBLE AIR NETWO RK SIMULA-
 TION
 04/04/2002 - 03/31/2004 FY03: \$150,000 Total: \$332,876
Prin. Invest.: J P CLARKE
Tech. Officer: ARC/L A MEYN, ARC/K ROTH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1458 **MASSACHUSETTS INST OF TECHNOLOGY**
 SURFACE GENERATION & CARTESIAN MESH SUPPORT
 02/27/2001 - 02/28/2004 FY03: \$50,005 Total: \$150,145
Prin. Invest.: R HAIMES
Tech. Officer: ARC/M J AFTOSMIS, ARC/G KLUPFER
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1552 **MASSACHUSETTS INST OF TECHNOLOGY**
 MOTION PLANNING FOR AGILE MANEUVERING VEHICLES
 04/11/2002 - 04/14/2004 FY03: \$80,000 Total: \$160,000
Prin. Invest.: E FERON
Tech. Officer: ARC/M TISCHLER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1463 **MASSACHUSETTS INST OF TECHNOLOGY**
 SELF-DIRECTED COOPERATIVE PLANETARY ROVERS
 03/16/2001 - 02/28/2003 FY03: \$0 Total: \$270,961
Prin. Invest.: S ZILBERSTEIN
Tech. Officer: ARC/R A MORRIS, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1554 **MASSACHUSETTS INST OF TECHNOLOGY**
 ADVANCED NOISE ABATEMENT PROCEDURES FOR APPROACH
 04/17/2002 - 05/31/2005 FY03: \$152,711 Total: \$227,688
Prin. Invest.: J P CLARKE
Tech. Officer: ARC/L TOBIAS, ARC/T J DAVIS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1466 **MASSACHUSETTS INST OF TECHNOLOGY**
 UNIFYING MODEL-BASED SEQUENCE EXECUTION & FAULT PR OTECTION
 FOR SPACE VEHICLES
 03/23/2001 - 03/14/2004 FY03: \$359,434 Total: \$980,994
Prin. Invest.: B WILLIAMS
Tech. Officer: ARC/R MORRIS, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2101 **MASSACHUSETTS INST OF TECHNOLOGY**
 THREE-DIMENSIONAL AERODYNAMIC INSTABILITIES IN MUL TI-STAGE
 AXIAL COMPRESSORS
 12/23/1997 - 01/31/2003 FY03: -\$2,639 Total: \$287,130
Prin. Invest.: C S TAN
Tech. Officer: GRC/K L SUDER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1482 **MASSACHUSETTS INST OF TECHNOLOGY**
 UNDERSTANDING THE DYNAMICS OF AGILE SMALL-SCALE RO TORCRAFT
 05/09/2001 - 04/30/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: E FERON
Tech. Officer: ARC/M B TISCHER, ARC/B R LAKINSMITH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2155 **MASSACHUSETTS INST OF TECHNOLOGY**
 AN INTEROMETRIC INVESTIGATION OF CONTACT LINE DYNA MICS IN
 SPREADING POLYMERMELTS AND SOLUTIONS
 04/21/1998 - 01/19/2003 FY03: -\$3,731 Total: \$353,919
Prin. Invest.: G H MCKINLEY
Tech. Officer: GRC/N R HALL
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 2 1515 **MASSACHUSETTS INST OF TECHNOLOGY**
 DEVELOPMENT OF STOCHASTIC MODELS AND MODULES AND I NTERAC-
 TIVE COMMUNICATION CAPABILITIES FOR THE MIT
 08/08/2001 - 07/31/2002 FY03: \$0 Total: \$94,653
Prin. Invest.: J P CLARKE
Tech. Officer: ARC/L A MEYN
CASE Category: 41 – AERONAUTICALENGNR

NAG 3 2178 **MASSACHUSETTS INST OF TECHNOLOGY**
 INTEGRATED HUMAN CENTERED SYSTEMS ANALYSIS OF FUNC TIONAL
 REQUIREMENTS FOR COCKPIT ICING INFORMATION
 07/08/1998 - 05/31/2003 FY03: \$0 Total: \$289,975
Prin. Invest.: R J HANSMAN
Tech. Officer: GRC/A REEHORST
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1540 **MASSACHUSETTS INST OF TECHNOLOGY**
 INTERDISCIPLINARY ANALYSIS OF PRE CAMBRIAN ANIMAL FOSSILS FROM
 SW CHINA
 03/15/2002 - 02/28/2005 FY03: \$145,600 Total: \$266,301
Prin. Invest.: Y L WANG
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2320 **MASSACHUSETTS INST OF TECHNOLOGY**
 AEROTHERMAL PROBABILISTIC DESIGN OF COMPRESSOR BLA DES
 01/13/2000 - 06/30/2003 FY03: \$0 Total: \$389,349
Prin. Invest.: D M DARMOFAL
Tech. Officer: GRC/S PAI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2321 **MASSACHUSETTS INST OF TECHNOLOGY**
 CHARACTERIZATION OF AEROMECHANICS RESPONSE AND INSTABILITY
 IN FANS, COMPRESSORS, AND TURBINE BLADES
 01/13/2000 - 05/19/2003 FY03: \$0 Total: \$149,034
Prin. Invest.: D S TAN
Tech. Officer: GRC/G L STEFKO
CASE Category: 41 – AERONAUTICALENGNR

NAG 3 2506 **MASSACHUSETTS INST OF TECHNOLOGY**
 MICROFABRICATED LIQUID ROCKET MOTORS MICROFABRICATED LIQUID
 ROCKET MOTORS
 11/21/2000 - 11/30/2002 FY03: \$0 Total: \$262,255
Prin. Invest.: D H EPSTEIN
Tech. Officer: GRC/S SCHNEIDER
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 3 2523 **MASSACHUSETTS INST OF TECHNOLOGY**
 CAPRI USING A GEOMETRIC FOUNDATION FOR COMPUTATIONAL ANALYSIS
 AND DESIGN
 01/17/2001 - 09/11/2002 FY03: \$0 Total: \$109,920
Prin. Invest.: R HAIMES
Tech. Officer: GRC/G FOLLEN
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 3 2678 **MASSACHUSETTS INST OF TECHNOLOGY**
 MODELING AND INTEGRATION OF ACTIVE INTERNAL FLOW CONTROL IN
 AERO-ENGINE COMPRESSORS
 12/17/2001 - 09/30/2004 FY03: \$125,000 Total: \$226,820
Prin. Invest.: D M GREITZER
Tech. Officer: GRC/G WELCH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2685 **MASSACHUSETTS INST OF TECHNOLOGY**
 ARCHITECTURES AND PROTOCOLS FOR NASA'S FUTURE SPACE NETWORKS
 01/08/2002 - 12/20/2004 FY03: \$0 Total: \$74,898
Prin. Invest.: D MODIANO
Tech. Officer: GRC/O SANDS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2732 **MASSACHUSETTS INST OF TECHNOLOGY**
 UNSTEADY COMPUTATIONAL CODE VALIDATION AND IMPACT OF UN-
 STEADY IMPELLER-DIFFUSER INTERACTIONS ON CENT
 03/11/2002 - 06/30/2003 FY03: \$0 Total: \$85,000
Prin. Invest.: D S TAN
Tech. Officer: GRC/G SKOCH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2767 **MASSACHUSETTS INST OF TECHNOLOGY**
 TURBOMACHINERY FOR LOW TO HIGH MACH NUMBER FLIGHT TURBOMA-
 CHINERY FOR LOW TO HIGH MACH NUMBER FLIGHT
 04/11/2002 - 12/31/2003 FY03: \$140,000 Total: \$192,522
Prin. Invest.: D S TAN
Tech. Officer: GRC/K SUDER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2832 **MASSACHUSETTS INST OF TECHNOLOGY**
 ANISOTROPIC COLLOIDAL SELF-ASSEMBLY
 12/30/2002 - 11/30/2004 FY03: \$120,000 Total: \$120,000
Prin. Invest.: A P GAST
Tech. Officer: GRC/J H AGUI
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2835 **MASSACHUSETTS INST OF TECHNOLOGY**
 INTELLIGENT ARCHITECTURES AND PROTOCOLS FOR NASA'S FUTURE
 SPACE NETWORK, #A-755-02-09
 01/06/2003 - 12/31/2005 FY03: \$123,000 Total: \$123,000
Prin. Invest.: E MODIANO
Tech. Officer: GRC/J PENNLIN
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2839 **MASSACHUSETTS INST OF TECHNOLOGY**
 DECENTRALIZED RELATIVE NAVIGATION ALGORITHMS FOR A DAPTIVE
 INTER-SPACECRAFT COMMUNICATION NETWORKS #
 01/15/2003 - 12/31/2005 FY03: \$129,000 Total: \$129,000
Prin. Invest.: J HOW
Tech. Officer: GRC/M ANDRO
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 3 2895 **MASSACHUSETTS INST OF TECHNOLOGY**
 ANALYSIS OF OPERATIONAL ISSUES IN FIELDING AIRCRAFT ICING
 REMOTE SENSING INFORMATION MIT #6720200
 05/14/2003 - 12/31/2003 FY03: \$54,200 Total: \$54,200
Prin. Invest.: R HANSMAN
Tech. Officer: GRC/A L REEHORST
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2897 **MASSACHUSETTS INST OF TECHNOLOGY**
 AN ENVIRONMENTAL DESIGN SPACE TO ASSESS AIRCRAFT TECHNOLOGY
 AND OPERATIONAL TRADES
 05/15/2003 - 04/23/2006 FY03: \$274,895 Total: \$274,895
Prin. Invest.: K WILLCOX
Tech. Officer: GRC/M T TONG
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2945 **MASSACHUSETTS INST OF TECHNOLOGY**
 ROBUST TRAJECTORY OPTIMIZATION FOR INTERPLANETARY MISSIONS
 09/30/2003 - 08/31/2005 FY03: \$92,052 Total: \$92,052
Prin. Invest.: R SEDWICK
Tech. Officer: GRC/L P GEFERT
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 3558 **MASSACHUSETTS INST OF TECHNOLOGY**
 ACCRETING BLACK HOLES - AN ALL OUT EFFORT
 12/14/1996 - 12/14/2002 FY03: \$0 Total: \$182,003
Prin. Invest.: W H LEWIN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 3915 **MASSACHUSETTS INST OF TECHNOLOGY**
 SOLAR SYSTEM DYNAMICS
 02/21/1997 - 09/30/2002 FY03: \$0 Total: \$613,900
Prin. Invest.: J WISDOM
Tech. Officer: GSFC/D G SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 3974 **MASSACHUSETTS INST OF TECHNOLOGY**
 ADVANCED GLOBAL ATMOSPHERIC GASES EXPERIMENT (AGAG)
 02/26/1997 - 01/31/2004 FY03: \$0 Total: \$2,911,332
Prin. Invest.: R G PRINN
Tech. Officer: GSFC/M J KURYLO
CASE Category: 31 – ATMOSPHERIC SCIENCE

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NAG 5 4434 **MASSACHUSETTS INST OF TECHNOLOGY**
 RESEARCH PARTICIPATION IN THE MARS ORBITING LASER
 04/28/1997 - 12/31/2002 FY03: \$0 Total: \$409,282
Prin. Invest.: G H PETTENGILL
Tech. Officer: GSFC/D E SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 7359 **MASSACHUSETTS INST OF TECHNOLOGY**
 MO & DA ON THE SWIE INSTRUMENT ON THE WIND SPACECRAFT
 05/05/1998 - 09/30/2001 FY03: -\$152 Total: \$501,848
Prin. Invest.: A LARARUS
Tech. Officer: GSFC/K OGILVIE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 5271 **MASSACHUSETTS INST OF TECHNOLOGY**
 FIRST YEAR OF TWO YEAR EFFORT FIRST YEAR OF TWO YEAR EFFORT -
 A PROGRAM OF
 04/17/2000 - 10/01/2002 FY03: \$0 Total: \$935,330
Prin. Invest.: M SCHATTENBURG
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 7475 **MASSACHUSETTS INST OF TECHNOLOGY**
 THE VALUE OF DISTRIBUTED MODELING TO FLOOD FORECASTING
 06/18/1998 - 08/31/2002 FY03: \$0 Total: \$382,143
Prin. Invest.: R BRASS
Tech. Officer: GSFC/E ENGMAN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 5329 **MASSACHUSETTS INST OF TECHNOLOGY**
 ADAPTATION OF GAS ELECTRON MULTIPLIER TECHNOLOGY FOR ROUTINE
 03/29/2001 - 03/31/2004 FY03: \$149,691 Total: \$409,205
Prin. Invest.: A LEVINE
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 7525 **MASSACHUSETTS INST OF TECHNOLOGY**
 USE OF SATELLITE REMOTE SENSING TO STUDY THE ROLE OF RAINFALL
 ESTS IN TROPICAL CLIMATE
 06/08/1998 - 12/31/2002 FY03: \$0 Total: \$311,993
Prin. Invest.: E ELTAHIR
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5330 **MASSACHUSETTS INST OF TECHNOLOGY**
 ADVANCED SILICON DETECTORS FOR HIGH ENERGY ASTROPHYSICS
 MISSIONS
 07/09/2002 - 07/02/2004 FY03: \$125,000 Total: \$225,000
Prin. Invest.: G RICKER
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 7794 **MASSACHUSETTS INST OF TECHNOLOGY**
 INTERCALIBRATION AND CROSS-CORRELATION OF ACE AND WIND SOLAR
 WIND DATA
 12/10/1998 - 09/30/2002 FY03: \$0 Total: \$203,205
Prin. Invest.: D J LAZARUS
Tech. Officer: GSFC/D C LING
CASE Category: 11 – ASTRONOMY

NAG 5 5401 **MASSACHUSETTS INST OF TECHNOLOGY**
 "HIGH-PERFORMANCE ACTIVE PIXEL X-RAY SENSORS FOR X-RAY ASTRONOMY"
 FIRST YEAR OF A THREE YEAR GRANT.
 04/04/2003 - 04/03/2006 FY03: \$103,556 Total: \$103,556
Prin. Invest.: M BAUTZ
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 7839 **MASSACHUSETTS INST OF TECHNOLOGY**
 STRUCTURAL DYNAMICS & CONTROLS ANALYSES, SIMULATIONS, AND
 TESTBEDS FOR THE NEXT GENERATION SPACE T
 12/16/1998 - 05/31/2002 FY03: -\$394 Total: \$412,516
Prin. Invest.: D W MILLER
Tech. Officer: GSFC/G MOSIER
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 5405 **MASSACHUSETTS INST OF TECHNOLOGY**
 DEVELOPMENT OF NANOTECHNOLOGY FOR X-RAY ASTRONOMY INSTRUMENTATION
 FIRST YEAR FUNDING.
 02/05/2003 - 11/30/2005 FY03: \$223,100 Total: \$223,100
Prin. Invest.: N AVAILABLE
Tech. Officer: GSFC/J BRINTON
CASE Category: 11 – ASTRONOMY

NAG 5 7857 **MASSACHUSETTS INST OF TECHNOLOGY**
 A SYNTHESIS OF THE GLOBAL WIND OBSERVATIONS OF THE OCEANIC
 CIRCULATION
 12/10/1998 - 12/31/2001 FY03: -\$1 Total: \$787,329
Prin. Invest.: C WUNSCH
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5410 **MASSACHUSETTS INST OF TECHNOLOGY**
 "EVENT-DRIVEN X-RAY CCD DETECTORS FOR HIGH ENERGY ASTROPHYSICS
 MISSIONS" ONE YEAR GRANT ONLY.
 04/04/2003 - 04/03/2004 FY03: \$100,000 Total: \$100,000
Prin. Invest.: G RICKER
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 7967 **MASSACHUSETTS INST OF TECHNOLOGY**
 A SEARCH FOR THE SOLAR SOURCES OF HIGH-SPEED SOLAR WIND
 STREAMS
 01/15/1999 - 12/14/2003 FY03: \$0 Total: \$288,490
Prin. Invest.: D J LAZARUS
Tech. Officer: GSFC/D C LING
CASE Category: 11 – ASTRONOMY

NAG 5 7012 **MASSACHUSETTS INST OF TECHNOLOGY**
 JETS IN AGN: NUMERICAL SIMULATIONS IN RELATIVISTIC MHD - ATP
 02/19/1998 - 02/28/2003 FY03: \$0 Total: \$182,915
Prin. Invest.: M H VAN PUTTEN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8031 **MASSACHUSETTS INST OF TECHNOLOGY**
 REDUCTION AND SCIENTIFIC ANALYSIS OF DATA FROM IMP -8
 01/19/1999 - 12/31/2003 FY03: \$0 Total: \$312,734
Prin. Invest.: A J LAZARUS
Tech. Officer: GSFC/R E MCGUIRE
CASE Category: 11 – ASTRONOMY

NAG 5 8063 **MASSACHUSETTS INST OF TECHNOLOGY**
 PULSAR WIND NEBULAE, SPACE VELOCITIES, & SUPERNOVA REMNANT
 ASSOCIATIONS LTSA 98
 01/13/1999 - 01/14/2004 FY03: \$48,000 Total: \$240,000
Prin. Invest.: V M KASPI
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8368 **MASSACHUSETTS INST OF TECHNOLOGY**
 FORMATION AND EVOLUTION OF BINARY SYSTEMS CONTAINING COL-
 LAPSED STARS (ATP 98)
 03/01/1999 - 04/30/2003 FY03: \$0 Total: \$161,810
Prin. Invest.: S A RAPPAPORT
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8617 **MASSACHUSETTS INST OF TECHNOLOGY**
 TWO-WAY BIOSPHERE-ATMOSPHERE INTERACTIONS: THEIR IMPLICA-
 TIONS FOR SATELLITE OBSERVATIONS OF REGIONAL
 06/14/1999 - 06/30/2003 FY03: -\$13,781 Total: \$211,178
Prin. Invest.: E B ELTAHIR
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8707 **MASSACHUSETTS INST OF TECHNOLOGY**
 IMPLICATIONS OF LUNAR PROSPECTOR DATA FOR LUNAR GEOPHYSICS
 07/20/1999 - 07/31/2002 FY03: \$3,646 Total: \$175,993
Prin. Invest.: M T ZUBER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8720 **MASSACHUSETTS INST OF TECHNOLOGY**
 INVESTIGATION OF SOLAR WIND CORRELATIONS & MODIFI- CATIONS
 NEAR EARTH USING MULTI-SPACECRAFT OBSERVA
 08/03/1999 - 07/31/2002 FY03: -\$127 Total: \$70,373
Prin. Invest.: J I RICHARDSON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8776 **MASSACHUSETTS INST OF TECHNOLOGY**
 RESIN-SPINNING OF SYNTHETIC POLYMER FIBERS WITH SILK-LIKE PROP-
 erties
 08/31/1999 - 08/31/2003 FY03: \$0 Total: \$516,250
Prin. Invest.: G MCKINLEY
Tech. Officer: GSFC/R CROUCH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8814 **MASSACHUSETTS INST OF TECHNOLOGY**
 TEMPO OF THE PERMIAN MASS EXTINCTIONS & RECOVERIES
 09/29/1999 - 03/31/2004 FY03: \$114,000 Total: \$342,000
Prin. Invest.: S A BOWRING
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 8887 **MASSACHUSETTS INST OF TECHNOLOGY**
 LABORATORY STUDIES OF HOMOGENEOUS & HETEROGENEOUS CHEMI-
 CAL PROCESSES OF IMPORTANCE IN THE UPPER ATMOS
 12/02/1999 - 12/31/2002 FY03: \$0 Total: \$599,382
Prin. Invest.: M MOLINA
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8947 **MASSACHUSETTS INST OF TECHNOLOGY**
 MODELING THE EXTENDED NEUTRAL ATMOSPHERE & PLASMA ENVIRON-
 MENT NEAR SATURN/FOLLOW-ON TO NAG5-6129
 01/18/2000 - 07/14/2003 FY03: \$0 Total: \$185,934
Prin. Invest.: J D RICHARDSON
Tech. Officer: GSFC/D BOGAN
CASE Category: 31 – ATMOSPHERICSCIENCE

NAG 5 9057 **MASSACHUSETTS INST OF TECHNOLOGY**
 NEW GPS SITES ON THE ARABIAN PLATE TO EXPAND THE IGS NETWORK
 & TO SUPPORT MEASUREMENTS OF THE RED
 02/15/2000 - 02/29/2004 FY03: \$0 Total: \$44,390
Prin. Invest.: R E REILINGER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9080 **MASSACHUSETTS INST OF TECHNOLOGY**
 DEVELOPMENT OF SOLID-STATE LOCAL-OSCILLATOR SOURCE FOR TERA-
 HERTZ FREQUENCIES
 02/17/2000 - 02/28/2003 FY03: \$0 Total: \$426,000
Prin. Invest.: Q HU
Tech. Officer: GSFC/S NIEBUR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9117 **MASSACHUSETTS INST OF TECHNOLOGY**
 SELF-ORGANIZED CRITICALITY, MULTIFRACTALS, & INTERMITTENT TUR-
 BULENCE IN EARTH'S MAGNETOSPHERE
 02/24/2000 - 02/28/2004 FY03: \$0 Total: \$137,422
Prin. Invest.: T CHANG
Tech. Officer: GSFC/J SHARBER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9120 **MASSACHUSETTS INST OF TECHNOLOGY**
 NEW ENERGETIC RADIO PULSARS: AN ARCHIVAL X-RAY SURVEY - ADP 99
 02/29/2000 - 02/28/2002 FY03: -\$15 Total: \$29,151
Prin. Invest.: V M KASPI
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 9135 **MASSACHUSETTS INST OF TECHNOLOGY**
 RXTE OBSERVATIONS OF BLACK HOLE CANDIDATES ADP99
 02/28/2000 - 06/30/2002 FY03: -\$9 Total: \$29,991
Prin. Invest.: W H LEWIN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9184 **MASSACHUSETTS INST OF TECHNOLOGY**
 ACCRETING NEUTRON STARS AS ASTROPHYSICAL LABORATORIES
 LTSA-99
 03/07/2000 - 03/14/2005 FY03: \$132,750 Total: \$501,134
Prin. Invest.: D CHAKRABARTY
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 9185 **MASSACHUSETTS INST OF TECHNOLOGY**
 TIMING THE MILLISECOND X-RAY PULSAR WITH RXTE - ADP - 99
 03/07/2000 - 03/14/2002 FY03: -\$29 Total: \$58,837
Prin. Invest.: D CHAKRABARTY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 41 – AERONAUTICAL ENGR

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NAG 5 9189 **MASSACHUSETTS INST OF TECHNOLOGY**
 X-RAY PULSAR STUDIES WITH RXTE - ADP 99
 03/08/2000 - 03/14/2004 FY03: \$0 Total: \$40,000
Prin. Invest.: S RAPPAPORT
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 9640 **MASSACHUSETTS INST OF TECHNOLOGY**
 APPLICATIONS OF TRMM PRODUCTS IN HYDROLOGIC STUDIES OVER THE
 AMAZON REGION
 07/07/2000 - 06/30/2004 FY03: \$0 Total: \$769,131
Prin. Invest.: R L BRAS
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9235 **MASSACHUSETTS INST OF TECHNOLOGY**
 A MEASUREMENT OF THE NON-THERMAL X-RAY EMISSION OF THE
 SUPERNOVA REMNANTRX J1713.7-3946 - ADP 99
 03/09/2000 - 03/14/2002 FY03: -\$46 Total: \$8,723
Prin. Invest.: G ALLEN
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 10008 **MASSACHUSETTS INST OF TECHNOLOGY**
 STUDYING THE INTERGALACTIC MEDIUM THROUGH X-RAY ABSORPTION
 LINES
 09/25/2000 - 09/30/2003 FY03: \$0 Total: \$44,500
Prin. Invest.: C R CANIZARES
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9237 **MASSACHUSETTS INST OF TECHNOLOGY**
 A STUDY OF THE NON-THERMAL X-RAY EMISSION OF SHELL -TYPE
 SUPERNOVA REMNANTS - LTSA99
 03/09/2000 - 03/14/2005 FY03: \$114,100 Total: \$427,400
Prin. Invest.: G ALLEN
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10107 **MASSACHUSETTS INST OF TECHNOLOGY**
 XMM OBSERVATIONS OF LOW MASS GROUPS
 12/01/2000 - 02/14/2002 FY03: -\$44,200 Total: \$0
Prin. Invest.: D S DAVIS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9445 **MASSACHUSETTS INST OF TECHNOLOGY**
 CARBONATE PLATFORM DEVELOPMENT & STROMATOLITE MORP HOGEN-
 ESIS: CONSTRAINTS ON ENVIRONMENTAL & BIOLOGIC
 05/01/2000 - 04/30/2004 FY03: \$0 Total: \$242,750
Prin. Invest.: J GROTZINGER
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL. OTHER

NAG 5 10192 **MASSACHUSETTS INST OF TECHNOLOGY**
 XMM OBSERVATIONS OF BLACK-HOLE X-RAY BINARIES IN OUTBURST
 12/28/2000 - 12/31/2002 FY03: \$0 Total: \$33,900
Prin. Invest.: W LEWIN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9525 **MASSACHUSETTS INST OF TECHNOLOGY**
 PHASE EQUILIBRIUM INVESTIGATIONS OF PLANETARY MATE RIALS
 04/28/2000 - 06/30/2003 FY03: \$0 Total: \$187,000
Prin. Invest.: T L GROVE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10389 **MASSACHUSETTS INST OF TECHNOLOGY**
 RELIEF EVOLUTION IN TECTONICALLY ACTIVE MOUNTAIN RANGERS
 02/08/2001 - 02/14/2004 FY03: \$0 Total: \$100,083
Prin. Invest.: K X WHIPPLE
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9616 **MASSACHUSETTS INST OF TECHNOLOGY**
 SOLAR WIND ACCELERATION, HEATING, & EVOLUTION WITH WAVE-
 PARTICLE
 05/23/2000 - 04/30/2004 FY03: \$0 Total: \$212,402
Prin. Invest.: T CHANG
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 10440 **MASSACHUSETTS INST OF TECHNOLOGY**
 AGENT BASED SOFTWARE FOR THE AUTONOMOUS CONTROL OF FORMA-
 TION FLYING SPACECRAFT PROPOSAL 864
 03/07/2001 - 03/14/2004 FY03: \$353,415 Total: \$1,053,300
Prin. Invest.: D P HOW
Tech. Officer: GSFC/N J DENNEHY
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 9622 **MASSACHUSETTS INST OF TECHNOLOGY**
 DEVELOPMENT OF 25-YEAR IMP 8 BOW SHOCK CROSSING LIST, INGES-
 TION OF THIS LISTTO CDWEB, & ENHANCEM
 05/19/2000 - 05/31/2003 FY03: \$0 Total: \$42,764
Prin. Invest.: J RICHRADSON
Tech. Officer: GSFC/J KING
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10444 **MASSACHUSETTS INST OF TECHNOLOGY**
 STELLAR OCCULTATION STUDIES OF SMALL BODIES IN THE OUTER SOLAR
 SYSTEM
 02/20/2001 - 01/31/2004 FY03: \$129,200 Total: \$397,200
Prin. Invest.: J ELLIOT
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 9637 **MASSACHUSETTS INST OF TECHNOLOGY**
 THE USE OF TRMM LIS & GEOSTATIONARY IR DATA TO STU DY LAND-
 OCEAN DIFFER- ENCES IN CONVEC. & THEIR RE
 07/07/2000 - 11/30/2003 FY03: \$0 Total: \$274,792
Prin. Invest.: E R WILLIAMS
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10604 **MASSACHUSETTS INST OF TECHNOLOGY**
 WATER OF HYDRATION ON C-CLASS ASTEROIDS: DOES SIZE MATTER
 03/15/2001 - 03/14/2004 FY03: \$38,400 Total: \$111,434
Prin. Invest.: A RIVKIN
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10613 **MASSACHUSETTS INST OF TECHNOLOGY**
 HIGH SENSITIVITY OPTICAL TECHNIQUES FOR ATMOSPHERIC SPECTROSCOPY, KINETICS, AND REMOTE SENSING
 03/27/2001 - 03/31/2005 FY03: \$80,493 Total: \$234,968
Prin. Invest.: J I STEINFELD
Tech. Officer: GSFC/M KURYLO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10684 **MASSACHUSETTS INST OF TECHNOLOGY**
 DYNAMICS OF LANDSCAPE CHANGE IN RAPIDLY ERODING REGIONS
 03/30/2001 - 03/31/2004 FY03: \$0 Total: \$151,283
Prin. Invest.: R L BRAS
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10711 **MASSACHUSETTS INST OF TECHNOLOGY**
 A PARTICLE PHYSICS EXPERIMENT IN SPACE
 04/06/2001 - 03/31/2003 FY03: \$0 Total: \$10,000,000
Prin. Invest.: S C TING
Tech. Officer: GSFC/M SISTILLI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10728 **MASSACHUSETTS INST OF TECHNOLOGY**
 APPLICATION OF EXPERIMENTAL PETROLOGY TO AID IN THE INTERPRETATION OF THE MARS PATHFINDER ROCK
 04/10/2001 - 04/30/2004 FY03: \$40,000 Total: \$120,000
Prin. Invest.: T GROVE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10815 **MASSACHUSETTS INST OF TECHNOLOGY**
 LOW-MASS X-RAY BINARIES WITH RXTE (ADP 2000)
 05/03/2001 - 12/31/2003 FY03: \$0 Total: \$40,171
Prin. Invest.: W H LEWIN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10915 **MASSACHUSETTS INST OF TECHNOLOGY**
 MO&DA FOR THE FARADAY CUP PORTION OF THE WIND SWE EXPERIMENT
 05/21/2001 - 05/31/2005 FY03: \$110,000 Total: \$324,672
Prin. Invest.: A LAZARUS
Tech. Officer: GSFC/K OGILVIE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11113 **MASSACHUSETTS INST OF TECHNOLOGY**
 PLANETARY TOPOGRAPHY AND GRAVITY
 07/18/2001 - 07/31/2004 FY03: \$181,389 Total: \$693,887
Prin. Invest.: M T ZUBER
Tech. Officer: GSFC/D E SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11268 **MASSACHUSETTS INST OF TECHNOLOGY**
 SDM VIRTUALNESS PROJECT
 08/17/2001 - 11/30/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: J KLEIN
Tech. Officer: GSFC/T MATURO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11285 **MASSACHUSETTS INST OF TECHNOLOGY**
 LARGE-SCALE ATMOSPHERIC TRANSPORT PROCESSES
 08/17/2001 - 08/31/2004 FY03: \$149,478 Total: \$299,153
Prin. Invest.: R A PLUMB
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11390 **MASSACHUSETTS INST OF TECHNOLOGY**
 MICROWAVE OBSERVATIONS PRECIPITATION AND THE ATMOSPHERE
 12/05/2001 - 11/30/2003 FY03: \$0 Total: \$80,418
Prin. Invest.: D STAELIN
Tech. Officer: GSFC/J C SHIUE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11536 **MASSACHUSETTS INST OF TECHNOLOGY**
 SOLAR SYSTEM DYNAMICS
 01/03/2002 - 12/31/2004 FY03: \$123,000 Total: \$246,000
Prin. Invest.: J WISDOM
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 11575 **MASSACHUSETTS INST OF TECHNOLOGY**
 RESEARCH PARTICIPATION IN THE MARS ORBITING LASER ALTIMETER EXPERIMENT
 01/09/2002 - 01/14/2004 FY03: \$0 Total: \$49,963
Prin. Invest.: G H PETTENGILL
Tech. Officer: GSFC/D E SMITH
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 11602 **MASSACHUSETTS INST OF TECHNOLOGY**
 DIRECT ASSIMILATION OF REMOTELY SENSED LAND SURFACE TEMPERATURE FOR THE ESTIMATION OF SURFACE
 01/17/2002 - 01/31/2005 FY03: \$100,000 Total: \$205,000
Prin. Invest.: D ENTEKHABI
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11617 **MASSACHUSETTS INST OF TECHNOLOGY**
 IDENTIFICATION OF AQUEOUS ALTERATION PRODUCTS ON LOW-ALBEDO ASTEROIDS
 01/17/2002 - 01/31/2004 FY03: \$0 Total: \$17,200
Prin. Invest.: A S RIVKIN
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 11623 **MASSACHUSETTS INST OF TECHNOLOGY**
 PROPAGATION OF INTERPLANETARY DISTURBANCES
 01/22/2002 - 01/31/2005 FY03: \$78,000 Total: \$153,000
Prin. Invest.: C WANG
Tech. Officer: GSFC/T KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11650 **MASSACHUSETTS INST OF TECHNOLOGY**
 PLANETARY GEOPHYSICS AND TECTONICS
 01/29/2002 - 03/31/2005 FY03: \$135,000 Total: \$270,300
Prin. Invest.: M T ZUBER
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11683 **MASSACHUSETTS INST OF TECHNOLOGY**
 GALACTIC BLACK HOLE CANDIDATE GRS 1758-258 IN THE OFF/SOFT STATE
 01/31/2002 - 02/14/2004 FY03: \$0 Total: \$23,151
Prin. Invest.: W LEWIN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11721 **MASSACHUSETTS INST OF TECHNOLOGY**
 AN INVESTIGATION OF ENSEMBLE METHODS FOR DIRECT AS SIMULATION
 OF REMOTE SENSING DATA
 02/06/2002 - 02/14/2005 FY03: \$100,000 Total: \$205,000
Prin. Invest.: D B MCLAUGHLIN
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11746 **MASSACHUSETTS INST OF TECHNOLOGY**
 ATLANTIC OCEAN TROPICAL/SUBTROPICAL PROCESSES FROM SEASONAL
 TO THE DECADAL TIME SCALES: MODEL
 02/22/2002 - 02/28/2005 FY03: \$80,000 Total: \$226,293
Prin. Invest.: P RIZZOLI
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11878 **MASSACHUSETTS INST OF TECHNOLOGY**
 AN XMM-NEWTON OBSERVATION OF THE NEW GALACTIC BLACK HOLE
 XTE J1650-500
 03/15/2002 - 03/14/2004 FY03: \$0 Total: \$24,678
Prin. Invest.: W LEWIN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11930 **MASSACHUSETTS INST OF TECHNOLOGY**
 XMM OBSERVATIONS OF X-RAY EMISSION FROM SUPERNOVAE
 04/03/2002 - 03/31/2003 FY03: \$0 Total: \$7,000
Prin. Invest.: W LEWIN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11933 **MASSACHUSETTS INST OF TECHNOLOGY**
 A SYNTHESIS ON THE GLOBAL WOECE OBSERVATIONS OF THE OCEANIC
 GENERAL CIRCULATION
 04/01/2002 - 03/31/2005 FY03: \$264,220 Total: \$544,831
Prin. Invest.: C WUNSCH
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12099 **MASSACHUSETTS INST OF TECHNOLOGY**
 STUDIES OF TRACE GAS CHEMICAL CYCLES USING OBSERVATIONS,
 INVERSE METHODS AND GLOBAL CHEMICAL TRANSPORT
 07/31/2002 - 07/31/2005 FY03: \$0 Total: \$152,821
Prin. Invest.: R G PRINN
Tech. Officer: GSFC/P L DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12195 **MASSACHUSETTS INST OF TECHNOLOGY**
 FORMATION CONTROL EXPERIMENTS INSIDE THE SPACE STATION
 05/23/2002 - 05/31/2004 FY03: \$150,589 Total: \$210,589
Prin. Invest.: D MILLER
Tech. Officer: GSFC/R CARPENTER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12355 **MASSACHUSETTS INST OF TECHNOLOGY**
 PHYSICAL CHARACTERIZATION OF THE NEO POPULATION
 07/03/2002 - 06/30/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: R BINZEL
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12356 **MASSACHUSETTS INST OF TECHNOLOGY**
 HYDROCARBON BIOMARKER STRATIGRAPHY OF C-ISOTOPIC EXCURSIONS
 MARKING CHEMICAL CHANGES IN THE OCEAN
 07/08/2002 - 06/30/2005 FY03: \$0 Total: \$586,170
Prin. Invest.: R SUMMONS
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12377 **MASSACHUSETTS INST OF TECHNOLOGY**
 CON-X EVENT DRIVEN CCD IMAGER TECHNOLOGY (EDCCD)
 07/15/2002 - 07/14/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: D RICKER
Tech. Officer: GSFC/K HARTMAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 12490 **MASSACHUSETTS INST OF TECHNOLOGY**
 CONSTRAINING OCEANIC SOURCES AND SINKS OF CO₂ BY INVERSE
 MODELING: A FIRST STOP TOWARD ASSIMILATION
 08/28/2002 - 08/31/2004 FY03: \$0 Total: \$22,897
Prin. Invest.: M FELLOWS
Tech. Officer: GSFC/C TREES
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12515 **MASSACHUSETTS INST OF TECHNOLOGY**
 ICAP 2002: INTERNATIONAL CONFERENCE ON ATOMIC PHYSICS
 08/27/2002 - 08/31/2003 FY03: \$0 Total: \$10,000
Prin. Invest.: D PRITCHARD
Tech. Officer: GSFC/D SPEARS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12522 **MASSACHUSETTS INST OF TECHNOLOGY**
 FORMATION, EVOLUTION, AND POPULATION SYNTHESIS OF BINARY
 SYSTEMS CONTAINING COLLAPSED STARS
 08/22/2002 - 08/31/2003 FY03: \$0 Total: \$9,653
Prin. Invest.: S A RAPPORT
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12583 **MASSACHUSETTS INST OF TECHNOLOGY**
 MICROFABRICATED X-RAY OPTICS TECHNOLOGY DEVELOPMENT FOR THE
 CONSTELLATION-X MISSION
 12/19/2002 - 12/31/2005 FY03: \$494,000 Total: \$494,000
Prin. Invest.: M L SCHATTEBURG
Tech. Officer: GSFC/K HARTMAN
CASE Category: 11 – ASTRONOMY

NAG 5 12669 **MASSACHUSETTS INST OF TECHNOLOGY**
 ADVANCED GLOBAL ATMOSPHERIC GASES EXPERIMENT (AGAGE)
 01/16/2003 - 01/31/2007 FY03: \$495,670 Total: \$495,670
Prin. Invest.: R PRINN
Tech. Officer: GSFC/M KURYLO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12707 **MASSACHUSETTS INST OF TECHNOLOGY**
 LABORATORY STUDIES OF HETEROGENEOUS PROCESSES OF ATMOSPHERIC
 IMPORTANCE
 01/14/2003 - 01/14/2006 FY03: \$199,985 Total: \$199,985
Prin. Invest.: M MOLINA
Tech. Officer: GSFC/M KURYLO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12793 **MASSACHUSETTS INST OF TECHNOLOGY**
HIGH-TIME-RESOLUTION STUDY OF MAGNETIC HOLES IN THE SOLAR WIND
01/24/2003 - 01/31/2005 FY03: \$63,790 Total: \$63,790
Prin. Invest.: A J LAZARUS
Tech. Officer: GSFC/T A KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12859 **MASSACHUSETTS INST OF TECHNOLOGY**
WAVE-PARTICLE INTERACTIONS AS A DRIVING MECHANISM FOR THE SOLAR WIND
01/31/2003 - 01/31/2006 FY03: \$74,800 Total: \$74,800
Prin. Invest.: S W TAM
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12871 **MASSACHUSETTS INST OF TECHNOLOGY**
LOW FREQUENCY SEA LEVEL & BOTTOM PRESSURE SIGNALS, IN RELATION TO OCEAN CIRCULATION & CLIMATE
02/20/2003 - 02/14/2006 FY03: \$66,158 Total: \$66,158
Prin. Invest.: C WUNSCH
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12875 **MASSACHUSETTS INST OF TECHNOLOGY**
IMAGE/GROUND-BASED OBSERVATIONS OF INNER MAGNETO- SPHERIC PROCESSES
02/05/2003 - 01/31/2006 FY03: \$85,000 Total: \$85,000
Prin. Invest.: J FOSTER
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12877 **MASSACHUSETTS INST OF TECHNOLOGY**
OPTICAL INTERFEROMETER STUDIES OF OTHER PLANETARY SYSTEMS
03/05/2003 - 06/30/2004 FY03: \$14,000 Total: \$14,000
Prin. Invest.: B F BURKE
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 12906 **MASSACHUSETTS INST OF TECHNOLOGY**
INVESTIGATIONS INTO GRAVITATIONAL WAVE EMISSION FROM COMPACT BODY INSPIRAL INTO MASSIVE BLACK
02/26/2003 - 02/28/2006 FY03: \$110,000 Total: \$110,000
Prin. Invest.: S HUGHES
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12942 **MASSACHUSETTS INST OF TECHNOLOGY**
INVESTIGATION OF THE DYNAMICS OF COHERENT STRUCTURES, BBF & INTERMITTENT TURBULENCE IN
03/03/2003 - 02/29/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: T CHANG
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13051 **MASSACHUSETTS INST OF TECHNOLOGY**
PHASE EQUILIBRIUM INVESTIGATIONS OF PLANETARY MATERIALS
03/11/2003 - 06/30/2006 FY03: \$81,000 Total: \$81,000
Prin. Invest.: T GROVE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 13061 **MASSACHUSETTS INST OF TECHNOLOGY**
TWO BLACK-HOLE X-RAY BINARIES IN OUTBURST
03/12/2003 - 03/14/2004 FY03: \$37,983 Total: \$37,983
Prin. Invest.: W LEWIN
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13179 **MASSACHUSETTS INST OF TECHNOLOGY**
SIMULTANEOUS X-RAY AND UV SPECTROSCOPY OF THE SYMBIOTIC HD 154791/4U 1700+24
03/25/2003 - 03/31/2004 FY03: \$42,500 Total: \$42,500
Prin. Invest.: D CHAKRABARTY
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13217 **MASSACHUSETTS INST OF TECHNOLOGY**
CON-X EVENT DRIVEN CCD IMAGER TECHNOLOGY (EDCCD)
04/01/2003 - 03/31/2005 FY03: \$525,000 Total: \$525,000
Prin. Invest.: D RICKER
Tech. Officer: GSFC/K HARTMAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 13221 **MASSACHUSETTS INST OF TECHNOLOGY**
S-CLASS ASTEROIDS: THE VIEW AT 3 MICRONS
03/29/2003 - 03/31/2005 FY03: \$18,000 Total: \$18,000
Prin. Invest.: A RIVKIN
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13249 **MASSACHUSETTS INST OF TECHNOLOGY**
SIMULTANEOUS X-RAY AND UV SPECTROSCOPY OF THE SYMBIOTIC HD 154791/4U 1700+24
04/07/2003 - 06/30/2004 FY03: \$42,800 Total: \$42,800
Prin. Invest.: D CHAKRABARTY
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13282 **MASSACHUSETTS INST OF TECHNOLOGY**
NEUTRON STAR RADII FROM OUT-OF-CORE CLUSTER SOURCE
04/10/2003 - 04/14/2004 FY03: \$8,799 Total: \$8,799
Prin. Invest.: W H LEWIN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13283 **MASSACHUSETTS INST OF TECHNOLOGY**
AN INTEGRAL STUDY OF GALACTIC BLACK HOLE STATES
04/10/2003 - 04/14/2004 FY03: \$55,000 Total: \$55,000
Prin. Invest.: W H LEWIN
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 13306 **MASSACHUSETTS INST OF TECHNOLOGY**
STRONG-FIELD GRAVITATIONAL EFFECTS IN THE TIMING AND SPECTROSCOPY OF X-RAY BINARIES
04/16/2003 - 05/31/2006 FY03: \$92,080 Total: \$92,080
Prin. Invest.: E BERTSCHINGER
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NAG 5 13318 **MASSACHUSETTS INST OF TECHNOLOGY**
 XMM-NEWTON OBSERVATIONS OF TYPE I X-RAY BURSTS FROM GS
 1826-238
 04/15/2003 - 06/30/2004 FY03: \$55,220 Total: \$55,220
Prin. Invest.: W H LEWIN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13638 **MASSACHUSETTS INST OF TECHNOLOGY**
 ESTIMATION OF PRECIPITATION RECYCLING AND HYDRO LOGICAL CYCLE
 INTENSITY USING TRMM OBSERVATIONS
 09/09/2003 - 09/14/2006 FY03: \$150,000 Total: \$150,000
Prin. Invest.: R L BRAS
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13360 **MASSACHUSETTS INST OF TECHNOLOGY**
 SOFT X-RAY ABSORPTION EDGES IN LMXBS
 04/15/2003 - 06/30/2004 FY03: \$42,841 Total: \$42,841
Prin. Invest.: N S SCHULZ
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13652 **MASSACHUSETTS INST OF TECHNOLOGY**
 MULTIYEAR GLOBAL PRECIPITATION STATISTICAL STUDIES UTILIZING MUL-
 TISATELLITE 23-191 GHZ AMSU
 09/09/2003 - 09/14/2006 FY03: \$30,000 Total: \$30,000
Prin. Invest.: D H STAELIN
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13571 **MASSACHUSETTS INST OF TECHNOLOGY**
 INTEGRAL OBSERVATIONS OF THE REFLECTION COMPONENT IN SEYFERT
 GALAXIES
 08/11/2003 - 08/14/2004 FY03: \$15,000 Total: \$15,000
Prin. Invest.: W H LEWIN
Tech. Officer: GSFC/B J TEEGRADEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13660 **MASSACHUSETTS INST OF TECHNOLOGY**
 APPLICATIONS OF GPS, VLBI AND SLR TO GLOBAL MEASUREMENT
 PROBLEMS
 09/11/2003 - 09/14/2006 FY03: \$108,000 Total: \$108,000
Prin. Invest.: T A HERRING
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13574 **MASSACHUSETTS INST OF TECHNOLOGY**
 OBSERVATIONS OF TYPE I X-RAY BURSTS FROM GS 1826- 238 WITH RXTE.
 08/20/2003 - 08/14/2004 FY03: \$13,000 Total: \$13,000
Prin. Invest.: W H LEVIN
Tech. Officer: GSFC/J H SWANK
CASE Category: 13 – PHYSICS

NAG 5 13744 **MASSACHUSETTS INST OF TECHNOLOGY**
 ADVANCING SOLID EARTH SCIENCE THROUGH IMPROVED ATMOSPHERE
 MODELING
 09/29/2003 - 09/30/2006 FY03: \$93,000 Total: \$93,000
Prin. Invest.: A E NIELL
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13588 **MASSACHUSETTS INST OF TECHNOLOGY**
 INTERNAL DYNAMICS AND CRUSTAL EVOLUTION
 08/07/2003 - 07/31/2006 FY03: \$79,999 Total: \$79,999
Prin. Invest.: M ZUBER
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13756 **MASSACHUSETTS INST OF TECHNOLOGY**
 LONG-TERM MONITORING OF ANOMALOUS X-RAY PULSARS
 09/25/2003 - 09/30/2004 FY03: \$9,040 Total: \$9,040
Prin. Invest.: D CHAKRABARTY
Tech. Officer: GSFC/J H SWANK
CASE Category: 11 – ASTRONOMY

NAG 5 13598 **MASSACHUSETTS INST OF TECHNOLOGY**
 WIND AND IMP 8 SOLAR WIND, MAGNETOSHEATH AND SHOCK DATA
 08/13/2003 - 08/14/2004 FY03: \$29,997 Total: \$29,997
Prin. Invest.: J RICHARDSON
Tech. Officer: GSFC/T KUCERA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13759 **MASSACHUSETTS INST OF TECHNOLOGY**
 INFERRING SOUTHERN CALIFORNIA CRUSTAL MOTION AND FAULT SLOP
 FROM JOINT INVERSION OF GPS
 09/25/2003 - 09/30/2006 FY03: \$41,000 Total: \$41,000
Prin. Invest.: B H HAGER
Tech. Officer: GSFC/H V FREY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13602 **MASSACHUSETTS INST OF TECHNOLOGY**
 TIMED/GROUND-BASED INVESTIGATIONS OF THE QUIET AND DISTURBED
 THERMOSPHERE
 08/08/2003 - 07/31/2005 FY03: \$80,000 Total: \$80,000
Prin. Invest.: J FOSTER
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13761 **MASSACHUSETTS INST OF TECHNOLOGY**
 THERMONUCLEAR PATHWAYS IN X-RAY BURSTS FROM GS 1826-24
 09/24/2003 - 09/30/2004 FY03: \$11,400 Total: \$11,400
Prin. Invest.: D CHAKRABARTY
Tech. Officer: GSFC/J H SWANK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13634 **MASSACHUSETTS INST OF TECHNOLOGY**
 SPACECRAFT '03 CONFERENCE
 09/02/2003 - 08/31/2004 FY03: \$47,027 Total: \$47,027
Prin. Invest.: K SCHOLBERG
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13768 **MASSACHUSETTS INST OF TECHNOLOGY**
 THE NEW LIFE OF GX 339-4: COVERING THE EVOLUTION & STATE
 TRANSITIONS
 09/30/2003 - 09/30/2004 FY03: \$4,300 Total: \$4,300
Prin. Invest.: W H LEWIN
Tech. Officer: GSFC/J H SWANK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13769 **MASSACHUSETTS INST OF TECHNOLOGY**
 MULTI-WAVELENGTH STUDY FROM RADIO TO HARD X-GAMMA RAYS OF
 SCO X-1 W/ REXTE INTEGRAL & GLOBAL VLBI
 09/30/2003 - 09/30/2004 FY03: \$7,312 Total: \$7,312
Prin. Invest.: W H LEWIN
Tech. Officer: GSFC/J H SWANK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1487 **MASSACHUSETTS INST OF TECHNOLOGY**
 IDENTIFICATION AND CONTROL OF GRAVITY RELATED DEFECT FORMATION DURING MELT GROWTH OF ELECTROOPTI
 02/13/1998 - 01/31/2003 FY03: \$0 Total: \$746,497
Prin. Invest.: A WITT
Tech. Officer: MSFC/M PURVEY
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1659 **MASSACHUSETTS INST OF TECHNOLOGY**
 KINETIC EVOLUTION OF STABLE AND METASTABLE STATES IN PROTEIN SOLUTIONS.
 05/10/2000 - 11/30/2003 FY03: \$110,000 Total: \$384,500
Prin. Invest.: G BENEDEK
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1685 **MASSACHUSETTS INST OF TECHNOLOGY**
 THE ROLE OF CONVECTION AND GROWTH COMPETITION IN PHASE SELECTION IN MICROGRAVITY
 05/11/2000 - 11/30/2003 FY03: \$295,884 Total: \$736,084
Prin. Invest.: M C FLEMING
Tech. Officer: MSFC/P DOTY
CASE Category: 13 – PHYSICS

NAG 8 1688 **MASSACHUSETTS INST OF TECHNOLOGY**
 FORCES DURING MANUFACTURE AND ASSEMBLY OF MICROSCALE DISCRETE ELECTRONIC COMPONENTS.
 05/17/2000 - 11/30/2003 FY03: \$82,896 Total: \$325,858
Prin. Invest.: M CIMA
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1689 **MASSACHUSETTS INST OF TECHNOLOGY**
 FROM OXYGEN GENERATION TO METAL PRODUCTION: IN-SITU RESOURCE UTILIZATION BY MOLTEN OXIDE ELECTROLYSIS
 06/05/2000 - 11/30/2003 FY03: \$90,000 Total: \$305,500
Prin. Invest.: R SADOWAY
Tech. Officer: MSFC/P DOTY
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1768 **MASSACHUSETTS INST OF TECHNOLOGY**
 INCREMENTAL FUNDING FOR TOWARDS PRECISION EXPERIMENTS WITH BOSE EINSTEIN CONDENSATES II
 05/14/2001 - 05/13/2005 FY03: \$0 Total: \$80,000
Prin. Invest.: W KETTERLE
Tech. Officer: MSFC/D HUBBARD
CASE Category: 13 – PHYSICS

NAG 8 1872 **MASSACHUSETTS INST OF TECHNOLOGY**
 AUTOMATED EXTRACTION OF FLOW FEATURES
 05/29/2002 - 05/31/2004 FY03: \$50,000 Total: \$100,000
Prin. Invest.: R HAIMES
Tech. Officer: MSFC/S MILLER DORNEY
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1003 **MASSACHUSETTS INST OF TECHNOLOGY**
 MICROGRAVITY INVESTIGATION & CREW REACTION IN O-G
 04/29/1998 - 08/31/2002 FY03: \$0 Total: \$268,557
Prin. Invest.: D J NEWMAN, S BECK
Tech. Officer: JSC/B WOOLFORD
CASE Category: 56 – MEDICL

NAG 9 1004 **MASSACHUSETTS INST OF TECHNOLOGY**
 ADVANCED DISPLAYS & CONTROLS FOR 6 DOF ORIENTATION
 05/06/1998 - 06/10/2002 FY03: -\$15 Total: \$543,281
Prin. Invest.: C M OMAN
Tech. Officer: JSC/J DETROVE
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1089 **MASSACHUSETTS INST OF TECHNOLOGY**
 ROBOTIC TECHNOLOGY AND FUTURE SPACE SUIT DEVELOPMENT
 03/05/1999 - 05/31/2003 FY03: \$0 Total: \$562,946
Prin. Invest.: D J NEWMAN
Tech. Officer: JSC/B J WOOLFORD
CASE Category: 41 – AERONAUTICAL ENGR

NAG 9 1443 **MASSACHUSETTS INST OF TECHNOLOGY**
 AUTONOMOUS BEHAVIORS BY ROBOTIC ASSISTANTS
 08/09/2002 - 07/31/2004 FY03: \$350,000 Total: \$390,000
Prin. Invest.: C BREAZEL
Tech. Officer: JSC/R T SAVELY
CASE Category: 22 – COMPUTER SCIENCE

NAG 9 1455 **MASSACHUSETTS INST OF TECHNOLOGY**
 STUDY OF HELICON SOURCE OPERATION IN VASIMIR
 09/06/2002 - 02/28/2003 FY03: \$0 Total: \$60,000
Prin. Invest.: K MOLVING, O BATISHCHEV
Tech. Officer: JSC/F CHANG-DIAZ
CASE Category: 13 – PHYSICS

NAG 9 1505 **MASSACHUSETTS INST OF TECHNOLOGY**
 STUDY OF HELICON SOURCE OPERATION IN THE VASIMR
 02/28/2003 - 07/31/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: K MOLVIG, O BATISHCHEV
Tech. Officer: JSC/F CHANG-DIAZ
CASE Category: 13 – PHYSICS

NAG 9 1542 **MASSACHUSETTS INST OF TECHNOLOGY**
 THEORETICAL STUDY OF A SINGLE STAGE OPERATION OPERATION OF THE VASIMR ENGINE
 06/18/2003 - 09/30/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: K MOLVIG, O BATISHCHEV
Tech. Officer: JSC/F R CHANG-DIAZ
CASE Category: 13 – PHYSICS

NAS 1 02044 **MASSACHUSETTS INST OF TECHNOLOGY**
 FUNCTIONALLY SILENT AIRCRAFT TO TRANSFORM COMMERCIAL AIR TRANSPORTATION
 04/12/2002 - 08/31/2004 FY03: \$100,001 Total: \$156,251
Prin. Invest.: Z S SPAKOVSKY
Tech. Officer: LARC/R H THOMAS
CASE Category: 41 – AERONAUTICAL ENGR

NAS 2 02056 **MASSACHUSETTS INST OF TECHNOLOGY**
 FUNDAMENTAL TECHNOLOGIES FOR DEVELOPMENT OF BIOMOLECULAR SENSORS
 12/20/2001 - 12/20/2004 FY03: \$519,336 Total: \$1,228,609
Prin. Invest.: T M SWAGER
Tech. Officer: ARC/J W HINES, ARC/P P FUNG
CASE Category: 56 – MEDICL

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NAS 3 01153 **MASSACHUSETTS INST OF TECHNOLOGY**
 INTRA ENGINE TRACE SPECIES CHEMISTRY
 05/09/2001 - 08/10/2004 FY03: \$225,000 Total: \$675,000
Prin. Invest.: I A WAITZ
Tech. Officer: GRC/N S LIU
CASE Category: 41 – AERONAUTICAL ENGR

NAS 5 02094 **MASSACHUSETTS INST OF TECHNOLOGY**
 ASTRO-E2 MISSION X-RAY IMAGING SPECTROMETER CHARGE COUPLED
 DEVICE SENSOR BASES & ANALOG ELECTRONICS
 08/08/2002 - 02/28/2005 FY03: \$951,953 Total: \$2,110,524
Prin. Invest.: W MAYER
Tech. Officer: GSFC/D MARGOLIES
CASE Category: 42 – ASTRONAUTICAL ENGR

NAS 5 30612 **MASSACHUSETTS INST OF TECHNOLOGY**
 ALL SKY MONITOR INSTRUMENTS
 12/15/1989 - 09/30/2003 FY03: \$900,000 Total: \$29,057,767
Prin. Invest.: H BRADT
Tech. Officer: GSFC/W DAVIS
CASE Category: 11 – ASTRONOMY

NAS 5 31376 **MASSACHUSETTS INST OF TECHNOLOGY**
 RECURSIVE ESTIMATION OF GEOGRAPHICAL PRODUCTS WITH AIRS/AMSU
 DATA (EOS INVESTIGATION)
 01/10/1992 - 12/14/2003 FY03: \$300,000 Total: \$2,553,000
Prin. Invest.: D H STAELIN, P W ROSENKRANZ
Tech. Officer: GSFC/E KREINS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAS 5 99007 **MASSACHUSETTS INST OF TECHNOLOGY**
 GLAS SCIENCE TEAM
 12/02/1998 - 04/30/2005 FY03: \$198,000 Total: \$775,000
Prin. Invest.: T A HERRING
Tech. Officer: GSFC/G SMITH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 99198 **MASSACHUSETTS INST OF TECHNOLOGY**
 PROVIDE PERSONNEL, FACILITIES, & EQUIPMENT NECESSARY TO SUPPORT
 THE SPACE GEODESY PROGRAM.
 04/23/1999 - 04/22/2004 FY03: \$1,496,000 Total: \$6,808,622
Prin. Invest.: G CARRIGAN
Tech. Officer: GSFC/W WILDES
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 8 01129 **MASSACHUSETTS INST OF TECHNOLOGY**
 CHANDRA PROGRAM - (SCIENCE INSTRUMENT) HIGH ENERGY TRANSMIS-
 SION GRATING (HETG)
 03/01/2002 - 09/30/2004 FY03: \$1,441,000 Total: \$2,672,207
Prin. Invest.: C R CANIZARIES
Tech. Officer: MSFC/M C SMITH, MSFC/M S OSBURNE
CASE Category: 11 – ASTRONOMY

NAS 9 00097 **MASSACHUSETTS INST OF TECHNOLOGY**
 UNIQUE FLIGHT AND BASELINE DATA COLLECTION HARDWARE AND
 DEVELOP
 10/25/2000 - 10/25/2005 FY03: \$788,600 Total: \$2,674,387
Prin. Invest.: C M OMAN
Tech. Officer: JSC/D K BAUMAN
CASE Category: 59 – LIFE SCIENCE, OTHER

NASW 4690 **MASSACHUSETTS INST OF TECHNOLOGY**
 HIGH ENERGY TRANSIENT EXPERIMENT TO DETERMINE ORIGIN & NATURE
 OF GAMMA-RAY BURSTS
 03/30/1992 - 09/30/2004 FY03: \$1,771,193 Total: \$29,773,701
Prin. Invest.: G RICKER
Tech. Officer: HQ/D GILMAN, HQ/L KALUZIENSKI
CASE Category: 13 – PHYSICS

NCC 1 415 **MASSACHUSETTS INST OF TECHNOLOGY**
 PHYSICAL PROCESSES INFLUENCING ATMOSPHERIC TRACE CONSTITU-
 ENTS MEAS'D FROM AIRCRAFT IN TRACE-P (IS NRA)
 09/21/2000 - 12/31/2003 FY03: -\$1 Total: \$667,045
Prin. Invest.: R E NEWELL
Tech. Officer: LARC/V E DELNORE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 1121 **MASSACHUSETTS INST OF TECHNOLOGY**
 MARSCAPE
 05/21/1999 - 12/31/2001 FY03: -\$8 Total: \$149,992
Prin. Invest.: J K SALISBURY
Tech. Officer: ARC/H THOMAS
CASE Category: 46 – MECHANICAL ENGR

NCC 2 1147 **MASSACHUSETTS INST OF TECHNOLOGY**
 IMPLEMENTATION ISSUES FOR DEPARTURE PLANNING SYSTEMS
 12/07/1999 - 09/30/2003 FY03: \$87,243 Total: \$577,490
Prin. Invest.: E FERON, R J HANSMAN
Tech. Officer: ARC/L TOBIAS
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1209 **MASSACHUSETTS INST OF TECHNOLOGY**
 DISTRIBUTED & CENTRALIZED CONFLICT MANAGEMENT UNDER TRAFFIC
 FLOW MANAGEMENT CONSTRAINTS
 12/04/2000 - 01/14/2003 FY03: \$0 Total: \$130,781
Prin. Invest.: E FERON
Tech. Officer: ARC/K BILIMORIA, ARC/B SRIDHAR
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1223 **MASSACHUSETTS INST OF TECHNOLOGY**
 APPROACHES TO HUMAN CENTERED SOFTWARE DEVELOPMENT
 03/23/2001 - 02/29/2004 FY03: \$175,000 Total: \$556,756
Prin. Invest.: N G LEVESON
Tech. Officer: ARC/P M JONES, ARC/M SHAFTO
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1235 **MASSACHUSETTS INST OF TECHNOLOGY**
 A HYBRID DISCRETE/CONTINUOUS SYSTEM FOR HEALTH MANAGEMENT
 04/03/2001 - 02/29/2004 FY03: \$100,000 Total: \$505,000
Prin. Invest.: B C WILLIAMS
Tech. Officer: ARC/R MORRIS, ARC/D J CLANCY
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1237 **MASSACHUSETTS INST OF TECHNOLOGY**
 MULTI-RESOLUTION PLANNING IN LARGE UNCERTAIN ENVIRONMENTS
 04/06/2001 - 02/29/2004 FY03: \$50,000 Total: \$271,000
Prin. Invest.: L KAEHLING
Tech. Officer: ARC/R MORRIS, ARC/D CLANCY
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1269 **MASSACHUSETTS INST OF TECHNOLOGY**
 USING CAPRI WITHIN NASA'S INTELLIGENT SYNTHESIS ENVIRONMENT
 06/01/2001 - 07/31/2004 FY03: \$86,493 Total: \$271,468
Prin. Invest.: R HAIMES
Tech. Officer: ARC/M LIVINGSTON, ARC/D KONTINOS
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1369 **MASSACHUSETTS INST OF TECHNOLOGY**
 MARS GRAVITY BIOSATELLITE DEVELOPMENT
 11/01/2002 - 05/31/2003 FY03: \$43,104 Total: \$43,104
Prin. Invest.: D MILLER
Tech. Officer: ARC/C MCKAY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1379 **MASSACHUSETTS INST OF TECHNOLOGY**
 ON LINE THRUSTER BASED INERTIA PROPERTY IDENTIFICATION ON THE SPHERES ISS LABORATORY
 12/23/2002 - 02/28/2004 FY03: \$102,415 Total: \$102,415
Prin. Invest.: D W MILLER
Tech. Officer: ARC/R MAH
CASE Category: 42 – AERONAUTICAL ENGR

NCC 3 610 **MASSACHUSETTS INST OF TECHNOLOGY**
 THE EXTENSIONAL RHEOLOGY OF NON-NEWTONIAN MATERIAL EXTENSIONAL RHEOLOGY EXPERIMENT (ERE)
 04/21/1998 - 02/27/2004 FY03: \$93,312 Total: \$983,312
Prin. Invest.: G H MCKINLEY
Tech. Officer: GRC/N R HALL
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 3 632 **MASSACHUSETTS INST OF TECHNOLOGY**
 MIT ENGINEERING INTERSHIP PROGRAM
 06/30/1998 - 06/20/2002 FY03: \$0 Total: \$154,644
Prin. Invest.: I A WATZ
Tech. Officer: GRC/L POVINELLI
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 875 **MASSACHUSETTS INST OF TECHNOLOGY**
 HIGH SPECIFIC IMPULSE HALL THRUSTERS
 03/21/2001 - 03/31/2004 FY03: \$222,000 Total: \$881,181
Prin. Invest.: D MARTINEZ-SANCHEZ
Tech. Officer: GRC/S OLESON
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 3 1079 **MASSACHUSETTS INST OF TECHNOLOGY**
 MIT ENGINEERING INTERSHIP PROGRAM MIT ENGINEERING INTERSHIP PROGRAM
 08/07/2003 - 06/19/2004 FY03: \$23,859 Total: \$23,859
Prin. Invest.: I WAITZ
Tech. Officer: GRC/L A POVINELLI
CASE Category: 41 – AERONAUTICAL ENGR

NCC 5 416 **MASSACHUSETTS INST OF TECHNOLOGY**
 SOIL MOISTURE DATA ASSIMILATION FOR CONTINENTAL- SCALE LAND SURFACE HYDROLOGY APPLICATIONS
 08/04/1999 - 07/31/2003 FY03: \$0 Total: \$243,393
Prin. Invest.: D MCLAUGHLIN
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 625 **MASSACHUSETTS INST OF TECHNOLOGY**
 HIGH-PERFORMANCE ADAPTIVE SIMULATION FRAMEWORK FOR SPACE-WEATHER MODELING (SWMF).
 03/06/2002 - 03/05/2005 FY03: \$442,000 Total: \$955,000
Prin. Invest.: J MARSHALL
Tech. Officer: GSFC/J FISCHER
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 5 633 **MASSACHUSETTS INST OF TECHNOLOGY**
 MICROFABRICATED X-RAY OPTICS TECHNOLOGY DEVELOPMENT FOR THE CONSTELLATION-X MISSION
 02/28/2002 - 03/31/2003 FY03: \$0 Total: \$350,000
Prin. Invest.: M L SCHTTENBURG
Tech. Officer: GSFC/R PETRE
CASE Category: 11 – ASTRONOMY

NCC 5 678 **MASSACHUSETTS INST OF TECHNOLOGY**
 RESEARCH ON THE NATURAL VARIABILITY OF CLIMATE, PI - P. STONE, MIT; INITIAL INCREMENTAL FUNDING
 12/09/2002 - 12/14/2003 FY03: \$190,878 Total: \$190,878
Prin. Invest.: P H STONE
Tech. Officer: GSFC/J E HANSEN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 704 **MASSACHUSETTS INST OF TECHNOLOGY**
 ORION-II: A TRUE FORMATION FLYING MISSION IN LEO
 02/21/2003 - 02/29/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: J HOW
Tech. Officer: GSFC/E L COX
CASE Category: 42 – AERONAUTICAL ENGR

NCC 5 719 **MASSACHUSETTS INST OF TECHNOLOGY**
 MICROFABRICATED X-RAY OPTICS TECHNOLOGY DEVELOPMENT FOR THE CONSTELLATION-X MISSION
 04/10/2003 - 04/14/2005 FY03: \$124,977 Total: \$124,977
Prin. Invest.: M L SCHATTENBURG
Tech. Officer: GSFC/R PETRE
CASE Category: 11 – ASTRONOMY

NCC 5 729 **MASSACHUSETTS INST OF TECHNOLOGY**
 FORMATION FLYING STUDY - "MITIGATION OF THE IMPACT OF SENSING NOISE ON THE PRECISE FORMATION FL
 04/16/2003 - 06/30/2006 FY03: \$75,000 Total: \$75,000
Prin. Invest.: J P HOW
Tech. Officer: GSFC/D A QUINN
CASE Category: 42 – AERONAUTICAL ENGR

NCC 8 174 **MASSACHUSETTS INST OF TECHNOLOGY**
 R/S MICROGRAVITY TISSUE ENGINEERING
 03/31/1999 - 11/30/2003 FY03: \$0 Total: \$3,275,204
Prin. Invest.: L FREED
Tech. Officer: JSC/N R PELLIS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 9 169 **MASSACHUSETTS INST OF TECHNOLOGY**
 MICROGRAVITY INVESTIGATION OF CREW REACTIONS IN 0-G
 06/27/2003 - 12/31/2003 FY03: \$84,447 Total: \$84,447
Prin. Invest.: C COLEMAN
Tech. Officer: JSC/M KAMMAN, JSC/L CAMPBELL
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 1 02016 **MASSACHUSETTS INST OF TECHNOLOGY**
 GRADUATE STUDENT RESEARCHER PROGRAM (GSRP)
 06/12/2002 - 08/31/2005 FY03: \$10,000 Total: \$24,000
Prin. Invest.: K WILLCOX, T LAU
Tech. Officer: LARC/B A SINGER
CASE Category: 41 – AERONAUTICAL ENGR

MASSACHUSETTS

NASA'S UNIVERSITY PROGRAM

NGT 5 30188 **MASSACHUSETTS INST OF TECHNOLOGY**
 THE IMPACT OF GLACIAL EROSION ON THE RELIEF STRUCTURE OF
 MOUNTAIN BELTS STUDENT: SIMON BROCKLEHURS
 08/19/1999 - 08/31/2002 FY03: -\$864 Total: \$65,136
Prin. Invest.: K X WHIPPLE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30479 **MASSACHUSETTS INST OF TECHNOLOGY**
 SOIL MOISTURE ESTIMATION USING ENSEMBLE SMOOTHING STUDENT:
 SUSAN DUNNE
 09/29/2003 - 08/31/2005 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D ENTEKHABI
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30189 **MASSACHUSETTS INST OF TECHNOLOGY**
 TEMPORAL VARIABILITY OF AIR - SEA GAS FLUXES: ESTIMATION &
 INCORPORATION INTO AN INVERSE MODEL OF
 08/18/1999 - 02/28/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: J MARSHALL
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 40075 **MASSACHUSETTS INST OF TECHNOLOGY**
 MASSACHUSETTS SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/09/2001 - 01/31/2005 FY03: \$501,760 Total: \$1,471,760
Prin. Invest.: L YOUNG
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30190 **MASSACHUSETTS INST OF TECHNOLOGY**
 ADJOINT SENSITIVITY ANALYSIS OF THE COUPLED LAND- ATMOSPHERE
 SYSTEM/STUDENT: STEVEN A. MARGULIS
 08/19/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: D ENTEKHABI
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50302 **MASSACHUSETTS INST OF TECHNOLOGY**
 COMBUSTION SYNTHESIS OF FULLERENES AND FULLERENIC NANO-
 STRUCTURES IN MICROGRAVITY/STUDENT: ANISH GOEL
 07/06/2000 - 06/30/2002 FY03: \$0 Total: \$44,000
Prin. Invest.: J B HOWARD
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30212 **MASSACHUSETTS INST OF TECHNOLOGY**
 THE SIGNATURE OF CLIMATIC & TECTONIC PROCESSES IN ALLUVIAL FANS:
 A NUMERICAL MODELING & REMOTE SENSING
 08/20/1999 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: R L BRAS
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50411 **MASSACHUSETTS INST OF TECHNOLOGY**
 MODEL-BASED EXECUTIVE FOR AUTONOMOUS SPACECRAFT STUDENT
 NAME: SEUNG CHUNG
 08/07/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: B C WILLIAMS
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30334 **MASSACHUSETTS INST OF TECHNOLOGY**
 MULTIPHASE AND HETEROGENEOUS PROCESSES IN ATMOSPHERIC
 CHEMISTRY
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: B TROUT
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50414 **MASSACHUSETTS INST OF TECHNOLOGY**
 INVESTIGATION OF LIGHT STORAGE IN ATOMIC ENSEMBLES STUDENT:
 JEAN A. HAGER
 08/06/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R WALSWORTH
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30337 **MASSACHUSETTS INST OF TECHNOLOGY**
 DYNAMICS & SCALES OF VARIABILITY IN THE LABRADOR SEA: STATE
 ESTIMATION USING AN EDDY-RESOLVING
 08/21/2000 - 12/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: C WUNSCH
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 8 52892 **MASSACHUSETTS INST OF TECHNOLOGY**
 BALANCE OF PLANT DESIGN AND ANALYSIS FOR SPACE NUCLEAR POWER
 OPTIONS
 07/11/2000 - 06/30/2003 FY03: \$0 Total: \$0
Prin. Invest.: M MARTINEZ-SANCHEZ
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 30339 **MASSACHUSETTS INST OF TECHNOLOGY**
 EFFECTS OF VEGETATION DYNAMICS ON ARROYO & GULLY EVOLUTION &
 SUSCEPTIBILITY TO CLIMATE CHANGE
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: R BRAS
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8635 **MT HOLYOKE COLLEGE**
 CO2 AND CH4 EXCHANGE IN NORTHERN PEATLANDS
 07/07/1999 - 06/30/2004 FY03: \$0 Total: \$345,781
Prin. Invest.: J L BUBIER
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30469 **MASSACHUSETTS INST OF TECHNOLOGY**
 017 IMPACTS OF TROPICAL DEFORESTATION AND CLIMATE: OBSERVA-
 TIONS OF SHALLOW CLOUDS AND RAINFALL
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: R BRAS
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10424 **MT HOLYOKE COLLEGE**
 SYNCHROTRON CHARACTERIZATION OF HYDROGEN & FERRIC IRON IN
 MARTIAN METEORITES
 02/15/2001 - 02/28/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: D DYAR
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11759	MT HOLYOKE COLLEGE	NAG 5 12996	SMITH COLLEGE
SUMMERMATH NASA SCHOLARS PROGRAM		ORIGIN OF WINDS IN PROTOSTELLAR DISK ACCRETION SYS TEM	
02/13/2002 - 01/31/2003	FY03: \$0	03/07/2003 - 02/28/2006	FY03: \$63,000
<i>Prin. Invest.:</i> J MORROW	Total: \$60,000	<i>Prin. Invest.:</i> S EDWARDS	Total: \$63,000
<i>Tech. Officer:</i> GSFC/C HOLLINGSWORTH		<i>Tech. Officer:</i> GSFC/D LINDSTROM	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 12687	MT HOLYOKE COLLEGE	NAG 3 2563	TUFTS UNIV
TEMPERATURE DEPENDENCE & RESOLUTION OF FUNDAMENTAL MOSS-BAUER PARAMETERS IN MARS-ANALOG MINERALS		A SOLID STATE LI-ION BATTERY WITH A CONDUCTIONG PO LYMER ANODE	
12/09/2002 - 11/30/2005	FY03: \$50,000	03/13/2001 - 10/31/2003	FY03: \$0
<i>Prin. Invest.:</i> M DYAR	Total: \$50,000	<i>Prin. Invest.:</i> D B GOLDNER	Total: \$99,975
<i>Tech. Officer:</i> GSFC/J GARVIN		<i>Tech. Officer:</i> GRC/N HAGEDORN	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 12 – CHEMISTRY	
NAG 5 12848	MT HOLYOKE COLLEGE	NAG 5 10350	TUFTS UNIV
FERRIC IRON AND HYDROGEN IN MARS MATERIALS		NASA'S COSMOS. FULLY FUNDS YEAR 1 OF 3	
01/30/2003 - 01/31/2004	FY03: \$45,000	02/06/2001 - 02/14/2004	FY03: \$40,000
<i>Prin. Invest.:</i> M DYAR	Total: \$45,000	<i>Prin. Invest.:</i> K R LANG	Total: \$120,000
<i>Tech. Officer:</i> GSFC/D LINDSTROM		<i>Tech. Officer:</i> GSFC/P E HUNTER	
<i>CASE Category:</i> 12 – CHEMISTRY		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 13791	MT HOLYOKE COLLEGE	NAG 5 11605	TUFTS UNIV
SUMMERMATH NASA SCHOLARS PROGRAM, YEAR 2003		VLA OBSERVATIONS	
09/30/2003 - 09/30/2004	FY03: \$45,000	01/22/2002 - 01/31/2005	FY03: \$10,000
<i>Prin. Invest.:</i> J MORROW	Total: \$45,000	<i>Prin. Invest.:</i> K LANG	Total: \$20,000
<i>Tech. Officer:</i> GSFC/A E TAYLOR		<i>Tech. Officer:</i> GSFC/T KUCERA	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER	
NAG 8 1668	NORTHEASTERN UNIV	NAG 5 11806	TUFTS UNIV
PHASE FIELD SIMULATIONS OF DENDRITIC GROWTH AT LOW UNDER-COOLING: CONFRONTING THEORY AND EXPERIMENT.		IN-SITU PLANETARY CHEMICAL ANALYSIS LABORATORY	
05/23/2000 - 11/30/2003	FY03: \$90,000	02/28/2002 - 02/28/2005	FY03: \$233,000
<i>Prin. Invest.:</i> A KARMA	Total: \$300,500	<i>Prin. Invest.:</i> S KOUNAVES	Total: \$412,500
<i>Tech. Officer:</i> MSFC/P DOTY		<i>Tech. Officer:</i> GSFC/J BOYCE	
<i>CASE Category:</i> 59 – LIFE SCIENCE, OTHER		<i>CASE Category:</i> 11 – ASTRONOMY	
NCC 2 1336	NORTHEASTERN UNIV	NAG 5 12844	TUFTS UNIV
TEAM ORIENTED ROBOTIC EXPLORATION TASKS ON SCORPIO N AND K9 PLATFORMS		VERY LARGE ARRAY - SOHO INVESTIGATIONS OF NONTHERMAL ENERGY RELEASE ON THE SUN	
04/16/2002 - 09/30/2003	FY03: \$44,637	01/28/2003 - 01/31/2005	FY03: \$42,210
<i>Prin. Invest.:</i> F KIRCHNER	Total: \$144,637	<i>Prin. Invest.:</i> R WILSON	Total: \$42,210
<i>Tech. Officer:</i> ARC/S COLOMBANO, ARC/M BUALAT		<i>Tech. Officer:</i> GSFC/T A KUCERA	
<i>CASE Category:</i> 22 – COMPUTER SCIENCE		<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER	
NCC 8 244	NORTHEASTERN UNIV	NAG 8 1480	TUFTS UNIV
PRMTE CMMERCLLY FNDD RSERH AND TECH. DEV. IN THE FLD OF ADVNCD MATEIALS PROCESSING UTIL.MICROGRAVI		STUDY OF DEVELOPMENT OF POLYMER STRUCTURE IN MICROGRAVITY USING ELLIPSOmetry	
01/14/2002 - 10/31/2003	FY03: \$1,969,000	02/27/1998 - 05/31/2002	FY03: \$0
<i>Prin. Invest.:</i> A SACCO JR.	Total: \$4,139,000	<i>Prin. Invest.:</i> P CEBE	Total: \$275,415
<i>Tech. Officer:</i> MSFC/J SAMS		<i>Tech. Officer:</i> MSFC/P M DOTY	
<i>CASE Category:</i> 49 – ENGINEERING, OTHER		<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER	
NGT 5 122	NORTHEASTERN UNIV	NAG 8 1699	TUFTS UNIV
IMAGE PROCESSING TECHNIQUES FOR SATELLITE DATE USING RECON-FIGURABLE TECHNOLOGY/STUDENT: HEATHER Q		RESEARCH STUDY HIEARCHICAL ASSEMBLY OF COLLAGEN	
07/09/2001 - 09/14/2004	FY03: \$24,000	06/05/2000 - 11/30/2003	FY03: \$110,000
<i>Prin. Invest.:</i> M LEESER	Total: \$70,000	<i>Prin. Invest.:</i> D L KAPLAN	Total: \$374,500
<i>Tech. Officer:</i> GSFC/M S BURRELL		<i>Tech. Officer:</i> MSFC/P M DOTY	
<i>CASE Category:</i> 29 – MATH/COMPUTER SCI, OTHER		<i>CASE Category:</i> 56 – MEDICL	
NGT 5 122	NORTHEASTERN UNIV	NAG 8 1921	TUFTS UNIV
IMAGE PROCESSING TECHNIQUES FOR SATELLITE DATE USING RECON-FIGURABLE TECHNOLOGY/STUDENT: HEATHER Q		4200011723 LIQUID CRYSTAL PHASE TRANSITIONS IN THE HIERARCHICAL ASSEMBLY OF COLLAGEN	
07/09/2001 - 09/14/2004	FY03: \$24,000	06/24/2003 - 11/30/2006	FY03: \$150,000
<i>Prin. Invest.:</i> M LEESER	Total: \$70,000	<i>Prin. Invest.:</i> D L KAPLAN, P CEBE, R VALLUZZI	Total: \$150,000
<i>Tech. Officer:</i> GSFC/M S BURRELL		<i>Tech. Officer:</i> MSFC/B V GUYNES	
<i>CASE Category:</i> 29 – MATH/COMPUTER SCI, OTHER		<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER	

NAG 9 1182 **TUFTS UNIV**
 MULTISENSOR ARRAY FOR MONITORING WATER QUALITY ON SPACE-CRAFT & PLANETARY HABITATS
 12/20/1999 - 12/19/2002 FY03: \$0 Total: \$354,351
Prin. Invest.: S P KOUNAVES
Tech. Officer: JPL/D JAN
 CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 5 434 **TUFTS UNIV**
 THE SCIENCE AND ENGINEERING NASA SITE OF REMOTE SENSING (SENSORS).
 09/22/1999 - 09/30/2003 FY03: \$0 Total: \$397,346
Prin. Invest.: C ROGERS
Tech. Officer: GSFC/R E GABRYS
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50445 **TUFTS UNIV**
 THE EFFECT OF INTERNAL CONVECTION ON MICROSTRUCTURAL EVOLUTION & PHASE SELECTION/STUDENT: DAVIDF
 04/22/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D MATSON
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1197 **UNIV OF MASSACHUSETTS WORCESTER**
 EFFECTS OF GRAVITY ON CELL MOVEMENT & DEVELOPMENT
 04/02/1998 - 10/31/2001 FY03: -\$20,769 Total: \$481,882
Prin. Invest.: Y L WANG
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
 CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1438 **UNIV OF MASSACHUSETTS WORCESTER**
 THE EFFECT OF HYPERGRAVITY ON RETINOIC ACID SIGNALING IN THE DEVELOPING EMBRYO
 09/19/2000 - 09/30/2004 FY03: \$26,470 Total: \$428,582
Prin. Invest.: P J MACCAFFERY
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
 CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1495 **UNIV OF MASSACHUSETTS WORCESTER**
 EFFECTS OF CHARITY ON THE STRUCTURE AND FUNCTION OF ANIMAL CELLS
 07/09/2001 - 10/31/2004 FY03: \$186,554 Total: \$463,725
Prin. Invest.: Y L WANG
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
 CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 01356 **UNIV OF MASSACHUSETTS WORCESTER**
 MICROGRAVITY AND THE BIOLOGY OF NEURAL STEM CELLS
 07/27/2001 - 09/30/2004 FY03: \$0 Total: \$0
Prin. Invest.: W J SCHWARTZ
Tech. Officer: JSC/D RISEN
 CASE Category: 56 – MEDICL

NAG 9 11356 **UNIV OF MASSACHUSETTS WORCESTER**
 MICROGRAVITY AND THE BIOLOGY OF NEURAL STEM CELLS
 07/27/2001 - 09/30/2004 FY03: \$408,000 Total: \$408,000
Prin. Invest.: W H SCHWARTZ, T M SAVARESE, H LOW
Tech. Officer: JSC/D RISEN
 CASE Category: 56 – MEDICL

NGT 5 50374 **UNIV OF MASSACHUSETTS WORCESTER**
 GENETIC MANIPULATION OF CELL ADHESION PROTEINS TO MODIFY MECHANICAL RESPONSE AND TISSUE REMODELING
 07/09/2001 - 06/30/2004 FY03: \$26,299 Total: \$72,299
Prin. Invest.: L BONASSAR
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50404 **UNIV OF MASSACHUSETTS WORCESTER**
 CONTROLLING MECHANICS OF COLLAGEN GELS FOR CARTILAGE TISSUE ENGINEERING BY NON-ENZYMATIC GLYCATION
 07/30/2002 - 07/31/2003 FY03: \$20,043 Total: \$44,043
Prin. Invest.: L BONASSAR
Tech. Officer: GSFC/K BLANDING
 CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2426 **UNIV OF MASSACHUSETTS**
 PHASE CHANGE IN LOW AND JITTERING GRAVITY ENVIRONMENT SIMULATED VIA ELECTROMAGNETIC FIELD
 05/19/2000 - 11/30/2004 FY03: \$50,141 Total: \$200,369
Prin. Invest.: D CHARMCHI
Tech. Officer: GRC/H DEGROH
 CASE Category: 49 – ENGINEERING, OTHER

NAG 5 8145 **UNIV OF MASSACHUSETTS**
 AUTOMATED PROCESSING OF ISIS TOPSIDE IONOGRAMS INTO ELECTRON DENSITY PROFILES
 02/04/1999 - 12/31/2003 FY03: \$0 Total: \$391,162
Prin. Invest.: B REINISCH
Tech. Officer: GSFC/J BREDEKAMP
 CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11064 **UNIV OF MASSACHUSETTS**
 THEORY IN SUPPORT OF LABORATORY SPECTROSCOPY FOR AIRS, TES AND HIRDLs
 06/28/2001 - 06/30/2004 FY03: \$50,533 Total: \$126,113
Prin. Invest.: R R GAMACHE
Tech. Officer: GSFC/D STARR
 CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11792 **UNIV OF MASSACHUSETTS**
 DIGITAL RADIO-FREQUENCY PLASMA WAVE INSTRUMENTS FOR MULTIPLE SATELLITE MISSIONS
 02/28/2002 - 02/28/2005 FY03: \$231,082 Total: \$401,276
Prin. Invest.: B W REINISCH
Tech. Officer: GSFC/J BOYCE
 CASE Category: 11 – ASTRONOMY

NAG 5 13387 **UNIV OF MASSACHUSETTS**
 APPLYING INTELLIGENT SYSTEM TECHNOLOGY TO EXTRACT AND UNDERSTAND RADIO IMAGING DATA: AN APPLICATION
 05/01/2003 - 04/30/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: B REINISCH
Tech. Officer: GSFC/S FUNG
 CASE Category: 11 – ASTRONOMY

NAG 2 1375 **UNIV OF MASSACHUSETTS - AMHERST**
 MICROGRAVITY EFFECTS ON SEED DEVELOPMENT AND MATURATION
 08/20/1999 - 08/31/2003 FY03: \$0 Total: \$453,543
Prin. Invest.: M E MUSGRAVE
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
 CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

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NAG 5 10699 **UNIV OF MASSACHUSETTS - AMHERST**
 PRINTED CIRCUIT DUAL-POL DUAL-FREQUENCY ANTENNA ELEMENTS FOR
 ATIP INTEGRATED SENSOR MODULES
 04/18/2001 - 09/30/2003 FY03: \$0 Total: \$82,500
Prin. Invest.: K CARVER
Tech. Officer: GSFC/T DOIRON
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 12158 **UNIV OF MASSACHUSETTS - AMHERST**
 MARTIAN POLYGONAL TERRAIN: TESTS FOR SEDIMENTARY ORIGIN OF
 DEPOSITS
 05/08/2002 - 05/14/2004 FY03: \$0 Total: \$23,903
Prin. Invest.: G E MCGILL
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10783 **UNIV OF MASSACHUSETTS - AMHERST**
 0.2-1 KEV EMISSION FROM THE HOT INTERGALACTIC MEDIUM (ADP 2000)
 04/23/2001 - 04/30/2004 FY03: \$0 Total: \$98,779
Prin. Invest.: Q WANG
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 12730 **UNIV OF MASSACHUSETTS - AMHERST**
 A DESIGN STUDY OF WAVEGUIDE SLOT ARRAY ANTENNAS FOR THE
 LIGHTWEIGHT RAINFALL RADIOMETER (LRR) IN
 01/27/2003 - 01/31/2005 FY03: \$122,615 Total: \$122,615
Prin. Invest.: D CARVER
Tech. Officer: GSFC/B GOSSELIN
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 11465 **UNIV OF MASSACHUSETTS - AMHERST**
 INTEGRATED TERAHERTZ HETERODYNE FOCAL PLANE ARRAY RECEIVERS
 12/10/2001 - 12/31/2004 FY03: \$130,000 Total: \$255,000
Prin. Invest.: G NARAYANAN
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12826 **UNIV OF MASSACHUSETTS - AMHERST**
 CONTINUED GROUND-BASED MICROWAVE MEASUREMENTS OF OZONE
 FOR THE NETWORK FOR DETECTION OF STRATOSPHERE
 02/11/2003 - 12/31/2005 FY03: \$213,525 Total: \$213,525
Prin. Invest.: A PARRISH
Tech. Officer: GSFC/M KURYLO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11649 **UNIV OF MASSACHUSETTS - AMHERST**
 PLANETARY TECTONICS, AREAL GEOLOGY AND GEOLOGICAL HISTORY
 01/29/2002 - 01/31/2005 FY03: \$47,477 Total: \$91,177
Prin. Invest.: G E MCGILL
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13102 **UNIV OF MASSACHUSETTS - AMHERST**
 STRUCTURE OF LOCAL GALAXIES WITH 2MASS
 03/20/2003 - 03/14/2008 FY03: \$115,992 Total: \$115,992
Prin. Invest.: N KATZ
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11778 **UNIV OF MASSACHUSETTS - AMHERST**
 SHOCK AND THERMAL HISTORY OF IRON, STONY-IRON, AND CHONDIRTIC
 METEORITES
 02/21/2002 - 03/14/2005 FY03: \$81,000 Total: \$162,000
Prin. Invest.: J GOLDSTEIN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 13122 **UNIV OF MASSACHUSETTS - AMHERST**
 STRUCTURAL AND GEOMORPHIC EVOLUTION OF THE MARTIAN CRUST
 03/20/2003 - 07/14/2006 FY03: \$42,000 Total: \$42,000
Prin. Invest.: G MCGILL
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11855 **UNIV OF MASSACHUSETTS - AMHERST**
 XMM OBSERVATIONS OF X-RAY EMISSION FROM SUPERNOVAE
 03/27/2002 - 03/31/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: S IMMLER
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13257 **UNIV OF MASSACHUSETTS - AMHERST**
 XMM-NEWTON OBSERVATIONS OF HOT DIFFUSE GAS IN NGC 2613
 04/16/2003 - 05/31/2004 FY03: \$12,100 Total: \$12,100
Prin. Invest.: D WANG
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11940 **UNIV OF MASSACHUSETTS - AMHERST**
 A DEMONSTRATION OF FREQUENCY SELECTIVE BOLOMETER ARRAY FOR
 GROUND-BASED ASTROPHYSICAL OBSERVATIONS
 04/11/2002 - 04/14/2005 FY03: \$0 Total: \$45,900
Prin. Invest.: G WILSON
Tech. Officer: GSFC/E S CHENG
CASE Category: 11 – ASTRONOMY

NAG 5 13582 **UNIV OF MASSACHUSETTS - AMHERST**
 A HIGHLY UNUSUAL NONTHERMAL SHELL X-RAY BINARY SYSTEM IN IC 10
 08/13/2003 - 08/14/2004 FY03: \$46,460 Total: \$46,460
Prin. Invest.: R M WILLIAMS
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12038 **UNIV OF MASSACHUSETTS - AMHERST**
 EVOLUTION AND INTERACTION OF STRUCTURE IN GALAXIES
 04/16/2002 - 04/14/2005 FY03: \$67,817 Total: \$72,817
Prin. Invest.: M D WEINBERG
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 8 1694 **UNIV OF MASSACHUSETTS - AMHERST**
 CAPILLARY WAVES AT INTERFACES: THE ROLE OF GRAVITY AND ELECTRIC
 FIELDS
 06/01/2000 - 11/30/2003 FY03: \$100,000 Total: \$355,000
Prin. Invest.: T P RUSSELL
Tech. Officer: MSFC/P DOTY
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1697 **UNIV OF MASSACHUSETTS - AMHERST**
 "THIN FILM MOLECULAR SIEVE SYNTHESIS: PROCESSING MICROSTRUCTURE RELATIONSHIPS & EFFECTS OF GRAVITY"
 06/06/2000 - 11/30/2003 FY03: \$100,000 Total: \$335,000
Prin. Invest.: M TSAPATIS
Tech. Officer: MSFC/P DOTY
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1379 **UNIV OF MASSACHUSETTS - AMHERST**
 LEARNING TO EXPLOIT DYNAMICS FOR ROBOT MANIPULATORS
 08/28/2001 - 12/31/2003 FY03: \$0 Total: \$46,000
Prin. Invest.: M T ROSENSTEIN
Tech. Officer: JSC/R SAVELY
CASE Category: 46 – MECHANICAL ENGR

NAG 9 01445 **UNIV OF MASSACHUSETTS - AMHERST**
 INSTRUCTING ROBOTIC ASSISTANTS TO ACQUIRE AUTO- NOMOUS BEHAVIOR.
 07/30/2002 - 07/31/2004 FY03: \$815,000 Total: \$815,000
Prin. Invest.: R A GRUPEN
Tech. Officer: JSC/R SAVELY
CASE Category: 22 – COMPUTER SCIENCE

NAS 1 01058 **UNIV OF MASSACHUSETTS - AMHERST**
 RESEARCH ENTITLED, "NEAR-QUANTUM-NOISE LIMITED HOT ELECTRON BOLOMETRIC HETERODYNE DETECTORS
 06/20/2001 - 06/19/2004 FY03: \$263,900 Total: \$805,900
Prin. Invest.: S K YNGVESSON
Tech. Officer: LARC/M N ABEDIN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 1180 **UNIV OF MASSACHUSETTS - AMHERST**
 MULTI-AGENT INFORMATION ENVIRONMENT FOR INTEGRATED DESIGN & ANALYSIS
 05/16/2000 - 05/14/2002 FY03: \$0 Total: \$65,918
Prin. Invest.: A DASCHMULCH
Tech. Officer: ARC/M E LIVINGSTON
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1265 **UNIV OF MASSACHUSETTS - AMHERST**
 MULTI-AGENT REASONING & DISTRIBUTED SEARCH IN DESIGN OF COMPLEX AEROSPACE SYSTEMS
 05/03/2001 - 04/30/2003 FY03: \$0 Total: \$149,700
Prin. Invest.: A DESHMUKH
Tech. Officer: ARC/M LIVINGSTON, ARC/F J TORRES
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1311 **UNIV OF MASSACHUSETTS - AMHERST**
 SELF DIRECTED COOPERATIVE PALNETARY ROVERS
 03/07/2002 - 02/29/2004 FY03: \$177,624 Total: \$331,624
Prin. Invest.: S ZILBERSTEIN
Tech. Officer: ARC/R A MORRIS, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1348 **UNIV OF MASSACHUSETTS - AMHERST**
 ESTIMATING EFFECTS OF PARAMETER UNCERTAINTY ON ANALYSIS NETWORKS
 06/10/2002 - 05/31/2004 FY03: \$0 Total: \$133,481
Prin. Invest.: A DESHMUKH
Tech. Officer: ARC/M LIVINGSTON, ARC/J E MILTON
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1353 **UNIV OF MASSACHUSETTS - AMHERST**
 INTEGRATION OF INTELLIGENT PROCESS MANAGEMENT AGEN TS & THE INFORMATION POWER GRID
 07/15/2002 - 06/14/2004 FY03: \$0 Total: \$189,555
Prin. Invest.: A DESHMUKH
Tech. Officer: ARC/M LIVINGSTON, ARC/J MELTON
CASE Category: 22 – COMPUTER SCIENCE

NGT 1 02008 **UNIV OF MASSACHUSETTS - AMHERST**
 GRADUATE STUDENT RESEARCHER PROGRAM (GSRP)
 06/06/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: E B COUGHLIN, G S CONSTABLE
Tech. Officer: LARC/D L THOMSEN
CASE Category: 47 – METAL & MATERIALS ENGR

NGT 2 52276 **UNIV OF MASSACHUSETTS - AMHERST**
 A DECISION-THEORY APPROACH TO AUTONOMOUS PLANETARY CONTROL
 06/12/2001 - 07/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S ZILBERSTEIN
Tech. Officer: ARC/B J COLLINS, ARC/R WASHINGTON
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 30375 **UNIV OF MASSACHUSETTS - AMHERST**
 REALIZING NETWORK SENSOR WEBS THROUGH THE DEVELOPMENT OF THE REMOTE INSTRUMENT DEFINITION LANGUAGE
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: D MCLAUGHLIN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30412 **UNIV OF MASSACHUSETTS - AMHERST**
 AIRBORNE CLOUD RADAR STUDIES: CLOUDSAT CALIBRATION AND CLOUD/PRECIPITATION RETRIEVAL ALGORITHM DEVELOPMENT
 08/14/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: S SEKELSKY
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50474 **UNIV OF MASSACHUSETTS - AMHERST**
 TOPOGRAPHIC ANALYSIS OF QUASI-CIRCULAR DEPRESSIONS IN THE NORTHERN LOWLANDS OF MARS: DO THEY REPRESENT
 05/05/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: G MCGILL
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52948 **UNIV OF MASSACHUSETTS - AMHERST**
 4200030725 THERMOPHYSICAL PROPERTIES OF QUASICRYSTAL-FORMING MELTS
 09/22/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J ROGERS
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NGT 9 61 **UNIV OF MASSACHUSETTS - AMHERST**
 TASK & SCALE APPROPRIATE CLOSED-LOOP INTERACTION IN THE FORCE DOMAIN
 05/28/2002 - 06/02/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R GRUPEN
Tech. Officer: JSC/R SAVELY
CASE Category: 22 – COMPUTER SCIENCE

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NGT13 52756 UNIV OF MASSACHUSETTS BOSTON
 GRADUATE STUDENT RESEARCHERS PROGRAM - EFFECTS OF COPEPOD
 GRAZING ON COLORED DISSOLVED ORGANIC MATTE
 06/12/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: J URBAN-RICH
Tech. Officer: SSC/R P TRAVIS
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG 5 8868 WOODS HOLE OCEANOGRAPHIC INST
 BIOLOGICAL INTERPRETATION OF OCEAN COLOR: OBSERVATIONS &
 MODELS FOR WATERS OF THE MID-ATLANTIC SHELF
 01/10/2000 - 02/28/2003 FY03: \$763 Total: \$200,763
Prin. Invest.: H SOSIK
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTALSCI, OTHER

NAG 5 9752 UNIV OF MASSACHUSETTS-DARTHMOUTH
 REGIONAL FISHERIES APPLICATION CENTER
 06/22/2000 - 09/30/2002 FY03: \$179,526 Total: \$2,010,526
Prin. Invest.: B J ROTHSCHILD
Tech. Officer: GSFC/D R KAHLE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9422 WOODS HOLE OCEANOGRAPHIC INST
 ISOTOPIC BIOGEOCHEMISTRY
 04/11/2000 - 04/30/2004 FY03: \$0 Total: \$544,270
Prin. Invest.: D M HAYES
Tech. Officer: GSFC/M MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 10125 UNIV OF MASSACHUSETTS-DARTHMOUTH
 A PILOT INVESTIGATION OF LOW FREQUENCY CHLOROPHYLL & PIGMENT
 VARIABILITY OFF THE NORTHEAST
 12/12/2000 - 12/14/2003 FY03: \$0 Total: \$80,043
Prin. Invest.: J J BISAGNI
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9858 WOODS HOLE OCEANOGRAPHIC INST
 STUDYING THE ANNUAL & INTER-ANNUAL VARIABILITY IN OCEAN COLOR
 USING SATELLITEDATA & GLOBAL MARINE
 08/07/2000 - 09/30/2002 FY03: \$0 Total: \$114,739
Prin. Invest.: D M GLOVER
Tech. Officer: GSFC/J MARRA
CASE Category: 33 – OCEANOGRAPHY

NAG13 02042 UNIV OF MASSACHUSETTS-DARTHMOUTH
 DEVELOPMENT OF REGIONAL FISHERIES/OCEANOGRAPHY APPLICATION
 CENTERS FOR ALASKA & MASSACHUSETTS
 06/06/2002 - 06/05/2004 FY03: \$0 Total: \$2,000,000
Prin. Invest.: W S BROWN
Tech. Officer: SSC/M GIARDINO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11265 WOODS HOLE OCEANOGRAPHIC INST
 REGIONAL CARBON CYCLE MODELING AT THE BERMUDA ATLANTIC
 TIME-SERIES STUDY(BATS) SITE USING AN EDDY-R
 08/31/2001 - 08/31/2004 FY03: \$100,389 Total: \$281,114
Prin. Invest.: D MCGILLICUDDY
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 03021 UNIV OF MASSACHUSETTS-DARTHMOUTH
 "A DECISION SUPPORT SYSTEM FOR FISHERIES SCIENCE WITH FOCUS
 ON THE GEORGES BANK RESOURCE"
 09/16/2003 - 09/30/2005 FY03: \$1,788,000 Total: \$1,788,000
Prin. Invest.: B ROTHCHILD
Tech. Officer: JSC/T M STANLEY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12403 WOODS HOLE OCEANOGRAPHIC INST
 ASSESSING THE ROLE OF PHOTOCHEMICAL OXIDATION OF DOC IN THE
 UPPER OCEAN BASED ON CHARACTERIZATION OF
 08/01/2002 - 07/31/2005 FY03: \$0 Total: \$136,167
Prin. Invest.: L TRAYKOVSKI
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9059 WELLESLEY COLLEGE
 LABORATORY MEASUREMENTS OF SO2 AND N2 ABSORPTION SPECTRA
 FOR PLANETARY ATMOSPHERES
 02/15/2000 - 02/28/2003 FY03: \$0 Total: \$112,921
Prin. Invest.: D STARK
Tech. Officer: GSFC/D BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12444 WOODS HOLE OCEANOGRAPHIC INST
 LONG-TERM SURFACE SALINITY MEASUREMENTS
 08/12/2002 - 07/31/2005 FY03: \$164,464 Total: \$224,569
Prin. Invest.: R SCHMITT
Tech. Officer: GSFC/E LINDTSROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10197 WELLESLEY COLLEGE
 DYNAMICS AND STRUCTURE OF PLANETARY RINGS
 12/21/2000 - 12/31/2003 FY03: \$47,200 Total: \$140,900
Prin. Invest.: R G FRENCH
Tech. Officer: GSFC/D SENSEKE
CASE Category: 11 – ASTRONOMY

NAG 5 12488 WOODS HOLE OCEANOGRAPHIC INST
 CONSTRAINING OCEANIC SOURCES AND SINKS OF CO2 BY INVERSE
 MODELING: A FIRST STOP TOWARD ASSIMILATION
 08/27/2002 - 08/31/2004 FY03: \$0 Total: \$35,000
Prin. Invest.: S C DONEY
Tech. Officer: GSFC/C TREES
CASE Category: 33 – OCEANOGRAPHY

NAG 5 7445 WOODS HOLE OCEANOGRAPHIC INST
 OPTICAL CLASSIFICATION OF WATER TYPES FROM SEAWIFS DATA: A
 HYBRID APPROACH USING BOTH SEMI-ANNUAL
 06/04/1998 - 08/31/2002 FY03: \$0 Total: \$278,087
Prin. Invest.: H M SOSIK
Tech. Officer: GSFC/J W CAMPBELL
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12520 WOODS HOLE OCEANOGRAPHIC INST
 THE INFLUENCE OF IRON AVAILABILITY AND PHYSICAL FORCING ON
 SOUTHERN OCEAN PRIMARY PRODUCTIVITY
 09/17/2002 - 08/31/2005 FY03: \$0 Total: \$101,116
Prin. Invest.: S DONEY
Tech. Officer: GSFC/C TREES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12988 **WOODS HOLE OCEANOGRAPHIC INST**
 A SEA OF CHANGE: JGOF'S ACCOMPLISHMENTS AND THE FUTURE OF
 OCEAN BIOGEOCHEMISTRY
 03/06/2003 - 02/29/2004 FY03: \$24,958 Total: \$24,958
Prin. Invest.: K BUESSELER
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13449 **WOODS HOLE OCEANOGRAPHIC INST**
 2003 SOLAS SUMMER SCHOOL
 05/05/2003 - 05/14/2004 FY03: \$24,484 Total: \$24,484
Prin. Invest.: W MCGILLIS
Tech. Officer: GSFC/C TREES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13753 **WOODS HOLE OCEANOGRAPHIC INST**
 UPWELLING AND ICE-OCEAN HEAT FLUX IN THE ARCTIC OCEAN
 09/25/2003 - 09/30/2004 FY03: \$70,000 Total: \$70,000
Prin. Invest.: J YANG
Tech. Officer: GSFC/W ABDALLATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 00198 **WOODS HOLE OCEANOGRAPHIC INST**
 R & D TO SUPPORT SIMBIOS PROJECT ORIGINAL POP 10/30/01
 11/06/2000 - 11/30/2003 FY03: \$67,555 Total: \$322,740
Prin. Invest.: J R MORRISON
Tech. Officer: GSFC/C R MCCLAIN
CASE Category: 33 – OCEANOGRAPHY

NGT 5 30206 **WOODS HOLE OCEANOGRAPHIC INST**
 INTERPRETATION OF VARIABILITY IN WATER COLUMN OPTICAL PROPERTIES THROUGH SINGLE-PARTICLE ANALYSIS
 08/19/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: H SOSIK
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30362 **WOODS HOLE OCEANOGRAPHIC INST**
 IRON CYCLING IN THE CALIFORNIA CURRENT SYSTEM: GEO CHEMICAL & ECOLOGICAL MODELING/STUDENT: PAYAL PAR
 08/24/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D M GLOVER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 3 2395 **WORCESTER POLYTECHNIC INST**
 STABILITY AND HEAT TRANSFER CHARACTERISTICS OF CONDENSING FILMS IN REDUCED GRAVITY
 04/14/2000 - 06/01/2003 FY03: -\$24,740 Total: \$177,726
Prin. Invest.: D C HERMANSON
Tech. Officer: GRC/F CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2405 **WORCESTER POLYTECHNIC INST**
 EXPERIMENTAL INVESTIGATION AND MODELING OF PULSED PLASMA THRUSTER PLUMES
 05/03/2000 - 07/31/2003 FY03: \$27,448 Total: \$162,986
Prin. Invest.: D GATSONIS
Tech. Officer: GRC/E J PENCIL
CASE Category: 13 – PHYSICS

NAG 3 2535 **WORCESTER POLYTECHNIC INST**
 SPLASHING DROPLETS
 01/25/2001 - 11/30/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: D TRYGGVASON
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2545 **WORCESTER POLYTECHNIC INST**
 COMPUTATIONAL MODELING OF THE EFFECT OF SECONDARY FORCES ON THE PHASE DISTRIBUTION IN DISPERSED MULT
 02/22/2001 - 02/06/2004 FY03: \$100,000 Total: \$290,000
Prin. Invest.: D TRYGGVASON
Tech. Officer: GRC/D F CHAO
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11755 **WORCESTER POLYTECHNIC INST**
 STUDENT PROJECTS AT THE GODDARD SPACE FLIGHT CENTER
 02/27/2002 - 06/30/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: F J LOOFT
Tech. Officer: GSFC/S J BRODEUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12962 **WORCESTER POLYTECHNIC INST**
 STUDENT PROJECTS AT THE GODDARD SPACE FLIGHT CENTER
 03/13/2003 - 06/30/2004 FY03: \$20,000 Total: \$20,000
Prin. Invest.: F J LOOFT
Tech. Officer: GSFC/A SIMPSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 3 673 **WORCESTER POLYTECHNIC INST**
 COMBUSTION CHARACTERISTICS OF FULLY-MODULATED, TURBULENT DIFFUSION FLAMES IN REDUCED GRAVITY
 02/23/1999 - 01/13/2004 FY03: \$0 Total: \$422,842
Prin. Invest.: D C HERMANSON
Tech. Officer: GRC/D P STOCKER
CASE Category: 49 – ENGINEERING, OTHER

MICHIGAN

NAG 5 11817 **ALMA COLLEGE**
 ANALYSIS OF DATA FROM THE ER-2 CLOUD PHYSICS LIDAR SYSTEM YEAR 1 OF 3.
 03/15/2002 - 03/14/2005 FY03: \$0 Total: \$11,700
Prin. Invest.: J H GIBSON
Tech. Officer: GSFC/M J MCGILL
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10348 **CALVIN COLLEGE**
 SIMULATION OF GLOBAL GLACIO-ISOSTASY, EARTH DEFORMATION AND SEA LEVEL CHANGES.
 02/05/2001 - 01/31/2003 FY03: \$0 Total: \$74,067
Prin. Invest.: J A CLARK
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 1 01060 **HOPE COLLEGE**
 THEORETICAL INVESTIGATION OF THERMO-MECHANICAL BEHAVIOR OF CARBON NANOTUBE-BASED COMPOSITES USING
 04/05/2001 - 04/04/2004 FY03: \$35,439 Total: \$122,382
Prin. Invest.: J PAWLOSKE
Tech. Officer: LARC/T S GATES
CASE Category: 47 – METAL & MATERIALS ENGR

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NAG 3 2520 **KETTERING UNIV**
 MODELING FOR UNDERSTANDING HIGH SPECIFIC IMPULSE H ALL THRUSTERS
 01/08/2001 - 09/30/2003 FY03: \$42,476 Total: \$163,050
Prin. Invest.: S ROY
Tech. Officer: GRC/M MANTENIEKS
CASE Category: 13 – PHYSICS

NAG 3 2843 **KETTERING UNIV**
 DETACHED EDDY SIMULATION OF FILM COOLING FLOWS DETACHED EDDY SIMULATION OF FILM COOLING FLOWS
 01/20/2003 - 06/30/2003 FY03: \$6,000 Total: \$6,000
Prin. Invest.: S ROY
Tech. Officer: GRC/J D HEIDMANN
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 01048 **MICHIGAN STATE UNIV**
 PARAMETRIC IDENTIFICATION OF NONLINEAR DYNAMICAL SYSTEMS
 06/06/2001 - 09/30/2002 FY03: \$0 Total: \$34,799
Prin. Invest.: B F FEENY
Tech. Officer: LARC/W A SILVA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02061 **MICHIGAN STATE UNIV**
 PENALTY-BASED INTERFACE TECHNOLOGY FOR PREDICTION OF DELAMINATION GROWTH IN LAMINATED STRUCTURES
 03/01/2002 - 02/29/2004 FY03: \$0 Total: \$31,299
Prin. Invest.: R C AVERILL
Tech. Officer: LARC/C G DAVILA, LARC/J B RANSOM
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2234 **MICHIGAN STATE UNIV**
 DEVELOPMENT AND IMPLEMENTATION OF A GLOBAL BLEED BOUNDARY CONDITION
 03/11/1999 - 01/19/2004 FY03: \$0 Total: \$189,150
Prin. Invest.: T SHIH
Tech. Officer: GRC/D DAVIS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2472 **MICHIGAN STATE UNIV**
 RESEARCHING EPOXY AND POLYIMIDE NANOCOMPOSITES USING NATURAL AND SYNTHETIC CLAYS
 07/07/2000 - 04/08/2004 FY03: \$60,000 Total: \$239,880
Prin. Invest.: T J PINNAVAIA
Tech. Officer: GRC/S G CAMPBELL
CASE Category: 12 – CHEMISTRY

NAG 3 2576 **MICHIGAN STATE UNIV**
 AERODYNAMICS OF AIRFOILS WITH ICE ACCRETION: CFD SIMULATIONS AND TECHNOLOGY ISSUES
 03/26/2001 - 11/30/2004 FY03: \$74,999 Total: \$219,999
Prin. Invest.: T SHIH
Tech. Officer: GRC/Y CHOO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 3218 **MICHIGAN STATE UNIV**
 CCD SYSTEM TECHNOLOGY FOR EXTREMELY LOW BACKGROUND OBSERVATIONS
 04/26/1996 - 09/30/2002 FY03: -\$526 Total: \$496,974
Prin. Invest.: E D LOH
Tech. Officer: GSFC/E CHENG
CASE Category: 13 – PHYSICS

NAG 5 9232 **MICHIGAN STATE UNIV**
 PATTERN TO PROCESS: RESEARCH AND APPLICATIONS FOR UNDERSTANDING MULTIPLE INTERACTIONS & FEEDBACK ON
 04/03/2000 - 04/30/2004 FY03: \$65,701 Total: \$641,675
Prin. Invest.: R WALKER
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9286 **MICHIGAN STATE UNIV**
 GOFD DATA & INFORMATION FOR TROPICAL FOREST ASSESSMENT & MANAGEMENT
 03/16/2000 - 04/30/2004 FY03: \$42,361 Total: \$374,036
Prin. Invest.: J QI
Tech. Officer: HQ/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9563 **MICHIGAN STATE UNIV**
 SOLAR SURFACE CONVECTION
 05/09/2000 - 05/14/2004 FY03: \$0 Total: \$280,954
Prin. Invest.: R F STEIN
Tech. Officer: GSFC/W J WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 10200 **MICHIGAN STATE UNIV**
 ENHANCING PROFESSIONAL DEVELOPMENT OF LANDSCAPE ECOLOGISTS OF THE NEXT GENERATION
 12/21/2000 - 06/30/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: J LIU
Tech. Officer: GSFC/G GUTMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11319 **MICHIGAN STATE UNIV**
 THE FORMATION AND EVOLUTION OF GLOBULAR CLUSTER SYSTEMS AND IMPLICATIONS FOR THE FORMATION HISTORY
 10/23/2001 - 06/30/2005 FY03: \$124,000 Total: \$379,348
Prin. Invest.: S SEPF
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11320 **MICHIGAN STATE UNIV**
 GLOBULAR CLUSTER FORMATION (ATP 99)
 10/23/2001 - 06/30/2004 FY03: \$0 Total: \$241,150
Prin. Invest.: S ZEPF
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11740 **MICHIGAN STATE UNIV**
 GOFD FOREST COVER CHARACTERISTICS AND CHANGES IMPLEMENTATION TEAM MEETING PROPOSAL
 02/13/2002 - 02/14/2003 FY03: \$0 Total: \$7,000
Prin. Invest.: D L SKOLE
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12450 **MICHIGAN STATE UNIV**
 LOCAL SOLAR MAGNETIC FIELDS
 08/20/2002 - 08/14/2005 FY03: \$0 Total: \$52,097
Prin. Invest.: R F STEIN
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NASA'S UNIVERSITY PROGRAM

MICHIGAN

NAG 5 12617 **MICHIGAN STATE UNIV**
SIMULATING THE EFFECTS OF "PLAN COLOMBIA" ON LAND USE AND LAND COVER IN THE ECUADORIAN AMAZON: A COM
09/26/2002 - 09/30/2005 FY03: \$0 Total: \$100,445
Prin. Invest.: J MESSINA
Tech. Officer: GSFC/M WEI
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 12627 **MICHIGAN STATE UNIV**
THE SYNERGISM OF FIRE, FOREST FRAGMENTATION AND SELECTIVE LOGGING IN THE BRAZILIAN AMAZON
10/02/2002 - 09/30/2005 FY03: \$107,201 Total: \$107,201
Prin. Invest.: M COCHRANE
Tech. Officer: GSFC/M WEI
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 12713 **MICHIGAN STATE UNIV**
NASA-MSU PROFESSIONAL ENHANCEMENT AWARDS PROGRAM (2003-2005)
12/30/2002 - 12/31/2005 FY03: \$15,000 Total: \$15,000
Prin. Invest.: J LIU
Tech. Officer: GSFC/G GUTMAN
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 12735 **MICHIGAN STATE UNIV**
RESILIENT NANOSCALE ELECTRONICS FOR SPACE APPLICATIONS
01/15/2003 - 01/14/2004 FY03: \$10,000 Total: \$10,000
Prin. Invest.: V AYRES
Tech. Officer: GSFC/H SHAW
CASE Category: 13 - PHYSICS

NAG 5 12975 **MICHIGAN STATE UNIV**
MULTIWAVELENGTH STUDY OF THE GLOBULAR CLUSTER SYSTEMS OF ELLIPTICALS AND SOCS
03/13/2003 - 03/14/2008 FY03: \$104,054 Total: \$104,054
Prin. Invest.: A KUNDU
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 13075 **MICHIGAN STATE UNIV**
HEI IN AGN: WHERE THE THEORY HITS THE FAN
03/13/2003 - 03/14/2006 FY03: \$50,524 Total: \$50,524
Prin. Invest.: J BALDWIN
Tech. Officer: GSFC/J HAYES
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 8 1575 **MICHIGAN STATE UNIV**
MICROGRAVITY REGULATION OF ONCOGENE EXPRESSION AND OSTEOBLAST DIFFERENTIATION.
02/17/1999 - 11/30/2003 FY03: \$0 Total: \$496,400
Prin. Invest.: L R MCCABE
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 - BIOLOGY (EXCLUDING ENVIR)

NAG 8 1690 **MICHIGAN STATE UNIV**
INVESTIGATION OF SOLIDIFICATION PROCESS WITH CONVECTION USING MESHLESS METHODS & VERIFICATION
05/16/2000 - 11/30/2003 FY03: \$100,011 Total: \$340,072
Prin. Invest.: A BERNARD, M KOCHESFAHANI, A DIAZ
Tech. Officer: MSFC/P DOTY
CASE Category: 47 - METAL & MATERIALS ENGR

NAS 5 02131 **MICHIGAN STATE UNIV**
ENGINEERING SERVICES & SUPPORT RADIATION TESTING
11/06/2002 - 11/06/2007 FY03: \$465,000 Total: \$465,000
Prin. Invest.: T GRIMM
Tech. Officer: GSFC/R REED
CASE Category: 45 - ELECTRICAL ENGR

NCC 2 1274 **MICHIGAN STATE UNIV**
CENTER FOR GENOMIC AND EVOLUTIONARY STUDIES ON MICROBIAL LIFE AT LOW TEMPERATURE
07/20/2001 - 06/30/2006 FY03: \$894,478 Total: \$2,086,898
Prin. Invest.: M THOMASHOW, J TIEDJE, L SEPULVEDA
Tech. Officer: ARC/R GRYMES, ARC/W W DOLCI
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NCC 3 662 **MICHIGAN STATE UNIV**
INVESTIGATION OF DIFFUSION FLAME TIP INSTABILITY IN MICROGRAVITY
01/14/1999 - 04/02/2003 FY03: \$16,789 Total: \$383,862
Prin. Invest.: I S WICHMAN
Tech. Officer: GRC/S OLSON
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NCC 3 868 **MICHIGAN STATE UNIV**
HIGH-TEMPERATURE SHAPE-MEMORY ALLOY DEVELOPMENT FOR ACTUATION ABOVE 500 C
02/28/2001 - 03/31/2004 FY03: \$15,559 Total: \$146,789
Prin. Invest.: D S GRUMMON
Tech. Officer: GRC/M V NATHAL
CASE Category: 47 - METAL & MATERIALS ENGR

NCC 3 1053 **MICHIGAN STATE UNIV**
INVESTIGATION OF DIFFUSION FLAME TIP INSTABILITY IN MICROGRAVITY REV#85174
04/10/2003 - 04/02/2004 FY03: \$123,211 Total: \$123,211
Prin. Invest.: I S WICHMAN
Tech. Officer: GRC/S L OLSON
CASE Category: 49 - ENGINEERING, OTHER

NCC 5 291 **MICHIGAN STATE UNIV**
MEASUREMENT AND MODELING OF THE INTER-ANNUAL DYNAMICS OF DEFORESTATION AND REGROWTH IN THE BRAZIL
06/16/1998 - 12/31/2003 FY03: \$0 Total: \$1,224,163
Prin. Invest.: D SKOLE
Tech. Officer: GSFC/D DEERING
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NCC 5 303 **MICHIGAN STATE UNIV**
CREATIVE & INNOVATIVE WORKING PROTOTYPE EARTH SCIENCE INFORMATION PARTNERSHIPS IN SUPPORT
04/09/1998 - 03/31/2004 FY03: \$578,937 Total: \$5,170,937
Prin. Invest.: D SKOLE
Tech. Officer: GSFC/M MAIDEN
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NCC 5 694 **MICHIGAN STATE UNIV**
A BASIN-SCALE ECONOMETRIC MODEL FOR PROJECTING FUTURE AMAZONIAN LANDSCAPES
01/30/2003 - 01/31/2006 FY03: \$208,646 Total: \$208,646
Prin. Invest.: R T WALKER
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

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NGT 5 30483 **MICHIGAN STATE UNIV**
 EXTRAPLATING PATTERN-PROCESS RELATIONSHIPS OF WILD LIFE
 ACROSS LANDSCAPES STUDENT: EDWARD LAURENT
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J LIU
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50378 **MICHIGAN STATE UNIV**
 ON-LINE LEARNING OF SENSOR-IMAGE STABILIZATION INSPIRED BY THE
 VESTIBULAR SYSTEM OF SQUIRR
 09/17/2001 - 09/14/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: P PIERRE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01004 **MICHIGAN TECHNOLOGICAL UNIV**
 GRAPHITE NANOREINFORCEMENTS FOR AEROSPACE NANO- COMPOS-
 ITES
 11/24/2000 - 09/30/2003 FY03: \$75,257 Total: \$225,104
Prin. Invest.: L DRZAL
Tech. Officer: LARC/J HINKLEY, LARC/T S GATES
CASE Category: 12 – CHEMISTRY

NAG 3 2759 **MICHIGAN TECHNOLOGICAL UNIV**
 NUMERICAL STUDY OF LOW-EMISSION GAS-TURBINE COMBUSTOR
 (PHASE V)
 04/03/2002 - 04/22/2004 FY03: \$85,000 Total: \$165,000
Prin. Invest.: D YANG
Tech. Officer: GRC/P PENKO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 5278 **MICHIGAN TECHNOLOGICAL UNIV**
 OBSERVING AND MEASURING EARLY OPTICAL LIGHT CURVES FROM
 GAMMA-RAY BURSTS WITH LOTIS
 06/21/2000 - 12/31/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: R NEMIROFF
Tech. Officer: WFF/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 7051 **MICHIGAN TECHNOLOGICAL UNIV**
 LAKE SUPERIOR ICE FIELD MEASUREMENTS FOR C-BAND SAR BACK-
 SCATTER SIGNATURES AND ICE COVER AN
 03/12/1998 - 07/31/2002 FY03: \$0 Total: \$144,425
Prin. Invest.: D PILANT
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7576 **MICHIGAN TECHNOLOGICAL UNIV**
 FUNDING FOR 'APPLICATION OF TOMS DATA TO VOLCANIC HAZARD
 MITIGATION' (SENH98-0061)
 08/04/1998 - 07/31/2002 FY03: \$0 Total: \$180,000
Prin. Invest.: G J BLUTH
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8796 **MICHIGAN TECHNOLOGICAL UNIV**
 EARTH AND SPACE SCIENCES PROJECT SERVICES FOR NASA HPCC
 09/21/1999 - 01/31/2003 FY03: \$4,277 Total: \$762,820
Prin. Invest.: D MERKEY
Tech. Officer: GSFC/J R FISCHER
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 10568 **MICHIGAN TECHNOLOGICAL UNIV**
 ICE-SULFUR-ASH INTERACTIONS IN VOLCANIC CLOUDS: LABORATORY
 STUDIES OF ICE NUCLEATION
 03/12/2001 - 03/14/2004 FY03: \$80,707 Total: \$240,791
Prin. Invest.: R SHAW
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11062 **MICHIGAN TECHNOLOGICAL UNIV**
 VALIDATION OF TOMS VOLCANIC AEROSOL & SO2 PRODUCTS USING
 MODIS & AVHRR
 06/27/2001 - 06/30/2004 FY03: \$95,000 Total: \$285,000
Prin. Invest.: G BLUTH
Tech. Officer: GSFC/R MVPETERS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12690 **MICHIGAN TECHNOLOGICAL UNIV**
 "INVESTIGATION OF TOPOGRAPHIC INFLUENCES ON SPACE- TIME SCAL-
 ING OF OROGRAPHIC PRECIPITATION"
 12/09/2002 - 12/14/2004 FY03: \$61,276 Total: \$61,276
Prin. Invest.: D K NYKANEN
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12770 **MICHIGAN TECHNOLOGICAL UNIV**
 DEVELOPMENT OF A MINIATURE L-BAND RADIOMETER FOR EDUCATION
 OUTREACH IN REMOTE SENSING.
 01/17/2003 - 01/31/2004 FY03: \$5,750 Total: \$5,750
Prin. Invest.: D KING
Tech. Officer: GSFC/J PIEPMEIER
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 13385 **MICHIGAN TECHNOLOGICAL UNIV**
 TECHNICAL LEAD FOR EVALUATION ON THE ESTO CT PROJE CT.
 04/17/2003 - 04/30/2005 FY03: \$100,000 Total: \$100,000
Prin. Invest.: P MERKEY
Tech. Officer: GSFC/J FISCHER
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 13783 **MICHIGAN TECHNOLOGICAL UNIV**
 A NEW LONG TERMS RECORD ON VOLCANIC SO2 GENERATED FROM
 HIRS/2 SATELLITE DATA
 09/30/2003 - 09/30/2006 FY03: \$53,000 Total: \$53,000
Prin. Invest.: G BLUTH
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 8 1478 **MICHIGAN TECHNOLOGICAL UNIV**
 R/S GRAVITY INDUCED SETTLING IN INTERCONNECTED LIQUID SOLID
 SYSTEMS
 02/18/1998 - 06/30/2003 FY03: \$0 Total: \$322,833
Prin. Invest.: T H COURTNEY
Tech. Officer: MSFC/C TALLEY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 3 1030 **MICHIGAN TECHNOLOGICAL UNIV**
 OPTICAL PLASMA CHARACTERIZATION OF NEXT-GENERATION ION EN-
 GINES
 01/28/2003 - 12/31/2003 FY03: \$43,365 Total: \$43,365
Prin. Invest.: L B KING
Tech. Officer: GRC/M T DOMONKOS
CASE Category: 13 – PHYSICS

NGT 5 120 **MICHIGAN TECHNOLOGICAL UNIV**
 THE GROUNDING OF COMPOSITE MATERIALS & THE IMPACT ON
 EMC/STUDENT: DERIK C. LOVE
 05/31/2001 - 08/14/2004 FY03: \$39,202 Total: \$85,202
Prin. Invest.: E ROTHWELL
Tech. Officer: GSFC/M S BURRELL
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2792 **OAKLAND UNIV**
 PROTECTION AGAINST UV & X-RAY CATARACTS USING DYNA MIC LIGHT
 SCATTERING AS A MARKER
 07/08/2002 - 06/30/2005 FY03: \$50,000 Total: \$100,000
Prin. Invest.: F GIBLIN
Tech. Officer: GRC/R ANSARI
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 2042 **UNIV OF MICHIGAN - ANN ARBOR**
 TROPOSPHERIC TRACE GAS BUDGETS: INTERACTIONS WITH AEROSOLS
 04/23/1998 - 02/22/2002 FY03: -\$52 Total: \$342,988
Prin. Invest.: J E PENNER
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2181 **UNIV OF MICHIGAN - ANN ARBOR**
 DATA-BASED CLIMATOLOGIES AND STUDY OF THE OZONE BUDGET IN THE
 TROPOPAUSE
 03/31/1999 - 12/31/2003 FY03: \$0 Total: \$62,299
Prin. Invest.: M A CARROLL
Tech. Officer: LARC/G R MADDREA, LARC/L POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01032 **UNIV OF MICHIGAN - ANN ARBOR**
 DESIGN STUDY OF A SYNTHETIC THINNED APERTURE RADIO METER FOR
 HURRICANE IMPACT PREDICTION
 04/05/2001 - 06/30/2002 FY03: -\$1 Total: \$65,000
Prin. Invest.: C S RUF
Tech. Officer: LARC/J W JOHNSON, LARC/R W LAWRENCE
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 03007 **UNIV OF MICHIGAN - ANN ARBOR**
 MOLECULAR TAILORING OF HIGH PERFORMANCE ELECTROACTIVE POLY-
 MERS
 12/11/2002 - 12/10/2003 FY03: \$46,537 Total: \$46,537
Prin. Invest.: P X MA
Tech. Officer: LARC/J SU, LARC/J S HARRISON
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 03029 **UNIV OF MICHIGAN - ANN ARBOR**
 USE OF PZT'S FOR ADAPTIVE CONTROL OF FABRY-PEROT ETALON PLATE
 FIGURE
 03/10/2003 - 09/09/2004 FY03: \$50,118 Total: \$50,118
Prin. Invest.: W R SKINNER, R NICIEJEWSKI
Tech. Officer: LARC/W B COOK
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 03038 **UNIV OF MICHIGAN - ANN ARBOR**
 AEROELASTIC BEHAVIOR OF HIGH ASPECT RATIO COMPOSITE WINGS
 WITH LOCAL TRANSONIC EFFECTS
 04/03/2003 - 03/31/2006 FY03: \$76,034 Total: \$76,034
Prin. Invest.: C E CESNIK
Tech. Officer: LARC/D M SCHUSTER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2082 **UNIV OF MICHIGAN - ANN ARBOR**
 STRATEGY 2000: RECRUITMENT, RETENTION, RECOGNITION; A BALANCED
 APPROACH TO DIVERSITY AND EXCELLENCE
 09/30/1997 - 02/03/2004 FY03: \$76,500 Total: \$385,760
Prin. Invest.: D E SCOTT, J W JONES
Tech. Officer: GRC/A GONZALEZ, GRC/S A MERRITT
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2216 **UNIV OF MICHIGAN - ANN ARBOR**
 USE OF LASER INDUCED FLOURESCENCE TO CHARACTERIZE DISCHARGE
 CATHODE EROSIONS OF AN ION ENGINES
 01/14/1999 - 01/24/2004 FY03: \$40,000 Total: \$200,000
Prin. Invest.: A D GALLIMORE
Tech. Officer: GRC/J S SOVEY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 3 2307 **UNIV OF MICHIGAN - ANN ARBOR**
 DEVELOPMENT OF A TWO-STAGE ION THRUSTER DEVELOPMENT OF A
 TWO-STAGE ION THRUSTER
 12/03/1999 - 12/02/2003 FY03: \$40,000 Total: \$160,000
Prin. Invest.: A D GALLIMORE
Tech. Officer: GRC/R S JANKOVSKY
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2332 **UNIV OF MICHIGAN - ANN ARBOR**
 COMPUTATIONAL MODELING OF THE EFFECT OF SECONDARY FORCES ON
 THE PHASE DISTRIBUTION IN DISPERSED MULT
 02/11/2000 - 11/30/2003 FY03: \$0 Total: \$60,000
Prin. Invest.: G TRYGGVASON
Tech. Officer: GRC/D F CHAO
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2356 **UNIV OF MICHIGAN - ANN ARBOR**
 AGGREGATION AND GELATION IN SUSPENSIONS OF ANISOMETRIC PAR-
 TICLES: STUDIES OF COLLOIDAL PLATELETS AN
 03/15/2000 - 11/30/2003 FY03: \$99,945 Total: \$311,445
Prin. Invest.: M D SOLOMON
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2404 **UNIV OF MICHIGAN - ANN ARBOR**
 LAMINAR SOORT PROCESSES (LSP) LAMINAR SOORT PROCESSES (LSP)
 04/27/2000 - 03/31/2005 FY03: \$239,580 Total: \$660,080
Prin. Invest.: G M FAETH
Tech. Officer: GRC/D URBAN
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2406 **UNIV OF MICHIGAN - ANN ARBOR**
 USING NONLINEARITY AND CONTACT LINES TO CONTROL FLUID FLOW IN
 MICROGRAVITY
 04/27/2000 - 12/31/2003 FY03: \$84,841 Total: \$272,391
Prin. Invest.: M PERLIN
Tech. Officer: GRC/C LEK
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2497 **UNIV OF MICHIGAN - ANN ARBOR**
 MODELING THE PERFORMANCE AND LIFETIME OF ION THRUSTERS
 10/27/2000 - 10/31/2003 FY03: \$35,000 Total: \$85,653
Prin. Invest.: I D BOYD
Tech. Officer: GRC/G SOULAS
CASE Category: 42 – ASTRONAUTICAL ENGR

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NAG 3 2530 UNIV OF MICHIGAN - ANN ARBOR
 LONG TERM RELIABILITY OF HIGH SPEED SIGE/SI HETERO JUNCTON
 BIPOLAR TRANSISTORS
 01/23/2001 - 06/30/2003 FY03: \$0 Total: \$139,886
Prin. Invest.: P BHATTACHARYA
Tech. Officer: GRC/G E PONCHAK
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2604 UNIV OF MICHIGAN - ANN ARBOR
 ADVANCED VIBRATION ANALYSIS TOOLS AND NEW STRATEGI ES FOR
 ROBUST DESIGN OF TURBINE ENGINE ROTORS
 05/23/2001 - 05/31/2004 FY03: \$100,000 Total: \$248,491
Prin. Invest.: C PIERRE
Tech. Officer: GRC/O MEHMED
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2708 UNIV OF MICHIGAN - ANN ARBOR
 MICROFLUIDIC & DIELECTRIC PROCESSING OF DNA MICROFLUIDIC &
 DIELECTRIC PROCESSING OF DNA
 02/13/2002 - 02/04/2006 FY03: \$91,325 Total: \$172,135
Prin. Invest.: R G LARSON
Tech. Officer: GRC/D W GRIFFIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2740 UNIV OF MICHIGAN - ANN ARBOR
 FLUID DYNAMICS & INTERFACIAL STABILITY OF PULMONAR Y AIRWAY
 CLOSURE AND REOPENING IN MICROGRAVITY
 03/12/2002 - 02/12/2006 FY03: \$92,998 Total: \$177,997
Prin. Invest.: J B GROTERBERG
Tech. Officer: GRC/C LEK
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2787 UNIV OF MICHIGAN - ANN ARBOR
 NOVEL BIOMEDICAL DEVICES UTILIZING LIGHT EMITTING NANOSTRUC-
 TURES
 05/31/2002 - 11/15/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: R S GOLDMAN
Tech. Officer: GRC/M SCARDELLETTI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2800 UNIV OF MICHIGAN - ANN ARBOR
 INVESTIGATION OF INLET FLOWS AT HIGH MACH NUMBERS INVESTIGA-
 TION OF INLET FLOWS AT HIGH MACH NUMBERS
 08/12/2002 - 12/31/2003 FY03: \$0 Total: \$37,178
Prin. Invest.: D E GEISTER
Tech. Officer: GRC/A R PORRO
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2818 UNIV OF MICHIGAN - ANN ARBOR
 ELECTRON CYCLOTRON PLASMA SOURCES ELECTRON CYCLOTRON
 PLASMA SOURCES
 11/25/2002 - 07/31/2003 FY03: \$20,000 Total: \$20,000
Prin. Invest.: R M GILGENBACH
Tech. Officer: GRC/V K RAWLIN
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2918 UNIV OF MICHIGAN - ANN ARBOR
 NOVEL BIOMEDICAL DEVICES UTILIZING LIGHTR EMITTING NANOSTRUC-
 TURES
 06/23/2003 - 08/31/2005 FY03: \$25,000 Total: \$25,000
Prin. Invest.: R S GOLDMAN
Tech. Officer: GRC/M C SCARDELLETTI
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 4007 UNIV OF MICHIGAN - ANN ARBOR
 DYNAMICAL VARIATIONS IN THE MESOSPHERE AND LOWER T AND
 INTERANNUAL VARIABILITY
 03/06/1997 - 09/30/2001 FY03: \$0 Total: \$213,729
Prin. Invest.: D D SKINNER
Tech. Officer: GSFC/M M MELLOTT
CASE Category: 13 – PHYSICS

NAG 5 4589 UNIV OF MICHIGAN - ANN ARBOR
 A PROGRAM FOR RESEARCH IN PLANETARY ATMOSPHERES: P COUPLED
 CLOUD PHYSICS
 05/23/1997 - 12/31/2001 FY03: -\$115 Total: \$248,885
Prin. Invest.: P K ATREYA
Tech. Officer: GSFC/R BEEBE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 5030 UNIV OF MICHIGAN - ANN ARBOR
 SOLAR AND MAGNETOSPHERIC INPUTS TO THE MLTI REGION
 03/03/1995 - 03/05/2005 FY03: \$170,000 Total: \$943,474
Prin. Invest.: J KOZYRA
Tech. Officer: GSFC/R PLESS
CASE Category: 13 – PHYSICS

NAG 5 5049 UNIV OF MICHIGAN - ANN ARBOR
 TIDI - A TIMED DOPPLER INTERFEROMETER NEW AWARD
 12/04/1995 - 01/17/2006 FY03: \$689,137 Total: \$3,690,116
Prin. Invest.: T L KILLEN
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5173 UNIV OF MICHIGAN - ANN ARBOR
 STUDY OF AN IMAGING CALORIMETER FOR ACCESS FUNDING FOR FIRST
 YEAR OF GRANT
 03/05/1998 - 03/31/2002 FY03: -\$85 Total: \$254,915
Prin. Invest.: G TARLE
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5230 UNIV OF MICHIGAN - ANN ARBOR
 GRANT NAG5-5230 - HIGH ENERGY ANTIMATTER TELESCOPE (HEAT) PI
 PROF. GREGORY TARLE
 03/16/1999 - 03/11/2003 FY03: \$0 Total: \$672,500
Prin. Invest.: G TARLE
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5281 UNIV OF MICHIGAN - ANN ARBOR
 CONTEMPORANEOUS OPTICAL DETECTION OF GAMMA-RAY BURSTS
 06/14/2000 - 06/07/2004 FY03: \$200,000 Total: \$957,500
Prin. Invest.: C W AKERLOFF
Tech. Officer: WFF/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 8080 UNIV OF MICHIGAN - ANN ARBOR
 STATE-TO-STATE RATE CONSTANTS FOR COMPUTATION OF N ON-LTE
 INFRARED RADIATIVE TRANSFER IN THE M
 01/15/1999 - 08/01/2002 FY03: \$0 Total: \$279,500
Prin. Invest.: D R BARKER
Tech. Officer: GSFC/M MELLOTT
CASE Category: 11 – ASTRONOMY

NAG 5 8238 **UNIV OF MICHIGAN - ANN ARBOR**
 MASSIVE BLACK HOLES AND THE CENTERS OF GALAXIES (LTSA98)
 02/25/1999 - 02/28/2004 FY03: \$116,010 Total: \$377,052
Prin. Invest.: D O RICHSTONE
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8458 **UNIV OF MICHIGAN - ANN ARBOR**
 MODELING OF X-RAY CLUSTERS (ATP 98)
 04/15/1999 - 04/14/2003 FY03: \$0 Total: \$124,000
Prin. Invest.: A E EVRARD
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 8661 **UNIV OF MICHIGAN - ANN ARBOR**
 MOISTURE TRANSPORT AND RADIOBRIGHTNESS MODELS FOR COMPLEX
 VEGETATION
 07/01/1999 - 06/30/2003 FY03: \$0 Total: \$344,137
Prin. Invest.: A W ENGLAND
Tech. Officer: GSFC/P T HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8715 **UNIV OF MICHIGAN - ANN ARBOR**
 DYNAMICS IN THE COMET ENVIRONMENT
 08/03/1999 - 06/30/2003 FY03: \$0 Total: \$70,500
Prin. Invest.: D J SCHEERES
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8845 **UNIV OF MICHIGAN - ANN ARBOR**
 CASSINI-HUYGENS GAS CHROMATOGRAPH MASS SPECTROMETER R SCI-
 ENCE SUPPORT
 10/25/1999 - 10/31/2003 FY03: \$35,000 Total: \$110,000
Prin. Invest.: S K ATREYA
Tech. Officer: GSFC/W T KASPRZAK
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8930 **UNIV OF MICHIGAN - ANN ARBOR**
 SOLID EARTH AND NATURAL HAZARDS RESEARCH AND APPLI CATIONS
 01/13/2000 - 12/31/2003 FY03: \$0 Total: \$225,000
Prin. Invest.: K SARABANDI
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8942 **UNIV OF MICHIGAN - ANN ARBOR**
 THE DISTRIBUTION OF GASES IN THE INNER COMAE OF COMETS
 01/14/2000 - 01/14/2003 FY03: \$0 Total: \$320,000
Prin. Invest.: M R COMBI
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 8946 **UNIV OF MICHIGAN - ANN ARBOR**
 STUDIES OF SOLAR WIND INTERACTION AND IONOSPHERIC PROCESSES
 AT VENUS AND MARS
 01/14/2000 - 03/31/2003 FY03: \$0 Total: \$264,923
Prin. Invest.: A NAGY
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 9406 **UNIV OF MICHIGAN - ANN ARBOR**
 HIGH PERFORMANCE PARALLEL METHODS FOR SPACE WEATHER SIMU-
 LATION
 04/10/2000 - 04/30/2003 FY03: \$0 Total: \$497,000
Prin. Invest.: T GOMBOSI
Tech. Officer: GSFC/J BREDEKAMP
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9464 **UNIV OF MICHIGAN - ANN ARBOR**
 A MASSIVELY PARALLEL PARTICLE CODE FOR RARIFIED IONIZED &
 NEUTRAL GAS FLOWS IN EARTH & PLANETARY
 04/18/2000 - 04/14/2004 FY03: \$0 Total: \$354,400
Prin. Invest.: M COMBI
Tech. Officer: GSFC/J BREDEKAMP
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9980 **UNIV OF MICHIGAN - ANN ARBOR**
 METAL ENRICHMENT MECHANISMS IN ABELL 2199 & ABELL 3571
 09/13/2000 - 09/14/2003 FY03: \$0 Total: \$31,700
Prin. Invest.: J N BREGMAN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9981 **UNIV OF MICHIGAN - ANN ARBOR**
 THE NATURE OF THE X-RAY EMISSION IN SA BULGES
 09/13/2000 - 09/14/2003 FY03: \$0 Total: \$31,600
Prin. Invest.: J N BREGMAN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10138 **UNIV OF MICHIGAN - ANN ARBOR**
 NOZOMI NEUTRAL MASS SPECTROMETER SCIENCE SUPPORT
 12/12/2000 - 12/14/2004 FY03: \$30,000 Total: \$60,000
Prin. Invest.: S K ATREYA
Tech. Officer: GSFC/W T KASPRZAK
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10181 **UNIV OF MICHIGAN - ANN ARBOR**
 NOZOMI NEUTRAL MASS SPECTROMETER SCIENCE SUPPORT - DEVELOP-
 ING UPPER ATMOSPHERIC, EXOSPHERIC MODELS
 01/18/2001 - 01/31/2005 FY03: \$15,000 Total: \$40,000
Prin. Invest.: A F NAGY
Tech. Officer: GSFC/W T KASPRZAK
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10297 **UNIV OF MICHIGAN - ANN ARBOR**
 PHYSICAL RESPONSE OF THE INNER MAGNETOSPHERE TO GE OEFFEC-
 TIVE SOLAR WIND DRIVERS: ENERGY DISSIPATION
 02/15/2001 - 01/31/2002 FY03: -\$79 Total: \$46,921
Prin. Invest.: K KOZYRA
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10336 **UNIV OF MICHIGAN - ANN ARBOR**
 SELF-RELIANT, HIGH RESOLUTION IMAGING USING FORMAT ION FLYING
 SPACECRAFT
 02/07/2001 - 02/14/2004 FY03: \$585,316 Total: \$1,478,067
Prin. Invest.: D HYLAND
Tech. Officer: GSFC/J A LEITNER
CASE Category: 41 – AERONAUTICAL ENGR

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NAG 5 10552 **UNIV OF MICHIGAN - ANN ARBOR**
 ASU/MICHIGAN COLLABORATION: THE ABUNDANCE & ISOTOP IC COMPO-
 SITION OF HG IN EXTRATERRESTRIAL MATERIAL
 03/09/2001 - 03/14/2004 FY03: \$20,000 Total: \$60,000
Prin. Invest.: J BLUM
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10765 **UNIV OF MICHIGAN - ANN ARBOR**
 X-RAY ABSRPTION STUDIES; COOLING FLOWS (LTS-2000)
 04/23/2001 - 04/30/2006 FY03: \$0 Total: \$224,000
Prin. Invest.: J N BREGMAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10806 **UNIV OF MICHIGAN - ANN ARBOR**
 RXTE OBSERVATIONS OF SELECTED BLAZARS - ADP - 99
 04/23/2001 - 04/30/2004 FY03: \$0 Total: \$116,597
Prin. Invest.: J N BREGMAN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10812 **UNIV OF MICHIGAN - ANN ARBOR**
 HIGH RESOLUTION DOPPLER IMAGER - OPERATIONS AND ALGORITHM
 MAINTENANCE.
 05/02/2001 - 02/28/2004 FY03: \$100,000 Total: \$232,500
Prin. Invest.: W R SKINNER
Tech. Officer: GSFC/C H JACKMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10850 **UNIV OF MICHIGAN - ANN ARBOR**
 SUPERPOSED EPOCH ANALYSIS OF RING CURRENT GEO- EFFECTIVE-
 NESS RELATED TO SOLAR WIND & PLASMA SHEET
 05/07/2001 - 05/14/2004 FY03: \$0 Total: \$213,520
Prin. Invest.: M W LIEMOHN
Tech. Officer: GSFC/J F SPANN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10887 **UNIV OF MICHIGAN - ANN ARBOR**
 POLAR/TIDE
 05/07/2001 - 05/14/2004 FY03: \$50,000 Total: \$150,000
Prin. Invest.: A NAGY
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10975 **UNIV OF MICHIGAN - ANN ARBOR**
 A PREDICTIVE MODEL FOR THE MAGNETIC FIELD IN THE HELIOSPHERE
 05/29/2001 - 05/31/2004 FY03: \$77,573 Total: \$220,766
Prin. Invest.: L A FINK
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11000 **UNIV OF MICHIGAN - ANN ARBOR**
 SOLAR WIND STRUCTURE IN THE INNER HELIOSPHERE: RATIONALE FOR
 THE LOCATION OF THE SENTINEL MISSION
 06/06/2001 - 05/31/2004 FY03: \$159,413 Total: \$478,012
Prin. Invest.: T H ZURBUCHEN
Tech. Officer: GSFC/W J WAGNER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11004 **UNIV OF MICHIGAN - ANN ARBOR**
 RESEARCH IN PLANETARY ATMOSPHERES-JUPITER & TITAN
 06/08/2001 - 09/14/2004 FY03: \$93,000 Total: \$183,000
Prin. Invest.: S K ATREYA
Tech. Officer: GSFC/D BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11031 **UNIV OF MICHIGAN - ANN ARBOR**
 INTEGRATED MODELING STUDY OF THE EFFECTS OF MAGNETOSPHERIC
 FORCING ON THE JOVIAN IONOSPHERE-THERMOS
 06/11/2001 - 05/30/2004 FY03: \$92,000 Total: \$182,000
Prin. Invest.: J H WAITE
Tech. Officer: GSFC/D J BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11041 **UNIV OF MICHIGAN - ANN ARBOR**
 MODELING OF COMETARY ATMOSPHERES
 06/12/2001 - 06/14/2004 FY03: \$94,000 Total: \$184,000
Prin. Invest.: T I GOMBOSI
Tech. Officer: GSFC/D J BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 11068 **UNIV OF MICHIGAN - ANN ARBOR**
 DYNAMICAL STUDIES OF THE MIDDLE ATMOSPHERE USING HIGH RESO-
 LUTION DOPPLER IMAGEROBSERVATIONS
 07/09/2001 - 10/14/2003 FY03: \$0 Total: \$162,751
Prin. Invest.: W R SKINNER
Tech. Officer: GSFC/C JACKMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11084 **UNIV OF MICHIGAN - ANN ARBOR**
 MODELING SIBERIAN BOREAL FOREST LAND-COVER CHANGE AND CAR-
 BON UNDER CHANGING ECONOMIC PARADIGMS
 07/20/2001 - 08/14/2004 FY03: \$119,748 Total: \$384,383
Prin. Invest.: K BERGEN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11187 **UNIV OF MICHIGAN - ANN ARBOR**
 MGS MAG/ER DATA ANALYSIS USING A TIME AND MAGNETIC FIELD
 DEPENDENT ELECTRON TRANSPORT MODEL
 08/08/2001 - 08/31/2004 FY03: \$90,000 Total: \$270,000
Prin. Invest.: M C LIEMOHN
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11271 **UNIV OF MICHIGAN - ANN ARBOR**
 DEVELOPING LAND COVER SCENARIOS IN METROPOLITAN AND NON-
 METROPOLITAN MICHIGAN
 08/23/2001 - 08/31/2004 FY03: \$78,882 Total: \$237,733
Prin. Invest.: D BROWN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11275 **UNIV OF MICHIGAN - ANN ARBOR**
 TRACE GAS/AERSOL INTERACTIOS AND GMI MODELING SUPP ORT
 08/22/2001 - 08/31/2004 FY03: \$150,051 Total: \$250,102
Prin. Invest.: J PENNER
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11406 **UNIV OF MICHIGAN - ANN ARBOR**
 VEGETATION CORRECTED SRTM - DERIVED DIGITAL ELEVATION MODELS.
 12/06/2001 - 12/14/2003 FY03: \$40,000 Total: \$80,000
Prin. Invest.: C DOBSON
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11414 **UNIV OF MICHIGAN - ANN ARBOR**
 THE PLANET-B NEUTRAL MASS SPECTROMETER: THERMO- SPHERE-
 IONOSPHERE STUDIES USING THE MTGM.
 01/03/2002 - 10/14/2003 FY03: \$25,000 Total: \$50,000
Prin. Invest.: S W BOUGHER
Tech. Officer: GSFC/W T KASPRZAK
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11448 **UNIV OF MICHIGAN - ANN ARBOR**
 THE SUPERNOVA HEATING RATE IN SPIRAL GALAXIES.
 12/06/2001 - 12/14/2003 FY03: \$0 Total: \$96,200
Prin. Invest.: J N BREGMAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11483 **UNIV OF MICHIGAN - ANN ARBOR**
 THE TRUTH ABOUT COOLING FLOWS IN ELLIPTICAL GALAXIES FUSE 2000
 12/14/2001 - 12/14/2002 FY03: \$0 Total: \$132,200
Prin. Invest.: J N BREGMAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11580 **UNIV OF MICHIGAN - ANN ARBOR**
 THE SURFACE CLIMATE SIGNAL IN THE CONTEXT OF LSP/R ADIOBRIGHT-
 NESS MODEL- BASED ESTIMATES OF LAND ATM
 01/14/2002 - 01/14/2005 FY03: \$260,000 Total: \$470,000
Prin. Invest.: A W ENGLAND
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11609 **UNIV OF MICHIGAN - ANN ARBOR**
 NEXT GENERATION LIGHTWEIGHT RAINFALL RADIOMETER SYNTHETICALLY-
 THINNED APERTURE RADIOMETER (NGLRR)
 01/31/2002 - 01/31/2005 FY03: \$437,729 Total: \$925,547
Prin. Invest.: C RUF
Tech. Officer: GSFC/C PRINCIPE
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 11639 **UNIV OF MICHIGAN - ANN ARBOR**
 DYNAMICS OF THE ASTEROID ENVIRONMENT
 01/22/2002 - 01/31/2005 FY03: \$22,300 Total: \$44,600
Prin. Invest.: D J SCHEERES
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 11674 **UNIV OF MICHIGAN - ANN ARBOR**
 THE STUDY OF BIOMASS EMISSIONS FOR DEFINING RADIATIVE FORCING
 OF CLIMATE
 01/30/2002 - 01/31/2003 FY03: \$0 Total: \$69,300
Prin. Invest.: J PENNER
Tech. Officer: GSFC/M I MISHCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11748 **UNIV OF MICHIGAN - ANN ARBOR**
 WORKSHOP PLANNING PROPOSAL FOR A REGIONAL GOFC WORKSHOP
 GOFC SATELLITE INFORMATION PRODUCTS FOR FO
 02/25/2002 - 02/28/2003 FY03: \$0 Total: \$34,091
Prin. Invest.: K BERGEN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11831 **UNIV OF MICHIGAN - ANN ARBOR**
 OBSERVATIONAL AND THEORETICAL ANALYSIS OF THE MAGNETOSPHERE'S
 DYNAMIC RESPONSE TO SOLAR WIND DRIV
 03/06/2002 - 02/28/2005 FY03: \$175,603 Total: \$272,335
Prin. Invest.: J U KOZYRA
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11905 **UNIV OF MICHIGAN - ANN ARBOR**
 PLANETS FORMATION AMONG THE NEAREST YOUNG STARS
 04/04/2002 - 03/31/2005 FY03: \$45,000 Total: \$90,000
Prin. Invest.: R JAYAWARDHANA
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11973 **UNIV OF MICHIGAN - ANN ARBOR**
 HIGH RESOLUTION X-RAY PROPERTIES OF BL LACS: AN XMM SURVEY
 04/10/2002 - 04/14/2003 FY03: \$0 Total: \$4,660
Prin. Invest.: M F ALLER
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 12040 **UNIV OF MICHIGAN - ANN ARBOR**
 INVESTIGATION OF THE STORM-SUB-STORM RELATIONSHIP USING UV
 IMAGES, GROUND BASE MANAGERMENTS AND
 04/17/2002 - 04/14/2005 FY03: \$93,025 Total: \$182,473
Prin. Invest.: R CLAUER
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12084 **UNIV OF MICHIGAN - ANN ARBOR**
 ANALYSIS AND ARCHIVAL OF HRDI DATA.
 04/24/2002 - 04/30/2005 FY03: \$125,285 Total: \$260,039
Prin. Invest.: W SKINNER
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12146 **UNIV OF MICHIGAN - ANN ARBOR**
 STORM-TIME AND SOLAR CYCLE EFFECTS IN THE HIGH- LATITUDE
 MAGNETOSPHERE-IONOSPHERE COUPLING
 05/14/2002 - 05/14/2004 FY03: \$99,575 Total: \$198,813
Prin. Invest.: V O PAPITASHVILI
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12171 **UNIV OF MICHIGAN - ANN ARBOR**
 COMPLEX ORGANIC AND BIOMARKER ANALYSIS USING TIME OF FLIGHT
 MASS SPECTROMETRY
 05/09/2002 - 05/14/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: J WAITE
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NAG 5 12176 **UNIV OF MICHIGAN - ANN ARBOR**
 TEMPORAL AND SPATIAL DEVELOPMENT OF THE RING CURRENT: MODEL
 IMPROVEMENTS AND VALIDATION ANALYSIS
 05/13/2002 - 05/14/2005 FY03: \$125,976 Total: \$240,948
Prin. Invest.: C CLAEUR
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12415 **UNIV OF MICHIGAN - ANN ARBOR**
 COMETARY HYDROGEN OBSERVATIONS WITH SOHO SWAN
 07/25/2002 - 07/31/2005 FY03: \$0 Total: \$71,673
Prin. Invest.: M R COMBI
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12442 **UNIV OF MICHIGAN - ANN ARBOR**
 MGS RADIO SCIENCE ELECTRON DENSITY PROFILES AND IMPLICATIONS
 FOR THE NEUTRAL ATMOSPHERE
 08/07/2002 - 08/14/2003 FY03: \$0 Total: \$64,500
Prin. Invest.: S W BOUGHER
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12567 **UNIV OF MICHIGAN - ANN ARBOR**
 IMPROVED MARS UPPER ATMOSPHERE CLIMATOLOGY
 09/25/2002 - 03/31/2004 FY03: \$80,000 Total: \$160,000
Prin. Invest.: S BOUGHER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12726 **UNIV OF MICHIGAN - ANN ARBOR**
 "AQUARIUS INSTRUMENT SCIENCE CALIBRATION DURING THE RISK
 REDUCTION PHASE"
 01/08/2003 - 01/14/2004 FY03: \$19,801 Total: \$19,801
Prin. Invest.: C RUF
Tech. Officer: GSFC/C KOBLINSKY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12822 **UNIV OF MICHIGAN - ANN ARBOR**
 STUDIES OF TENUOUS PLANETARY ATMOSPHERES
 01/28/2003 - 01/31/2006 FY03: \$83,308 Total: \$83,308
Prin. Invest.: M R COMBI
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12841 **UNIV OF MICHIGAN - ANN ARBOR**
 CLUSTER COOLING FLOWS (FUSE 01)
 01/28/2003 - 01/31/2004 FY03: \$66,800 Total: \$66,800
Prin. Invest.: J N BREGMAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12893 **UNIV OF MICHIGAN - ANN ARBOR**
 TECHNOLOGY DEVELOPMENT EFFORT FOR HELIOSPHERIC COMPOSI-
 TION INSTRUMENT
 02/24/2003 - 02/28/2008 FY03: \$30,001 Total: \$30,001
Prin. Invest.: T ZURBUCHEN
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12910 **UNIV OF MICHIGAN - ANN ARBOR**
 GEOSTATIONARY/LOW-EARTH ORBITING RADAR IMAGE ACQUISITION
 SYSTEM: A MULTI-STATIC GEO/LEO SAR SATELLITE
 02/13/2003 - 02/29/2004 FY03: \$85,000 Total: \$85,000
Prin. Invest.: K SARABANDI
Tech. Officer: GSFC/W STABNOW
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 13091 **UNIV OF MICHIGAN - ANN ARBOR**
 THE VIRIAL RADIUS OF 2 KEV CLUSTERS
 03/24/2003 - 03/31/2004 FY03: \$8,780 Total: \$8,780
Prin. Invest.: J N BREGMAN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13136 **UNIV OF MICHIGAN - ANN ARBOR**
 X-RAY EMISSION AT THE SUBSTELLAR BOUNDARY: YOUNG BROWN
 DWARFS IN TAURUS-AURIGA
 03/20/2003 - 03/31/2004 FY03: \$7,000 Total: \$7,000
Prin. Invest.: R JAYAWARDHANA
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13137 **UNIV OF MICHIGAN - ANN ARBOR**
 THE DETECTION OF THE MISSING BARYONS
 03/20/2003 - 03/31/2004 FY03: \$50,010 Total: \$50,010
Prin. Invest.: J N BREGMAN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13157 **UNIV OF MICHIGAN - ANN ARBOR**
 GALACTIC WINDS AND INTRAGROUP MEDIUM ENERGETICS
 03/20/2003 - 03/31/2004 FY03: \$43,600 Total: \$43,600
Prin. Invest.: R A DUPKE
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13170 **UNIV OF MICHIGAN - ANN ARBOR**
 GEOSTAR PROTOTYPE DIGITAL PROCESSOR
 03/27/2003 - 03/31/2006 FY03: \$250,000 Total: \$250,000
Prin. Invest.: D S RUF
Tech. Officer: GSFC/J PIEPMEIER
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 13239 **UNIV OF MICHIGAN - ANN ARBOR**
 THE DISTRIBUTION OF GASES IN THE INNER COMAE OF COMETS
 04/10/2003 - 03/31/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: M COMB
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13332 **UNIV OF MICHIGAN - ANN ARBOR**
 STUDIES OF THE SOLAR WIND INTERACTION AND IONOSPHERIC PRO-
 CESSES AT MARS AND VENUS
 04/10/2003 - 04/14/2006 FY03: \$95,000 Total: \$95,000
Prin. Invest.: A NAGY
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13378 **UNIV OF MICHIGAN - ANN ARBOR**
 TOWARD A COMPLETE PHYSICAL MODEL OF GALAXY CLUSTERS
 04/16/2003 - 04/14/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: A EVRARD
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13404 **UNIV OF MICHIGAN - ANN ARBOR**
 MASSIVELY PARALLEL HYBRID MONTE CARLO MODEL FOR PLANETARY ATMOSPHERES.
 04/22/2003 - 04/30/2004 FY03: \$58,868 Total: \$58,868
Prin. Invest.: M R COMBI
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 13552 **UNIV OF MICHIGAN - ANN ARBOR**
 TESTING THE COOLING FLOW-GALACTIC WIND PARADIGM IN EARLY-TYPE GALAXIES
 07/31/2003 - 07/31/2004 FY03: \$47,710 Total: \$47,710
Prin. Invest.: J A IRWIN
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 9 1154 **UNIV OF MICHIGAN - ANN ARBOR**
 IMPACT OF MICROGRAVITY ON DRUG AND NUTRIENT ABSORPTION
 02/03/2000 - 10/31/2003 FY03: \$32,104 Total: \$595,178
Prin. Invest.: G L AMIDON
Tech. Officer: JSC/C LLOYD
CASE Category: 61 - PSYCHOLOGY BIOLOGY

NAG 9 1373 **UNIV OF MICHIGAN - ANN ARBOR**
 AN OPTICAL SURVEY FOR SPACE DEBRIS IN GEOSYNCHRONOUS ORBIT WITH MODEST"
 08/15/2001 - 12/31/2002 FY03: \$0 Total: \$229,381
Prin. Invest.: P O SIETZER
Tech. Officer: JSC/E G STANSBERRY
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 9 1463 **UNIV OF MICHIGAN - ANN ARBOR**
 "AN OPTICAL SURVEY FOR SPACE DEBRIS IN GEOSYNCHRONOUS ORBIT WITH MODEST"
 11/12/2002 - 10/31/2003 FY03: \$128,795 Total: \$128,795
Prin. Invest.: P SEITZER
Tech. Officer: JSC/G STANSBERRY
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG13 99024 **UNIV OF MICHIGAN - ANN ARBOR**
 FOREST STRUCTURE FROM MULTI-SPECTRAL FUSION" SAME
 08/25/1999 - 08/18/2003 FY03: \$0 Total: \$580,313
Prin. Invest.: M DOBSON
Tech. Officer: SSC/R MCKELLIP
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAS 2 02069 **UNIV OF MICHIGAN - ANN ARBOR**
 BIOSENSORS FOR REAL TIME MONITORING OF RADIATION INDUCED BIOLOGIC
 03/28/2002 - 03/27/2005 FY03: \$721,765 Total: \$1,374,025
Prin. Invest.: J R BAKER
Tech. Officer: ARC/J W HINES, ARC/P P FUNG
CASE Category: 56 - MEDICAL

NAS 5 99174 **UNIV OF MICHIGAN - ANN ARBOR**
 PROVIDE SUPPORT, DESIGN, DEVELOPMENT OF THE NGIMS EXPERIMENT FOR THE COMET NUCLEUS TOUR (CONTOUR)
 04/02/1999 - 08/25/2002 FY03: \$0 Total: \$1,990,428
Prin. Invest.: G ARIGNAN
Tech. Officer: GSFC/J RICHARDS
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAS 8 99127 **UNIV OF MICHIGAN - ANN ARBOR**
 R/S ICARUS SATELLITE FOR PROCEEDS
 06/23/1999 - 09/30/2003 FY03: \$0 Total: \$736,279
Prin. Invest.: G E GILCHRIST
Tech. Officer: MSFC/K J WELZYN
CASE Category: 42 - ASTRONAUTICAL ENGR

NAS 8 99128 **UNIV OF MICHIGAN - ANN ARBOR**
 RESEARCH ENTITLED PROCEEDS UMPS PHASE D & E
 07/30/1999 - 09/30/2003 FY03: \$0 Total: \$1,288,505
Prin. Invest.: B GILCHRIST
Tech. Officer: MSFC/J L BALATICE, MSFC/L JOHNSON
CASE Category: 42 - ASTRONAUTICAL ENGR

NCC 1 01050 **UNIV OF MICHIGAN - ANN ARBOR**
 RESPONSE OF STRONGLY ANISOTROPIC LAMINATED PANELS UNDER COMBINED LOADS
 05/08/2001 - 08/31/2002 FY03: \$0 Total: \$50,148
Prin. Invest.: A P WAAS
Tech. Officer: LARC/M P NEMETH
CASE Category: 47 - METAL & MATERIALS ENGR

NCC 1 02045 **UNIV OF MICHIGAN - ANN ARBOR**
 ACTIVE AEROELASTIC INVESTIGATION OF AN ADVANCED ACTIVE TWIST ROTOR SYSTEM
 09/05/2002 - 09/30/2005 FY03: \$109,883 Total: \$220,913
Prin. Invest.: C E CESNIK
Tech. Officer: LARC/M L WILBUR
CASE Category: 41 - AERONAUTICAL ENGR

NCC 1 03013 **UNIV OF MICHIGAN - ANN ARBOR**
 COMPUTATIONAL MODELING PROGRESSIVE FAILURE OF STRONGLY ANISOTROPIC LAMINATED PANELS COMBINED LOAD
 04/01/2003 - 03/31/2006 FY03: \$59,731 Total: \$59,731
Prin. Invest.: A M WAAS
Tech. Officer: LARC/D R AMBUR
CASE Category: 41 - AERONAUTICAL ENGR

NCC 1 03021 **UNIV OF MICHIGAN - ANN ARBOR**
 ENERGY FINITE ELEMENT ANALYSIS COMPUTING HIGH FREQ VIBRATION ALUM TESTBED CYLINDER & CORRELATING DAT
 04/09/2003 - 02/07/2004 FY03: \$70,359 Total: \$70,359
Prin. Invest.: N VLAHOPOULOS
Tech. Officer: LARC/R D BUEHRE, LARC/J KLOS
CASE Category: 41 - AERONAUTICAL ENGR

NCC 2 5442 **UNIV OF MICHIGAN - ANN ARBOR**
 THE EVOLUTION AND DISPERSAL OF PROTOSTELLAR DISKS
 07/11/2001 - 06/30/2003 FY03: \$0 Total: \$28,166
Prin. Invest.: F C ADAMS
Tech. Officer: ARC/D J HOLLENBACH, ARC/K R BELL
CASE Category: 11 - ASTRONOMY

NCC 2 5544 **UNIV OF MICHIGAN - ANN ARBOR**
 THE EVOLUTION AND DISPERSAL OF PROTOSTELLAR DISKS
 07/30/2003 - 06/30/2004 FY03: \$13,332 Total: \$13,332
Prin. Invest.: F C ADAMS
Tech. Officer: ARC/D HOLLENBACH, ARC/Y J PENDLETON
CASE Category: 11 - ASTRONOMY

NCC 3 482 **UNIV OF MICHIGAN - ANN ARBOR**
 RADIANT EXTINCTION OF GASOUS DIFFUSION FLAMES
 06/15/1996 - 12/14/2003 FY03: \$0 Total: \$359,000
Prin. Invest.: A ATREYA
Tech. Officer: GRC/K SACKSTEADER
CASE Category: 13 – PHYSICS

NCC 3 656 **UNIV OF MICHIGAN - ANN ARBOR**
 FLAME VORTEX INTERACTIONS IN MICROGRAVITY TO ASSES S THE
 THEORY OF FLAME STRETCH
 01/12/1999 - 12/03/2002 FY03: \$17,100 Total: \$457,150
Prin. Invest.: J F DRISCOLL
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 661 **UNIV OF MICHIGAN - ANN ARBOR**
 FLOW/SOOT-FORMATION IN NONBOUYANT LAMINAR DIFFUSIO N FLAMES
 01/21/1999 - 12/29/2002 FY03: \$57,058 Total: \$336,920
Prin. Invest.: G M FAETH
Tech. Officer: GRC/K SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 663 **UNIV OF MICHIGAN - ANN ARBOR**
 TURBULENT FLAME PROCESSES VIA VORTEX-RING DIFFUSIO N FLAME
 INTERACTION
 01/15/1999 - 06/30/2003 FY03: \$0 Total: \$327,819
Prin. Invest.: W DAHM
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 790 **UNIV OF MICHIGAN - ANN ARBOR**
 SYSTEM ON A CHIP: ACTIVE COMPONENTS OF THE RF FRO NT END
 04/04/2000 - 12/31/2003 FY03: \$0 Total: \$444,380
Prin. Invest.: L P KATEHI
Tech. Officer: GRC/G E PONCHAK
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 837 **UNIV OF MICHIGAN - ANN ARBOR**
 LOW COST, LOW POWER COMPONENTS FOR TRANSMIT/RECEIV E PHASE
 ARRAY ANTENNAS
 12/20/2000 - 12/31/2001 FY03: \$0 Total: \$226,564
Prin. Invest.: L P KATEHI
Tech. Officer: GRC/G E PONCHAK
CASE Category: 45 – ELECTRICAL ENGR

NCC 5 296 **UNIV OF MICHIGAN - ANN ARBOR**
 RADAR REMOTE SENSING OF LAND-COVER AND BIOMASS IN THE AMAZON
 06/16/1998 - 12/31/2003 FY03: \$0 Total: \$850,440
Prin. Invest.: M C DOBSON
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 614 **UNIV OF MICHIGAN - ANN ARBOR**
 HIGH-PERFORMANCE ADAPTIVE SIMULATION FRAMEWORK FOR SPACE-
 WEATHER MODELING (SWMF)
 03/04/2002 - 03/03/2005 FY03: \$600,000 Total: \$1,200,000
Prin. Invest.: T GOMBOSI
Tech. Officer: GSFC/J FISCHER
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 5 632 **UNIV OF MICHIGAN - ANN ARBOR**
 A HIGH-PERFORMANCE SOFTWARE FRAMEWORK & INTEROPERA BLE
 APPLICATIONS FOR THE RAPID ADVANCEMENT OF EA
 02/27/2002 - 02/28/2005 FY03: \$54,340 Total: \$117,078
Prin. Invest.: Q F STOUT
Tech. Officer: GSFC/A DA SILVA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 2 52257 **UNIV OF MICHIGAN - ANN ARBOR**
 SEARCHING EXTRASOLAR PLANETS USING DIFFERENTIAL PH OTOMETRY
 07/23/1999 - 07/14/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: F C ADAMS
Tech. Officer: ARC/J J LISSAUER
CASE Category: 11 – ASTRONOMY

NGT 2 52269 **UNIV OF MICHIGAN - ANN ARBOR**
 SIMULTANEOUS VIBRATION & BVI NOISE REDUCTION IN RO TORCRAFT
 USING ACTIVIELY CONTROLLED TRAILING-EDGE
 08/11/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: P P FRIEDMAN
Tech. Officer: ARC/W WARBRODT
CASE Category: 41 – AERONAUTICAL ENGR

NGT 3 52348 **UNIV OF MICHIGAN - ANN ARBOR**
 GRADUATE STUDENT RESEARCHERS PROGRAM GRADUATE STUDENT
 RESEARCHERS PROGRAM
 06/15/1999 - 08/31/2003 FY03: \$12,800 Total: \$66,000
Prin. Invest.: A GALLIMORE
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 49 – ENGINEERING, OTHER

NGT 3 52365 **UNIV OF MICHIGAN - ANN ARBOR**
 GRADUATE STUDENT PROGRAM GRADUATE STUDENT PROGRAM
 06/14/2000 - 08/31/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: A ATREYA
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 43 – CHEMICAL ENGR

NGT 3 52372 **UNIV OF MICHIGAN - ANN ARBOR**
 GRADUATE STUDENT RESEARCHER'S PROGRAM GRADUATE STUDENT
 RESEARCHER'S PROGRAM
 04/09/2001 - 06/24/2003 FY03: \$24,000 Total: \$70,000
Prin. Invest.: D PAVLIDIS
Tech. Officer: GRC/D MONTEGANI
CASE Category: 45 – ELECTRICAL ENGR

NGT 3 52377 **UNIV OF MICHIGAN - ANN ARBOR**
 GRADUATE STUDENT RESEARCH
 06/07/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: W J DAHM
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 49 – ENGINEERING, OTHER

NGT 4 52426 **UNIV OF MICHIGAN - ANN ARBOR**
 GRADUATE RESEARCH - AEROELASTICITY AND AEROELASTIC SCALING OF
 HYPersonic VEHICLES
 07/17/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: P FRIEDMAN
Tech. Officer: DFRK/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 4 52438 **UNIV OF MICHIGAN - ANN ARBOR**
GRADUATE STUDENT RESEARCH PROGRAM - AEROTHERMOELASTICITY OF HYPERSONIC VEHICLES
06/30/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P FRIEDMANN
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 124 **UNIV OF MICHIGAN - ANN ARBOR**
DEVELOPMENT AND TESTING OF THE FAST IMAGING PLASMA SPECTROMETER (STUDENT: PATRICK KOEHN)
06/07/2001 - 08/31/2003 FY03: \$0 Total: \$22,000
Prin. Invest.: L A FISK
Tech. Officer: GSFC/M S BURRELL
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 5 135 **UNIV OF MICHIGAN - ANN ARBOR**
PROMPT OPTICAL OBSERVATIONS OF GAMMA-RAY BURSTS WITH ROTSE-III. (STUDENT: ELI RYKOFF)
06/17/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C W AKERLOF
Tech. Officer: GSFC/M S BURRELL
CASE Category: 13 – PHYSICS

NGT 5 159 **UNIV OF MICHIGAN - ANN ARBOR**
INVESTIGATIONS OF PULSAR WIND NEBULAE: A MARRIAGE OF RELATIVISTIC HYDRODYNAMIC SIMULATIONS
09/30/2003 - 09/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P HUGHES
Tech. Officer: GSFC/M BURRELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30359 **UNIV OF MICHIGAN - ANN ARBOR**
COMPUTATIONAL METHODS FOR ADVANCED CLIMATE MODEL PREDICTIONS: A STUDY OF ADOPTIVE GRID TECHNIQUES
08/23/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: J PENNER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30432 **UNIV OF MICHIGAN - ANN ARBOR**
QUANTIFICATION OF FOREST STRUCTURE IN SUPPORT OF TERRESTRIAL CARBON AND ECOSYSTEM (STUDENT: WAYNE)
08/15/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C DOBSON
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30504 **UNIV OF MICHIGAN - ANN ARBOR**
SPATIAL & TEMPORAL PATTERNS OF ERROR IN LAND COVER CHANGE ANALYSES: IDENTIFYING & PROPAGATING
09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D BROWN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40118 **UNIV OF MICHIGAN - ANN ARBOR**
MICHIGAN SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
03/15/2001 - 01/31/2005 FY03: \$526,150 Total: \$1,547,515
Prin. Invest.: A D GALLIMORE
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50349 **UNIV OF MICHIGAN - ANN ARBOR**
DEVELOPMENT OF A NEW SOLID STATE DETECTOR FOR THE STUDY OF SOLAR WIND COMPOSITION/STUDENT: SUSAN LEP
05/08/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: L FISK
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50412 **UNIV OF MICHIGAN - ANN ARBOR**
PLUME STUDIES OF FEEP THRUSTER SYSTEMS - STUDENT NAME: ANTON VANDERWYST
08/07/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: I D BOYD
Tech. Officer: GSFC/K B LANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50432 **UNIV OF MICHIGAN - ANN ARBOR**
CONTROLLING PROTEIN-PROTEIN AND PROTEIN-LIGAND INTERACTIONS WITH ARTIFICIAL ALLOSTERIC REGULATION
04/17/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: A MAPP
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50453 **UNIV OF MICHIGAN - ANN ARBOR**
THEORY, SIMULATION, AND OBSERVATIONS OF SOLAR CORONAL MASS EJECTIONS (STUDENT: BENJAMIN LYNCH)
04/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S ANTIOCHOS
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50458 **UNIV OF MICHIGAN - ANN ARBOR**
CONTROL & IMPLEMENTATION OF SPACECRAFT MANEUVERS IN AN ARBITRARY GRAVITATIONAL POTENTIAL FIELD;
05/03/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D SCHEERES
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50464 **UNIV OF MICHIGAN - ANN ARBOR**
FORMATION FLYING: BASELINE ENGINEERING OF HIGH RESOLUTION TRANSIT TECHNIQUE OBSERVER.
05/02/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D HYLAND
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52864 **UNIV OF MICHIGAN - ANN ARBOR**
IDENTIFICATION OF LONG TERM CHANGE IN SOCIETY AND SETTLEMENT OF THE KHABUR DRAINAGE
07/28/1998 - 12/01/2003 FY03: \$0 Total: \$64,000
Prin. Invest.: H T WRIGHT
Tech. Officer: MSFC/J F DOWDY
CASE Category: 79 – SOCIAL SCIENCE, OTHER

NGT 8 52888 **UNIV OF MICHIGAN - ANN ARBOR**
NUCLEAR THERMAL PROPULSION FOR SPACE EXPLORATION
05/18/2000 - 08/31/2004 FY03: \$24,000 Total: \$92,000
Prin. Invest.: J HOLLOWAY
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 49 – ENGINEERING, OTHER

MICHIGAN

NASA'S UNIVERSITY PROGRAM

NGT 8 52889 **UNIV OF MICHIGAN - ANN ARBOR**
 DEVELOPMENT OF FIELD EMITTER ARRAY OF ELECTRODYNAMIC TETHER
 05/04/2000 - 06/30/2004 FY03: \$24,000 Total: \$92,000
Prin. Invest.: B GILCHRIST
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 45 – ELECTRICAL ENGR

NGT 8 52917 **UNIV OF MICHIGAN - ANN ARBOR**
 DEV THE ELECTRODYNAMIC TETHER PROPULSION CONCEPT BEYOND
 THE PROSEDS MISSION
 04/22/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: B GILCHRIST
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 02105 **WAYNE STATE UNIV**
 FROM ATOMS TO SPACE - WSU PROPOSAL DATED 6/11/02
 07/16/2002 - 12/31/2003 FY03: \$0 Total: \$1,900,000
Prin. Invest.: G W AUNER
Tech. Officer: LARC/R R ANTCLIFF, LARC/T R SUTTER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1279 **WAYNE STATE UNIV**
 DEVELOPMENT OF STRATEGIES & TOOLS FOR ANALYSIS & CONTROL OF
 LARGE AIR TRAFFIC MANAGEMENT SYSTEMS
 01/05/1999 - 12/31/2001 FY03: \$0 Total: \$90,000
Prin. Invest.: F LIN
Tech. Officer: ARC/G MEYER
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1503 **WAYNE STATE UNIV**
 EFFECTS OF MICROGRAVITY ON PREIMPLANTATION MOUSE DEVELOP-
 MENT
 07/12/2001 - 07/14/2004 FY03: \$223,500 Total: \$506,800
Prin. Invest.: D A RAPPOLEE
Tech. Officer: ARC/G C JAHNS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1532 **WAYNE STATE UNIV**
 MULTI AGENT HYBRID CONTROL APPROACH TO AIR TRAFFIC CONTROL
 01/31/2002 - 01/31/2005 FY03: \$20,000 Total: \$50,000
Prin. Invest.: F LIN
Tech. Officer: ARC/G MEYER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2180 **WAYNE STATE UNIV**
 CHARACTERIZATION OF MULTI-JUNCTION SOLAR CELLS CHARACTERIZA-
 TION OF MULTI-JUNCTION SOLAR CELLS
 07/18/1998 - 01/04/2002 FY03: \$0 Total: \$225,000
Prin. Invest.: P WOODYARD
Tech. Officer: GRC/D BRINKER
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2313 **WAYNE STATE UNIV**
 A DESIGN AND ANALYSIS TOOL FOR PULSE DETONATION ENGINES
 12/29/1999 - 09/04/2003 FY03: \$32,893 Total: \$364,277
Prin. Invest.: S YU
Tech. Officer: GRC/P C JORGENSEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2542 **WAYNE STATE UNIV**
 DIRECT CALCULATIONS OF PLUME DYNAMICS AND ACOUSTIC S OF A
 PULSE DETONATION ENGINE BY THE SPACE-TIME
 02/12/2001 - 02/04/2002 FY03: \$0 Total: \$46,999
Prin. Invest.: S YU
Tech. Officer: GRC/P C JORGENSEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2801 **WAYNE STATE UNIV**
 CHARACTERIZATION OF MULTI-JUNCTION SOLAR CELLS IN THE STRATO-
 SPHERE
 08/13/2002 - 10/31/2003 FY03: \$70,000 Total: \$96,000
Prin. Invest.: J R WOODYARD
Tech. Officer: GRC/D B SNYDER
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2817 **WAYNE STATE UNIV**
 DIRECT CALCULATION OF THE MHD EQUATIONS FOR PROPULSION BY
 THE SPACE-TIME CESE METHOD
 11/20/2002 - 11/30/2003 FY03: \$40,000 Total: \$40,000
Prin. Invest.: S YU
Tech. Officer: GRC/I M BLANKSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 9 1183 **WAYNE STATE UNIV**
 DEVELOPMENT OF HUMAN FACTORS ANALYSIS OF ADVANCED 3D VISUALI-
 ZATION FOR TELEPRESENCE
 01/15/2000 - 01/14/2004 FY03: \$0 Total: \$376,273
Prin. Invest.: L ZAMORANO
Tech. Officer: JSC/B WOOLFORD
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1432 **WAYNE STATE UNIV**
 ADVANCED DIAGNOSTIC ULTRASOUND IN MICROGRAVITY
 06/20/2002 - 06/01/2003 FY03: \$0 Total: \$99,397
Prin. Invest.: S A DULCHAVSKY
Tech. Officer: JSC/C GUIDRY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1189 **WAYNE STATE UNIV**
 FROM BIOLOGICAL INFORMATION PROCESSING TO ADAPTABLE ROBOTRY:
 PRINCIPLES, MODELS & BIOMIMETIC DESIGN
 07/14/2000 - 07/14/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: K PETER ZAUNER
Tech. Officer: ARC/S P COLOMBANO, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1318 **WAYNE STATE UNIV**
 HUMAN FACTORS IN INTER ORGANIZATION PROCESSES
 03/07/2002 - 02/29/2004 FY03: \$76,871 Total: \$143,189
Prin. Invest.: A BATTEAU
Tech. Officer: ARC/B KANKI, ARC/M CONNORS
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 3 960 **WAYNE STATE UNIV**
 SIMULATION OF PLUME DYNAMICS OF A PULSE DETONATION ENGINE BY
 THE SPACE-TIME CESE/ METHOD
 05/01/2002 - 09/24/2003 FY03: \$0 Total: \$47,000
Prin. Invest.: S YU
Tech. Officer: GRC/P JORGENSEN
CASE Category: 41 – AERONAUTICAL ENGR

NCC 9 164 WAYNE STATE UNIV
 ADVANCED DIAGNOSTIC ULTRASOUND IN MICROGRAVITY
 05/19/2003 - 05/15/2006 FY03: \$206,000 Total: \$206,000
Prin. Invest.: S DULCHAVSKY
Tech. Officer: JSC/C GUIDRY
CASE Category: 56 – MEDICL

NAG 1 01023 WESTERN MICHIGAN UNIV
 DSMC SIMULATIONS OF LAMINAR FLOW BREAKDOWN ON SPACE TRANS-
 PORT SYSTEMS
 04/02/2001 - 02/28/2004 FY03: \$50,000 Total: \$152,000
Prin. Invest.: W W LIU
Tech. Officer: LARC/J N MOSS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 10448 WESTERN MICHIGAN UNIV
 IMPROVED SIMULATIONS OF ASTROPHYSICAL PLASMAS: COMPUTATION
 OF NEW ATOMIC DATA
 02/20/2001 - 02/29/2004 FY03: \$80,000 Total: \$230,000
Prin. Invest.: T GORCZYCA
Tech. Officer: GSFC/P CRANE
CASE Category: 13 – PHYSICS

NCC 2 1246 WESTERN MICHIGAN UNIV
 FRACTAL & GEOSTATISTICAL METADATA FOR MONITORING GLOBAL
 CHANGE USING REMOTE SENSING IMAGERY
 04/17/2001 - 05/31/2004 FY03: \$98,924 Total: \$316,979
Prin. Invest.: C W EMERSON
Tech. Officer: ARC/J L DUNGAN, ARC/J C COUGHLIN
CASE Category: 22 – COMPUTER SCIENCE

MINNESOTA

NAG 1 02012 BETHEL COLLEGE
 ANALYSIS OF THE ADVANTAGES & LIMITATIONS OF A STATIONARY IMAGING
 FOURIER TRANSFORM SPECTROMETER
 12/05/2001 - 10/31/2002 FY03: \$0 Total: \$17,656
Prin. Invest.: B P BEECKEN
Tech. Officer: LARC/M G MLYNCZAK
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7366 MOORHEAD STATE UNIV
 ELECTROCHEMICAL STUDY OF SILICATE MELT STRUCTURE AND COMPO-
 NENT ACTIVITIES
 05/15/1998 - 05/31/2002 FY03: \$7,000 Total: \$74,800
Prin. Invest.: R O COLSON
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 3 2932 RED LAKE NATION COLLEGE
 NATIVE AMERICAN REMOTE SENSING DISTANCE EDUCATION PROJECT
 (NARSDEP)
 09/12/2003 - 12/31/2003 FY03: \$52,412 Total: \$52,412
Prin. Invest.: R GURNEAU
Tech. Officer: GRC/T M SCOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11287 SAINT CLOUD STATE UNIV
 SEARCH FOR CHEMICAL DIVERSITY IN COMETRAY VOLATILE S
 08/20/2001 - 08/31/2004 FY03: \$0 Total: \$33,600
Prin. Invest.: M WOMACK
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01090 UNIV OF MINNESOTA
 FURTHER DEVELOPMENT & DEPLOYMENT OF NANOMETER AEROSOL SIZE
 ANALYZER (NASA) TO SUPPORT EXCAVATE
 06/15/2001 - 07/12/2002 FY03: -\$1 Total: \$50,000
Prin. Invest.: D Y PUI, D R CHEN
Tech. Officer: LARC/W R COFER, LARC/B E ANDERSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1428 UNIV OF MINNESOTA
 REAL-TIME MOTION PATH PLANNING FOR AUTONOMOUS ROBOTIC CRAFT
 08/04/2000 - 08/31/2003 FY03: \$10,692 Total: \$216,065
Prin. Invest.: Y J ZHAO
Tech. Officer: ARC/M S WHALLEY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1470 UNIV OF MINNESOTA
 COMPREHENSIVE COMPUTER SIMULATION OF AIR TRAFFIC SYSTEM
 04/09/2001 - 03/31/2004 FY03: \$101,147 Total: \$263,701
Prin. Invest.: Y J ZHAO
Tech. Officer: ARC/ISAACSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1474 UNIV OF MINNESOTA
 ATOMIC FORCE MICROSCOPY OF THERMAL INSULATION MATERIALS WITH
 AEROGELS
 04/13/2001 - 06/30/2002 FY03: -\$1,236 Total: \$12,410
Prin. Invest.: J MAPS
Tech. Officer: ARC/L J SALERNO, ARC/S M JOHNSON
CASE Category: 13 – PHYSICS

NAG 3 2435 UNIV OF MINNESOTA
 FEASIBILITY STUDY OF A MICROSCALE PARTICULATE CLASSIFIER (MIPAC)
 05/31/2000 - 12/31/2003 FY03: \$20,000 Total: \$120,000
Prin. Invest.: D H PUI
Tech. Officer: GRC/P S GREENBERG
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2468 UNIV OF MINNESOTA
 DEVELOPMENT OF A LOW-COST, SOFTWARE RECONFIGURABLE LABORA-
 TORY FOR FIRST COURSE ON ELECTRIC DRIVES AND
 06/26/2000 - 08/31/2003 FY03: \$10,000 Total: \$30,000
Prin. Invest.: P MOHAN
Tech. Officer: GRC/B H KENNY
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2600 UNIV OF MINNESOTA
 NEW POLYMER ELECTROLYTE SYSTEMS
 05/01/2001 - 05/31/2004 FY03: \$75,000 Total: \$289,000
Prin. Invest.: W H SMYRL
Tech. Officer: GRC/N H HAGEDORN
CASE Category: 12 – CHEMISTRY

NAG 5 3735 UNIV OF MINNESOTA
 STUDY FOR AN AURORAL MULTI-PROBE SATELLITE MISSION
 03/03/1997 - 02/28/2002 FY03: -\$11,846 Total: \$188,154
Prin. Invest.: D A CATTELL
Tech. Officer: GSFC/R HOWARD
CASE Category: 13 – PHYSICS

MINNESOTA

NASA'S UNIVERSITY PROGRAM

NAG 5 5172 **UNIV OF MINNESOTA**
 A VERY HIGH TIME RESOLUTION ROCKET INVESTIGATION OF IONOSPHERIC PLASMA PHYSICS ASSOCIATED WITH ATMOSPHERE
 03/30/1998 - 03/31/2002 FY03: -\$247 Total: \$556,880
Prin. Invest.: J R WYGANT
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 - PHYSICS

NAG 5 5214 **UNIV OF MINNESOTA**
 PHASE A GRANT STUDY FOR IMEX PROJECT P I - PROF J WYGANT
 10/08/1998 - 10/31/2003 FY03: \$0 Total: \$557,085
Prin. Invest.: J WYGANT
Tech. Officer: GSFC/D PIERCE
CASE Category: 13 - PHYSICS

NAG 5 5392 **UNIV OF MINNESOTA**
 "ANITA: ANTARCTIC IMPULSIVE TRANSIENT ANTENNA" FIRST YEAR OF FIVE YEAR GRANT.
 04/04/2003 - 09/30/2008 FY03: \$54,000 Total: \$54,000
Prin. Invest.: M DUVERNOIS
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 - PHYSICS

NAG 5 7599 **UNIV OF MINNESOTA**
 REGIONAL HYDROLOGIC SIMULATION MODEL TO STUDY AQUIFER-ATMOSPHERE INTERACTIONS ON INTERANNUAL-DECADE
 07/21/1998 - 06/30/2002 FY03: \$0 Total: \$250,000
Prin. Invest.: M PERSON
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 32 - GEOLOGICAL SCIENCE

NAG 5 7715 **UNIV OF MINNESOTA**
 SPATIO-TEMPORAL ORGANIZATION AND SPACE-TIME DOWNSCALING OF TROPICAL RAINFALL
 10/27/1998 - 04/30/2003 FY03: \$0 Total: \$227,819
Prin. Invest.: E FOUFOULA-GEORGI
Tech. Officer: GSFC/O W THIELE
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 5 7906 **UNIV OF MINNESOTA**
 INFRARED IMAGING PHOTOMETRY AND POLARIMETRY OF COMETS
 12/10/1998 - 09/30/2002 FY03: \$0 Total: \$220,944
Prin. Invest.: D J JONES
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 - ASTRONOMY

NAG 5 8205 **UNIV OF MINNESOTA**
 STUDY OF SUBSTORM ASSOCIATED ULF AND VLF WAVES IN THE MAGNETOSPHERE USING SPACECRAFT DATA
 02/08/1999 - 02/14/2004 FY03: \$0 Total: \$167,693
Prin. Invest.: D LIN
Tech. Officer: GSFC/D EVANS
CASE Category: 11 - ASTRONOMY

NAG 5 8869 **UNIV OF MINNESOTA**
 LABORATORY STUDIES OF THE KINETICS OF ATMOSPHERIC REACTIONS OF HALOGENATED ALKOXY RADICALS
 01/10/2000 - 12/31/2003 FY03: \$0 Total: \$344,659
Prin. Invest.: R W CARR
Tech. Officer: GSFC/M KURYLO
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 9146 **UNIV OF MINNESOTA**
 PHASE-A AND BRIDGE PHASE STUDY OF STEREO/WAVES ACCOMMODATION
 03/09/2000 - 12/31/2002 FY03: \$384,288 Total: \$1,586,438
Prin. Invest.: K GOETZ
Tech. Officer: GSFC/M KAISER
CASE Category: 11 - ASTRONOMY

NAG 5 9221 **UNIV OF MINNESOTA**
 QUASARS AS PROBES (LTSA 99)
 03/14/2000 - 05/31/2005 FY03: \$133,164 Total: \$486,694
Prin. Invest.: E SKILLMAN
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 9254 **UNIV OF MINNESOTA**
 THEORETICAL STUDIES OF ALFVEN WAVE INTERACTION WITH THE IONOSPHERE
 03/13/2000 - 04/30/2003 FY03: \$0 Total: \$234,592
Prin. Invest.: R LYSAK
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 - GEOLOGICAL SCIENCE

NAG 5 9312 **UNIV OF MINNESOTA**
 MAPPING & MODELING FOREST CHANGE IN A BOREAL LANDSCAPE
 03/20/2000 - 04/30/2004 FY03: \$36,592 Total: \$349,841
Prin. Invest.: J PASTOR
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 9349 **UNIV OF MINNESOTA**
 BALLOON BORNE OBSERVATIONS OF THE POLARIZATION ANISOTROPY OF THE COSMIC MICROWAVE BACKGROUND RADIATION
 03/28/2000 - 03/31/2003 FY03: \$0 Total: \$431,000
Prin. Invest.: S HANANY
Tech. Officer: GSFC/J FROGEL
CASE Category: 11 - ASTRONOMY

NAG 5 9407 **UNIV OF MINNESOTA**
 ENHANCING & ARCHIVING THE APS CATALOG OF THE POSSIBLE
 04/10/2000 - 04/30/2003 FY03: \$0 Total: \$233,400
Prin. Invest.: R HUMPHREYS
Tech. Officer: GSFC/P HUNTER
CASE Category: 11 - ASTRONOMY

NAG 5 10178 **UNIV OF MINNESOTA**
 CONTINUED ANALYSIS OF ISTP WIND/WAVES DATA
 01/18/2001 - 02/29/2004 FY03: \$19,717 Total: \$191,433
Prin. Invest.: K GOETZ
Tech. Officer: GSFC/M L KAISER
CASE Category: 11 - ASTRONOMY

NAG 5 10274 **UNIV OF MINNESOTA**
 DATA ANALYSIS OF THE UNIV. MINNESOTA PORTION OF THE URAP EXPERIMENT ON THE ULYSSES SPACECRAFT
 01/16/2001 - 12/31/2003 FY03: \$47,500 Total: \$187,524
Prin. Invest.: P J KELLOGG
Tech. Officer: GSFC/R J MACDOWALL
CASE Category: 13 - PHYSICS

NAG 5 10509 **UNIV OF MINNESOTA**
 RHEOLOGY OF PLANETARY MATERIALS: IMPLICATIONS FOR TECTONICS
 OF TERRESTRIAL PLANETS
 03/01/2001 - 03/31/2004 FY03: \$84,900 Total: \$256,000
Prin. Invest.: D L KOHLSTEDT
Tech. Officer: GSFC/D SENKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10569 **UNIV OF MINNESOTA**
 SPATIAL VARIABILITY IN LAND-ATMOSPHERE INTERACTION COUPLING A
 NEW GENERATION LARGE-EDDY SIMULATION
 03/12/2001 - 03/14/2004 FY03: \$0 Total: \$179,678
Prin. Invest.: F PORTE-AGEL
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10774 **UNIV OF MINNESOTA**
 SELF-CONSISTENT EVOLUTION OF COSMIC-RAY SHOCKS (ATP 2000)
 04/24/2001 - 04/30/2004 FY03: \$86,124 Total: \$236,340
Prin. Invest.: T W JONES
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11124 **UNIV OF MINNESOTA**
 DETERMINING THE IMPORTANCE OF ENERGY TRANSFER BETWEEN MAG-
 NETOSPHERIC REGIONS VIA MHD WAVES USING
 07/19/2001 - 07/14/2004 FY03: \$181,094 Total: \$547,188
Prin. Invest.: C A CATTELL
Tech. Officer: GSFC/J SPANN
CASE Category: 11 – ASTRONOMY

NAG 5 11130 **UNIV OF MINNESOTA**
 LAND USE, CARBON AND WATER IN THE UPLANDS OF SOUTH EASTER
 NORTH AMERICA
 08/02/2001 - 07/14/2004 FY03: \$99,389 Total: \$318,755
Prin. Invest.: P BOLSTAD
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11262 **UNIV OF MINNESOTA**
 DEVELOPMENT OF ENVIRONMENTAL INDICATORS FOR THE US GREAT
 LAKES USING REMOTE SENSING TECHNOLOGY
 08/27/2001 - 08/31/2005 FY03: \$225,000 Total: \$375,000
Prin. Invest.: G NIEMI
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11723 **UNIV OF MINNESOTA**
 EVOLUTIONARY HISTORIES OF NOBLE GASES AND OTHER VOLATILES IN
 SOLAR-SYSTEM MATERIALS
 02/11/2002 - 03/14/2005 FY03: \$180,000 Total: \$360,000
Prin. Invest.: R O PEPIN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11801 **UNIV OF MINNESOTA**
 "PARAMETERIZATION OF REGIONAL SCALE FLUXES: INTEGRATING FIELD
 AND LABORATORY MEASUREMENTS WITH LARG
 03/07/2002 - 03/31/2005 FY03: \$90,000 Total: \$190,000
Prin. Invest.: F FORTE-AGEL
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11856 **UNIV OF MINNESOTA**
 STUDY OF WAVE MODE CONVERSION AT THE MAGNETOPAUSE USING
 SPACECRAFT AND GROUND DATA
 03/08/2002 - 03/14/2004 FY03: \$0 Total: \$30,000
Prin. Invest.: N LIN
Tech. Officer: GSFC/J SHARBER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11868 **UNIV OF MINNESOTA**
 THEORETICAL STUDIES OF ULF WAVES IN THE MAGNETOSPHERE
 03/18/2002 - 04/30/2005 FY03: \$108,803 Total: \$213,430
Prin. Invest.: R L LYSAK
Tech. Officer: GSFC/J SHARBER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11971 **UNIV OF MINNESOTA**
 A SPECTRUM OF IV&V MODELING TECHNIQUES
 04/05/2002 - 11/14/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: M HEIMDAHL
Tech. Officer: GSFC/K MCGILL
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12716 **UNIV OF MINNESOTA**
 LABORATORY STUDIES OF THE KINETICS OF ATMOSPHERIC REACTIONS
 OF HALOGENATED ALKOXY RADICALS
 12/30/2002 - 12/31/2003 FY03: \$114,805 Total: \$114,805
Prin. Invest.: R W CARR
Tech. Officer: GSFC/M KURYLO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12718 **UNIV OF MINNESOTA**
 MAXIPOL - BALLOON BORNE OBSERVATIONS OF THE POLARIZATION
 ANISOTROPY OF THE COSMIC MICROWAVE BACKGROUND
 12/30/2002 - 12/31/2005 FY03: \$420,000 Total: \$420,000
Prin. Invest.: S HANANY
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12761 **UNIV OF MINNESOTA**
 EFFECT OF SOLAR ILLUMINATION & SOLAR CYCLE ON AURORAL PRO-
 CESSSES & SOLAR WIND COUPLING
 01/21/2003 - 01/14/2006 FY03: \$95,000 Total: \$95,000
Prin. Invest.: C CATTELL
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12765 **UNIV OF MINNESOTA**
 AN EXPERIMENTAL INVESTIGATION INTO THE STRUCTURE AND DYNAM-
 ICS OF ELECTROMAGNETIC ENERGY FLOW
 01/17/2003 - 01/14/2006 FY03: \$95,000 Total: \$95,000
Prin. Invest.: J WYGANT
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13072 **UNIV OF MINNESOTA**
 THEORETICAL STUDIES OF ALFVEN WAVE INTERACTION WITH THE
 IONOSPHERE
 03/13/2003 - 04/30/2006 FY03: \$102,005 Total: \$102,005
Prin. Invest.: R LYSAK
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

MINNESOTA

NASA'S UNIVERSITY PROGRAM

NAG 5 13488 **UNIV OF MINNESOTA**
 STRUCTURE AND DYNAMICS OF THE NEAR-EARTH LARGE SCALE ELECTRIC FIELD DURING MAJOR GEOMAGNETIC STORMS
 05/09/2003 - 04/30/2006 FY03: \$120,269 Total: \$120,269
Prin. Invest.: J WYGANT
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13639 **UNIV OF MINNESOTA**
 VALIDATION AND BLENDING OF MULTI-SENSOR RAINFALL PRODUCTS: STUDY OF THE INTERPLAY OF CLIMATE AND RAINFALL
 09/30/2003 - 09/14/2006 FY03: \$90,000 Total: \$90,000
Prin. Invest.: E GEORGIU
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 8 1474 **UNIV OF MINNESOTA**
 THEORETICAL ANALYSIS OF 3D TRANSIENT CONVECTION AND SEGREGATION
 02/06/1998 - 01/31/2003 FY03: \$0 Total: \$510,249
Prin. Invest.: J J DERBY, A J YECKEL
Tech. Officer: MSFC/C TALLEY
CASE Category: 13 – PHYSICS

NAG 8 1676 **UNIV OF MINNESOTA**
 FIRST PRINCIPLES CALCULATIONS OF MOLTEN II-IV COMPOUNDS AND THEIR SOLIDIFICATION BEHAVIOR
 05/01/2000 - 11/30/2003 FY03: \$120,000 Total: \$389,500
Prin. Invest.: J J DERBY, J R CHELIKOWSKY
Tech. Officer: MSFC/P M DOTY
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 9 1007 **UNIV OF MINNESOTA**
 GENESIS DISCOVERY MISSION
 05/06/1998 - 04/30/2004 FY03: \$90,000 Total: \$667,323
Prin. Invest.: R O PEPIN
Tech. Officer: JSC/E K STANSBERRY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1218 **UNIV OF MINNESOTA**
 LIQUID COOLING GARMENT FOR SPACE SUIT
 03/03/2000 - 01/31/2003 FY03: \$0 Total: \$475,404
Prin. Invest.: V KOSCHHEYER
Tech. Officer: JSC/R TREVINO
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1521 **UNIV OF MINNESOTA**
 FINGER CALORIMETER TO INDICATE GENERAL THERMAL STATUS OF ASTRONAUTS ONBOARD & DURING EVA
 05/22/2003 - 04/30/2006 FY03: \$136,000 Total: \$136,000
Prin. Invest.: V S KOSHCHEYEV
Tech. Officer: JSC/R C TREVINO
CASE Category: 61 – PSYCHOLOGY BIOLOGY

NAG13 99002 **UNIV OF MINNESOTA**
 THE UPPER MIDWEST REGIONAL EARTH SCIENCE APPLICATION CENTER
 02/03/1999 - 02/02/2003 FY03: -\$1 Total: \$1,499,999
Prin. Invest.: M E BAUER
Tech. Officer: SSC/C HILL
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG13 99022 **UNIV OF MINNESOTA**
 INTEGRATING SATELLITE REMOTE SENSING INTO FOREST INVENTORY AND MANAGEMENT
 08/13/1999 - 10/31/2003 FY03: \$0 Total: \$580,000
Prin. Invest.: M BAUER
Tech. Officer: SSC/R MCKELLIP
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 03076 **UNIV OF MINNESOTA**
 STEREO WAVES INVESTIGATION FOR STEREO PHASE C/D
 12/19/2002 - 12/31/2006 FY03: \$1,274,700 Total: \$1,274,700
Prin. Invest.: K GOETZ
Tech. Officer: GSFC/L REICHTHAL
CASE Category: 13 – PHYSICS

NCC 1 337 **UNIV OF MINNESOTA**
 APPLICATION OF LINEAR PARAMETER-VARYING TECHNIQUES TO SAFETY-CRITICAL AIRCRAFT FLIGHT SYSTEMS
 07/20/1999 - 07/14/2003 FY03: \$0 Total: \$705,014
Prin. Invest.: G J BALAS
Tech. Officer: LARC/C M BELCASTRO, LARC/N M BELCASTRO
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 03028 **UNIV OF MINNESOTA**
 APPLICATION OF LINEAR PARAMETER-VARYING TECHNIQUES TO SAFETY-CRITICAL AIRCRAFT FLIGHT SYSTEMS PHASE I
 05/09/2003 - 05/08/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: G J BALAS
Tech. Officer: LARC/C BELCASTRO, LARC/C M BELCASTRO
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1231 **UNIV OF MINNESOTA**
 DISCOVERY OF CHANGES FROM THE GLOBAL CARBON CYCLE & CLIMATE SYSTEM USING DATA MINING
 03/28/2001 - 02/29/2004 FY03: \$191,892 Total: \$459,091
Prin. Invest.: V KUMAR
Tech. Officer: ARC/C S POTTER, ARC/J COUGHLAN
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1240 **UNIV OF MINNESOTA**
 INTELLIGENT SPECIFICATION-CENTERED TEST-CASE GENERATION REVIEW IDENTIFIER
 04/04/2001 - 02/29/2004 FY03: \$112,164 Total: \$308,201
Prin. Invest.: M HEIMDAHL
Tech. Officer: ARC/R MORRIS
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1335 **UNIV OF MINNESOTA**
 TEST CASE GENERATION USING AN EXPLICIT STATE MODEL CHECKER
 04/16/2002 - 10/14/2002 FY03: \$0 Total: \$38,643
Prin. Invest.: M HEIMDAHL
Tech. Officer: ARC/M LOWRY, ARC/S LAN
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1409 **UNIV OF MINNESOTA**
 DEVELOPMENT OF AEROSHELL TECHNOLOGIES FOR AEROCAPTURE MISSIONS TO THE OUTER PLANETS TASKS 4.4B AND 4.4C
 06/18/2003 - 05/31/2006 FY03: \$110,000 Total: \$110,000
Prin. Invest.: G V CANDLER
Tech. Officer: ARC/B LAUB, ARC/D A KONTINOS
CASE Category: 13 – PHYSICS

NCC 2 5393 **UNIV OF MINNESOTA**
 ADVANCED MODELS FOR HIGH ENTHALPY FLOW SIMULATIONS
 08/14/2000 - 09/14/2002 FY03: \$0 Total: \$113,572
Prin. Invest.: G V CANDLER
Tech. Officer: ARC/J OLEJNICZAK
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 652 **UNIV OF MINNESOTA**
 MEASUREMENTS IN A TRANSITIONAL BOUNDARY LAYER UNDER LOW-PRESSURE TURBINE AIRFOIL CONDITIONS
 11/10/1998 - 12/31/2003 FY03: \$0 Total: \$251,242
Prin. Invest.: T W SIMON
Tech. Officer: GRC/D E ASHPIS
CASE Category: 46 – MECHANICAL ENGR

NCC 3 811 **UNIV OF MINNESOTA**
 ULTRA-COMPACT, SOFT-SWITCHING POWER SUPPLIES WITH HIGH EFFICIENCY FOR ELECTRIC PROPULSION
 07/13/2000 - 06/14/2003 FY03: \$0 Total: \$128,342
Prin. Invest.: N MOHAN
Tech. Officer: GRC/R M BUTTON
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 857 **UNIV OF MINNESOTA**
 ULTRA COMPACT SOFT SWITCHING POWER SUPPLIES WITH HIGH EFFICIENCY FOR ELECTRIC PROPULSION
 01/26/2001 - 01/14/2004 FY03: \$32,611 Total: \$381,816
Prin. Invest.: N MOHAN
Tech. Officer: GRC/T T PETERSON
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 993 **UNIV OF MINNESOTA**
 GREAT LAKES-NORTHERN FOREST COOPERATIVE ECOSYSTEM STUDIES UNIT
 02/10/2003 - 02/03/2004 FY03: \$10,000 Total: \$10,000
Prin. Invest.: D H ANDERSON
Tech. Officer: GRC/M J BLOTZER
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NCC 5 316 **UNIV OF MINNESOTA**
 INSTALIZING MTPE DATA FOR LAND & ENVIRONMENTAL MANAGEMENT
 04/11/1998 - 02/28/2004 FY03: \$54,131 Total: \$881,131
Prin. Invest.: T BURK
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 102 **UNIV OF MINNESOTA**
 SPECTROSCOPIC VARIABILITY IN ETA CARINAE (STUDENT: NATHAN SMITH)
 05/25/2000 - 06/30/2002 FY03: \$0 Total: \$44,000
Prin. Invest.: K DAVIDSON
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 11 – ASTRONOMY

NGT 5 30494 **UNIV OF MINNESOTA**
 MULTI-SOURCE FOREST INVENTORY
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M BAUER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40086 **UNIV OF MINNESOTA**
 MINNESOTA SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 02/16/2001 - 02/28/2005 FY03: \$560,679 Total: \$1,761,810
Prin. Invest.: W L GARRARD
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50293 **UNIV OF MINNESOTA**
 A PARTICLE SIMULATION STUDY OF SOLITARY WAVES IN THE MAGNETOSPHERE/STUDENT: JAMES CRUMLEY
 06/26/2000 - 06/30/2003 FY03: \$0 Total: \$56,000
Prin. Invest.: R LYSAK
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50344 **UNIV OF MINNESOTA**
 MAXIPOL: MEASURING THE POLARIZATION ANISOTROPY OF THE COSMIC MICROWAVE BACKGROUND/STUDENT: BRADLEY
 05/14/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S HANAY
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50346 **UNIV OF MINNESOTA**
 A MULTIWAVELENGTH STUDY OF THE INTERSTELLAR MEDIUM OF LOW-METALLICITY/STUDENT: JOHN CANNON
 05/07/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: E SKILLMAN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12653 **UNIV OF MINNESOTA-DULUTH**
 TERRESTRIAL PLANET EVOLUTION
 11/18/2002 - 05/14/2004 FY03: \$135,571 Total: \$135,571
Prin. Invest.: V L HANSEN
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 12909 **UNIV OF MINNESOTA-DULUTH**
 "MULTISENSOR STUDIES OF PRECIPITATION FOR MODEL VERIFICATION AND DATA ASSIMILATION
 02/11/2003 - 02/14/2006 FY03: \$62,627 Total: \$62,627
Prin. Invest.: E FOUFOULA
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13432 **UNIV OF MINNESOTA-DULUTH**
 TECTONIC EVOLUTION OF PLANETARY SURFACES
 04/22/2003 - 07/31/2006 FY03: \$40,000 Total: \$40,000
Prin. Invest.: V HANSEN
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01054 **WINONA STATE UNIV**
 ACCELERATED TESTING OF POLYMERIC COMPOSITES: CORRELATION OF SCALE-UP EFFECTS ON VISCOELASTIC
 03/30/2001 - 12/31/2003 FY03: \$0 Total: \$123,457
Prin. Invest.: B ABDEL-MAGID
Tech. Officer: LARC/T S GATES
CASE Category: 47 – METAL & MATERIALS ENGR

MISSISSIPPI

NAG 2 1485 **JACKSON STATE UNIV**
 NETWORK VISUALIZATION IN THREE-DIMENSIONS (NETVIZ)
 05/22/2001 - 05/14/2002 FY03: \$0 Total: \$35,000
Prin. Invest.: Q MALLUHI
Tech. Officer: ARC/B A BIEGEL
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2277 **JACKSON STATE UNIV**
 INTELLIGENT INTERFACE TO THE NUMERICAL SIMULATORS (IINS) OF THE
 AEROSPACE TRANSPORTATION ENGINES.
 07/22/1999 - 07/31/2002 FY03: \$0 Total: \$105,847
Prin. Invest.: D MITRA
Tech. Officer: GRC/D F NOGA
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1867 **JACKSON STATE UNIV**
 NON-CONTRACT PRECISION ACTUATION AND STRUCTURAL CONTROL
 USING OPTO-MECHANICAL ACTUATORS
 06/25/2002 - 06/25/2005 FY03: \$98,143 Total: \$197,817
Prin. Invest.: H R SHIH, F A OKOJIE
Tech. Officer: MSFC/W LOVE, MSFC/E ORDONEZ
CASE Category: 41 – AERONAUTICAL ENGRN

NAG13 02056 **JACKSON STATE UNIV**
 SCIENCE AND TECHNOLOGY ENHANCEMENT PRE-COLLEGE PRO GRAM
 09/19/2002 - 09/18/2005 FY03: \$0 Total: \$99,885
Prin. Invest.: A K MOHAMED
Tech. Officer: SSC/R P TRAVIS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 99012 **JACKSON STATE UNIV**
 STUDIES OF OCEAN-ATMOSPHERIC INTERACTIONS AND ASSOCIATED
 TROPICAL CYCLONES/HURRICANES OF GULF ME
 03/17/1999 - 03/16/2003 FY03: -\$4,862 Total: \$295,138
Prin. Invest.: R REDDY
Tech. Officer: JSC/R MILLER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG13 99013 **JACKSON STATE UNIV**
 SATELLITE ANALYSIS OF GULF COAST ATMOSPHERE MOSITURE AND
 TROPOSHERIC AEROSOLS
 03/24/1999 - 12/31/2002 FY03: -\$30,928 Total: \$269,060
Prin. Invest.: P CROFT
Tech. Officer: JSC/J JENNER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 1296 **JACKSON STATE UNIV**
 NETWORK STORAGE MANAGEMENT IN THE DATA GRID ENVIRO NMENT
 11/20/2001 - 11/14/2003 FY03: \$75,000 Total: \$222,000
Prin. Invest.: Q MALLUHI
Tech. Officer: ARC/B A BIEGEL
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5398 **JACKSON STATE UNIV**
 COMPUTATIONAL STUDY ON EVOLUTION OF LIFE: INVESTI GATION OF
 NON-CLASICAL BASE 5-AZACYTOSINE & ITS D
 09/21/2000 - 09/30/2002 FY03: \$0 Total: \$14,000
Prin. Invest.: J LESZCZYNSKI
Tech. Officer: ARC/A POHORILLE, ARC/M FONDA
CASE Category: 12 – CHEMISTRY

NCC 5 667 **JACKSON STATE UNIV**
 SCIENCE AND MATHEMATICS INITIATIVE FOR LEARNING EN HANCEMENT
 08/22/2002 - 08/31/2005 FY03: \$27,382 Total: \$206,351
Prin. Invest.: C CRAIG
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 02099 **MISSISSIPPI STATE UNIV**
 INVESTIGATION INTO SENSITIVITY ANALYSIS AND RELIABILITY BASED
 DESIGN OPTIMIZATION OF COMPOSITE CIRCU
 05/23/2002 - 05/22/2003 FY03: \$0 Total: \$24,989
Prin. Invest.: M RAIS-ROHANI
Tech. Officer: LARC/D J BAKER, LARC/D R AMBUR
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 3 1699 **MISSISSIPPI STATE UNIV**
 COMPUTATIONAL FLUID DYNAMICS OF ROTATING MACHINERY USING
 TRUBO
 01/23/1995 - 12/31/2002 FY03: \$0 Total: \$679,998
Prin. Invest.: J M JANUS, D WHITFIELD, T M SWAFFORD
Tech. Officer: GRC/D L HUFF
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 3 2562 **MISSISSIPPI STATE UNIV**
 ICEWING - A MESH GENERATION SYSTEM FOR COMPLEX THR EE-
 DIMENSIONAL ICED WING CONFIGURATIONS
 03/05/2001 - 04/22/2003 FY03: \$0 Total: \$126,087
Prin. Invest.: D THOMPSON
Tech. Officer: GRC/Y K CHOO
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 3 2829 **MISSISSIPPI STATE UNIV**
 UNSTRUCTURED UNSTEADY FLOW SOLVER APPLICABLE TO MS U TURBO
 AND COMPUTATIONAL DESIGN
 12/06/2002 - 09/21/2003 FY03: \$80,000 Total: \$80,000
Prin. Invest.: J C NEWMAN
Tech. Officer: GRC/E R MCFARLAND
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2862 **MISSISSIPPI STATE UNIV**
 IMPROVED ICE ACCRETION PREDICTION USING A CFD BASED APPROACH
 03/27/2003 - 03/16/2006 FY03: \$70,000 Total: \$70,000
Prin. Invest.: D THOMPSON
Tech. Officer: GRC/M G POTAPCZUK
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 3 2892 **MISSISSIPPI STATE UNIV**
 DETACHED EDDY SIMULATIONS OF SEPARATED FLOW AROUND WINGS
 WITH ICE ACCRETIONS
 05/20/2003 - 11/30/2003 FY03: \$55,000 Total: \$55,000
Prin. Invest.: D THOMPSON
Tech. Officer: GRC/Y K CHOO
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 5 11127 **MISSISSIPPI STATE UNIV**
 DELTA AREA SCIENCE & TECHNOLOGY ACADEMY
 07/26/2001 - 07/14/2004 FY03: \$0 Total: \$70,000
Prin. Invest.: B JOINER
Tech. Officer: GSFC/M MATHEWS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1566 **MISSISSIPPI STATE UNIV**
 NOVEL APPROACHES REGARDING PROTEIN SOLUBILITY
 02/23/1999 - 11/30/2003 FY03: \$0 Total: \$459,550
Prin. Invest.: W W WILSON, A ASONOV
Tech. Officer: MSFC/B V GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1837 **MISSISSIPPI STATE UNIV**
 HIGH THROUGHPUT SCREEN OF PROTEIN-PROTEIN INTER- ACTIONS BY
 MICROCHIP SPACE
 08/22/2001 - 11/30/2004 FY03: \$100,000 Total: \$332,000
Prin. Invest.: W W WILSON
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1883 **MISSISSIPPI STATE UNIV**
 FRACTURE ANALYSIS OF SEMI-ELLIPTICAL SURFACE CRACK S IN DUCTILE
 MATERIALS
 08/23/2002 - 08/23/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: S R DANIEWICZ, J C NEWMAN
Tech. Officer: MSFC/W GREGG
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1930 **MISSISSIPPI STATE UNIV**
 4200013050 RESEARCH: "LOCI-CHEM UPDATES AND EXTENSIONS"
 07/14/2003 - 07/14/2004 FY03: \$250,000 Total: \$250,000
Prin. Invest.: E A LUKE, T GEORGE, P CINNELLA
Tech. Officer: MSFC/R W WILLIAMS, MSFC/F CANABAL
CASE Category: 49 – ENGINEERING, OTHER

NAG13 99018 **MISSISSIPPI STATE UNIV**
 LEAF AREA AND VOLUME ESTIMATES IN LOBLOLLY PINE FOREST DERIVED
 FROM AERIAL IMAGING LIDAR
 07/30/1999 - 11/01/2002 FY03: -\$2,219 Total: \$276,742
Prin. Invest.: S ROBERTS
Tech. Officer: SSC/R MCKELLIP
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 3 00181 **MISSISSIPPI STATE UNIV**
 MODIFICATION OF TURBO SOFTWARE
 09/29/2000 - 10/01/2005 FY03: \$334,000 Total: \$962,005
Prin. Invest.: J CHEN, D L WHITEFIELD, R BRILEY
Tech. Officer: GRC/E MCFARLAND, GRC/D VAN ZANTE
CASE Category: 41 – AERONAUTICAL ENGR

NAS13 98033 **MISSISSIPPI STATE UNIV**
 IDQ R&D FOR NASA AND RESIDENT AGENCIES
 03/23/1998 - 03/22/2003 FY03: \$1,197,560 Total: \$18,366,871
Prin. Invest.: L RITCHIE, BULLINGTON, D WIESENBERG
Tech. Officer: SSC/D POWE
CASE Category: 33 – OCEANOGRAPHY

NCC13 99001 **MISSISSIPPI STATE UNIV**
 ROLE OF LAND-GRANT UNIV IN APPLICATIONS OF REMOTE SENSING
 02/19/1999 - 03/21/2005 FY03: \$4,000,000 Total: \$20,500,000
Prin. Invest.: D SHAW, N M COX
Tech. Officer: SSC/R MCKELLIP
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 99003 **MISSISSIPPI VALLEY STATE UNIV.**
 IMPROVING TEACHERS AND STUDENTS ACHIEVEMENT IN MATHEMATICS
 AND SCIENCE
 02/17/1999 - 08/17/2002 FY03: -\$53,961 Total: \$537,542
Prin. Invest.: S J WHITE
Tech. Officer: SSC/N S SULLIVAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 99026 **MISSISSIPPI VALLEY STATE UNIV.**
 RESPONSE OF SOYBEAN LEAF & CANOPY SPECTRAL REFLECT ANCE TO
 CHELATE ASSISTED LEAD JUTPEXTRACTOPM
 09/01/1999 - 09/27/2002 FY03: -\$32,625 Total: \$167,295
Prin. Invest.: R BAHUR
Tech. Officer: JSC/R TRAVIS
CASE Category: 55 – AGRICULTURE

NCC 5 665 **MISSISSIPPI VALLEY STATE UNIV.**
 DEVELOPING AND IMPROVING TEACHER EDUCATION IN MATH EMATICS,
 SCIENCE, AND TECHNOLOGY
 08/22/2002 - 08/31/2005 FY03: \$0 Total: \$199,884
Prin. Invest.: O CATHEY
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS13 03029 **UNIV OF MISSISSIPPI - MEDICAL CENTER**
 ACQUISITION OF SERVICES FOR ERROR ENTITLED "PUBLIC HEALTH
 APPLICATIONSTECH REQUIREMENTS"
 04/30/2003 - 09/30/2004 FY03: \$149,963 Total: \$149,963
Prin. Invest.: F FARUQUE
Tech. Officer: SSC/T VANN
CASE Category: 56 – MEDICL

NAG13 00036 **UNIV OF MISSISSIPPI - UNIV**
 THE UNIV OF MS REMOTE SENSING AND SPACE LAW CENTER OF
 EXCELLENCE
 04/06/2000 - 04/05/2004 FY03: \$500,000 Total: \$1,999,986
Prin. Invest.: J GABRYNOWICZ, R MCLAUGHLIN, R RYCHLAK
Tech. Officer: SSC/M MICK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 00037 **UNIV OF MISSISSIPPI - UNIV**
 THE UNIV OF MISSISSIPPI GEOINFORMATICS CENTER
 05/08/2000 - 09/30/2002 FY03: \$0 Total: \$1,826,459
Prin. Invest.: G EASSON
Tech. Officer: SSC/N SOVIK
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG13 01004 **UNIV OF MISSISSIPPI - UNIV**
 NEW GRANT AWARD GEOSPATIAL INFORMATION TECHNOLOGY EDUCA-
 TION:
 07/12/2001 - 07/02/2006 FY03: \$3,000,000 Total: \$6,000,000
Prin. Invest.: J JOHNSON, P LAWHEAD
Tech. Officer: SSC/D P POWE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG13 02052 **UNIV OF MISSISSIPPI - UNIV**
 UNIV OF MISSISSIPPI GEOINFORMATICS CENTER (UMGS)
 08/23/2002 - 09/30/2005 FY03: \$0 Total: \$2,000,000
Prin. Invest.: G EASSON
Tech. Officer: SSC/T VANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

MISSOURI

NASA'S UNIVERSITY PROGRAM

NAG13 03012 **UNIV OF MISSISSIPPI - UNIV**
 FUNDS TO SUPPORT THE UNIV OF MISSISSIPPI TO DO MSC I RESEARCH
 04/04/2003 - 09/30/2004 FY03: \$100,000 Total: \$100,000
Prin. Invest.: R C BUCHANNON
Tech. Officer: JSC/M W MICK
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG13 01005 **UNIV OF SOUTHERN MISSISSIPPI**
 A PROPOSAL TO DEVELOP AND OPERATE A COASTAL ZONE APPLICATIONS
 CENTER/ADVANCED GIS/REMOTE SENSING
 07/30/2001 - 06/30/2004 FY03: \$0 Total: \$2,993,400
Prin. Invest.: W HAWKINS
Tech. Officer: SSC/M THOMAS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 574 **UNIV OF MISSISSIPPI - UNIV**
 MISSISSIPPI NASA EPSCOR PROGRAM
 09/26/2001 - 07/31/2004 FY03: \$139,276 Total: \$397,276
Prin. Invest.: P SUKANEK
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 03014 **UNIV OF SOUTHERN MISSISSIPPI**
 "CONTINUING OPERATIONS IN COASTAL ZONE APPLICATION OF REMOTE
 SENSING
 06/13/2003 - 06/30/2005 FY03: \$3,000,000 Total: \$3,000,000
Prin. Invest.: W HAWKINS
Tech. Officer: SSC/C HALL
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 40098 **UNIV OF MISSISSIPPI - UNIV**
 MISSISSIPPI SPACE GRANT COLLEGE AND FELLOWSHIP PRO GRAM
 02/28/2001 - 02/28/2005 FY03: \$362,000 Total: \$1,232,794
Prin. Invest.: P SUKANEK
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS13 03035 **UNIV OF SOUTHERN MISSISSIPPI**
 CO-DIRECTION FOR THE NASA FACULTY FELLOWSHIP PROGRAM FOR 2003
 05/12/2003 - 02/11/2004 FY03: \$220,000 Total: \$220,000
Prin. Invest.: J E MILLER
Tech. Officer: SSC/R TRAVIS, SSC/B BRADLEY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9770 **UNIV OF SOUTHERN MISSISSIPPI**
 OPTICAL ASSESSMENT OF BIOGEOCHEMICAL PROPERTIES IN COASTAL
 WATERS WITH APPLICATION TO MULTI-SPECTRAL
 07/12/2000 - 01/31/2002 FY03: \$0 Total: \$58,216
Prin. Invest.: S E LOHRENZ
Tech. Officer: GSFC/J MARRA
CASE Category: 33 – OCEANOGRAPHY

MISSOURI

NAG 1 02027 **SAINT LOUIS UNIV**
 TRANSITION-SENSITIZED TURBULENCE MODELS FOR COMPRESSIBLE
 AND INCOMPRESSIBLE FLOW
 12/18/2001 - 12/31/2002 FY03: -\$1 Total: \$45,000
Prin. Invest.: W D THACKER
Tech. Officer: LARC/T B GATSKI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 10668 **UNIV OF SOUTHERN MISSISSIPPI**
 EXPLORING THE RELATIONSHIP BETWEEN SIZE AND CATALYTIC CAPAC-
 ITY OF RNA CATALYSTS
 03/21/2001 - 03/31/2004 FY03: \$174,900 Total: \$510,500
Prin. Invest.: F HUANG
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 3 2642 **SAINT LOUIS UNIV**
 INVESTIGATION OF THERMAL PROCESSING ON THE PROPERTIES OF
 PS305, A SOLID LUBRICANT COATING
 08/02/2001 - 06/16/2002 FY03: \$0 Total: \$31,007
Prin. Invest.: P A BENOY
Tech. Officer: GRC/C DELLACORTE
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1466 **UNIV OF SOUTHERN MISSISSIPPI**
 FRONTAL POLYMERIZATION IN MICROGRAVITY
 02/10/1998 - 12/31/2002 FY03: \$0 Total: \$735,520
Prin. Invest.: J A POJMAN
Tech. Officer: MSFC/W S SPEARMAN
CASE Category: 13 – PHYSICS

NCC 1 01003 **SAINT LOUIS UNIV**
 FORMULATION OF A TRANSITION-SENSITIZED TURBULENCE MODEL
 12/19/2000 - 12/31/2001 FY03: \$0 Total: \$35,000
Prin. Invest.: W D THACKER
Tech. Officer: LARC/T B GATSKI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1684 **UNIV OF SOUTHERN MISSISSIPPI**
 "PHASE SEPARATION AND SELF-ASSEMBLY OF LIQUID CRYSTALS AND
 POLYMER DISPERSIONS"
 06/05/2000 - 11/30/2003 FY03: \$90,000 Total: \$305,500
Prin. Invest.: J WHITEHEAD
Tech. Officer: MSFC/P DOTY
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 12645 **SOUTHEAST MISSOURI STATE UNIV**
 MISSOURI NASA EDUCATOR RESOURCE CENTER SUPPORT PROJECT
 10/22/2002 - 09/30/2005 FY03: \$485,000 Total: \$485,000
Prin. Invest.: E L KERN
Tech. Officer: GSFC/L BILBROUGH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1858 **UNIV OF SOUTHERN MISSISSIPPI**
 FRONTAL POLYMERIZATION IN MICROGRAVITY RESEARCH
 02/22/2002 - 09/30/2004 FY03: \$321,000 Total: \$579,000
Prin. Invest.: J A POJMAN
Tech. Officer: MSFC/M BODIFORD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 1 01037 **UNIV OF MISSOURI - COLUMBIA**
 DESIGN & EXPERIMENTAL VERIFICATION OF DEPLOYABLE/ INFLATABLE
 ULTRA-LIGHTWEIGHT STRUCTURES
 06/08/2001 - 05/31/2004 FY03: \$80,400 Total: \$240,521
Prin. Invest.: P PAI
Tech. Officer: LARC/W K BELVIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1372 **UNIV OF MISSOURI - COLUMBIA**
 SIGNALING OF MUSCLE ATROPHY WITH UNLOADING
 08/17/1999 - 08/31/2003 FY03: \$0 Total: \$472,833
Prin. Invest.: F W BOOTH
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1611 **UNIV OF MISSOURI - COLUMBIA**
 COMPARATIVE STUDY OF MORPHOGENESIS IN 1G AND SIMULATED
 MICROGRAVITY
 01/02/2003 - 12/31/2003 FY03: \$74,999 Total: \$74,999
Prin. Invest.: G FORGACS
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2670 **UNIV OF MISSOURI - COLUMBIA**
 INTERPLANETARY TRAJECTORY OPTIMIZATION PROGRAM FOR ELECTRIC
 PROPULSION SPACECRAFT
 12/03/2001 - 02/05/2004 FY03: \$30,517 Total: \$63,790
Prin. Invest.: C KLUEVER
Tech. Officer: GRC/S OLESON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2946 **UNIV OF MISSOURI - COLUMBIA**
 MISSION DESIGN USING DYNAMIC PROGRAMMING AND DIRECT OPTIMI-
 ZATION
 09/30/2003 - 08/31/2004 FY03: \$99,618 Total: \$99,618
Prin. Invest.: C KLUEVER
Tech. Officer: GRC/L P GEFERT
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 4607 **UNIV OF MISSOURI - COLUMBIA**
 VESTIBULAR ONTOGENY, ADAPTATION, AND THE EFFECTS OF LOADING IN
 THE RAT
 05/19/1997 - 11/14/2001 FY03: \$0 Total: \$296,020
Prin. Invest.: T A JONES
Tech. Officer: GSFC/M AVERNER
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 5 8344 **UNIV OF MISSOURI - COLUMBIA**
 BAYESIAN HIERARCHICAL AIR-SEA INTERACTION MODELING : DEVELOP-
 MENT AND APPLICATION IN THE LABR
 04/13/1999 - 05/31/2002 FY03: \$0 Total: \$51,413
Prin. Invest.: C K WIKLE
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTALSCI, OTHER

NAG 5 9145 **UNIV OF MISSOURI - COLUMBIA**
 ANDEAN MOUNTAIN BUILDING: AN INTEGRATED TOPOGRAPHY GPS, SEIS-
 MOLOGICAL AND NUMERICAL STUDY
 03/07/2000 - 03/14/2004 FY03: \$0 Total: \$150,000
Prin. Invest.: M LIU
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9555 **UNIV OF MISSOURI - COLUMBIA**
 EVOLUTION OF THE RIBOZYME RNASE P RNA BY TRANSCRIPTIONAL
 05/04/2000 - 04/30/2003 FY03: \$0 Total: \$353,040
Prin. Invest.: F SCHMIDT
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10720 **UNIV OF MISSOURI - COLUMBIA**
 MOBILE WIRELESS ACCESS TO LOW RESOLUTION PICTURE TAKING (LRPT)
 NOAA WEATHER IMAGES
 05/03/2001 - 05/14/2004 FY03: \$0 Total: \$60,000
Prin. Invest.: C CHEN
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11081 **UNIV OF MISSOURI - COLUMBIA**
 20-YEAR ELEVATION CHANGE OF THE SOUTHERN GREENLAND ICE SHEET
 FROM SATELLITE RADAR ALTIMETRY
 07/10/2001 - 06/30/2003 FY03: \$0 Total: \$88,977
Prin. Invest.: C DAVIS
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12284 **UNIV OF MISSOURI - COLUMBIA**
 AWARD OF FUNDS FOR MULTI-USE SCIENTIFIC EQUIPMENT
 06/12/2002 - 05/31/2004 FY03: \$1,341,000 Total: \$3,341,000
Prin. Invest.: G CHIPENDALE
Tech. Officer: GSFC/L CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12300 **UNIV OF MISSOURI - COLUMBIA**
 HUMAN HEALTH FROM EARTH TO SPACE: A NASA-MU PARTNERSHIP FOR
 UNDERSTANDING SEX DIFFERENCES
 06/20/2002 - 06/30/2003 FY03: \$26,514 Total: \$3,326,514
Prin. Invest.: M HAY
Tech. Officer: GSFC/L CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12482 **UNIV OF MISSOURI - COLUMBIA**
 TECHNOLOGY ASSESSMENT AND READINESS CRITIQUES FOR THE APPLI-
 CATIONS PROGRAM INVESTMENT PORTFOLIO
 08/26/2002 - 08/31/2005 FY03: \$0 Total: \$149,995
Prin. Invest.: V KAUP
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12675 **UNIV OF MISSOURI - COLUMBIA**
 LARGE DUST SHELLS AROUND EVOLVED STARS (ADP 2001)
 03/15/2003 - 01/31/2004 FY03: \$14,943 Total: \$14,943
Prin. Invest.: A SPECK
Tech. Officer: GSFC/R J OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 13099 **UNIV OF MISSOURI - COLUMBIA**
 ASTROMINERALOGY: DUST AROUND EVOLVED STARS IN THE MAGELLANIC
 CLOUDS; THE EFFECT OF DENSITY, CHEMISTRY
 03/17/2003 - 03/14/2005 FY03: \$50,090 Total: \$50,090
Prin. Invest.: A SPECK
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13776 **UNIV OF MISSOURI - COLUMBIA**
 ELEVATION CHANGE OF THE ANTARCTIC ICE SHEET FROM SATELLITE
 RADAR ALTIMETRY
 09/29/2003 - 09/30/2006 FY03: \$95,220 Total: \$95,220
Prin. Invest.: C DAVIS
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

MISSOURI

NASA'S UNIVERSITY PROGRAM

NAG 8 1937 **UNIV OF MISSOURI - COLUMBIA**
 4200005711 ENERGY MANAGEMENT AND ALNDING GUIDANCE FOR AN
 UNPOWERED LIFTING VEHICLE
 04/01/2003 - 05/31/2004 FY03: \$69,491 Total: \$69,491
Prin. Invest.: C KLUEVER
Tech. Officer: MSFC/J MULQUEEN
CASE Category: 45 – ELECTRICAL ENGR

NAG 9 1210 **UNIV OF MISSOURI - COLUMBIA**
 DESIGN & THERMAL CONTROL OF ADVANCED SPACE SUITS
 03/24/2000 - 03/31/2003 FY03: \$0 Total: \$99,999
Prin. Invest.: S NAIR, J B MILES
Tech. Officer: JSC/C H LIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1230 **UNIV OF MISSOURI - COLUMBIA**
 CONSTRUCT THE LIFE SCIENCES CENTER
 09/29/2000 - 08/31/2005 FY03: \$0 Total: \$27,767,000
Prin. Invest.: G M CHIPPENDALE
Tech. Officer: JSC/R P KEHOE, JSC/P CAMPBELL
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 5 723 **UNIV OF MISSOURI - COLUMBIA**
 LIBRATION POINT MISSION FORMATION CONTROL
 04/22/2003 - 04/30/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: S BALAKRISHNAN
Tech. Officer: GSFC/R LUQUETTE
CASE Category: 42 – AERONAUTICAL ENGR

NGT 1 01017 **UNIV OF MISSOURI - COLUMBIA**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) (PREVIOUS
 GRANT NO. NGT-1-52239)
 05/25/2001 - 06/30/2002 FY03: -\$1,319 Total: \$20,681
Prin. Invest.: O VASILYEV
Tech. Officer: LARC/T B GATSKI
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 50444 **UNIV OF MISSOURI - COLUMBIA**
 MODELING AND CONTROL OF BIOSYSTEMS (STUDENT: ANTHO NY IYOHO)
 05/05/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S NAIR
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52914 **UNIV OF MISSOURI - COLUMBIA**
 ROBUST GUIDANCE SCHEMES FOR THE LANDING PHASE OF A REYSABKE
 KAYBCG VEHICLE
 05/30/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C KLUEVER
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NGT13 52747 **UNIV OF MISSOURI - COLUMBIA**
 REMOTE SENSING INFO. PRODUCTS FROM HIGH RESOLUTION SATELLITE
 IMAGERY FOR LOCAL GOV. APP:S
 06/08/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: A K SHACKLEFORD
Tech. Officer: SSC/B DAVIS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01050 **UNIV OF MISSOURI - ROLLA**
 MODELING OF INTERACTION BETW PERMEABILITY & DAMAGE IN PMC
 LAMINATES FOR THE NASA RLV
 04/05/2001 - 04/04/2004 FY03: \$0 Total: \$81,286
Prin. Invest.: S ROY
Tech. Officer: LARC/T S GATES
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 01122 **UNIV OF MISSOURI - ROLLA**
 HIGH-SPEED PROPULSION SYSTEM MODELING AND ANALYSIS
 08/29/2001 - 08/28/2004 FY03: \$61,074 Total: \$121,075
Prin. Invest.: D W RIGGINS
Tech. Officer: LARC/C R MCCLINTON, LARC/S H STACK
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02094 **UNIV OF MISSOURI - ROLLA**
 DEPOSITION OF PIEZOELECTRIC FILMS ON THIN POLYMERIC SUBSTRATES
 05/02/2002 - 12/31/2002 FY03: \$0 Total: \$29,480
Prin. Invest.: R W SCHWARTZ
Tech. Officer: LARC/Q A SHAMS
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2608 **UNIV OF MISSOURI - ROLLA**
 SECOND-LAW BASED PERFORMED OF AEROSPACE TURBOSHAFT
 ENIGNES & ENGINE COMPONENTS
 05/11/2001 - 06/30/2002 FY03: \$0 Total: \$59,999
Prin. Invest.: D W RIGGINS
Tech. Officer: GRC/D THURMAN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2718 **UNIV OF MISSOURI - ROLLA**
 TURBOFAN NOISE PROPAGATION AND RADIATION AT HIGH F FREQUENCIES
 02/22/2002 - 09/30/2003 FY03: \$69,101 Total: \$136,052
Prin. Invest.: W EVERS MAN
Tech. Officer: GRC/D KOCH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12244 **UNIV OF MISSOURI - ROLLA**
 SEX, SPACE AND ENVIRONMENTAL ADAPTATION: A NATIONA L WORKSHOP
 TO DEFINE RESEARCH PRIORITIES REGARDI
 05/30/2002 - 05/31/2003 FY03: \$0 Total: \$99,486
Prin. Invest.: M HAY
Tech. Officer: GSFC/L CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12589 **UNIV OF MISSOURI - ROLLA**
 DESIGN AND TEST OF A TETHERED PAIR OF SATELLITES: EQUIPMENT
 REQUIREMENTS
 09/19/2002 - 11/14/2002 FY03: \$132 Total: \$19,712
Prin. Invest.: H J PERNICKA
Tech. Officer: GSFC/J A LEITNER
CASE Category: 42 – AERONAUTICAL ENGR

NAG 8 1465 **UNIV OF MISSOURI - ROLLA**
 KINETICS OF NUCLEATION AND CRYSTAL GROWTH IN GLASS FORMING
 METALS IN MICROGRAVITY
 02/10/1998 - 02/14/2004 FY03: \$150,000 Total: \$936,880
Prin. Invest.: D E DAY, C S RAY
Tech. Officer: MSFC/M PURVEY
CASE Category: 13 – PHYSICS

NAG 8 1805 **UNIV OF MISSOURI - ROLLA**
 ROBUST ADAPTIVE CRITIC BASED NEUROCONTROLLERS FOR REUSABLE
 LAUNCH VEHICLES
 07/25/2001 - 07/31/2002 FY03: \$0 Total: \$34,999
Prin. Invest.: S N BALAKRISHNAN
Tech. Officer: MSFC/D KRUPP, MSFC/C HALL
CASE Category: 46 – MECHANICAL ENGR

NAG 8 1907 **UNIV OF MISSOURI - ROLLA**
 420006689 MICROWAVE TECHNIQUES FOR NONDESTRUCTIVE EVALUA-
 TION OF EXTERNAL TANK INSULATION
 03/11/2003 - 09/30/2003 FY03: \$30,000 Total: \$30,000
Prin. Invest.: R ZOUGHU
Tech. Officer: MSFC/F L HEPBURN
CASE Category: 45 – ELECTRICAL ENGR

NCC 2 1380 **UNIV OF MISSOURI - ROLLA**
 A FUNCTION BASED MODELING APPROACH TO FAILURE ANALYSIS IN
 DESIGN
 12/23/2002 - 12/31/2005 FY03: \$75,989 Total: \$75,989
Prin. Invest.: R STONE
Tech. Officer: ARC/I TURNER, ARC/A PATTERSON-HINE
CASE Category: 46 – MECHANICAL ENGR

NCC 2 1430 **UNIV OF MISSOURI - ROLLA**
 VARIATIONAL MODELS FOR THE SIMULATION OF FAULT DETECTION
 SIGNALS WITH EXPERIMENTAL VALIDATION
 09/23/2003 - 09/14/2006 FY03: \$24,289 Total: \$24,289
Prin. Invest.: D MCADAMS
Tech. Officer: ARC/I TUMER, ARC/A PATTERSON-HINE
CASE Category: 46 – MECHANICAL ENGR

NCC 2 5419 **UNIV OF MISSOURI - ROLLA**
 ADAPTIVE CRITIC BASED RECONFIGURABLE CONTROLLER
 02/14/2001 - 01/31/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: S N BALAKRISHNAN
Tech. Officer: GSFC/J J TOTAH
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5423 **UNIV OF MISSOURI - ROLLA**
 AN ANALYTICAL METHOD FOR DESIGN & MANUFACTURING TO CAPTURE
 POTENTIAL FAILURE MODES IN HIGH RISK AE
 02/26/2001 - 02/28/2003 FY03: \$0 Total: \$102,388
Prin. Invest.: R B STONE
Tech. Officer: ARC/I Y TUMER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5490 **UNIV OF MISSOURI - ROLLA**
 PREDICTING AND SIMULATING MONITORED FAILURE SIGNALS: COMPU-
 TATION AND EXPERIMENTATION
 05/21/2002 - 11/30/2003 FY03: \$67,803 Total: \$94,303
Prin. Invest.: D A MCADAMS
Tech. Officer: ARC/I Y TUMER, ARC/S LAU
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 1064 **UNIV OF MISSOURI - ROLLA**
 REDOX-TUNABLE FLUORESCENCE FROM NEAR UV TO THE NEAR IR
 05/20/2003 - 04/30/2004 FY03: \$41,144 Total: \$41,144
Prin. Invest.: C SOTIRIOU-LEVENTIS
Tech. Officer: GRC/M A MEADOR
CASE Category: 12 – CHEMISTRY

NCC 3 1084 **UNIV OF MISSOURI - ROLLA**
 UNIV OF MISSOURI CENTER OF EXCELLENCE FOR AEROSPACE PARTICU-
 LATE EMISSIONS REDUCTION RESEARCH
 07/22/2003 - 06/30/2004 FY03: \$2,700,302 Total: \$2,700,302
Prin. Invest.: P D WHITEFIELD
Tech. Officer: GRC/C C WEY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 1 03011 **UNIV OF MISSOURI - ROLLA**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 04/24/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D W RIGGINS, T M TAYLOR
Tech. Officer: LARC/C MCCLINTON
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 146 **UNIV OF MISSOURI - ROLLA**
 MODELING AND OPTIMIZATION OF DISTRIBUTED SPACE SYSTEM FORMA-
 TIONS NEAR LIBRATION POINTS
 08/13/2003 - 08/14/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: H J PERNICKA
Tech. Officer: GSFC/M S BURRELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40112 **UNIV OF MISSOURI - ROLLA**
 MISSOURI SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 03/06/2001 - 02/28/2005 FY03: \$253,250 Total: \$738,120
Prin. Invest.: F FINIASH
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52916 **UNIV OF MISSOURI - ROLLA**
 ROBUST NONLINEAR GUIDANCE/CONTROL FOR REUSABLE LAUNCH VE-
 HICLES
 05/30/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: S N BALAKRISHNAN
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1603 **UNIV OF MISSOURI - SAINT LOUIS**
 GENDER DIFFERENCES IN HINDLIMB UNLOADED RATS
 12/04/2002 - 11/30/2003 FY03: \$318,216 Total: \$318,216
Prin. Invest.: C M HEESCH, C M FOLEY, E M HASSER
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2592 **UNIV OF MISSOURI - SAINT LOUIS**
 THE THERMO-CHEMISTRY OF HIGH ENERGY DENSITY MISSILE FUELS
 04/23/2001 - 02/28/2002 FY03: \$0 Total: \$30,000
Prin. Invest.: J CHICKOS
Tech. Officer: GRC/M J ZEHE
CASE Category: 12 – CHEMISTRY

NAG 3 2797 **UNIV OF MISSOURI - SAINT LOUIS**
 THE THERMOCHEMISTRY OF HIGH ENERGY DENSITY MISSILE FUELS
 07/26/2002 - 09/30/2002 FY03: \$0 Total: \$9,946
Prin. Invest.: J S CHICKOS
Tech. Officer: GRC/M ZEHE
CASE Category: 12 – CHEMISTRY

NAG 5 12013 **UNIV OF MISSOURI - SAINT LOUIS**
 METHANE AND AMMONIA OVERTONE ABSORPTION SPECTRA
 04/22/2002 - 04/30/2005 FY03: \$81,478 Total: \$163,802
Prin. Invest.: J J O'BRIEN
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 7696 **WASHINGTON UNIV - ST. LOUIS**
 HYDROTHERMAL ECOSYSTEMS IN A PLANETARY CONTEXT
 09/17/1998 - 01/31/2002 FY03: -\$71 Total: \$425,657
Prin. Invest.: E L SHOCK
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 8056 **WASHINGTON UNIV - ST. LOUIS**
 DEFORMATION OF THE EUROPEAN ICE SHELL BY TIDAL AND CONVECTION STRESSES
 01/15/1999 - 01/31/2003 FY03: \$0 Total: \$103,000
Prin. Invest.: W B MCKINNON
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 8336 **WASHINGTON UNIV - ST. LOUIS**
 SOLID STATE AND MASS SPECTROMETRIC MEASUREMENT OF EXTRATERRESTRIAL MATERIALS
 02/24/1999 - 02/28/2003 FY03: \$0 Total: \$1,981,000
Prin. Invest.: T J BERNATOWICZ
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8536 **WASHINGTON UNIV - ST. LOUIS**
 DEVELOPMENT OF HIGH QUANTUM EFFICIENCY UV/BLEU PHOTOCATHODE EPITAXIAL SEMICONDUCTOR HETEROSTRUCTURE
 07/08/1999 - 07/14/2002 FY03: \$0 Total: \$576,028
Prin. Invest.: D LEOPOLD
Tech. Officer: GSFC/G MUCKLOW
CASE Category: 12 – CHEMISTRY

NAG 5 8609 **WASHINGTON UNIV - ST. LOUIS**
 SYNTHESIZING LUNAR PROSPECTOR, CLEMENTINE, AND APOLO GEOCHEMICAL DATA TO UNDERSTAND THE GEOLOGY OF
 06/10/1999 - 06/30/2004 FY03: \$0 Total: \$176,000
Prin. Invest.: R L KOROTEV
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8717 **WASHINGTON UNIV - ST. LOUIS**
 GLOBAL CHEMICAL REACTOR OF PROTOPLANETARY DISK
 08/10/1999 - 07/31/2002 FY03: -\$184 Total: \$67,816
Prin. Invest.: J T GLEAVES
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8729 **WASHINGTON UNIV - ST. LOUIS**
 PURCHASE AND INSTALLATION OF NANOSIMS 50
 08/10/1999 - 07/31/2002 FY03: \$41,677 Total: \$1,124,677
Prin. Invest.: R M WALKER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8899 **WASHINGTON UNIV - ST. LOUIS**
 DEFORMATION OF THE EUROPEAN ICE SHELL BY TIDAL AND CONVECTIVE STRESSES: CONSTRAINTS FROM GEM DATA
 01/13/2000 - 01/31/2004 FY03: \$0 Total: \$69,000
Prin. Invest.: W MCKINNON
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 8905 **WASHINGTON UNIV - ST. LOUIS**
 COMPOSITION, LITHOLOGY, AND HETEROGENEITY OF THE LUNAR CRUST USING REMOTE-SENSING OF IMPACT-BASIN
 01/21/2000 - 05/31/2003 FY03: \$0 Total: \$112,700
Prin. Invest.: B L JOLLIFF
Tech. Officer: GSFC/J GRANT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9442 **WASHINGTON UNIV - ST. LOUIS**
 LUNAR & PLANETARY SURFACE DYNAMICS & EARLY HISTORY
 04/14/2000 - 12/14/2003 FY03: \$0 Total: \$661,000
Prin. Invest.: C M HOHENBERG
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9449 **WASHINGTON UNIV - ST. LOUIS**
 STUDIES OF PRESOLAR MATERIALS AND SOLAR NEBULA STRUCTURE AND EVOLUTION
 04/12/2000 - 04/30/2004 FY03: \$0 Total: \$238,000
Prin. Invest.: F PODOSEK
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9801 **WASHINGTON UNIV - ST. LOUIS**
 ORIGIN & EVOLUTION OF THE SOLAR SYSTEM: MICROANALYTICAL STUDIES OF METEORITES & INTERPLANETARY DUST
 07/14/2000 - 02/28/2003 FY03: \$0 Total: \$582,000
Prin. Invest.: R M WALKER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10158 **WASHINGTON UNIV - ST. LOUIS**
 WASHINGTON UNIV-REGIONAL PLANETARY IMAGE FACILITY
 12/18/2000 - 12/31/2003 FY03: \$21,300 Total: \$67,073
Prin. Invest.: R ARVIDSON
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10186 **WASHINGTON UNIV - ST. LOUIS**
 SPACE-BASED GRAVITATIONAL-WAVE OBSERVATIONS AS TOOLS FOR TESTING GENERAL RELATIVITY
 12/20/2000 - 12/31/2003 FY03: \$70,000 Total: \$202,000
Prin. Invest.: C M WILL
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10190 **WASHINGTON UNIV - ST. LOUIS**
 HYDROGEOLOGY OF BASINS ON MARS
 01/03/2001 - 01/14/2002 FY03: -\$16 Total: \$137,984
Prin. Invest.: R E ARVIDSON
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10227 **WASHINGTON UNIV - ST. LOUIS**
 INTEGRATED STUDY OF THE GEOLOGY, COMPOSITION, & ORIGIN OF LUNAR MARE BASALTS
 01/04/2001 - 01/14/2004 FY03: \$35,500 Total: \$106,000
Prin. Invest.: B JOLLIFF
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NGT 5 50240 **WASHINGTON UNIV - ST. LOUIS**
 GRADUATE STUDENT RSCH IN COSMIC RAY ASTROPHYSICS
 06/03/1999 - 06/30/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: M ISRAEL
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50348 **WASHINGTON UNIV - ST. LOUIS**
 HYDROTHERMAL ECOSYSTEMS AS ANALOGS IN THE STUDY OF ASTROBIO-
 LOGY & EARLY LIFE ON EARTH/STUDENT: D. ME
 05/07/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J AMEND
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50386 **WASHINGTON UNIV - ST. LOUIS**
 STUDIES OF THE COMPOSITION OF HEAVY COSMIC RAYS (STUDENT:
 LAUREN SCOTT)
 06/03/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: M ISRAEL
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50402 **WASHINGTON UNIV - ST. LOUIS**
 DYNAMICS OF A GTO-ESCAPE SOLAR SAIL
 06/12/2002 - 06/30/2005 FY03: \$24,000 Total: \$47,895
Prin. Invest.: M SWARTOUT
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NAG 2 1323 **MONTANA STATE UNIV**
 SPATIO-SPECTRAL HOLOGRAPHY FOR HIGH BANDWIDTH CORR ELATORS
 04/29/1999 - 04/30/2004 FY03: \$0 Total: \$7,096,000
Prin. Invest.: L H SPANGLER
Tech. Officer: ARC/N C VANDERBILT, ARC/D KOGA
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 6110 **MONTANA STATE UNIV**
 MAGNETIC HELICITY AND THE SOLAR DYNAMO
 07/28/1997 - 07/31/2003 FY03: \$0 Total: \$975,776
Prin. Invest.: D CANFIELD
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 8807 **MONTANA STATE UNIV**
 CENTER FOR STUDYING LIFE IN EXTREME ENVIRONMENTS
 09/03/1999 - 08/31/2004 FY03: \$3,000,000 Total: \$10,002,000
Prin. Invest.: T R MCDERMOTT
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 8824 **MONTANA STATE UNIV**
 MOLECULAR AND GEOCHEMICAL ANALYSIS OF HOT SPRING CYANOBAC-
 TERIAL & CHLOROFLEXUS MATS AS STROMATOLITE
 09/22/1999 - 10/31/2003 FY03: \$0 Total: \$294,200
Prin. Invest.: D M WARD
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 9300 **MONTANA STATE UNIV**
 MONITORING FOREST RESPONSE TO PAST & FUTURE GLOBAL CHANGE IN
 GREATER YELLOWSTONE
 04/07/2000 - 04/30/2004 FY03: \$34,653 Total: \$349,999
Prin. Invest.: A HANSEN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10489 **MONTANA STATE UNIV**
 THE X-RAY BRIGHT POINT: A CASE STUDY IN RECONNECTI ON
 03/07/2001 - 02/28/2006 FY03: \$91,682 Total: \$270,808
Prin. Invest.: D LONGCOPE
Tech. Officer: GSFC/W WALTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10997 **MONTANA STATE UNIV**
 MOSES: A SLITLESS MULTI-ORDER SOLAR EXTREME ULTRA VIOLET
 SPECTROGRAPH FOR FAST IMAGING SPECTROSCOPY
 06/08/2001 - 05/31/2004 FY03: \$267,726 Total: \$814,027
Prin. Invest.: C C KANKELBORG
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 11158 **MONTANA STATE UNIV**
 LAND USE LAND CHANGE AROUND PROTECTED AREAS IN LCLUC SITES:
 SYNTHESIS OF RATES, CONSEQUENCES FOR
 08/01/2001 - 08/14/2004 FY03: \$69,309 Total: \$233,745
Prin. Invest.: A HANSEN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11467 **MONTANA STATE UNIV**
 EXPERIMENTAL TESTS OF RELATIVITY
 12/13/2001 - 12/14/2003 FY03: \$126,217 Total: \$206,217
Prin. Invest.: R HELLINGS
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11469 **MONTANA STATE UNIV**
 SPECTRUM OF CONTINUOUS GRAVIATATIONAL WAVE BACKGRO UND
 12/13/2001 - 12/14/2002 FY03: \$0 Total: \$95,000
Prin. Invest.: R HELLINGS
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11873 **MONTANA STATE UNIV**
 MAGNETIC HELICITY AND THE SOLAR DYNAMO
 03/15/2002 - 07/31/2005 FY03: \$0 Total: \$140,000
Prin. Invest.: R C CANFIELD
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 12079 **MONTANA STATE UNIV**
 THERMAL EVOLUTION AND RELATED PROBLEMS OF NEUTRON STARS
 05/07/2002 - 04/30/2005 FY03: \$37,614 Total: \$87,822
Prin. Invest.: S TSURUTA
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12081 **MONTANA STATE UNIV**
 DESIGNS FOR A VIRTUAL SOLAR OBSERVATORY
 04/23/2002 - 04/30/2003 FY03: \$0 Total: \$41,919
Prin. Invest.: P MARTENS
Tech. Officer: GSFC/J GURMAN
CASE Category: 11 – ASTRONOMY

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NAG 5 12820 **MONTANA STATE UNIV**
 INTEGRATED MODELING OF FLARE X-RAY & EUV EMISSION FOR HESSI,
 TRACE, & YOHKOH
 01/24/2003 - 01/31/2006 FY03: \$83,486 Total: \$83,486
Prin. Invest.: P MARTENS
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13155 **MONTANA STATE UNIV**
 COMPLETION OF ONLINE ARCHIVE OF REPROCESSED YOHKOH DATA AND
 MAINTENANCE AND SUPPORT OF SAID ARCHIVE
 04/01/2003 - 03/31/2004 FY03: \$57,803 Total: \$57,803
Prin. Invest.: L W ACTON
Tech. Officer: GSFC/T A KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 13468 **MONTANA STATE UNIV**
 MOLECULAR AND GEOCHEMICAL ANALYSIS OF HOT SPRING CYANOBAC-
 TERIAL AND CHLOROFLEXUS MATS AS STROMATOLI
 04/26/2003 - 04/30/2007 FY03: \$140,000 Total: \$140,000
Prin. Invest.: D WARD
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13500 **MONTANA STATE UNIV**
 PROGENITORS TO GEOEFFECTIVE CORONAL MASS EJECTIONS : FILA-
 MENTS AND SIGMOIDS
 05/05/2003 - 05/14/2006 FY03: \$96,005 Total: \$96,005
Prin. Invest.: D MCKENZIE
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13663 **MONTANA STATE UNIV**
 THE MSU SPACE SCIENCE AND ENGINEERING LABORATORY (SSEL)
 09/17/2003 - 03/31/2005 FY03: \$1,341,000 Total: \$1,341,000
Prin. Invest.: L W ACTON
Tech. Officer: GSFC/H THRONSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1399 **MONTANA STATE UNIV**
 LARGE SCALE ORGANIZATION OF ACTIVE REGION MAGNETIC FIELDS
 08/11/1997 - 08/10/2002 FY03: -\$30 Total: \$184,300
Prin. Invest.: R C CANFIELD
Tech. Officer: MSFC/M J HAGYARD, MSFC/G A GARY
CASE Category: 11 – ASTRONOMY

NAG 9 1082 **MONTANA STATE UNIV**
 RAPID BACTERIAL TESTING FOR SPACECRAFT WATER
 03/03/1999 - 03/31/2003 FY03: \$0 Total: \$414,423
Prin. Invest.: B H PYLE
Tech. Officer: JPL/D JAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1073 **MONTANA STATE UNIV**
 COMPARATIVE STUDIES OF MICROBIAL MATS: COMM COMPOSITION,
 PHYSIOLOGICAL & ORGANIC GEOCHEMICAL P
 12/08/1998 - 12/31/2003 FY03: \$43,870 Total: \$260,816
Prin. Invest.: D M WARD
Tech. Officer: ARC/D J DES MARAIS, ARC/B BEBOU
CASE Category: 54 – ENVIRONMENTALBIOLOGY

NCC 2 1143 **MONTANA STATE UNIV**
 BACTERIAL PHYSIOLOGY & VIRULENCE ON EARTH & IN MIC ROGRAVITY
 09/19/1999 - 01/31/2004 FY03: \$69,984 Total: \$465,383
Prin. Invest.: B H PYLE
Tech. Officer: ARC/M F VASQUES, ARC/P D SAVAGE
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1181 **MONTANA STATE UNIV**
 STUDENT-MENTOR PROJECTS IN SUPPORT OF NASA SHARP PROGRAM
 EXPERIMENTS
 05/23/2000 - 12/31/2001 FY03: \$0 Total: \$91,357
Prin. Invest.: D CAIRNS
Tech. Officer: ARC/P KOLODZIEJ, ARC/D J RASKY
CASE Category: 41 – AERONAUTICAL ENGRN

NCC 2 5437 **MONTANA STATE UNIV**
 A MINIATURE RAMAN SPECTROMETER FOR FIELD EVALUATIO N IN
 ANTARCTICA AS AN ANALOGUE OF PUTATIVE MARTIA
 06/25/2001 - 05/31/2002 FY03: \$0 Total: \$72,607
Prin. Invest.: D L DICKENSHEETS
Tech. Officer: ARC/R A GRYMES, ARC/W W DOLCI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 5445 **MONTANA STATE UNIV**
 EFFECTS OF STAND-REPLACING FIRE ON MYCORRHIZAL COM MUNITIES
 07/16/2001 - 06/30/2004 FY03: \$0 Total: \$184,660
Prin. Invest.: J HENSON
Tech. Officer: ARC/K CULLINGS, ARC/M H NEW
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NCC 5 240 **MONTANA STATE UNIV**
 MONTANA EPSCOR PROGRAM
 09/12/1997 - 02/28/2002 FY03: \$0 Total: \$1,800,000
Prin. Invest.: W HISCOCK
Tech. Officer: GSFC/D DETROYE
CASE Category: 11 – ASTRONOMY

NCC 5 410 **MONTANA STATE UNIV**
 NASA EPSCOR: PREPARATORY GRANT PROPOSAL
 05/18/1999 - 05/31/2002 FY03: \$0 Total: \$450,000
Prin. Invest.: W HISCOCK
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 579 **MONTANA STATE UNIV**
 MONTANA NASA EPSCOR PROGRAM
 08/17/2001 - 07/31/2004 FY03: \$463,300 Total: \$926,600
Prin. Invest.: W HISCOCK
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 44 **MONTANA STATE UNIV**
 TECHNOLOGY TRANSFER & COMMERCIALIZATION CTR FOR THE ROCKY
 MOUNTAINS & UPPER PLAINS
 06/01/1996 - 09/30/2002 FY03: -\$275,960 Total: \$5,571,040
Prin. Invest.: W SWEARINGEN
Tech. Officer: JSC/K LASSMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

MONTANA

NASA'S UNIVERSITY PROGRAM

NCC 9 044 **MONTANA STATE UNIV**
 TECHNOLOGY TRANSFER & COMMERCIALIZATION CENTER FOR THE
 ROCKY MOUNTAIN REGION
 07/24/2003 - 09/30/2003 FY03: \$275,960 Total: \$275,960
Prin. Invest.: W SWEARINGEN
Tech. Officer: JSC/K LASSMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9139 **MONTANA TECH OF THE UNIV OF MONTANA**
 STEP CAREERS IN RESEARCH EXPLORATION PROGRAM
 02/29/2000 - 02/28/2003 FY03: \$0 Total: \$47,460
Prin. Invest.: T MOON
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 1 01012 **MONTANA STATE UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/15/2001 - 06/30/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: V H SCHMIDT
Tech. Officer: LARC/J HARRISON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1890 **ROCKY MOUNTAIN COLLEGE**
 FEEDBACK MECHANISMS AFFECTING INTERANNUAL VARI- ABILITY OF
 THE TROPICAL HYDROLOGIC CYCLE & ENERGY
 09/23/2002 - 09/30/2003 FY03: \$0 Total: \$31,595
Prin. Invest.: S MCDANIEL
Tech. Officer: MSFC/F ROBINSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 5 153 **MONTANA STATE UNIV**
 ANALYSIS OF THE PHYSICAL CHARACTERISTICS OF SOLAR CORONAL
 LOOPS (STUDENT: JONATHAN CIRTAİN)
 08/15/2003 - 08/14/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P MARTENS
Tech. Officer: GSFC/M S BURRELL
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 9102 **SALISH KOOTENAI COLLEGE**
 EARTH SYSTEM SCIENCE STUDENT RESEARCH EXPERIENCES AT SALISH
 KOOTENAI COLLEGE
 03/02/2000 - 01/31/2003 FY03: \$0 Total: \$305,860
Prin. Invest.: T S OLSON
Tech. Officer: GSFC/N K HAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 40092 **MONTANA STATE UNIV**
 MONTANA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/28/2001 - 02/28/2005 FY03: \$649,065 Total: \$1,685,682
Prin. Invest.: W HISCOCK
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9147 **SALISH KOOTENAI COLLEGE**
 NORTHERN ROCKY MOUNTAIN TRIBAL PATHWAY TO ACADEMIC EXCEL-
 LENCE PROGRAM
 03/03/2000 - 05/14/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: J M GOBERT
Tech. Officer: GSFC/M STOUTSENBERGER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50297 **MONTANA STATE UNIV**
 ECOLOGY & NITROGEN BIOGEOCHEMISTRY OF ANATARCTIC LAKE
 ICE/STUDENT: AARON D. HALL
 06/27/2000 - 08/31/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: J C PRISCU
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9368 **SALISH KOOTENAI COLLEGE**
 NASA NATIVE EARTH SYSTEMS SCIENCE CURRICULUM PROJECT (NESCP)
 04/03/2000 - 09/30/2003 FY03: \$0 Total: \$464,660
Prin. Invest.: J M GOBERT
Tech. Officer: GSFC/B MEESON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50471 **MONTANA STATE UNIV**
 FAST IMAGING SPECTROSCOPY OF THE SOLAR ATMOSPHERE. GSRP
 STUDENT: JAMES FOX
 05/05/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C KANKELBORG
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9541 **SALISH KOOTENAI COLLEGE**
 RELATIVISTIC DISSIPATIVE FLUID THEORIES OF NEUTRON STARS
 06/08/2000 - 06/14/2003 FY03: \$0 Total: \$148,356
Prin. Invest.: T OLSON
Tech. Officer: GSFC/D MENCHAN
CASE Category: 21 – MATHEMATICS

NGT 5 50481 **MONTANA STATE UNIV**
 LIFE IN ICE: MICROBIAL DIVERSITY WITHIN FROZEN ENVIRONMENTS
 (STUDENT: JILL MIKUCKI)
 08/19/2003 - 08/14/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J C PRISCU
Tech. Officer: GSFC/K BLANDING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10144 **SALISH KOOTENAI COLLEGE**
 ASTRONOMY & ASTROPHYSICS COURSE DEVELOPMENT AT SAL ISH
 KOOTENAI COLLEGE
 12/11/2000 - 12/31/2003 FY03: \$12,852 Total: \$38,556
Prin. Invest.: T S OLSON
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 44 – CIVIL ENGR

NGT13 52761 **MONTANA STATE UNIV**
 HIGH-RESOLUTION LIDAR RECEIVER FOR ENVIRONMENTAL R ESEARCH
 05/28/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J SHAW
Tech. Officer: SSC/R E TRAVIS
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 12205 **SALISH KOOTENAI COLLEGE**
 CENTER FOR REMOTE SENSING OF TRIBAL LANDS: NASA GO DDARD
 RESEARCH EXPERIENCE FOR SKU STUDENTS
 05/29/2002 - 05/31/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: T S OLSON
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13174 **SALISH KOOTENAI COLLEGE**
 INTERN SUPPORT FOR REMOTE SENSING AND GIS AT THE S ALISH
 KOOTENAI COLLEGE
 03/28/2003 - 03/31/2004 FY03: \$55,000 Total: \$55,000
Prin. Invest.: T GRANT
Tech. Officer: GSFC/R G WIKER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1531 **UNIV OF MONTANA**
 UNDERSTANDING THE EFFECT OF LAND COVER CLASSIFICATION ON
 MODEL ESTIMATES OF REGIONAL CARBONCYCLING
 01/03/2002 - 06/14/2003 FY03: \$0 Total: \$45,000
Prin. Invest.: J S KIMBALL
Tech. Officer: ARC/C S POTTER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8599 **UNIV OF MONTANA**
 THE IMPACT OF VEGETATION CHANGES IN THE SAHEL ON REGIONAL
 SCALE HYDROLOGY
 06/21/1999 - 06/30/2003 FY03: \$0 Total: \$140,734
Prin. Invest.: S W RUNNING
Tech. Officer: GSFC/E G ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9062 **UNIV OF MONTANA**
 EARTH SCIENCE ENTERPRISE RESEARCH PROGRAM
 02/15/2000 - 08/14/2003 FY03: \$0 Total: \$300,247
Prin. Invest.: W R SNYDER
Tech. Officer: GSFC/B MEESON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9332 **UNIV OF MONTANA**
 DEVELOPMENT SPRAWL IMPACTS ON THE TERRESTRIAL CARBON DYNAMICS
 OF THE UNITED STATES
 03/23/2000 - 04/30/2003 FY03: \$17,297 Total: \$146,329
Prin. Invest.: R NEMANI
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9333 **UNIV OF MONTANA**
 MONITORING BOREAL LANDCOVER AND ECOSYSTEM DYNAMICS AT REGIONAL
 SCALES USING INTEGRATED SPACEBORNE
 03/23/2000 - 04/30/2003 FY03: \$0 Total: \$102,000
Prin. Invest.: J KIMBALL
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11256 **UNIV OF MONTANA**
 A SATELLITE MICROWAVE REMOTE SENSING MEASURE OF HIGH LATITUDE
 GROWING SEASONS FOR IMPROVED ASSESS
 08/16/2001 - 08/31/2004 FY03: \$109,419 Total: \$329,481
Prin. Invest.: S RUNNING
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11525 **UNIV OF MONTANA**
 AUTOMATED TESTING AND QUANTITATIVE TESTING EVALUATION OF
 REAL-TIME SYSTEMS USING SIMULATION
 01/08/2002 - 01/14/2004 FY03: \$139,306 Total: \$266,306
Prin. Invest.: D HENRY
Tech. Officer: GSFC/K MCGILL
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12540 **UNIV OF MONTANA**
 EOS NATURAL RESOURCE/EDUCATION TRAINING CENTER
 09/04/2002 - 08/31/2005 FY03: \$0 Total: \$1,750,000
Prin. Invest.: S W RUNNING
Tech. Officer: GSFC/W TURNER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12624 **UNIV OF MONTANA**
 EOS EDUCATION PROJECT/CONGRESSIONAL EARMARK
 09/30/2002 - 09/30/2005 FY03: \$0 Total: \$1,750,000
Prin. Invest.: R VAN DEN POL
Tech. Officer: GSFC/W TURNER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12701 **UNIV OF MONTANA**
 INCREASE RURAL WESTERN STATES INVOLVEMENT IN THE SPACE
 PROGRAM
 12/19/2002 - 12/31/2003 FY03: \$20,000 Total: \$20,000
Prin. Invest.: G BAILEY
Tech. Officer: GSFC/D SPEARS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1112 **UNIV OF MONTANA**
 INST FOR THE STUDY OF BIOMAKERS IN ASTROMATERIALS
 05/11/1999 - 05/13/2003 FY03: \$0 Total: \$48,353
Prin. Invest.: N C HINMAN
Tech. Officer: JSC/E K GIBSON
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG13 02002 **UNIV OF MONTANA**
 DEVELOPING A BIOSPHERIC NOWCAST AND FORECAST CAPABILITY FOR
 THE CONTERMINIOUS U.S.
 11/30/2001 - 09/28/2004 FY03: \$0 Total: \$419,770
Prin. Invest.: R NEMANI
Tech. Officer: SSC/C HALL
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 31368 **UNIV OF MONTANA**
 EOS MODIS INVESTIGATION FROM DR. STEVE RUNNING
 01/07/1992 - 12/14/2003 FY03: \$388,000 Total: \$5,189,500
Prin. Invest.: S W RUNNING
Tech. Officer: GSFC/H OSEROFF
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 1263 **UNIV OF MONTANA**
 INTELLIGENT PARAMETERIZATION & REAL-TIME EXECUTION OF ECOSYSTEM
 MODELS
 05/07/2001 - 11/30/2003 FY03: \$75,000 Total: \$325,949
Prin. Invest.: R NEMANI
Tech. Officer: ARC/K P GOODEN, ARC/M A SCHWABACHER
CASE Category: 22 – COMPUTER SCIENCE

NCC 3 1091 **UNIV OF MONTANA**
 THE NORTHERN ROCKIES CENTER FOR SPACE PRIVATIZATION
 09/10/2003 - 07/31/2004 FY03: \$408,385 Total: \$408,385
Prin. Invest.: W SNYDER
Tech. Officer: GRC/I T KIRYK
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 382 **UNIV OF MONTANA**
 INTERNATIONAL EOS NATURAL RESOURCE TRAINING CENTER
 02/19/1999 - 08/31/2002 FY03: \$0 Total: \$8,174,400
Prin. Invest.: S W RUNNING
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30395 **UNIV OF MONTANA**
 FORECASTING THE EFFECTS OF CLIMATE CHANGE ON EMERG ING
 INFECTIOUS DISEASE: A HANTAVIRUS MODEL
 08/14/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S RUNNING
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50329 **UNIV OF MONTANA**
 BIOGEOCHEMISTRY OF RECREATIONAL GRASSLANDS STUDENT: CRISTINA
 MILES I
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: S RUNNING
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NEBRASKA

NAG 2 1353 **CREIGHTON UNIV**
 EFFECTS OF GRAVITY ON VESTIBULAR DEVELOPMENT IN MI CE
 07/22/1999 - 07/31/2003 FY03: \$0 Total: \$607,318
Prin. Invest.: B FRITZSCH
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1595 **CREIGHTON UNIV**
 NEUROBIOLOGY OF VESTIBULAR DEVELOPMENT IN MUTANT M ICE
 11/15/2002 - 10/31/2003 FY03: \$276,430 Total: \$276,430
Prin. Invest.: B FRITZSCH
Tech. Officer: ARC/M M AVERNER, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 1 01087 **UNIV OF NEBRASKA - LINCOLN**
 OPTIMAL EXPERIMENTAL DESIGN FOR THERMAL CHARACTER- IZATION OF
 FUNCTIONALLY GRADEDMATERIALS
 05/30/2001 - 05/31/2003 FY03: \$0 Total: \$47,182
Prin. Invest.: K D COLE
Tech. Officer: LARC/M L BLOXXER
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2219 **UNIV OF NEBRASKA - LINCOLN**
 ATOMIC OXYGEN ULTRAVIOLET, AND THERMAL CYCLING EFF ECTS ON
 SPACE MATERIALS
 12/28/1998 - 10/31/2002 FY03: \$0 Total: \$190,001
Prin. Invest.: J A WOOLLAM
Tech. Officer: GRC/D A JAWORSKE
CASE Category: 13 – PHYSICS

NAG 3 2824 **UNIV OF NEBRASKA - LINCOLN**
 SPACE POWER SYSTEM SURFACES AND CONTAMINATION METR OLOGY
 12/16/2002 - 10/31/2003 FY03: \$45,000 Total: \$45,000
Prin. Invest.: J A WOOLLAM
Tech. Officer: GRC/D A JAWORSKE
CASE Category: 13 – PHYSICS

NAG 5 6506 **UNIV OF NEBRASKA - LINCOLN**
 MRK 42 AND MRK 957: TWO EXTREME NARROW-LINE STRONG FE II
 EMITTING QUASARS - ASCA PROPOSAL AO5
 11/17/1997 - 10/31/2002 FY03: \$0 Total: \$17,800
Prin. Invest.: M GASKELL
Tech. Officer: GSFC/N WHITE
CASE Category: 11 – ASTRONOMY

NAG 5 6990 **UNIV OF NEBRASKA - LINCOLN**
 CHARACTERIZATION AND IMPROVEMENT OF EOS LAND PRODU CTS
 USING MEASUREMENTSAT AMERIFLUX GRASSLAND AND
 02/25/1998 - 02/28/2003 FY03: \$0 Total: \$505,000
Prin. Invest.: WALTER-SHEA
Tech. Officer: GSFC/D C WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9834 **UNIV OF NEBRASKA - LINCOLN**
 ROBUST COMPRESSION FOR LAND USE DATA
 07/28/2000 - 09/30/2002 FY03: \$0 Total: \$60,546
Prin. Invest.: K SAYOOD
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11147 **UNIV OF NEBRASKA - LINCOLN**
 CONSEQUENCES OF INSTAL CHANGE: LAND-COVER DYNAMICS IN KAZA-
 KHSTAN 1960-2000
 07/31/2001 - 08/14/2004 FY03: \$112,194 Total: \$359,407
Prin. Invest.: A GITELSON
Tech. Officer: GSFC/G GUTMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12277 **UNIV OF NEBRASKA - LINCOLN**
 MULTISTAGE COMPRESSION
 07/11/2002 - 08/14/2003 FY03: -\$4,860 Total: \$46,363
Prin. Invest.: K SAYOOD
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1310 **UNIV OF NEBRASKA - LINCOLN**
 USE OF FEMTOSECOND LASERS IN THE CURATION & ALLOCATION OD
 SAMPLES COLLECTED BY UPCOMING PLANET
 06/06/2001 - 06/08/2004 FY03: \$0 Total: \$69,990
Prin. Invest.: D R ALEXANDER
Tech. Officer: JSC/F HORZZ, JSC/J JONES
CASE Category: 32 – GEOLOGICAL SCIENCE

NCC 5 169 **UNIV OF NEBRASKA - LINCOLN**
 THE NEBRASKA INITIATIVE FOR AEROSPACE RESEARCH AND DEVELOP-
 MENT
 12/05/1996 - 05/14/2002 FY03: \$0 Total: \$2,480,968
Prin. Invest.: B D BOWEN
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30358 **UNIV OF NEBRASKA - LINCOLN**
 LANDFORM EVOLUTION OF THE LOWER MISSISSIPPI RIVER VALLEY IN
 RESPONSE TO DEGLACIATION/STUDENT: TAMMY
 08/23/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: M BLUM
Tech. Officer: GSFC/M Y WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1893 **UNIV OF NEBRASKA - MEDICAL CENTER**
 4200005979 SEARCHING FOR THE BEST PROTEIN CRYSTAL S: INTEGRA-
 TION OF SYNCHROTRON-BASED CRYSTAL QUALI
 10/12/2002 - 11/30/2004 FY03: \$525,979 Total: \$525,979
Prin. Invest.: G BORGSTAHL
Tech. Officer: MSFC/B GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 13584 **UNIV OF NEBRASKA-OMAHA**
 COMPRESSION OF HYPERSPECTRAL IMAGES
 08/26/2003 - 08/31/2004 FY03: \$60,000 Total: \$60,000
Prin. Invest.: K SAYOOD
Tech. Officer: GSFC/P YEHL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 572 **UNIV OF NEBRASKA-OMAHA**
 NEBRASKA NASA EPSCOR PROGRAM
 07/20/2001 - 07/31/2004 FY03: \$895,029 Total: \$2,295,029
Prin. Invest.: B D BOWEN
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40104 **UNIV OF NEBRASKA-OMAHA**
 NEBRASKA SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 03/01/2001 - 02/28/2005 FY03: \$797,000 Total: \$1,345,900
Prin. Invest.: B D BOWEN
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NEVADA

NAG 5 7870 **UNIV. OF NEVADA - DESERT RES. INST, RENO**
 INTEGRATING MODELING AND REMOTE SENSING FOR MONITO RING
 POTENTIAL RESPONSES TO CLIMATE CHANGE
 01/20/1999 - 12/31/2002 FY03: \$0 Total: \$158,378
Prin. Invest.: G L DANA
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7973 **UNIV. OF NEVADA - DESERT RES. INST, RENO**
 IN SITU MICROPHYSICAL OBSERVATIONS IN SUPPORT OF THE
 TRMM/KWAJEX FIELD CAMPAIGN
 01/03/1999 - 09/30/2002 FY03: \$0 Total: \$349,841
Prin. Invest.: J HALALETT
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9716 **UNIV. OF NEVADA - DESERT RES. INST, RENO**
 ANALYSIS AND INTEGRATION OF IN SITU MICROPHYSICAL OBSERVATIONS
 FROM THE TRMM/KWAJEX FIELD CAMPAIGN
 06/22/2000 - 06/14/2004 FY03: \$89,831 Total: \$507,595
Prin. Invest.: D KINGSMILL
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10445 **UNIV. OF NEVADA - DESERT RES. INST, RENO**
 AN AQUEOUS GEOCHEMICAL MODEL FOR COLD PLANETS
 02/20/2001 - 02/28/2004 FY03: \$65,771 Total: \$196,771
Prin. Invest.: G M MARION
Tech. Officer: GSFC/D SENSEKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12752 **UNIV. OF NEVADA - DESERT RES. INST, RENO**
 VARIABILITY OF ACCUMULATION, ICE-SHEET ELEVATION, AND MASS BAL-
 ANCE AT REGIONAL SPATIAL SCALES
 01/30/2003 - 01/14/2006 FY03: \$117,627 Total: \$117,627
Prin. Invest.: J MC CONNELL
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12759 **UNIV. OF NEVADA - DESERT RES. INST, RENO**
 AIRFLOW AND SEDIMENT TRANSPORT IN COMPLEX TERRAINS ON MARS:
 A SHEAR STRESS PARTITIONING APPROACH
 01/15/2003 - 01/14/2006 FY03: \$110,000 Total: \$110,000
Prin. Invest.: N LANCASTER
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13655 **UNIV. OF NEVADA - DESERT RES. INST, RENO**
 MICROPHYSICAL VALIDATION FOR NASA PRECIPITATION MEASUREMENT:
 THE TRANSITION FROM TRMM TO GPM
 09/17/2003 - 09/30/2006 FY03: \$57,500 Total: \$57,500
Prin. Invest.: D E KINGSMILL
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13730 **UNIV. OF NEVADA - DESERT RES. INST, RENO**
 EOLIAN PROCESSES IN ARID REGIONS: TRACKING LAND SURFACE
 CHANGE USING ORBITAL DATA
 09/26/2003 - 09/30/2006 FY03: \$122,083 Total: \$122,083
Prin. Invest.: N LANCASTER
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1718 **UNIV. OF NEVADA - DESERT RES. INST, RENO**
 RESEARCH ENTITLED, "SHEAR FLOW STABILIZED LASER- IGNITED
 Z-PINCH"
 04/27/2000 - 04/26/2003 FY03: \$0 Total: \$67,000
Prin. Invest.: F WINTERBERG
Tech. Officer: MSFC/F THIO
CASE Category: 13 – PHYSICS

NAG13 02017 **UNIV. OF NEVADA - DESERT RES. INST, RENO**
 DEVELOPMENT AND TRANSFER OF INSAR AND GPS APPLICATIONS TO
 LOCAL GOVERNMENT IN NEVADA
 03/05/2002 - 09/30/2004 FY03: \$170,778 Total: \$415,842
Prin. Invest.: J W BELL
Tech. Officer: SSC/W GRAHAM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 6727 **UNIV OF NEVADA - LAS VEGAS**
 LABORATORY STUDIES OF THERMAL ENERGY CHARGE TRANSFER OF
 CARBON, IRON, SULPHUR, AND NITROGEN IONS IN
 12/11/1997 - 12/31/2001 FY03: \$23,783 Total: \$333,983
Prin. Invest.: V H KWONG
Tech. Officer: GSFC/H HASAN
CASE Category: 11 – ASTRONOMY

NAG 5 9489 **UNIV OF NEVADA - LAS VEGAS**
 DEVELOPMENT OF THE CONTENT-BASED IMAGE QUERYING TO OLS:
 TOWARD ADVANCED DATABASES FOR ASTRONOMICAL
 04/17/2000 - 04/14/2003 FY03: \$0 Total: \$80,000
Prin. Invest.: S LATIFI
Tech. Officer: GSFC/J BREDEKAMP
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11990 **UNIV OF NEVADA - LAS VEGAS**
 LABORATORY STUDIES OF THERMAL ENERGY CHARGE TRANSFER OF
 MULTIPLY CHARGED IONS IN ASTROPHYSICAL
 04/10/2002 - 03/31/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: V KWONG, V KWONG
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NEVADA

NASA'S UNIVERSITY PROGRAM

NAG 9 1568 **UNIV OF NEVADA - LAS VEGAS**
 ENHANCED CHARACTERIZATION OF MICROORGANISMS IN THE SPACE-CRAFT ENVIRONMENT
 09/15/2003 - 10/01/2004 FY03: \$80,000 Total: \$80,000
Prin. Invest.: L STETZENBACH
Tech. Officer: JSC/L CAMPBELL
CASE Category: 59 – LIFE SCIENCE, OTHER

NAS 5 31231 **UNIV OF NEVADA - LAS VEGAS**
 STIS CO-INVESTIGATOR SUPPORT
 08/30/1991 - 12/31/2002 FY03: \$0 Total: \$1,085,301
Prin. Invest.: D WEISTROP
Tech. Officer: GSFC/D VITAGLIANO
CASE Category: 11 – ASTRONOMY

NAG 5 8267 **UNIV OF NEVADA - RENO**
 GEOMETRY AND MECHANICS OF FAULTING ON MARS
 02/24/1999 - 06/30/2002 FY03: \$0 Total: \$279,000
Prin. Invest.: R SCHULTZ
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9001 **UNIV OF NEVADA - RENO**
 COMPREHENSIVE STRUCTURAL MODEL FOR PLANETARY WRINKLE RIDGES
 02/03/2000 - 06/30/2003 FY03: \$0 Total: \$122,400
Prin. Invest.: R A SCHULTZ
Tech. Officer: GSFC/D SENSKE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9498 **UNIV OF NEVADA - RENO**
 GLOBAL ASSESSMENT OF VOLCANIC DEBRIS FLOW HAZARDS FROM SPACE: EVALUATION OF NEW MULTISPECTRAL AND HYP
 04/27/2000 - 06/30/2003 FY03: \$0 Total: \$114,850
Prin. Invest.: R J WATTERS
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10290 **UNIV OF NEVADA - RENO**
 ICES & ALTERATION MINERALS IN THE SOLAR SYSTEM: SPECTROSCOPIC ANALYSIS & INTERPRETATION
 01/29/2001 - 01/31/2002 FY03: -\$33 Total: \$42,967
Prin. Invest.: W CALVIN
Tech. Officer: GSFC/D SENKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11447 **UNIV OF NEVADA - RENO**
 GEOMECHANICS OF SOFT ROCK FAULTING ON MARS
 12/21/2001 - 06/30/2005 FY03: \$50,000 Total: \$100,000
Prin. Invest.: R A SCHULTZ
Tech. Officer: GSFC/D A SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11491 **UNIV OF NEVADA - RENO**
 MARS ALTERATION ANALOGS: ACID WEATHERING OF BASALTIC ANDESITES AND IRON FORMATION
 12/27/2001 - 12/31/2004 FY03: \$58,000 Total: \$116,000
Prin. Invest.: W CALVIN
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12222 **UNIV OF NEVADA - RENO**
 FUTURE MECHANICAL MODELING OF MARTIAN STRUCTURES & THE 4-D TECTONICS THARSIS
 05/20/2002 - 06/30/2005 FY03: \$86,000 Total: \$172,000
Prin. Invest.: R A SCHULTZ
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12223 **UNIV OF NEVADA - RENO**
 SPECTRAL PROPERTIES OF THE NORTH POLAR REGION OF MARS
 05/20/2002 - 05/14/2005 FY03: \$48,000 Total: \$93,000
Prin. Invest.: W M CALVIN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 13436 **UNIV OF NEVADA - RENO**
 FAULT SEGMENTATION AND MARTIAN PALEOHYDROLOGY
 04/23/2003 - 06/30/2004 FY03: \$45,000 Total: \$45,000
Prin. Invest.: R SCHULTZ
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13683 **UNIV OF NEVADA - RENO**
 TERRESTRIAL REFERENCE FRAME THEORY & PRACTICE FOR SOLID EARTH AND GLOBAL CHANGE RESEARCH
 09/23/2003 - 09/30/2006 FY03: \$87,100 Total: \$87,100
Prin. Invest.: G BLEWITT
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1340 **UNIV OF NEVADA - RENO**
 STEM CELL PLASTICITY UNDER SIMULATED MICROGRAVITY
 08/01/2001 - 09/30/2004 FY03: \$167,000 Total: \$384,000
Prin. Invest.: G ALMEIDA-PORADA
Tech. Officer: JSC/D RISIN
CASE Category: 43 – CHEMICAL ENGR

NCC 2 5408 **UNIV OF NEVADA - RENO**
 MEASURING CHANGES IN LOCAL VOLUMETRIC BONE DENSITY
 11/24/2000 - 11/14/2002 FY03: \$0 Total: \$44,350
Prin. Invest.: E WANG
Tech. Officer: ARC/R T WHALEN, ARC/E M HOLTON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5443 **UNIV OF NEVADA - RENO**
 TESTING/DIRECT OSMOTIC CONCENTRATION
 07/16/2001 - 01/31/2003 FY03: \$0 Total: \$39,684
Prin. Invest.: V D ADAMS, J G CURTIS, A E CHILDRESS
Tech. Officer: ARC/M T FLYNN, ARC/J W FISHER
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 2 5503 **UNIV OF NEVADA - RENO**
 ALLOCATION OF ATTENTIONAL RESOURCES IN THE COCKPIT ENVIRONMENT
 07/19/2002 - 07/14/2003 FY03: \$0 Total: \$21,075
Prin. Invest.: M A CROGNALE
Tech. Officer: ARC/J B MULLIGAN, ARC/L STONE
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 5556 **UNIV OF NEVADA - RENO**
 TESTING DIRECT OSMOTIC CONCENTRATION
 09/30/2003 - 09/30/2004 FY03: \$22,500 Total: \$22,500
Prin. Invest.: V D ADAMS
Tech. Officer: ARC/M FLYNN, ARC/M KLISS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 3 750 **UNIV OF NEVADA - RENO**
ACOUSTIC TOMOGRAPHY FOR JET ENGINES/TURBINES: PRO OF OF
CONCEPT
12/15/1999 - 12/31/2003 FY03: \$84,207 Total: \$268,101
Prin. Invest.: J A KLEPPE
Tech. Officer: GRC/G FRALICK
CASE Category: 46 – MECHANICAL ENGR

NGT 5 30385 **UNIV OF NEVADA - RENO**
EVAPORATION AND CARBON DIOXIDE FLUX MEASUREMENTS AT THE
SALAR DE ATACAMA, NORTHERN CHILE/STE
08/13/2001 - 07/14/2002 FY03: -\$24,000 Total: \$22,000
Prin. Invest.: S TYLER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 40113 **UNIV OF NEVADA - RENO**
NEVADA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
03/12/2001 - 02/28/2005 FY03: \$418,250 Total: \$944,470
Prin. Invest.: J V TARANIK
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50362 **UNIV OF NEVADA - RENO**
SYNTHESIS OF HYPERSPECTRAL AND MULTISPECTRAL IMAGE DATA FOR
THE IDENTIFICATION OF FOSSIL AND ACTIVE
05/31/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: W CALVIN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 583 **UNIV OF NEVADA SYSTEM**
NEVADA NASA EPSCOR PROGRAM
08/27/2001 - 08/31/2004 FY03: \$1,400,000 Total: \$2,100,000
Prin. Invest.: J V TARANIK
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NEW HAMPSHIRE

NAG 2 1420 **DARTMOUTH COLLEGE**
TRANSCRIPTIONAL REGULATIONS & EVOLUTION OF BILATERAL BODY
PLANS
07/13/2000 - 12/31/2002 FY03: \$0 Total: \$134,855
Prin. Invest.: K PETERSON, E H DAVIDSON
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1584 **DARTMOUTH COLLEGE**
USING MOLECULAR CLOCKS AND REGULATORY NETWORKS TO TEST
ORIGINS OF BILATERAL SCENARIOS
10/25/2002 - 10/31/2005 FY03: \$195,035 Total: \$195,035
Prin. Invest.: K J PETERSON
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 5238 **DARTMOUTH COLLEGE**
SOUNDING OF THE ION ENERGIZATION REGION: RESOLVING AMBIGUITIES
(SIERRA)
05/11/1999 - 05/10/2003 FY03: \$0 Total: \$166,055
Prin. Invest.: J W LABELLE
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5239 **DARTMOUTH COLLEGE**
FIRST YEAR FUNDING FOR "ROCKET AURORAL CORRELATOR EXPERI-
MENT (RACE) PI DR. JAMES LABELLE
05/19/1999 - 05/18/2003 FY03: \$0 Total: \$263,637
Prin. Invest.: J W LABELLE
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5318 **DARTMOUTH COLLEGE**
HIGH BANDWIDTH AURORAL ROCKET (HI-BAR) HIGH BANDWIDTH AU-
RORAL ROCKET (HI-BAR)
02/14/2001 - 02/12/2004 FY03: \$83,020 Total: \$290,957
Prin. Invest.: J W LABELLE
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5367 **DARTMOUTH COLLEGE**
SVALBARD EISCAT ROCKET STUDY OF ION OUTFLOWS (SERS IO)
07/29/2002 - 07/21/2005 FY03: \$40,587 Total: \$65,289
Prin. Invest.: M LESSARD
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5382 **DARTMOUTH COLLEGE**
SVALBARD EISCAT ROCKET STUDY OF ION OUTFLOWS: SER SIO
07/29/2002 - 09/25/2005 FY03: \$152,740 Total: \$203,783
Prin. Invest.: K LYNCH
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5415 **DARTMOUTH COLLEGE**
"CASCADES: THE CHANGING AURORA: IN SITU AND CAMERA ANALYSIS OF
DYNAMIC ELECTRON PRECIPITATION
04/04/2003 - 04/03/2006 FY03: \$154,544 Total: \$154,544
Prin. Invest.: K LYNCH
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 7185 **DARTMOUTH COLLEGE**
APPROXIMATELY TWO-DIMENSIONAL, COHERENT STRUCTURES IN SPACE
PLASMAS: THE INVERSE PROBLEM
03/25/1998 - 03/31/2002 FY03: \$0 Total: \$213,222
Prin. Invest.: B U SONNERUP
Tech. Officer: GSFC/D EVANS
CASE Category: 11 – ASTRONOMY

NAG 5 7803 **DARTMOUTH COLLEGE**
MULTIPOINT, MULTI-INSTRUMENT STUDY OF AURORAL ALFVENIC PRO-
CESSES (SEC GI PROGRAM) NRA-98-03-S
11/09/1998 - 03/31/2002 FY03: \$0 Total: \$284,369
Prin. Invest.: W LOTKO
Tech. Officer: GSFC/M H ACUNA
CASE Category: 13 – PHYSICS

NAG 5 8441 **DARTMOUTH COLLEGE**
RESEARCH: "ULTRA LOW FREQUENCY MAGNETOSPHERIC PHYSI CS-
...". FIRST YEAR OF THREE YEAR FUNDING CYCLE. P
04/08/1999 - 04/14/2003 FY03: \$0 Total: \$980,048
Prin. Invest.: W LOTKO
Tech. Officer: GSFC/J M GREBOWSKY
CASE Category: 13 – PHYSICS

NEW HAMPSHIRE

NASA'S UNIVERSITY PROGRAM

NAG 5 9225 **DARTMOUTH COLLEGE**
 THE FORMATION OF THE MILKY WAY AND ITS SATELLITE GALAXIES (LTS A
 99)
 03/15/2000 - 03/14/2005 FY03: \$62,849 Total: \$245,166
Prin. Invest.: B CHABOYER
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9470 **DARTMOUTH COLLEGE**
 RIVER FLOODING AND GLOBAL ENVIRONMENTAL CHANGE: A MULTI-
 SENSOR APPROACH
 04/14/2000 - 04/30/2004 FY03: \$0 Total: \$596,194
Prin. Invest.: R BRAKENRIDGE
Tech. Officer: GSFC/P HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10216 **DARTMOUTH COLLEGE**
 IMPACTS OF IONOSPHERIC ACTIVITY ON ULTRA-LOW-FREQUENCY AU-
 RORAL ELECTRODYNAMICS
 01/05/2001 - 01/14/2004 FY03: \$86,397 Total: \$247,262
Prin. Invest.: A V STRELTSOV
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10219 **DARTMOUTH COLLEGE**
 A LOW-COST ROCKET-BORNE IMAGER FOR STUDIES OF AURO RAL FINE
 STRUCTURES
 01/05/2001 - 01/14/2003 FY03: \$0 Total: \$69,891
Prin. Invest.: M R LESSARD
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10953 **DARTMOUTH COLLEGE**
 EARLY FLOOD DETECTION USING QUICKSCAT AND THE DART MOUTH
 FLOOD OBSERVATORY
 05/18/2001 - 05/31/2003 FY03: \$0 Total: \$121,759
Prin. Invest.: G BRAKENRIDGE
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11712 **DARTMOUTH COLLEGE**
 A THEORETICAL STUDY OF THE GLOBAL GEOSPACE SYSTEM
 02/21/2002 - 01/31/2003 FY03: \$0 Total: \$84,000
Prin. Invest.: M K HUDSON
Tech. Officer: GSFC/S A CURTIS
CASE Category: 13 – PHYSICS

NAG 5 11735 **DARTMOUTH COLLEGE**
 ULTRA-LOW-FREQUENCY MAGNETOSPHERIC PHYSICS.
 02/28/2002 - 03/31/2005 FY03: \$357,244 Total: \$706,337
Prin. Invest.: W LOTKO
Tech. Officer: GSFC/J M GREBOWSKY
CASE Category: 13 – PHYSICS

NAG 5 11825 **DARTMOUTH COLLEGE**
 MASS DENSITY ALONG FIELD LINES
 03/07/2002 - 03/14/2005 FY03: \$72,885 Total: \$146,700
Prin. Invest.: R E DENTON
Tech. Officer: GSFC/JSHARBER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12005 **DARTMOUTH COLLEGE**
 RECONSTRUCTION OF COHERENT TWO-DIMENSIONAL SPACE P LASMA
 STRUCTURES
 04/11/2002 - 04/14/2005 FY03: \$105,680 Total: \$206,942
Prin. Invest.: B O SONNERUP
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12202 **DARTMOUTH COLLEGE**
 A STUDY OF GEOMAGNETIC STORMS USING GLOBAL MHD AND KENTIC
 RADIATION BELTSIMULATIONS
 05/15/2002 - 05/14/2005 FY03: \$81,109 Total: \$188,859
Prin. Invest.: M K HUDSON
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12325 **DARTMOUTH COLLEGE**
 ONE YEAR FUNDING FOR UNSOLICITED PROPOSAL "MODIS RAPID RE-
 SPONSE CAPABILITIES: APPLICATION TO FLOOD
 08/12/2002 - 08/14/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: G BRAKENRIDGE
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12879 **DARTMOUTH COLLEGE**
 MODELING HEAVY ATOMS AND IONS THROUGHOUT THE HELIO SPHERE
 02/05/2003 - 01/31/2006 FY03: \$89,675 Total: \$89,675
Prin. Invest.: H MUELLER
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13192 **DARTMOUTH COLLEGE**
 MONITORING OF EXTREME FLOOD EVENTS IN ROMANIA AND HUNGARY
 USING EO DATA
 04/01/2003 - 03/31/2006 FY03: \$64,743 Total: \$64,743
Prin. Invest.: R BRAKENRIDGE
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 13611 **DARTMOUTH COLLEGE**
 MODELING THE INTERACTION OF STELLAR
 08/18/2003 - 12/31/2005 FY03: \$116,399 Total: \$116,399
Prin. Invest.: H MUELLER
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1590 **DARTMOUTH COLLEGE**
 R/S IN SITU OPTICAL WAVEGUIDES FOR MONITORING AND MODIFYING
 PROTEIN CRYSTAL GROWTH
 01/28/1999 - 09/30/2002 FY03: \$0 Total: \$414,299
Prin. Invest.: U J GIBSON
Tech. Officer: MSFC/H K HIGGINBOTTAM, MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1088 **DARTMOUTH COLLEGE**
 LIFE SCIENCES DATA ARCHIVE SCIENTIFIC SUPPORT
 03/15/1999 - 09/30/2004 FY03: \$0 Total: \$390,571
Prin. Invest.: J BUCKEY
Tech. Officer: JSC/D BELL
CASE Category: 56 – MEDICL

NAG 9 1387 **DARTMOUTH COLLEGE**
 OTOACOUSTIC HEARING OF SPACE STATION CREWS
 09/24/2001 - 08/31/2004 FY03: \$124,427 Total: \$361,558
Prin. Invest.: J BUCKLEY
Tech. Officer: JSC/C LLYOD
CASE Category: 56 – MEDICL

NAG13 00041 **DARTMOUTH COLLEGE**
 LIMITED AREA OPERATIONAL COASTAL OCEAN MODELS SAME
 09/06/2000 - 09/05/2004 FY03: \$467,738 Total: \$1,283,183
Prin. Invest.: D R LYNCH
Tech. Officer: SSC/C DEL CASTILLO
CASE Category: 33 – OCEANOGRAPHY

NCC 1 01045 **DARTMOUTH COLLEGE**
 DATA-BASED OPTIMAL CONTROL & FAULT DETECTION TECHNIQUES FOR
 AEROSPACE SYSTEMS
 06/12/2001 - 02/14/2004 FY03: \$0 Total: \$128,000
Prin. Invest.: M Q PHAN
Tech. Officer: LARC/D D MOERDER
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 50403 **DARTMOUTH COLLEGE**
 SIMULATING THREE DIMENSIONAL RADIATION BELT DYNAMICS/STUDENT:
 KARA PERRY
 07/15/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: M HUDSON
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 384 **SAINT ANSELM COLLEGE**
 GROUND-BASED TESTING OF A PROTOTYPE HOLOGRAPHIC AT MO-
 SPHERIC SCANNER FOR ENVIRONMENTAL REMOTESENSIN
 03/05/1999 - 08/31/2002 FY03: \$0 Total: \$51,200
Prin. Invest.: D GUERRA
Tech. Officer: GSFC/A J NEGRI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 4785 **UNIV OF NEW HAMPSHIRE - DURHAM**
 AN INTEGRATED SYSTEM FOR WATER BUDGET CLOSURE OVER MASS: A
 TRMM VALIDATION EFFORT
 07/03/1997 - 12/31/2001 FY03: \$0 Total: \$234,500
Prin. Invest.: C VOROSMARTY
Tech. Officer: GSFC/O W THIELE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 5117 **UNIV OF NEW HAMPSHIRE - DURHAM**
 THE TIGRE INSTRUMENT FOR INTERMEDIATE-ENERGY GAMMA-RAY AS-
 TRONOMY FOR 0.3 TO 100MEV
 04/18/1997 - 11/30/2003 FY03: \$0 Total: \$175,972
Prin. Invest.: J RYAN
Tech. Officer: GSFC/H NEEDLEMAN, GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5212 **UNIV OF NEW HAMPSHIRE - DURHAM**
 ULDB COMPTON TELESCOPE MISSION
 09/22/1998 - 06/30/2002 FY03: -\$2 Total: \$59,998
Prin. Invest.: J M RYAN
Tech. Officer: WFF/B A MERRITT
CASE Category: 11 – ASTRONOMY

NAG 5 5234 **UNIV OF NEW HAMPSHIRE - DURHAM**
 DUST DARTS PI DR. KRISTINA LYNCH
 02/12/1999 - 12/31/2003 FY03: \$0 Total: \$403,550
Prin. Invest.: K LYNCH
Tech. Officer: GSFC/W JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5237 **UNIV OF NEW HAMPSHIRE - DURHAM**
 SOUNDING OF THE ION ENERGIZATION REGION: RESOLVING AMBIGUITIES
 (SIERRA)
 05/11/1999 - 11/10/2003 FY03: \$0 Total: \$428,215
Prin. Invest.: R L ARNOLDY
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5324 **UNIV OF NEW HAMPSHIRE - DURHAM**
 A WIDE FIELD-OF-VIEW HARD X-RAY POLARIMETER FOR STUDYING
 GAMMA-RAY BURSTS
 03/21/2001 - 12/31/2003 FY03: \$75,000 Total: \$225,000
Prin. Invest.: M L MCCONNELL
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5326 **UNIV OF NEW HAMPSHIRE - DURHAM**
 DEVELOPMENT OF CZT STRIP DETECTORS FOR HARD X-RAY IMAGING
 WITH MARGIE
 03/21/2001 - 12/31/2004 FY03: \$0 Total: \$130,000
Prin. Invest.: J M RYAN
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5327 **UNIV OF NEW HAMPSHIRE - DURHAM**
 DEVELOPMENT OF CZT STRIP DETECTORS FOR HARD X-RAY AND GAMMA-
 RAY IMAGING SPECTROSCOPY PI PRO
 08/09/2001 - 08/07/2004 FY03: \$350,000 Total: \$965,000
Prin. Invest.: J RYAN
Tech. Officer: WFF/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5358 **UNIV OF NEW HAMPSHIRE - DURHAM**
 CONTINUED DEVELOPMENT OF SCINTILLATING FIBER DETECTORS FOR
 GAMMA-RAY ASTRONOMY.
 07/15/2002 - 04/30/2003 FY03: \$0 Total: \$6,000
Prin. Invest.: J RYAN
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5381 **UNIV OF NEW HAMPSHIRE - DURHAM**
 SVALBARD EISCAT ROCKET STUDY OF ION OUTFLOWS: SER SIO
 07/29/2002 - 07/21/2005 FY03: \$31,879 Total: \$47,101
Prin. Invest.: K LYNCH
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5416 **UNIV OF NEW HAMPSHIRE - DURHAM**
 "CASCADES: THE CHANGING AURORA: IN SITU AND CAMERA ANALYSIS OF
 DYNAMIC ELECTRON PRECIPITATION
 04/04/2003 - 04/03/2006 FY03: \$32,270 Total: \$32,270
Prin. Invest.: R ARNOLD
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

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NAG 5 6137 **UNIV OF NEW HAMPSHIRE - DURHAM**
 TRANSFER FUNDS TO UNIV OF NEW HAMPSHIRE IN S ENTITLED:
 CHANGES IN BIOGEOCHEMICAL CYCLES
 08/11/1997 - 05/31/2002 FY03: \$0 Total: \$6,253,073
Prin. Invest.: B MOORE, III
Tech. Officer: GSFC/A C JANETOS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 6289 **UNIV OF NEW HAMPSHIRE - DURHAM**
 DEVELOPMENT OF A PARTICLE BACKSCATTERING ALGORITHM CONCUR-
 RENT SHIP MEASUREMENTS, AND GLOBAL BIOGEOCH
 09/10/1997 - 08/31/2002 FY03: -\$929 Total: \$425,054
Prin. Invest.: W S BROWN
Tech. Officer: GSFC/E A LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7631 **UNIV OF NEW HAMPSHIRE - DURHAM**
 QUANTIFYING THE ATMOSPHERIC IMPACTS OF PADDY RICE AGRICULTURE
 IN CHINA
 08/10/1998 - 09/30/2002 FY03: \$0 Total: \$1,350,000
Prin. Invest.: C LI
Tech. Officer: GSFC/A C JANETOS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7792 **UNIV OF NEW HAMPSHIRE - DURHAM**
 ION ACCELERATION AND TRANSPORT IN IMPULSIVE AND GRADUAL SOLAR
 FLARES
 12/14/1998 - 03/31/2002 FY03: -\$41 Total: \$166,803
Prin. Invest.: D A LEE
Tech. Officer: GSFC/D C LING
CASE Category: 11 – ASTRONOMY

NAG 5 7798 **UNIV OF NEW HAMPSHIRE - DURHAM**
 SMALL SCALE STRUCTURE OF AURORAL ELECTRIC CURRENTS -- A GUEST
 INVESTI- GATOR PROPOSAL TO THE FAST
 12/15/1998 - 12/31/2001 FY03: \$0 Total: \$168,425
Prin. Invest.: D A LYNCH
Tech. Officer: GSFC/L ZANETTI
CASE Category: 11 – ASTRONOMY

NAG 5 7804 **UNIV OF NEW HAMPSHIRE - DURHAM**
 ELECTRIC FIELDS AND RING CURRENT ENERGIZATION (SEC GI PROGRAM)
 11/06/1998 - 12/31/2001 FY03: \$0 Total: \$224,131
Prin. Invest.: V K JORDANOVA
Tech. Officer: GSFC/M H ACUNA
CASE Category: 13 – PHYSICS

NAG 5 8443 **UNIV OF NEW HAMPSHIRE - DURHAM**
 A WATER BUDGET CLOSURE SYSTEM TO SUPPORT LBA HYDRO METEOROL-
 OGY AND ECOLOGY STUDIES
 04/08/1999 - 04/14/2004 FY03: \$0 Total: \$448,293
Prin. Invest.: C J VOROSMARTY
Tech. Officer: GSFC/P T HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8641 **UNIV OF NEW HAMPSHIRE - DURHAM**
 AN APD READOUT SCHEME FOR A SOLAR NEUTRON TRACKING DEVICE.
 07/08/1999 - 06/30/2002 FY03: \$0 Total: \$368,600
Prin. Invest.: M L MCCONNELL
Tech. Officer: GSFC/F HERRERO
CASE Category: 13 – PHYSICS

NAG 5 8683 **UNIV OF NEW HAMPSHIRE - DURHAM**
 THE CONTRIBUTION OF SATELLITE RADAR ALTIMETRY TO THE DETERMI-
 NATION OF RIVER DISCHARGE & LAKE/RESSER
 07/23/1999 - 07/14/2003 FY03: \$0 Total: \$251,227
Prin. Invest.: C J VOROSMARTY
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8733 **UNIV OF NEW HAMPSHIRE - DURHAM**
 CONVERSION SURFACE TECHNOLOGY FOR LOW ENERGY NEUTRAL ATOM
 IMAGING.
 09/14/1999 - 06/30/2002 FY03: \$0 Total: \$352,372
Prin. Invest.: J QUINN
Tech. Officer: GSFC/G MUCKLOW
CASE Category: 11 – ASTRONOMY

NAG 5 8828 **UNIV OF NEW HAMPSHIRE - DURHAM**
 "COOPERATION BETWEEN IGBP AND LAB: MEETING THE INTERNATIONAL
 CHALLENGE"
 09/08/1999 - 03/14/2004 FY03: \$0 Total: \$214,950
Prin. Invest.: B MOORE III
Tech. Officer: GSFC/D DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9617 **UNIV OF NEW HAMPSHIRE - DURHAM**
 A REGIONAL INTEGRATED MONITORING SYSTEM FOR THE HYDROLOGY
 OF THE PAN-ARCTIC MASS
 05/23/2000 - 04/30/2004 FY03: \$149,389 Total: \$409,821
Prin. Invest.: C VOROSMARTY
Tech. Officer: GSFC/P HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9685 **UNIV OF NEW HAMPSHIRE - DURHAM**
 CONSOLIDATING THE VELA-REGION 1.809 MEV RESULTS
 06/05/2000 - 08/14/2002 FY03: \$0 Total: \$3,500
Prin. Invest.: J RYAN
Tech. Officer: GSFC/J P NORRIS
CASE Category: 11 – ASTRONOMY

NAG 5 9960 **UNIV OF NEW HAMPSHIRE - DURHAM**
 CLUSTER ELECTRON DRIFT INSTRUMENT (EDI).
 09/20/2000 - 10/31/2003 FY03: \$1,123,723 Total: \$2,990,710
Prin. Invest.: J M QUINN
Tech. Officer: GSFC/M GOLDSTEIN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10135 **UNIV OF NEW HAMPSHIRE - DURHAM**
 PREDICTING CHANGES IN REGIONAL & GLOBAL BIOGEO- CHEMICAL
 CYCLES
 02/14/2001 - 12/31/2003 FY03: \$875,000 Total: \$2,525,000
Prin. Invest.: B MOORE
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10203 **UNIV OF NEW HAMPSHIRE - DURHAM**
 HARD X-RAY POLARIMETRY OF SOLAR FLARES WITH HESSI
 12/28/2000 - 12/31/2003 FY03: \$73,485 Total: \$212,335
Prin. Invest.: M L MCCONNELL
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10260 **UNIV OF NEW HAMPSHIRE - DURHAM**
 A SATELLITE-BASED SYSTEM FOR MONITORING FLUXES BETWEEN THE
 CONTINENTAL LAND MASS & COASTAL OCEANS
 02/05/2001 - 12/31/2001 FY03: \$0 Total: \$212,404
Prin. Invest.: C VOROSMARTY
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10360 **UNIV OF NEW HAMPSHIRE - DURHAM**
 GGS/WIND MISSION MISSIONS OPERATIONS AND DATA ANALYSIS PHASE.
 02/05/2001 - 02/14/2002 FY03: \$0 Total: \$100,000
Prin. Invest.: R TORBERT
Tech. Officer: GSFC/K OGILVIE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10420 **UNIV OF NEW HAMPSHIRE - DURHAM**
 CONSTELLATION PATHFINDER TECHNOLOGY DEVELOPMENT: SYSTEMS
 INTEGRATION AND MANUFACTURABILITY.
 03/12/2001 - 03/14/2003 FY03: \$0 Total: \$49,645
Prin. Invest.: D LYNCH
Tech. Officer: GSFC/P BUCHANAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10472 **UNIV OF NEW HAMPSHIRE - DURHAM**
 PARTICLE ENERGIZATION IN REVERSE AURORA
 02/27/2001 - 02/28/2004 FY03: \$74,945 Total: \$228,015
Prin. Invest.: K LYNCH
Tech. Officer: GSFC/J SPANN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10835 **UNIV OF NEW HAMPSHIRE - DURHAM**
 A NEW KINETIC MODEL FOR CORONAL HEATING AND GENERATION OF
 THE FAST SOLAR WIND BY ION-CYCLOTRON
 04/27/2001 - 04/30/2004 FY03: \$101,271 Total: \$292,780
Prin. Invest.: P A ISENBERG
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10883 **UNIV OF NEW HAMPSHIRE - DURHAM**
 AN ASSESSMENT OF THE FEASIBILITY OF PREDICTING MAJOR GEOMAG-
 NETIC DISTURBANCES FROM MONITORS IN
 05/03/2001 - 04/30/2004 FY03: \$0 Total: \$194,534
Prin. Invest.: C FARRUGIA
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10890 **UNIV OF NEW HAMPSHIRE - DURHAM**
 LOCAL INTERSTELLAR MEDIUM PARAMETERS
 05/10/2001 - 05/31/2004 FY03: \$75,820 Total: \$225,354
Prin. Invest.: E MOEBIUS
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10977 **UNIV OF NEW HAMPSHIRE - DURHAM**
 NUMERICAL TESTS OF ERUPTIVE CME MODELS
 05/29/2001 - 05/31/2004 FY03: \$56,590 Total: \$164,271
Prin. Invest.: T G FORBES
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10988 **UNIV OF NEW HAMPSHIRE - DURHAM**
 THE ROLE OF KINETICS IN NEARLY PERPENDICULAR CASCADES
 06/05/2001 - 05/31/2004 FY03: \$93,660 Total: \$269,801
Prin. Invest.: B J VASQUEZ
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11160 **UNIV OF NEW HAMPSHIRE - DURHAM**
 LAND-USE CHANGE IN TEMPERATE EAST ASIA: LAND COVER CHANGE
 IMPACTS ON CARBON FLUXES AND LAND PRODUCTI
 08/03/2001 - 07/31/2004 FY03: \$0 Total: \$152,598
Prin. Invest.: X XIAO
Tech. Officer: GSFC/G Q GUTMAN
CASE Category: 39 – ENVIRONMENTALSCI, OTHER

NAG 5 11258 **UNIV OF NEW HAMPSHIRE - DURHAM**
 AIR-SEA FLUX OF CO2: EFFECTS OF SMALL-SCALE VARIABILITY ON
 LARGE-SCALE ESTIMATES
 08/17/2001 - 08/31/2004 FY03: \$46,576 Total: \$179,945
Prin. Invest.: J W CAMPBELL
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11310 **UNIV OF NEW HAMPSHIRE - DURHAM**
 SCALING FOREST CARBON FLUX MEASUREMENTS FROM SITES TO LAND-
 SCAPES: A HYPERSPECTRAL ANALYSIS OF F
 08/31/2001 - 08/31/2004 FY03: \$272,239 Total: \$631,361
Prin. Invest.: S OLLINGER
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11750 **UNIV OF NEW HAMPSHIRE - DURHAM**
 A GLOBAL RAPID INTEGRATED MONITORING SYSTEM FOR WATER CYCLE
 AND WATER RESOURCE ASSESSMENT (GLOBAL
 02/13/2002 - 02/14/2005 FY03: \$85,200 Total: \$177,500
Prin. Invest.: C VOROSMARTY
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11797 **UNIV OF NEW HAMPSHIRE - DURHAM**
 RESEARCH: "THEORETICAL STUDIES ON THE SOLAR ATMOSPHERE AND
 SOLAR WIND", A PART OF NASA'S SEC THEORY
 04/29/2002 - 02/28/2005 FY03: \$411,079 Total: \$799,396
Prin. Invest.: J V HOLLWEG
Tech. Officer: GSFC/J M GREBOWSKY
CASE Category: 13 – PHYSICS

NAG 5 11803 **UNIV OF NEW HAMPSHIRE - DURHAM**
 "GGS WIND"
 03/07/2002 - 03/31/2005 FY03: \$41,000 Total: \$81,000
Prin. Invest.: R TORBERT
Tech. Officer: GSFC/K OGILVIE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11820 **UNIV OF NEW HAMPSHIRE - DURHAM**
 SUPERPOSED EPOCH ANALYSIS OF THE PLASMA SHEET
 03/01/2002 - 06/30/2005 FY03: \$80,488 Total: \$160,232
Prin. Invest.: R L KAUFMANN
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

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NAG 5 12189 **UNIV OF NEW HAMPSHIRE - DURHAM**
 SOLAR WIND-MAGNETOSPHERE-IONOSPHERE COUPLING: OBSERVATIONS
 DURING MAGNETIC CONJUNCTIONS OF
 05/14/2002 - 06/30/2005 FY03: \$0 Total: \$82,721
Prin. Invest.: C FARRUGIA
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12252 **UNIV OF NEW HAMPSHIRE - DURHAM**
 JOINT CENTER FOR EARTH SCIENCES EDUCATIONAL INITIATIVE
 06/05/2002 - 05/31/2005 FY03: \$0 Total: \$23,254
Prin. Invest.: B MOORE
Tech. Officer: GSFC/V V SALOMONSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12365 **UNIV OF NEW HAMPSHIRE - DURHAM**
 MULTISENSOR MEASUREMENTS OF THE TEMPORAL AND SPATIAL PAT-
 TERN OF ICE SHEET ACCUMULATION
 07/22/2002 - 07/31/2005 FY03: \$0 Total: \$31,515
Prin. Invest.: M FAHNESTOCK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12369 **UNIV OF NEW HAMPSHIRE - DURHAM**
 WORKFORCE DEVELOPMENT IN REMOTE SENSING
 07/10/2002 - 06/30/2003 FY03: \$0 Total: \$85,403
Prin. Invest.: D BARTLETT
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12402 **UNIV OF NEW HAMPSHIRE - DURHAM**
 QUANTIFYING THE ROLE OF OCEANIC ECOLOGICAL PROVINCES IN
 ASSESSING SEASONAL AND INTERANNUAL VA
 07/23/2002 - 07/31/2005 FY03: \$0 Total: \$135,038
Prin. Invest.: M DOWELL
Tech. Officer: GSFC/P BONTEMPI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12408 **UNIV OF NEW HAMPSHIRE - DURHAM**
 MELT CONTRIBUTIONS TO MASS CHANGE FOR THE GREENLAND ICE
 SHEET
 08/01/2002 - 07/31/2005 FY03: \$0 Total: \$67,464
Prin. Invest.: M FAHNESTOCK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12451 **UNIV OF NEW HAMPSHIRE - DURHAM**
 SATELLITE-BASED SYSTEM FOR MONITORING BIOGEOCHEMICAL FLUXES
 BETWEEN THE CONTINENTAL LAND MASS AND T
 08/15/2002 - 08/14/2005 FY03: \$176,609 Total: \$346,958
Prin. Invest.: C VOROSMARTY
Tech. Officer: GSFC/C TREES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12493 **UNIV OF NEW HAMPSHIRE - DURHAM**
 DEVELOPMENT AND TESTING OF A NEW ANGLE DETECTING INCLINED
 SENSOR(ADIS) SYSTEM
 08/27/2002 - 08/31/2005 FY03: \$136,091 Total: \$270,683
Prin. Invest.: J J CONNELL
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12721 **UNIV OF NEW HAMPSHIRE - DURHAM**
 BENCH-MODEL SYSTEM FOR A THREE-INSTRUMENT RESOURCE -LIMITED
 SATELLITE
 12/31/2002 - 12/31/2005 FY03: \$217,739 Total: \$217,739
Prin. Invest.: R TORBERT
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12762 **UNIV OF NEW HAMPSHIRE - DURHAM**
 IMPORTANCE OF HEAVY IONS TO PLASMA SHEET DYNAMICS
 01/21/2003 - 01/14/2006 FY03: \$82,433 Total: \$82,433
Prin. Invest.: L KISTLER
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12838 **UNIV OF NEW HAMPSHIRE - DURHAM**
 IMPACT OF ASIAN RICE PADDIES ON GLOBAL CH4 BALANCE
 02/11/2003 - 02/14/2006 FY03: \$140,732 Total: \$140,732
Prin. Invest.: C LI
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12876 **UNIV OF NEW HAMPSHIRE - DURHAM**
 FAST FLUXES AND SLOW POOLS: INTEGRATING EDDY COVARIANCE AND
 ECOSYSTEM PROCESS OBSERVATION WITHIN A
 02/06/2003 - 01/31/2006 FY03: \$152,656 Total: \$152,656
Prin. Invest.: B BRASWELL
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13116 **UNIV OF NEW HAMPSHIRE - DURHAM**
 KELVIN-HELMHOLTZ INSTABILITY AT THE MAGNETOPAUSE AND ITS
 BOUNDARY LAYERS UNDER NORTHWARD IMF CONDITI
 03/14/2003 - 03/31/2006 FY03: \$54,595 Total: \$54,595
Prin. Invest.: C J FARRUGIA
Tech. Officer: GSFC/D H FAIRFIELD
CASE Category: 13 – PHYSICS

NAG 5 13178 **UNIV OF NEW HAMPSHIRE - DURHAM**
 READOUT DEVELOPMENT AND SIMULATIONS FOR SONTRAC
 03/25/2003 - 03/31/2006 FY03: \$199,069 Total: \$199,069
Prin. Invest.: R MILLER
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13224 **UNIV OF NEW HAMPSHIRE - DURHAM**
 MICROWAVE EMISSION DEPTH IN FIRN AND LONG-TERM ACCUMULATION
 RATES FROM INTERNAL LAYER DISTRIBUTION
 05/02/2003 - 02/29/2004 FY03: \$36,202 Total: \$36,202
Prin. Invest.: M FAHNESTOCK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13512 **UNIV OF NEW HAMPSHIRE - DURHAM**
 THE GEOEFFECTIVENESS OF SOLAR CYCLE 23 AS INFERRED FROM A
 PHYSICS-BASED STORM MODEL
 05/02/2003 - 04/30/2006 FY03: \$90,697 Total: \$90,697
Prin. Invest.: V JORDANOVA
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13519 **UNIV OF NEW HAMPSHIRE - DURHAM**
 A NEUTRON SPECTROMETER FOR SOLAR SENTINEL
 05/05/2003 - 06/30/2005 FY03: \$96,252 Total: \$96,252
Prin. Invest.: J RYAN
Tech. Officer: GSFC/D SIEBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13535 **UNIV OF NEW HAMPSHIRE - DURHAM**
 COSMIC RAY INTERSTELLAR PROPAGATION (ATP 2000)
 05/13/2003 - 05/31/2004 FY03: \$15,984 Total: \$15,984
Prin. Invest.: J J CONNELL
Tech. Officer: GSFC/R J OLIVERSON
CASE Category: 11 – ASTRONOMY

NAG 5 13550 **UNIV OF NEW HAMPSHIRE - DURHAM**
 INTEGRAL OBSERVATIONS OF A 2.22 MEV SOURCE CANDIDATE
 08/11/2003 - 08/14/2004 FY03: \$45,035 Total: \$45,035
Prin. Invest.: M L MCCONNELL
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 5 00132 **UNIV OF NEW HAMPSHIRE - DURHAM**
 STEREO PHASE A CONCEPT STUDY FOR INSTANT MEASUREMENTS OF
 PARTICLES & CME TRANSIENT (IMPACT)
 02/22/2000 - 10/31/2004 FY03: \$1,912,000 Total: \$5,038,551
Prin. Invest.: A GALVIN
Tech. Officer: GSFC/A HARPER
CASE Category: 13 – PHYSICS

NAS 5 26645 **UNIV OF NEW HAMPSHIRE - DURHAM**
 DEFINITION PHASE OF THE DETECTOR SUBSYSTEM FOR THE COMPTEL
 08/19/1981 - 09/30/2003 FY03: \$0 Total: \$30,631,653
Prin. Invest.: J RYAN
Tech. Officer: GSFC/J NORRIS
CASE Category: 11 – ASTRONOMY

NAS 5 96063 **UNIV OF NEW HAMPSHIRE - DURHAM**
 MODIS-EOS DEVELOPMENT OF ALGORITHMS
 07/16/1996 - 12/14/2003 FY03: \$218,000 Total: \$1,651,000
Prin. Invest.: J CAMPBELL
Tech. Officer: GSFC/D TOLL, GSFC/B CONBOY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 410 **UNIV OF NEW HAMPSHIRE - DURHAM**
 TRACE-P DC-8 AND P3-B AIRCRAFT MY 1/3
 09/13/2000 - 06/30/2004 FY03: \$67,500 Total: \$744,526
Prin. Invest.: R W TALBOT
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 02023 **UNIV OF NEW HAMPSHIRE - DURHAM**
 TROPOSPHERIC METHANE OVER THE PACIFIC BASIC DURING TRACE-P
 04/04/2002 - 01/04/2004 FY03: \$0 Total: \$32,527
Prin. Invest.: K B BARTLETT
Tech. Officer: LARC/G W SACHSE, LARC/G S DISKIN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 226 **UNIV OF NEW HAMPSHIRE - DURHAM**
 TROPICAL BIOCHEMISTRY & NASA LBA ECOLOGY SCIENCE S
 09/10/1997 - 12/31/2001 FY03: -\$8 Total: \$656,886
Prin. Invest.: D BARTLETT
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 304 **UNIV OF NEW HAMPSHIRE - DURHAM**
 WEB BASED SYSTEM FOR TERRESTRIAL ENVIRONMENTAL RESEARCH
 04/22/1998 - 09/30/2003 FY03: \$175,000 Total: \$3,735,000
Prin. Invest.: B MOORE
Tech. Officer: GSFC/M MAIDEN
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 5 338 **UNIV OF NEW HAMPSHIRE - DURHAM**
 MODELING THE BIOGEOCHEMICAL SYSTEM OF THE TERRESTRIAL AMA-
 ZON: ISSUES FOR SUSTAINABILITY
 06/23/1998 - 12/31/2003 FY03: \$0 Total: \$1,292,661
Prin. Invest.: B MOORE, 111
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 357 **UNIV OF NEW HAMPSHIRE - DURHAM**
 SOIL BIOGEOCHEMISTRY OF CARBON, NUTRIENTS AND TRACE GAS IN
 THE AMAZON REGION OF BRAZIL: FIELD AND
 08/03/1998 - 12/31/2002 FY03: \$0 Total: \$1,034,065
Prin. Invest.: P CRILL
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 477 **UNIV OF NEW HAMPSHIRE - DURHAM**
 EVALUATION OF HYPERSPECTRAL REQUIREMENTS FOR REMOTE ESTIMA-
 TION OF FOREST ECOSYSTEM COMPOSITION
 03/22/2000 - 03/31/2003 FY03: \$0 Total: \$173,782
Prin. Invest.: M E MARTIN
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 587 **UNIV OF NEW HAMPSHIRE - DURHAM**
 VALIDATING, SCALING AND PARAMETERIZING A FOREST RE GROWTH
 MODEL FOR THE AMAZON REGION USING AIRCRAFT
 08/30/2001 - 08/31/2004 FY03: \$262,717 Total: \$634,781
Prin. Invest.: M DUCKEY
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 608 **UNIV OF NEW HAMPSHIRE - DURHAM**
 ECOSYSTEM RESPIRATION AND TRACE GAS EXCHANGE IN UN DISTURBED
 AND SELECTIVELY LOGGED FORESTS
 12/10/2001 - 12/31/2004 FY03: \$616,952 Total: \$1,222,643
Prin. Invest.: P CRILL
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30349 **UNIV OF NEW HAMPSHIRE - DURHAM**
 SOURCE APPORTIONMENT OF ANTHROPOGENIC AEROSOLS CONTRIBUT-
 ING TO DIRECT RADIATIVE FORCING IN SOUTHERN
 08/24/2000 - 02/28/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: J E DIBB
Tech. Officer: GSFC/M WEITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30477 **UNIV OF NEW HAMPSHIRE - DURHAM**
 IMPROVING ESTIMATION OF TERRESTRIAL GROSS PRIMARY PRODUCTIVI-
 TY(GPP): FAPARPAVVERSUS FAPAR (Q ZHANG)
 09/29/2003 - 08/31/2005 FY03: \$24,000 Total: \$24,000
Prin. Invest.: X XIAO
Tech. Officer: GSFC/M WEI
CASE Category: 21 – MATHEMATICS

NEW JERSEY

NASA'S UNIVERSITY PROGRAM

NGT 5 30481 **UNIV OF NEW HAMPSHIRE - DURHAM**
 INTEGRATION OF AVIRIS AND LIDAR DATA
 09/26/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M MARTIN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30501 **UNIV OF NEW HAMPSHIRE - DURHAM**
 TERRESTRIAL CARBON CYCLE & ENSO: EVALUATING ECO SYSTEM PROCESSES THAT AMPLIFY EFFECTS OF EL NINO
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D SAHAGIAN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40088 **UNIV OF NEW HAMPSHIRE - DURHAM**
 NEW HAMPSHIRE SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/21/2001 - 02/28/2005 FY03: \$519,253 Total: \$1,636,049
Prin. Invest.: D BARTLETT
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50379 **UNIV OF NEW HAMPSHIRE - DURHAM**
 SOUNDING ROCKET STUDY OF RETURN CURRENT REGION AURORA (STUDENT: ELIZABETH MACDONAL)
 05/13/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: K A LYNCH
Tech. Officer: GSFC/M MELLOTT
CASE Category: 11 – ASTRONOMY

NGT 5 50381 **UNIV OF NEW HAMPSHIRE - DURHAM**
 INTERSTELLAR HE+ PICKUP ION VELOCITY DISTRIBUTION MODELING AND ANALYSIS (STUDENT: LUKAS SAUL)
 05/21/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: E MOBIUS
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NEW JERSEY

NAG 1 01110 **NEW JERSEY INST OF TECHNOLOGY**
 NANOCOMPOSITES BASED ON LIQUID CRYSTALLINE POLYMERS
 08/30/2001 - 09/30/2004 FY03: \$25,000 Total: \$156,933
Prin. Invest.: M JAFFE
Tech. Officer: LARC/E S WEISER, LARC/B J JENSEN
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2367 **NEW JERSEY INST OF TECHNOLOGY**
 GRAVITY AND GRANULAR MATERIALS GRAVITY AND GRANULAR MATERIALS
 03/24/2000 - 11/30/2003 FY03: \$54,964 Total: \$127,477
Prin. Invest.: L KONDIC
Tech. Officer: GRC/A WILKENSEN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2459 **NEW JERSEY INST OF TECHNOLOGY**
 DATA ANALYSIS FOR REAL-TIME/POST FLIGHT HEALTH MONITORING OF PROPULSION SYSTEMS
 06/07/2000 - 08/31/2002 FY03: \$0 Total: \$104,419
Prin. Invest.: D P DHAWAN
Tech. Officer: GRC/E WONG
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2475 **NEW JERSEY INST OF TECHNOLOGY**
 DATA MINING AND OPTIMIZATION TOOLS FOR ENGINE CONDITION MONITORING
 07/19/2000 - 03/31/2002 FY03: \$0 Total: \$94,022
Prin. Invest.: D P DHAWAN
Tech. Officer: GRC/J LITT
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 3 2890 **NEW JERSEY INST OF TECHNOLOGY**
 ADAPTIVE LEARNING FOR EVENT MODELING AND CHARACTERIZATION
 05/01/2003 - 03/30/2004 FY03: \$67,300 Total: \$67,300
Prin. Invest.: A P DHAWAN
Tech. Officer: GRC/E WONG
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 7837 **NEW JERSEY INST OF TECHNOLOGY**
 SOHO/BBSO COORDINATED STUDY ON MAGNETIC RECONNECTION IN THE QUIET SUN
 12/22/1998 - 08/31/2002 FY03: \$0 Total: \$232,363
Prin. Invest.: H WANG
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 8485 **NEW JERSEY INST OF TECHNOLOGY**
 INTERACTION OF WAVES AND CONVECTION IN THE SUN
 05/04/1999 - 10/31/2002 FY03: \$0 Total: \$131,417
Prin. Invest.: M F WOODARD
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 9501 **NEW JERSEY INST OF TECHNOLOGY**
 STUDIES OF SMALL-SCALE DYNAMICS BY JOINT TRACE AND BBSO OBSERVATIONS
 04/20/2000 - 12/31/2002 FY03: -\$2 Total: \$148,111
Prin. Invest.: H WANG
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 9682 **NEW JERSEY INST OF TECHNOLOGY**
 STUDIES OF SOLAR MAGNETIC FIELDS & SOLAR ACTIVITY
 06/26/2000 - 05/31/2004 FY03: \$240,603 Total: \$1,246,766
Prin. Invest.: P R GOODE
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 10212 **NEW JERSEY INST OF TECHNOLOGY**
 MICROWAVE IMAGING SPECTROSCOPY OF SOLAR FLARES IN SUPPORT OF HESSI
 01/03/2001 - 12/31/2003 FY03: \$83,575 Total: \$248,746
Prin. Invest.: D E GARY
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10891 **NEW JERSEY INST OF TECHNOLOGY**
 STUDY OF OVSA MICROWAVES AND HESSI HARD X-RAYS
 05/10/2001 - 05/31/2004 FY03: \$49,988 Total: \$145,770
Prin. Invest.: J LEE
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10894 **NEW JERSEY INST OF TECHNOLOGY**
 EPHEMERAL REGIONS AND CANCELLING MAGNETIC FEATURES
 05/14/2001 - 05/31/2004 FY03: \$48,939 Total: \$142,687
Prin. Invest.: J CHAE
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10910 **NEW JERSEY INST OF TECHNOLOGY**
 HESSI-BBSO JOINT STUDIES OF SOLAR FLARES
 05/24/2001 - 05/31/2004 FY03: \$74,096 Total: \$226,600
Prin. Invest.: H WANG
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11007 **NEW JERSEY INST OF TECHNOLOGY**
 EARTHSHINE MEASUREMENTS OF THE EARTH'S ALBEDO
 06/29/2001 - 06/30/2004 FY03: \$145,591 Total: \$463,831
Prin. Invest.: P R GOODE
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 11875 **NEW JERSEY INST OF TECHNOLOGY**
 MICROWAVE IMAGING OF SOLAR FLARES AND ACTIVE REGIONS WITH
 THE OWENS VALLEYSOLAR ARRAY
 03/15/2002 - 03/14/2005 FY03: \$118,093 Total: \$202,836
Prin. Invest.: D E GARY
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 12733 **NEW JERSEY INST OF TECHNOLOGY**
 DYNAMICS OF FILAMENTS AND THE ASSOCIATION WITH CORONAL MASS
 EJECTIONS
 01/27/2003 - 01/31/2005 FY03: \$83,962 Total: \$83,962
Prin. Invest.: H WANG
Tech. Officer: GSFC/T A KUCERA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12782 **NEW JERSEY INST OF TECHNOLOGY**
 STUDIES OF THE SOLAR ATMOSPHERE AND ITS MAGNETIC FIELDS
 01/27/2003 - 01/31/2006 FY03: \$406,958 Total: \$406,958
Prin. Invest.: P R GOODE
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13661 **NEW JERSEY INST OF TECHNOLOGY**
 RAPID CHANGES OF MAGNETIC FIELDS ASSOCIATED WITH FLARES AND
 CMES
 09/08/2003 - 08/31/2006 FY03: \$64,908 Total: \$64,908
Prin. Invest.: H WANG
Tech. Officer: GSFC/M GUHATHAKURTA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1714 **NEW JERSEY INST OF TECHNOLOGY**
 HIGH TEMPERATURE PHASES AND PHASE EQUILIBRIA IN REACTIVE
 MOLTEN METAL-BASED SYSTEMS
 05/04/2000 - 11/30/2003 FY03: \$105,000 Total: \$359,750
Prin. Invest.: E DREIZIN
Tech. Officer: MSFC/P DOTY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9103 **PASSAIC COUNTY COMM COLLEGE**
 PANTHER PROJECT (PATERSON & NASA TOGETHER FOR HIGH EXPECTA-
 TIONS & RESULTS)
 03/10/2000 - 08/31/2003 FY03: \$0 Total: \$299,853
Prin. Invest.: R EPSTEIN
Tech. Officer: HQ/STOUTSENBERGER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01010 **PRINCETON UNIV**
 SELF-HEALING ORGANIC/INORGANIC NANOCOMPOSITES
 01/10/2001 - 12/31/2003 FY03: \$125,000 Total: \$375,000
Prin. Invest.: A AKSAY
Tech. Officer: WFF/T L STCLAIR
CASE Category: 12 – CHEMISTRY

NAG 2 1327 **PRINCETON UNIV**
 DEVELOPMENT OF UNSTRUCTURED METHODS FOR EFFICIENT AERODY-
 NAMIC SIMULATION & DESIGN
 05/21/1999 - 03/14/2003 FY03: \$0 Total: \$314,066
Prin. Invest.: T J BAKER, A J SMITS
Tech. Officer: ARC/S E CLIFF
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1475 **PRINCETON UNIV**
 PIERZOELECTRIC MICROCANTILEVERS WITH NANOSCOPIC COATINGS A
 BREAKTHROUGH SENSING TECHNOLOGY
 04/20/2001 - 04/14/2004 FY03: \$367,827 Total: \$1,166,567
Prin. Invest.: I AKSAY
Tech. Officer: ARC/M MEYYAPPAN, ARC/H PATRIDGE
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1579 **PRINCETON UNIV**
 RESEARCH ON ROTORCRAFT MODELING
 09/06/2002 - 08/31/2004 FY03: \$0 Total: \$20,000
Prin. Invest.: H C CURTISS
Tech. Officer: ARC/M TISCHLER, ARC/B LAKINSMITH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2248 **PRINCETON UNIV**
 THE CONTROL AND DYNAMICS OF HARD SPHERE COLLOIDAL DISPER-
 SIONS
 03/30/1999 - 02/23/2004 FY03: \$370,973 Total: \$1,808,653
Prin. Invest.: P M CHALKIN
Tech. Officer: GRC/B S SINGH
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2380 **PRINCETON UNIV**
 ELECTROHYDRODYNAMIC FLOWS IN ELECTROCHEMICAL SYSTEMS
 04/06/2000 - 11/30/2003 FY03: \$100,000 Total: \$345,250
Prin. Invest.: D A SAVILLE
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 3 2665 **PRINCETON UNIV**
 COMPUTATIONAL TOOLS FOR THE DESIGN OF ADVANCED COATING
 SYSTEMS FOR 3000F
 11/08/2001 - 09/30/2006 FY03: \$150,000 Total: \$300,000
Prin. Invest.: D J SROLOVITZ
Tech. Officer: GRC/B GOOD
CASE Category: 47 – METAL & MATERIALS ENGR

NEW JERSEY

NASA'S UNIVERSITY PROGRAM

NAG 5 616 **PRINCETON UNIV**
 INTERSTELLAR MEDIUM ABSORPTION PROFILE SPECTROGRAPH (IMAPS)
 01/01/1983 - 10/31/2002 FY03: \$5,522 Total: \$10,728,187
Prin. Invest.: E B JENKINS
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 9486 **PRINCETON UNIV**
 TERRESTRIAL HYDROLOGY & CLIMATE STUDIES USING EOS- ERA DATA
 04/17/2000 - 03/31/2004 FY03: \$0 Total: \$278,018
Prin. Invest.: E WOOD
Tech. Officer: GSFC/P HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7154 **PRINCETON UNIV**
 FORMATION AND EVOLUTION OF GROUPS AND FILAMENTS - ATP
 03/16/1998 - 03/14/2003 FY03: \$0 Total: \$348,752
Prin. Invest.: D N SPERGEL
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 9635 **PRINCETON UNIV**
 TMI SOIL MOISTURE PATHFINDER DATA STUDY
 06/05/2000 - 05/31/2004 FY03: \$0 Total: \$175,003
Prin. Invest.: E WOOD
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8365 **PRINCETON UNIV**
 STUDYING THE EVOLUTION OF X-RAY CLUSTERS OF GALAXIES USING
 LARGE-SCALE HIGH RESOLUTION COSMOLOGIC
 03/15/1999 - 03/14/2003 FY03: \$0 Total: \$363,066
Prin. Invest.: R CEN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 9810 **PRINCETON UNIV**
 REGIONAL CONTRIBUTION TO THE GLOBAL TROPOSPHERIC OZONE
 BUDGET-GLOBAL MODELING AND DATA ANALYSIS
 07/18/2000 - 07/14/2004 FY03: \$62,000 Total: \$186,203
Prin. Invest.: D L MAUZERALL
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8385 **PRINCETON UNIV**
 EVOLUTION AND DYNAMICS OF PROTOSTELLAR DISKS
 03/03/1999 - 02/28/2003 FY03: \$0 Total: \$125,000
Prin. Invest.: J GOODMAN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9891 **PRINCETON UNIV**
 USE OF TRMM DATA TO EVALUATE BENEFITS OF POST-2002 GLOBAL
 PRECIPITATION MISSION FOR LAND SURFACE HYD
 08/23/2000 - 08/31/2004 FY03: \$0 Total: \$239,000
Prin. Invest.: E F WOOD
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8676 **PRINCETON UNIV**
 ATMOSPHERIC AEROSOL EVOLUTION AND EXCHANGE
 07/08/1999 - 07/14/2003 FY03: \$0 Total: \$322,129
Prin. Invest.: L RUSSELL
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10456 **PRINCETON UNIV**
 RESONANT & SECULAR ORBITAL DYNAMICS OF PLANETS, PLANETES-
 MALS & SATELLITES
 02/21/2001 - 02/28/2004 FY03: \$60,000 Total: \$180,000
Prin. Invest.: S TREMAINE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9274 **PRINCETON UNIV**
 EARLY IDENTIFICATION & INTERPRETATION OF QUASAR/ AGN MICROLENS-
 ING EVENT: PROBES OF ACCRETIONDISK
 03/15/2000 - 03/14/2004 FY03: \$0 Total: \$268,058
Prin. Invest.: E TURNER
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10481 **PRINCETON UNIV**
 MICROWAVE ANISOTROPY PROBE (MAP) INVESTIGATION PHASE III
 COMPLETION & PHASE IV DATA ANALYSIS
 03/01/2001 - 07/31/2004 FY03: \$975,778 Total: \$3,289,691
Prin. Invest.: L PAGE
Tech. Officer: GSFC/C BENNET
CASE Category: 11 – ASTRONOMY

NAG 5 9284 **PRINCETON UNIV**
 FINDING THE BARYONS: MATCHING COSMOLOGICAL PREDICTIONS WITH
 THE X-RAY SKY
 04/17/2000 - 04/30/2004 FY03: \$0 Total: \$338,020
Prin. Invest.: J P OSTRIKER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10811 **PRINCETON UNIV**
 INTERSTELLAR STUDIES OF DUST AND GAS (ATP 2000)
 04/30/2001 - 04/30/2004 FY03: \$0 Total: \$125,400
Prin. Invest.: B T DRAINE
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9414 **PRINCETON UNIV**
 UNDERSTANDING WATER, CLIMATE AND GLOBAL CHANGE: A GEWEX
 GLOBAL WATER AND ENERGY PATHFINDER DATA SET
 04/11/2000 - 04/14/2004 FY03: \$0 Total: \$180,957
Prin. Invest.: E WOOD
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11094 **PRINCETON UNIV**
 PARALLAXES OF RED GIANT STARS (ADP 2000)
 07/10/2001 - 07/14/2004 FY03: \$0 Total: \$78,326
Prin. Invest.: G R KNAPP
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11111 **PRINCETON UNIV**
 LAND SURFACE MODELING STUDIES IN SUPPORT OF AQUA AMSR-E
 VALIDATION AQUA-0088-0029
 07/12/2001 - 08/31/2004 FY03: \$95,490 Total: \$234,407
Prin. Invest.: E F WOOD
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11136 **PRINCETON UNIV**
 TESTING COSMOLOGICAL MODELS WITH QSO ABSORBERS (LTSA 2000)
 07/20/2001 - 09/30/2006 FY03: \$100,000 Total: \$188,745
Prin. Invest.: T M TRIPP
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11301 **PRINCETON UNIV**
 USING REMOTE SENSING AND OCEAN MEASUREMENTS TO CON TRAIN
 CARBON FLUXES IN THE SOUTHERN OCEAN
 08/31/2001 - 08/31/2003 FY03: \$101,121 Total: \$306,930
Prin. Invest.: M BENDER
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11489 **PRINCETON UNIV**
 ANALYSIS OF COSMIC MICROWAVE BACKGROUND DATA (LTSA 2001)
 12/27/2001 - 12/31/2006 FY03: \$108,160 Total: \$312,161
Prin. Invest.: U SELJAK
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11610 **PRINCETON UNIV**
 "EVALUATION OF HYDROLOGIC REMOTE SENSING OBSERVATIONS FOR
 IMPROVED WEATHER PREDICTION"
 01/31/2002 - 01/31/2005 FY03: \$58,093 Total: \$111,231
Prin. Invest.: E F WOOD
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11664 **PRINCETON UNIV**
 EVOLUTION AND DYNAMICS OF PROTOSTELLAR DISKS
 02/11/2002 - 02/28/2005 FY03: \$70,000 Total: \$140,000
Prin. Invest.: J GOODMAN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11884 **PRINCETON UNIV**
 LAND INFORMATION SYSTEM
 03/27/2002 - 07/31/2005 FY03: \$34,135 Total: \$53,640
Prin. Invest.: E WOOD
Tech. Officer: GSFC/C D PETERS-LIDARD
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11947 **PRINCETON UNIV**
 O VI IN THE LMC HALO - FUSE 2001
 04/01/2002 - 03/31/2004 FY03: \$0 Total: \$59,400
Prin. Invest.: D V BOWEN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11983 **PRINCETON UNIV**
 SMALL SCALE ANISOTROPIES IN COSMIC MICROWAVE BACKGROUND
 04/12/2002 - 04/14/2005 FY03: \$65,849 Total: \$152,718
Prin. Invest.: U SELJAK
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12212 **PRINCETON UNIV**
 SEARCH FOR PLANETS WITH GRAVITATIONAL MICROLENSING & PLANETARY TRANSITS
 05/15/2002 - 05/14/2005 FY03: \$80,000 Total: \$160,000
Prin. Invest.: B PACZYNSKI
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12387 **PRINCETON UNIV**
 CLIMATE VARIABILITY ON DECADAL & LONGER TIMESCALES
 07/17/2002 - 07/14/2005 FY03: \$154,455 Total: \$230,933
Prin. Invest.: G PHILANDER
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12398 **PRINCETON UNIV**
 AN INTEGRATED FORWARD AND INVERSE MODELING APPROACH TO
 THE PREDICTION OF PHYTOPLANKTON BLOOMS
 07/23/2002 - 07/31/2005 FY03: \$0 Total: \$71,220
Prin. Invest.: J SARMIENTO
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12519 **PRINCETON UNIV**
 USING FUSE TO MEASURE THE GALACTIC HALO'S O VI INTENSITY
 08/21/2002 - 08/31/2004 FY03: \$0 Total: \$18,600
Prin. Invest.: E L JENKINS
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12542 **PRINCETON UNIV**
 INTERANNUAL VARIABILITY IN TRANS-PACIFIC TRANSPORT OF POLLUTION
 08/29/2002 - 08/31/2005 FY03: \$0 Total: \$95,475
Prin. Invest.: D MAUZERALL
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12544 **PRINCETON UNIV**
 CONSTRAINING OCEANIC SOURCES AND SINKS OF CO2 BY INVERSE
 MODELING: A FIRST STEP TOWARD ASSIMILATION
 08/30/2002 - 08/31/2005 FY03: \$0 Total: \$3,666
Prin. Invest.: J SARMIENTO
Tech. Officer: GSFC/C TREES
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12581 **PRINCETON UNIV**
 INVESTIGATION OF TOPOGRAPHIC INFLUENCES ON SPACE-TIME SCALING
 OF OROGRAPHIC PRECIPITATION.
 12/02/2002 - 11/30/2003 FY03: \$35,000 Total: \$35,000
Prin. Invest.: J A SMITH
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12582 **PRINCETON UNIV**
 ORBIT DESIGN, DYNAMICS, CONTROL AND SIMULATION OF FREE-FLYING
 AND TETHERED SPACECRAFT FORMATION
 12/16/2002 - 03/14/2003 FY03: \$21,088 Total: \$21,088
Prin. Invest.: K KASDIN
Tech. Officer: GSFC/J A LEITNER
CASE Category: 42 – ASTRONAUTICAL ENGR

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NAG 5 12972 **PRINCETON UNIV**
 EXPLORING THE ISM WITH MAP: THE MICROWAVE EMISSION FROM
 SPINNING DUST
 03/13/2003 - 06/30/2008 FY03: \$121,000 Total: \$121,000
Prin. Invest.: D FINBEINER
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13148 **PRINCETON UNIV**
 TOWARDS REALISTIC PHOTOMETRIC SCATTERING AND EMISSION MOD-
 ELS OF EXTRASOLAR TERRESTRIAL PLAN
 03/24/2003 - 03/31/2006 FY03: \$50,000 Total: \$50,000
Prin. Invest.: E TURNER
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13381 **PRINCETON UNIV**
 ASTROPHYSICAL AND COSMOLOGICAL PROBES OF SMALL-SCALE POWER
 TO TEST COSMOLOGICAL MODELS
 04/16/2003 - 06/30/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: R CEN
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13624 **PRINCETON UNIV**
 UNCERTAINTIES OF SATELLITE-BASED GLOBAL PRECIPITATION MONITOR-
 ING & IMPLICATION FOR HYDROLOGIC APPS
 08/26/2003 - 08/31/2006 FY03: \$57,500 Total: \$57,500
Prin. Invest.: M STEINER
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 49 – ENGINEERING, OTHER

NAS 5 30110 **PRINCETON UNIV**
 SPACE TELESCOPE IMAGING SPECTROGRAPH PROGRAM SUPPORT
 06/17/1987 - 12/31/2004 FY03: \$247,000 Total: \$1,593,245
Prin. Invest.: E JENKINS
Tech. Officer: GSFC/D VITAGLINO
CASE Category: 11 – ASTRONOMY

NCC 1 02037 **PRINCETON UNIV**
 UNIV RESEARCH ENGINEERING AND TECHNOLOGY INST (URETI) BIOIN-
 SPIRED MULTIFUNCTIONAL NANOCOMPOSITE
 08/19/2002 - 08/18/2007 FY03: \$3,500,734 Total: \$5,000,734
Prin. Invest.: I A AKSAY
Tech. Officer: LARC/T R SUTTER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 670 **PRINCETON UNIV**
 STRUCTURE AND RESPONSE OF SPHERICAL DIFFUSION FLAMES
 02/08/1999 - 12/29/2003 FY03: \$37,500 Total: \$591,250
Prin. Invest.: C K LAW
Tech. Officer: GRC/K SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 687 **PRINCETON UNIV**
 AERODYNAMICS AND CHEMICAL KINETICS OF PREMIXED FLAMES AT HIGH
 PRESSURE
 03/12/1999 - 01/03/2004 FY03: \$0 Total: \$451,500
Prin. Invest.: C K LAW
Tech. Officer: GRC/D SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 735 **PRINCETON UNIV**
 SCIENTIFIC SUPPORT FOR A SPACE SHUTTLE DROPLET BURNING EXPERI-
 MENT
 09/30/1999 - 12/31/2003 FY03: \$200,019 Total: \$863,764
Prin. Invest.: F L DRYER
Tech. Officer: GRC/D L URBAN
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1051 **PRINCETON UNIV**
 STRUCTURE AND RESPONSE OF SPHERICAL DIFFUSION FLAMES
 04/07/2003 - 12/31/2006 FY03: \$120,000 Total: \$120,000
Prin. Invest.: C K LAW
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NGT 3 52392 **PRINCETON UNIV**
 GSRP- MICROGRAVITY STUDIES OF SPHERICAL DIFFUSION FLAMES
 06/26/2003 - 08/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C K LAW
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 46 – MECHANICAL ENGR

NGT 5 30333 **PRINCETON UNIV**
 THE INTERACTION BETWEEN THE ABYSSAL CIRCULATION & THE WIND
 DRIVEN OCEAN DYNAMICS & EFFECTS ON THE CL
 08/16/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: G PHILANDER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30341 **PRINCETON UNIV**
 ELEPHANTS, FIRE & VEGETATION CHANGE IN SOUTHERN AFRICAN
 WOODLANDS/STUDENT: RICARDO HOLDO
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: A DOBSON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30356 **PRINCETON UNIV**
 MODELING MARINE DENITRIFICATION & N₂ FIXATION STUDENT: CURTIS
 DEUTSCH
 08/24/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: J SARMIENTO
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50333 **PRINCETON UNIV**
 ROLE OF GLOBAL SNOW COVER EXTENT ON CLIMATE VARIABILITY &
 PREDICTABILITY STUDENT: RADHIKA WIJETUNG
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: E F WOOD
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50356 **PRINCETON UNIV**
 LITHIUM LORENTZ FORCE ACCELERATOR RESEARCH FOR HIGH POWER
 STEADY-STATE SPACE PROPULSION (STUDENT:
 05/23/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: E CHOUAIRI
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50370 **PRINCETON UNIV**
OPTICALLY-TUNABLE COLLOIDAL CRYSTALLIZATION (STUDENT: W. RISTEN-
PART)
06/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: D SAVILLE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50383 **PRINCETON UNIV**
GRAVITATIONAL LENSING OF COSMIC MICROWAVE BACK- GROUND (STU-
DENT: CHRISTOPHER HIRATA)
05/20/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: U SELJAK
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50407 **PRINCETON UNIV**
KINETICS OF COLLOIDAL CRYSTALLIZATION
07/31/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: W RUSSEL
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2521 **ROWAN UNIV**
GRAVITATIONAL INFLUENCES ON FLAME PROPAGATION THROUGH NON
UNIFORM PREMIXED GAS SYSTEMS
01/10/2001 - 11/30/2004 FY03: \$37,889 Total: \$66,086
Prin. Invest.: D MARCHESE
Tech. Officer: GRC/K SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 9593 **ROWAN UNIV**
FUNDING FOR PROFESSOR KAREN MAGEE-SAUER, DEPT OF CHEMISTRY
& PHYSICS; PRODUCTION DATA PROCESSING
06/07/2000 - 05/31/2003 FY03: \$8,900 Total: \$26,700
Prin. Invest.: K MAGEE-SAUER
Tech. Officer: GSFC/M J MUMMA
CASE Category: 13 – PHYSICS

NAG 5 11076 **ROWAN UNIV**
CLOUDS OF MARS-AN IRFT/MGS COMPARIION
08/06/2001 - 08/14/2004 FY03: \$50,000 Total: \$150,000
Prin. Invest.: D R KLASSEN
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12965 **ROWAN UNIV**
INSTRUMENTATION AND LAB DEVELOPMENT AT ROWAN UNIV
03/05/2003 - 02/14/2004 FY03: \$1,940,000 Total: \$1,940,000
Prin. Invest.: R NEWLAND
Tech. Officer: GSFC/M PHELPS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2154 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
SAGE II VALIDATION WITH A GLOBAL LIDAR NETWORK MY 1/3
03/10/1999 - 12/31/2002 FY03: \$0 Total: \$253,933
Prin. Invest.: A ROBOCK
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1234 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
SELF ADAPTIVE SOFTWARE FOR AUTOMATED DESIGN OF COM PLEX
ENGINEERING SYSTEMS
07/24/1998 - 06/30/2002 FY03: \$0 Total: \$788,238
Prin. Invest.: S AMAREL, T ELLMAN
Tech. Officer: ARC/M R LOWRY
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2350 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
THE EFFECT OF GRAVITY ON THE MECHANICS OF FLUIDIZE D BEDS
03/16/2000 - 11/30/2004 FY03: \$80,000 Total: \$282,000
Prin. Invest.: D J GLASSER
Tech. Officer: GRC/B J MOTIL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2589 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
IN-SITU ULTRA-HIGH VACUUM SCANNING PROBE MICROSCOPY STUDIES
OF THE POLYMER ANODE/LIPON INTERFACE
04/17/2001 - 05/31/2004 FY03: \$25,000 Total: \$172,304
Prin. Invest.: D H GAROFALINI
Tech. Officer: GRC/N HAGEDORN
CASE Category: 13 – PHYSICS

NAG 3 2868 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
STRESS-DRIVEN INSTABILITY ON HELIUM-4 CRYSTALS STRESS-DRIVEN
INSTABILITY ON HELIUM-4 CRYSTALS
04/03/2003 - 01/31/2005 FY03: \$99,359 Total: \$99,359
Prin. Invest.: H KOJIMA
Tech. Officer: GRC/C LEK
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3158 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
GUARANTEED TIME OBSERVER: SPACE TELESCOPE IMAGING SPEC-
TROGRAPH
01/23/1996 - 09/30/2001 FY03: \$0 Total: \$615,000
Prin. Invest.: C L JOSEPH
Tech. Officer: GSFC/KRUEGER
CASE Category: 11 – ASTRONOMY

NAG 5 3432 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
DETERMINING THE HUBBLE CONSTANT USING X-RAY, OPTIC IONS OF
CLUSTER
10/30/1996 - 09/30/2003 FY03: \$0 Total: \$638,401
Prin. Invest.: J P HUGHES
Tech. Officer: GSFC/R K OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 6037 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
BLACK HOLES AND GALAXY DYNAMICS
10/08/1997 - 10/14/2003 FY03: \$0 Total: \$577,000
Prin. Invest.: D MERRITT
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7148 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
UV SOLID STATE DETECTORS
05/04/1998 - 04/14/2002 FY03: \$0 Total: \$301,004
Prin. Invest.: C L JOSEPH
Tech. Officer: GSFC/W WAGNER
CASE Category: 11 – ASTRONOMY

NAG 5 9046 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 ORIGIN AND EVOLUTION OF MASSIVE BLACK HOLES IN GALAXIES - (ATP
 99)
 03/06/2000 - 05/31/2004 FY03: \$90,729 Total: \$287,512
Prin. Invest.: D MERRITT
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9340 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 ATMOSPHERIC IRON FLUXES TO THE OCEAN: SEASONAL PAT TERNS AND
 LINKAGE TO PHYTOPLANKTON BLOOMS
 04/11/2000 - 04/30/2004 FY03: \$0 Total: \$283,484
Prin. Invest.: Y GAO
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9528 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 IN SITU SYNCHROTRON MICROXANES MEASUREMENTS OF OXI DATION
 STATES OF SOLARSYSTEM MATERIALS
 04/28/2000 - 04/30/2004 FY03: \$0 Total: \$109,000
Prin. Invest.: J S DELANEY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9792 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 VOLCANIC ERUPTIONS AND CLIMATE
 07/18/2000 - 07/31/2003 FY03: \$0 Total: \$180,000
Prin. Invest.: A ROBECK
Tech. Officer: GSFC/K BERGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9847 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 OCEAN CARBON FLUX: TRANSPORT & BURIAL WITHIN THE WESTERN &
 EASTERN U.S.COASTAL ZONES
 07/31/2000 - 07/31/2004 FY03: \$0 Total: \$292,500
Prin. Invest.: D HAIDVOGEL
Tech. Officer: GSFC/E LINSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9927 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 XMM SPECTRO-IMAGERY OF TWO YOUNG EJECTA-DOMINATED SNRS:
 KEPLER & W49B
 09/07/2000 - 09/14/2003 FY03: \$0 Total: \$6,240
Prin. Invest.: J P HUGHES
Tech. Officer: GSFC/D F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9979 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 CONFRONTING THE COMPLEXITY OF GALAXY CLUSTERS WITH LENSING,
 SZ, & XMM DATA
 09/12/2000 - 09/14/2003 FY03: \$0 Total: \$44,800
Prin. Invest.: J P HUGHES
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9990 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 XMM STUDIES OF A NEW SAMPLE OF YOUNG EJECTA-DOMINA TED
 GALACTIC SNRS
 09/14/2000 - 08/31/2003 FY03: \$0 Total: \$45,061
Prin. Invest.: J P HUGHES
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10003 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 BLACK HOLES IN EARLY TYPE GALAXIES: INCIDENCE, FOR MATION AND
 EVOLUTION
 09/25/2000 - 08/31/2004 FY03: \$111,170 Total: \$327,671
Prin. Invest.: L FERRARESE
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10110 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 SPACE ASTROPHYSICS RESEARCH & ANALYSIS PROGRAM
 01/02/2001 - 12/31/2004 FY03: \$105,000 Total: \$305,000
Prin. Invest.: J SELLWOOD
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10357 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 HOT-ELECTRON DETECTORS: RECORD SENSITIVITY DUE TO CONTROL-
 LABLE ELECTRON-PHONON COUPLING IN SUPERCOND
 02/01/2001 - 01/14/2004 FY03: \$192,732 Total: \$540,549
Prin. Invest.: M GERSHENSON
Tech. Officer: GSFC/C STAHL
CASE Category: 13 – PHYSICS

NAG 5 10494 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 SIMULATION & ANALYSIS OF METEORITIC MATERIAL
 02/28/2001 - 02/29/2004 FY03: \$120,000 Total: \$360,000
Prin. Invest.: R HEWINS
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10495 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 TRANSIENT HEATING IN THE SOLAR ACCRETION DISK
 02/28/2001 - 02/28/2004 FY03: \$35,000 Total: \$100,000
Prin. Invest.: R HEWINS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10809 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 REDUCTION OF BACKGROUND SIGNALS IN AIGAN OR GAN SOLID STATE
 DETECTORS
 04/26/2001 - 04/30/2002 FY03: \$0 Total: \$32,000
Prin. Invest.: C L JOSEPH
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 11045 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 EFFECTS OF RADIATION ON DESORPTION OF ALKALIS FROM MINERAL &
 ICE SURFACES: RELATION TO ORIGINS OF AL
 06/13/2001 - 06/14/2004 FY03: \$85,000 Total: \$245,000
Prin. Invest.: T MADEY
Tech. Officer: GSFC/D J BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11345 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 USING REMOTE SENSING AND OCEAN OXYGEN MEASUREMENTS TO
 CONSTRAIN CARBONFLUXES IN THE SOUTHERN OCEA
 09/10/2001 - 09/14/2004 FY03: \$0 Total: \$161,091
Prin. Invest.: P G FALKONSKI
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11403 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 A HYBRID APPROACH FOR EVALUATING AND PREDICTING INTERACTIONS
 BETWEEN THE SEASONAL SNOW PACK AND THE
 11/28/2001 - 11/30/2004 FY03: \$0 Total: \$77,471
Prin. Invest.: D A ROBINSON
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11437 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 TOWARDS A BILLION COUNTS/SECOND PHOTON COUNTER WITH HIGH
 QUANTUM EFFICIENCY
 12/03/2001 - 12/31/2005 FY03: \$195,000 Total: \$385,000
Prin. Invest.: C L JOSEPH
Tech. Officer: GSFC/P CRANE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11719 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 ISOTOPIC INVESTIGATIONS OF EXTRATERRESTRIAL MATERIALS
 02/06/2002 - 01/31/2005 FY03: \$70,000 Total: \$140,000
Prin. Invest.: G F HERZOG
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11720 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 AN IMPROVED GCM SIMULATION OF THE ARCTIC HYDRO-LOGIC CYCLE
 USING SATELLITE-DERIVED PRODUCTS
 02/08/2002 - 02/14/2005 FY03: \$92,000 Total: \$182,000
Prin. Invest.: J R MILLER
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13084 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 A FAR ULTRAVIOLET OBSERVATION OF THE DEM L 71 BLAST WAVE.
 03/13/2003 - 03/14/2004 FY03: \$52,400 Total: \$52,400
Prin. Invest.: P GHAVAMIAM
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 8 1513 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 SPATIAL & TEMPORAL VARIABILITY OF SOIL MOISTURE & ITS RELATION TO
 WATER & ENERGY BALANCES IN A MONSON
 06/01/1998 - 05/31/2002 FY03: -\$21,104 Total: \$318,420
Prin. Invest.: Y LIU, R AVISSAR
Tech. Officer: MSFC/J ARNOLD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 8 1769 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 RESEARCH ON STRESS-DRIVEN INSTABILITY ON HELIUM-4 CRYSTALS.
 04/27/2001 - 03/31/2005 FY03: \$0 Total: \$206,912
Prin. Invest.: H KOJIMA
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 3 967 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 STRUCTURE AND RESPONSE OF SPHERICAL DIFFUSION FLAMES
 05/22/2002 - 08/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: D D TSE
Tech. Officer: GRC/K SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1052 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 FUNDING STRUCTURE AND RESPONSE OF SPHERICAL DIFFUSION
 FLAMES
 04/29/2003 - 12/31/2006 FY03: \$55,000 Total: \$55,000
Prin. Invest.: S D TSE
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 553 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 RESEARCH IN REGIONAL & GLOBAL CLIMATE VARIABILITY
 04/24/2001 - 03/31/2003 FY03: \$234,562 Total: \$1,338,651
Prin. Invest.: A ROBOCK
Tech. Officer: GSFC/R B STOTHERS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 1 03018 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 04/28/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J LUXHOJ, R DICKEY
Tech. Officer: LARC/S JONES
CASE Category: 46 – MECHANICAL ENGR

NGT 5 50364 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 DEVELOPMENT OF A HAPTIC INTERFACE FOR REMOTE OPERATIONS IN
 SPACE, MEDICINE AND VIRTUAL REALITY, USI
 06/12/2001 - 08/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: C MAVROIDIS
Tech. Officer: GSFC/K BLADING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50376 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 SPATIALLY RESOLVED X-RAY SPECTROSCOPY OF YOUNG SUPERNOVA
 REMNANTS/STUDENT: CARA RAKOWSKI
 07/05/2001 - 06/30/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: J P HUGHES
Tech. Officer: GSFC/L KALUZIENSKI
CASE Category: 42 – ASTRONAUTICAL ENGR

NGT10 52638 **RUTGERS ST UNIV N.J.-INCLUDES PSCTWY**
 GSRP LINKING ECOSYSTEM BIODIVERSITY AND BACTERIAL DECOMPOSITION:
 POTENTIAL APPLICATIONS FOR BIOENGINEERING
 08/14/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P MORIN
Tech. Officer: KSC/E L DEL CASTILLO
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 5344 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 VERY-LARGE-FOCAL-PLANE PHOTOCATHODE-BASED IMAGE SENSORS
 FOR OWL
 01/16/2002 - 01/07/2005 FY03: \$144,000 Total: \$288,000
Prin. Invest.: C JOSEPH
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 9833 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 ULTRAVIOLET TESTING OF GAN ARRAYS AS DESCRIBED IN THE PROPOSAL
 "GAN ULTRAVIOLET ARRAYS"
 07/26/2000 - 10/31/2003 FY03: \$0 Total: \$73,512
Prin. Invest.: D JOSEPH
Tech. Officer: GSFC/B MOTT
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11244 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 GLOBAL MODELING AND ANALYSIS OF NONMETHANE HYDROCARBONS,
 OXYGENATED HYDROCARBONS, AND ANTHROPOG
 08/16/2001 - 08/31/2002 FY03: \$0 Total: \$81,221
Prin. Invest.: Y WANG
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11356 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 REPRESENTING KEY PHYTOPLANKTON GROUPS IN OCEAN CARBON
 CYCLE MODELS
 09/25/2001 - 09/30/2004 FY03: \$98,301 Total: \$255,894
Prin. Invest.: P G FALKOWSKI
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11585 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 A POLAR-SPECIFIC 20-YEAR DATA SET OF CLOUD FRACTION AND HEIGHT
 DERIVED FROM SATELLITE RADIANCES
 01/25/2002 - 01/31/2004 FY03: \$76,000 Total: \$154,000
Prin. Invest.: J A FRANCIS
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11714 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 A DYNAMICAL STUDY OF THE VIRGO AND FORNAX CLUSTERS (LISA 2001)
 02/27/2002 - 05/31/2007 FY03: \$115,803 Total: \$225,803
Prin. Invest.: P J COTE
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 12148 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 IN SITU SYNCHROTRON MICROXANES MEASUREMENTS OF OXIDATION
 STATES OF SOLARSYSTEM MATERIALS
 05/23/2002 - 05/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: J S DELANEY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12435 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 NEW JERSEY ECOCOMPLEX LIFE SUPPORT CENTER PROJECT
 08/08/2002 - 07/31/2004 FY03: \$0 Total: \$1,000,000
Prin. Invest.: H JANES
Tech. Officer: GSFC/L P CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12935 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 XMM-NEWTON STUDIES OF A NEW SAMPLE OF YOUNG X-RAY EMITTING
 GALACTIC SNRS
 02/25/2003 - 02/29/2004 FY03: \$41,520 Total: \$41,520
Prin. Invest.: J P HUGHES
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13560 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 XMM-NEWTON OBSERVATIONS OF THE DLS SHEAR-SELECTED CLUSTER
 SURVEY
 08/13/2003 - 08/14/2004 FY03: \$27,000 Total: \$27,000
Prin. Invest.: J P HUGHES
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13697 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 EVALUATING THE EFFECTS OF HISTORICAL LAND COVER CHANGE ON
 NEW JERSEY WEATHER AND CLIMATE
 09/23/2003 - 09/30/2004 FY03: \$35,531 Total: \$35,531
Prin. Invest.: C P WEAVER
Tech. Officer: GSFC/J R IRONS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1283 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 MOLECULAR CHARACTERIZATION OF EUBACTERIA IN THE BIOLOGICAL
 WATER PROCESSOR
 02/22/2001 - 02/21/2004 FY03: \$71,615 Total: \$313,601
Prin. Invest.: L KERKHOFF
Tech. Officer: JSC/K DAUES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAS 1 03057 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 PROBABILISTIC DECISION SUPPORT TOOL FOR ASSESSING AVIATION
 SAFETY RISK
 03/28/2003 - 12/31/2003 FY03: \$379,294 Total: \$379,294
Prin. Invest.: J LUXHOJ
Tech. Officer: LARC/S M JONES
CASE Category: 49 – ENGINEERING, OTHER

NAS 5 99138 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 AIRBORNE (LIFT) METHOD FOR MEASURING PHOTOSYNTHETIC PERFOR-
 MANCE & PRIMARY PRODUCTIVITY.
 04/15/1999 - 04/15/2002 FY03: \$0 Total: \$984,393
Prin. Invest.: Z KOLBER
Tech. Officer: GSFC/J B HARTLEY
CASE Category: 61 – PSYCHOLOGY BIOLOGY

NCC 2 1259 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 INTEGRATING MULTIPLE SOURCES OF INFORMATION IN TEXT MINING
 04/20/2001 - 10/14/2003 FY03: \$125,001 Total: \$260,001
Prin. Invest.: H HIRSCH
Tech. Officer: ARC/M SCHWABACHER, ARC/J COUGHLAN
CASE Category: 22 – COMPUTER SCIENCE

NGT13 52758 **RUTGERS STATE UNIV OF NJ NEW BRUNSWICK**
 GRADUATE STUDENT RESEARCHERS PROGRAM - DYNAMIC INTERAC-
 TIONS OF HOLOCENE SUBSISTENCE STRATEGIES AND
 06/27/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D HARRIS
Tech. Officer: SSC/R TRAVIS
CASE Category: 71 – ANTHROPOLOGY

NAG 5 8971 **STEVENS INST OF TECHNOLOGY**
 ELECTRON-IMPACT DISSOCIATION AND EXCITATION OF MOLECULES AND
 MOLECULAR IONS
 01/28/2000 - 06/30/2003 FY03: \$0 Total: \$176,814
Prin. Invest.: K BECKER
Tech. Officer: GSFC/J HILLMAN
CASE Category: 11 – ASTRONOMY

NAG 9 1063 **STEVENS INST OF TECHNOLOGY**
 INVESTIGATION OF AMBIENT PRESSURE
 01/05/1999 - 09/27/2002 FY03: \$0 Total: \$428,983
Prin. Invest.: G P KORFIATIS
Tech. Officer: JSC/J GRAF
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NGT 5 40096 **STEVENS INST OF TECHNOLOGY**
 NEW JERSEY SPACE GRANT COLLEGE AND FELLOWSHIP PROG RAM
 02/28/2001 - 02/28/2005 FY03: \$317,650 Total: \$736,275
Prin. Invest.: S THANGAM
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1367 **UNIV OF MEDICINE AND DENTISTRY**
 MURINE DEVELOPMENT: CELLULAR & MOLECULAR ANALYSIS
 08/02/1999 - 07/14/2003 FY03: \$0 Total: \$887,952
Prin. Invest.: R S NOWAKOWSKI
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1162 **UNIV OF MEDICINE AND DENTISTRY**
 GLUCOSE KINETICS AND MUSCLE ATROPHY
 09/21/1999 - 09/22/2003 FY03: \$0 Total: \$348,809
Prin. Invest.: T P STEIN
Tech. Officer: JSC/C W LLOYD
CASE Category: 56 – MEDICL

NCC 2 1354 **UNIV OF MEDICINE AND DENTISTRY**
 GLUCOSE KINETICS AND MUSCLE ATROPHY
 07/23/2002 - 07/31/2004 FY03: \$0 Total: \$44,999
Prin. Invest.: T P STEIN
Tech. Officer: ARC/C E WADE, ARC/A ROMA
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1556 **UNIV. OF MEDICINE & DENTISTRY-NJ.**
 EFFECTS OF MICROGRAVITY ON ZEBRAFISH VESTIBULAR DEVELOPMENT
 04/30/2002 - 04/14/2003 FY03: \$0 Total: \$57,300
Prin. Invest.: S J MOORMAN
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1591 **UNIV. OF MEDICINE & DENTISTRY-NJ.**
 THE EFFECTS OF MICROGRAVITY ON GENE EXPRESSION IN LIVE ZEBRAFISH EMBRYOS
 11/04/2002 - 10/31/2005 FY03: \$338,991 Total: \$338,991
Prin. Invest.: S J MOORMAN
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NEW MEXICO

NAG 9 1255 **EASTERN NEW MEXICO UNIV - MAIN CAMPUS**
 SMET CAMP
 08/12/2000 - 09/30/2001 FY03: -\$5,523 Total: \$19,477
Prin. Invest.: J MILLER
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1412 **EASTERN NEW MEXICO UNIV - MAIN CAMPUS**
 SUMMER SMET CAMP FOR RURAL MINORITIES AND GIRLS
 10/17/2002 - 03/10/2003 FY03: \$20,000 Total: \$20,000
Prin. Invest.: J MILLER
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1860 **INST AMER INDIAN & AK NATIVE CULTURE & DEV**
 SANTA FE INDIAN SCHOOL COMM BASED NATIVE AMERICAN AGRICULTURE
 RESEARCH AND DEV CENTER
 06/28/2002 - 06/28/2005 FY03: \$0 Total: \$100,000
Prin. Invest.: W COFFEY
Tech. Officer: MSFC/W LOVE
CASE Category: 55 – AGRICULTURE

NAG 2 6065 **NEW MEXICO HIGHLANDS UNIV**
 NMHU STUDENT RESEARCHERS HIGH SCHOOL AND UNDERGRADUATE
 FUTUTURE NASA
 12/23/2002 - 12/14/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: E RYAN
Tech. Officer: ARC/B J COLLINS
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 5 8734 **NEW MEXICO HIGHLANDS UNIV**
 CCD PHOTOMETRY OF THE VESTA FAMILY OF ASTEROIDS & AN ANALYSIS
 OF THEIR IMPACT ORIGIN
 08/26/1999 - 07/31/2003 FY03: \$0 Total: \$217,699
Prin. Invest.: D V RYAN
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 8 1639 **NEW MEXICO HIGHLANDS UNIV**
 DEVELOPMENT OF NOVEL THERMOSTABLE PHOTOREFRACTIVE POLYMERS
 AND SOL-GEL MATERIALS
 12/21/1999 - 12/20/2002 FY03: \$0 Total: \$290,006
Prin. Invest.: R D CLARK, M SANGHADASA
Tech. Officer: MSFC/B G PENN
CASE Category: 13 – PHYSICS

NAG 8 1708 **NEW MEXICO HIGHLANDS UNIV**
 ALLIANCE FOR NONLINEAR OPTICS
 03/01/2000 - 02/29/2004 FY03: \$0 Total: \$1,500,000
Prin. Invest.: R CLARK
Tech. Officer: MSFC/W LOVE
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1168 **NEW MEXICO HIGHLANDS UNIV**
 JSC ASTROBIOLOGY INST
 09/28/1999 - 06/30/2003 FY03: \$0 Total: \$292,100
Prin. Invest.: J C DEBACA, J R JUAREZ
Tech. Officer: JSC/D S MCKAY, JSC/L ARMENDARIZ
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1195 **NEW MEXICO HIGHLANDS UNIV**
 REACHING OUT FOR SCIENCE, MATHEMATICS, & TECHNOLOGY STUDENTS
 05/23/2000 - 12/30/2003 FY03: \$0 Total: \$19,528
Prin. Invest.: J JUAREZ
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1260 **NEW MEXICO HIGHLANDS UNIV**
 STUDIES ON THE IMPACT OF CERRO GRANDE & VIVEASH FOREST FIRES
 09/07/2000 - 09/30/2004 FY03: \$0 Total: \$151,095
Prin. Invest.: J R JUAREZ
Tech. Officer: JSC/G HENDERSEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NEW MEXICO

NASA'S UNIVERSITY PROGRAM

NAG 9 1330 **NEW MEXICO HIGHLANDS UNIV**
 REACHING OUT FOR SCIENCE, MATHEMATICS & TECHNOLOGY STUDENTS
 06/26/2001 - 06/26/2004 FY03: \$0 Total: \$19,528
Prin. Invest.: J R JUAREZ
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1369 **NEW MEXICO HIGHLANDS UNIV**
 EDUCATIONAL OUTREACH
 07/30/2001 - 07/31/2004 FY03: \$0 Total: \$34,000
Prin. Invest.: J JUAREZ
Tech. Officer: WFF/P BAKER, JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1375 **NEW MEXICO HIGHLANDS UNIV**
 HYDROCODE SIMULATIONS OF POROUS ASTEROID IMPACTS
 08/09/2001 - 06/30/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: J R JUAREZ
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 9 1393 **NEW MEXICO HIGHLANDS UNIV**
 HYDRAZINE AIR FILTRATION SYSTEM
 01/04/2002 - 01/03/2005 FY03: \$49,864 Total: \$224,796
Prin. Invest.: J C DE BACA
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 9 1394 **NEW MEXICO HIGHLANDS UNIV**
 JSC ASTROBIOLOGY INST
 08/09/2002 - 08/11/2005 FY03: \$0 Total: \$456,822
Prin. Invest.: J R JUAREZ
Tech. Officer: JSC/D S MCKAY, JSC/L M ARMENDARIZ
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1409 **NEW MEXICO HIGHLANDS UNIV**
 NMHU STUDENT RESEARCHERS-DEVELOP SKILLS&MOTIVATION TO EN-
 ABLE STUDENTS TO GRAD & EMPHASIZE ON SMET
 08/01/2002 - 07/31/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: E RYAN, J C'DEBACA
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1921 **NEW MEXICO HIGHLANDS UNIV**
 EDUCATIONAL OUTREACH
 05/23/2000 - 12/30/2003 FY03: \$0 Total: \$18,803
Prin. Invest.: J R JUAREZ
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1922 **NEW MEXICO HIGHLANDS UNIV**
 HYDROCODE SIMULATIONS OF PAROUS ASTEROID IMPACTS
 05/23/2000 - 06/30/2003 FY03: \$0 Total: \$24,997
Prin. Invest.: J R JUAREZ
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 3 2688 **NEW MEXICO INST OF MINING & TECH**
 ANALYSIS OF THE EFFECT OF SURFACE MODIFICATION ON POLYIMIDE
 COMPOSITES COATED WITH EROSION RESISTANT
 01/10/2002 - 08/31/2004 FY03: \$99,923 Total: \$198,758
Prin. Invest.: D A HIRSCHFELD
Tech. Officer: GRC/J K SUTTER
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 9328 **NEW MEXICO INST OF MINING & TECH**
 INFLUENCE OF LAND-ATMOSPHERE INTERACTIONS ON VARIABILITY OF
 THE NORTH AMERICAN MONSOON
 04/03/2000 - 01/14/2003 FY03: -\$68,414 Total: \$176,905
Prin. Invest.: E E SMALL
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 9 1106 **NEW MEXICO INST OF MINING & TECH**
 THE SEARCH FOR MICROBIAL BIOMARKERS IN TERRESTRIAL DEPOSITS
 05/10/1999 - 05/09/2004 FY03: \$5,000 Total: \$83,000
Prin. Invest.: T L KIEFT
Tech. Officer: JSC/F K GIBSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 1 03034 **NEW MEXICO STATE UNIV - LAS CRUCES**
 PATHFINDER PROJECT
 03/21/2003 - 03/20/2004 FY03: \$9,902 Total: \$9,902
Prin. Invest.: C CLEVER
Tech. Officer: LARC/R HATHAWAY
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1334 **NEW MEXICO STATE UNIV - LAS CRUCES**
 XENOPUS INNER EAR ORGAN INFORMATION IN AN ALTERED GRAVITY
 ENVIRONMENT
 07/08/1999 - 06/30/2003 FY03: \$0 Total: \$299,141
Prin. Invest.: E E SERRANO
Tech. Officer: ARC/C E WADE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 2 1562 **NEW MEXICO STATE UNIV - LAS CRUCES**
 TOWARD A MODEL OF ORGANIZATIONAL RISK: CRITICAL FACTORS AT THE
 TEAM LEVEL
 05/28/2002 - 11/30/2002 FY03: \$0 Total: \$39,709
Prin. Invest.: N J COOKE
Tech. Officer: ARC/J ORASANU, ARC/M CONNORS
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 6053 **NEW MEXICO STATE UNIV - LAS CRUCES**
 RIOSOFT CONSORTIUM - INFRASTRUCTURE FOR SOFTWARE UTILIZING
 NMSU
 10/31/2001 - 09/30/2003 FY03: \$0 Total: \$75,000
Prin. Invest.: N R PRASAD
Tech. Officer: ARC/B J COLLINS, ARC/A CARDENAS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2793 **NEW MEXICO STATE UNIV - LAS CRUCES**
 IP-COMPLIANT SATELLITE ARCHITECTURE STUDY IP-COMPLIANT SATEL-
 LITE ARCHITECTURE STUDY
 07/03/2002 - 08/30/2003 FY03: \$0 Total: \$67,703
Prin. Invest.: D HORAN
Tech. Officer: GRC/R SLYWCZAK
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2864 **NEW MEXICO STATE UNIV - LAS CRUCES**
 EFFECTIVE UTILIZATION OF COMMERCIAL WIRELESS NETWORKING TECH-
 NOLOGY IN PLANETARY ENVIRONMENTS
 03/27/2003 - 09/20/2005 FY03: \$180,000 Total: \$180,000
Prin. Invest.: P DELEON
Tech. Officer: GRC/D C ROBINSON
CASE Category: 45 – ELECTRICAL ENGR

NAG 4 231 **NEW MEXICO STATE UNIV - LAS CRUCES**
 POWER BEAMING DEMONSTRATOR POWER BEAMING DEMONSTRATOR
 08/20/2002 - 12/31/2003 FY03: \$0 Total: \$49,589
Prin. Invest.: S B HOTTMAN
Tech. Officer: DFRC/D BUSHMAN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 5159 **NEW MEXICO STATE UNIV - LAS CRUCES**
 AN IMAGING SILICON CALORIMETER FOR USE ON ACCESS INCREMENTAL
 FUNDING FOR FIRST YEAR OF GRANT
 03/26/1998 - 06/30/2003 FY03: \$0 Total: \$209,000
Prin. Invest.: S J STOCHAJ
Tech. Officer: GSFC/B A MERRITT
CASE Category: 11 – ASTRONOMY

NAG 5 5226 **NEW MEXICO STATE UNIV - LAS CRUCES**
 FIRST YEAR FUNDING FOR NAG5-5226
 07/06/1999 - 06/30/2003 FY03: \$0 Total: \$428,000
Prin. Invest.: S J STOCHAJ
Tech. Officer: WSTF/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5351 **NEW MEXICO STATE UNIV - LAS CRUCES**
 ESTABLISHMENT AND OPERATION OF THE SUBORBITAL CENT ER OF
 EXCELLENCE.
 01/18/2002 - 11/30/2004 FY03: \$300,000 Total: \$500,000
Prin. Invest.: S HOTTMAN
Tech. Officer: GSFC/B MERRITT
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 7524 **NEW MEXICO STATE UNIV - LAS CRUCES**
 TRANSPORTATION OF ENERGETIC PARTICLES IN THE GALAX Y - AP-
 PROVED UNDER NRA 97-OSS-12
 06/09/1998 - 06/14/2002 FY03: \$0 Total: \$34,173
Prin. Invest.: W R WEBBER
Tech. Officer: GSFC/F C JONES
CASE Category: 11 – ASTRONOMY

NAG 5 7795 **NEW MEXICO STATE UNIV - LAS CRUCES**
 A PROPOSAL TO ASSIST IN THE INTERPRETATION OF DATA FROM THE
 COSMIC RAY ISOTOPE SPECTROMETER EXPERIM
 12/10/1998 - 12/31/2002 FY03: -\$8,943 Total: \$108,479
Prin. Invest.: D R WEBBER
Tech. Officer: GSFC/D C LING
CASE Category: 11 – ASTRONOMY

NAG 5 7904 **NEW MEXICO STATE UNIV - LAS CRUCES**
 ADVANCED IR IMAGING OF SATURN
 12/03/1998 - 05/31/2003 FY03: \$0 Total: \$160,726
Prin. Invest.: D J CHANOVER
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 8242 **NEW MEXICO STATE UNIV - LAS CRUCES**
 TESTING INFLATION AND DARK MATTER WITH NEW DATA, M ODELS, AND
 METHODS (ATP98)
 02/19/1999 - 02/28/2003 FY03: \$0 Total: \$67,392
Prin. Invest.: A KLYPIN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8803 **NEW MEXICO STATE UNIV - LAS CRUCES**
 EFFECTS OF RHEOLOGY ON THE DYNAMICS AND THERMAL EVOLUTION
 OF MARS AND VENUS
 01/06/2000 - 01/14/2004 FY03: \$0 Total: \$142,300
Prin. Invest.: V SOLOMATOV
Tech. Officer: GSFC/J GRANT
CASE Category: 13 – PHYSICS

NAG 5 8919 **NEW MEXICO STATE UNIV - LAS CRUCES**
 MODEL ATMOSPHERES AND SPECTRA FOR EXTRASOLAR GIANT PLANETS
 AND BROWN DWARFS
 01/21/2000 - 06/14/2004 FY03: \$0 Total: \$148,515
Prin. Invest.: M MARLEY
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9273 **NEW MEXICO STATE UNIV - LAS CRUCES**
 MODEL ATMOSPHERES AND SPECTRA OF THE L-DWARFS (ATP 99)
 03/15/2000 - 03/14/2004 FY03: \$0 Total: \$94,354
Prin. Invest.: M S MARLEY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9323 **NEW MEXICO STATE UNIV - LAS CRUCES**
 "THE CENTER FOR SPACE TELEMETERING AND TELECOMMUNI CATIONS
 SYSTEMS", AT THE NEW MEXICO STATE UNIVER
 03/31/2000 - 04/30/2003 FY03: \$0 Total: \$1,560,000
Prin. Invest.: S HORAN
Tech. Officer: GSFC/W H MILLER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10578 **NEW MEXICO STATE UNIV - LAS CRUCES**
 IMPACTS AND THE THERMAL EVOLUTION OF MARS
 03/19/2001 - 02/28/2004 FY03: \$30,000 Total: \$90,000
Prin. Invest.: V SOLOMATOV
Tech. Officer: GSFC/C NIEBUR
CASE Category: 11 – ASTRONOMY

NAG 5 11164 **NEW MEXICO STATE UNIV - LAS CRUCES**
 DETERMINATION OF MARTIAN POLAR DUST FLUX FROM TES OPACITY
 OBSERVATIONS
 08/06/2001 - 08/14/2004 FY03: \$0 Total: \$45,000
Prin. Invest.: J R MURPHY
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11311 **NEW MEXICO STATE UNIV - LAS CRUCES**
 NMSU PARTICIPATORY PROJECT IN MESSENGER EXPLORATIO N AND NSIP
 DEELOPMENT OF STUDENT SCIEN
 09/07/2001 - 09/14/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: H BAPTISTE
Tech. Officer: GSFC/J HARRINGTON
CASE Category: 11 – ASTRONOMY

NAG 5 12068 **NEW MEXICO STATE UNIV - LAS CRUCES**
 RIOSOFT - TECHNOLOGY FOR INTEGRATED BIOLOGICAL PEST MANAGE-
 MENT IN AGRICULTURE
 05/22/2002 - 03/31/2003 FY03: -\$56,462 Total: \$18,538
Prin. Invest.: N R PRASAD
Tech. Officer: GSFC/M CAULFIELD
CASE Category: 22 – COMPUTER SCIENCE

NEW MEXICO

NASA'S UNIVERSITY PROGRAM

NAG 5 12123 **NEW MEXICO STATE UNIV - LAS CRUCES**
 INVESTIGATION OF PHYSICAL PROCESSES INVOLVED IN THE INTERANNUAL VARIABILITY OF MARTIAN DUST
 04/30/2002 - 04/30/2005 FY03: \$50,000 Total: \$99,000
Prin. Invest.: J R MURPHY
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12661 **NEW MEXICO STATE UNIV - LAS CRUCES**
 TRANSPORT OF ENERGETIC PARTICLES IN THE GALAXY COLLABORATION
 11/14/2002 - 11/14/2004 FY03: \$7,000 Total: \$7,000
Prin. Invest.: W R WEBBER
Tech. Officer: GSFC/F C JONES
CASE Category: 11 – ASTRONOMY

NAG 5 13123 **NEW MEXICO STATE UNIV - LAS CRUCES**
 EFFECTS OF RHEOLOGY ON THE DYNAMICS AND THERMAL EVOLUTION OF THE TERRESTRIAL PLANETS
 03/18/2003 - 03/31/2006 FY03: \$47,000 Total: \$47,000
Prin. Invest.: V SOLOMATOV
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13189 **NEW MEXICO STATE UNIV - LAS CRUCES**
 RESEARCH SUPPORTING SATELLITE COMMUNICATIONS TECHNOLOGY
 03/29/2003 - 06/30/2004 FY03: \$200,000 Total: \$200,000
Prin. Invest.: S HORAN
Tech. Officer: GSFC/D J ISRAEL
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 13196 **NEW MEXICO STATE UNIV - LAS CRUCES**
 BANDWIDTH AND POWER EFFICIENT MODULATION STUDIES.
 03/26/2003 - 03/31/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: D BORAH
Tech. Officer: GSFC/W FONG
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 13398 **NEW MEXICO STATE UNIV - LAS CRUCES**
 MATHEMATICS AND SCIENCE EDUCATORS FOR THE FUTURE
 04/21/2003 - 04/14/2004 FY03: \$51,037 Total: \$51,037
Prin. Invest.: H BAPTISTE
Tech. Officer: GSFC/C HOLLINGSWORTH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1710 **NEW MEXICO STATE UNIV - LAS CRUCES**
 NANOMETER LASER SPECTROSCOPY USING FRACTAL MEDIA
 03/08/2000 - 03/07/2004 FY03: \$0 Total: \$299,992
Prin. Invest.: C YING
Tech. Officer: MSFC/W LOVE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1291 **NEW MEXICO STATE UNIV - LAS CRUCES**
 STUDY TOWARD A HAND HELD VOLATILE ORGANIC ANALYZER FOR MARS MISSION
 04/19/2001 - 06/30/2003 FY03: \$0 Total: \$417,673
Prin. Invest.: G A EICEMAN
Tech. Officer: JSC/D M RUSSO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1477 **NEW MEXICO STATE UNIV - LAS CRUCES**
 MICRO MACHINED DRIFT TUBES FOR ION MOBILITY SPECTROMETRY
 01/14/2003 - 12/31/2005 FY03: \$0 Total: \$0
Prin. Invest.: G A EICEMAN
Tech. Officer: JSC/D M RUSSO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1492 **NEW MEXICO STATE UNIV - LAS CRUCES**
 INVESTIGATIONS INTO THE TRANSIENT ANALYSIS OF SYSTEM RELIABILITY AVAILABILITY VIA CUMULANT FUNCTION
 01/10/2003 - 01/12/2004 FY03: \$0 Total: \$0
Prin. Invest.: T T MATIS
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1547 **NEW MEXICO STATE UNIV - LAS CRUCES**
 INVESTIGATIONS INTO THE TRANSIENT ANALYSIS OF SYSTEM RELIABILITY AVAILABILITY VIA CUMULANT FUNCTION
 01/10/2003 - 01/12/2004 FY03: \$10,000 Total: \$10,000
Prin. Invest.: T T MATIS
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 01477 **NEW MEXICO STATE UNIV - LAS CRUCES**
 MICRO MACHINE DRIFT TUBES FOR ION MOBILITY SPECTROMETRY
 01/14/2003 - 12/31/2005 FY03: \$142,535 Total: \$142,535
Prin. Invest.: G A EICEMAN
Tech. Officer: JSC/D M RUSSO
CASE Category: 12 – CHEMISTRY

NAG13 02046 **NEW MEXICO STATE UNIV - LAS CRUCES**
 PYROTECHNICALLY OPERATED VALVES FOR TESTING AND FLIGHT
 08/09/2002 - 06/30/2005 FY03: \$0 Total: \$99,998
Prin. Invest.: E G CONLEY
Tech. Officer: SSC/W ST. CYR
CASE Category: 45 – ELECTRICAL ENGR

NAS 5 02083 **NEW MEXICO STATE UNIV - LAS CRUCES**
 RESEARCH INTO THE EARTH'S ULTRAVIOLET NIGHTGLOW FOR DETECTING ULTRA-HIGH ENERGY COSMIC RAY PARTICLES
 06/19/2002 - 06/18/2003 FY03: \$93,500 Total: \$168,484
Prin. Invest.: S J STOCHAJ, R HULL
Tech. Officer: GSFC/L M BARBER
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 5 02087 **NEW MEXICO STATE UNIV - LAS CRUCES**
 DESIGN, MANUFACTURE TEST, & DELIVERY OF 1 PROTOFLIGHT MODEL ANTENNA ASSEMBLY & 4 FLIGHT ANTENNA
 06/04/2002 - 07/31/2003 FY03: \$39,914 Total: \$164,394
Prin. Invest.: B BLEVINS
Tech. Officer: GSFC/A RODRIGUEZ
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 03003 **NEW MEXICO STATE UNIV - LAS CRUCES**
 IMPLEMENTATION OF NASA BALLOON FLIGHT PROGRAM OPERATIONS
 03/25/2003 - 02/28/2013 FY03: \$7,405,301 Total: \$7,405,301
Prin. Invest.: S HOTTMAN
Tech. Officer: WFF/B A MERRITT, WFF/D W STUHLIK
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 98009 **NEW MEXICO STATE UNIV - LAS CRUCES**
 BALLOON SERVICES
 02/17/1998 - 03/31/2003 FY03: \$8,876,320 Total: \$80,569,735
Prin. Invest.: N APPLICABLE
Tech. Officer: WFF/R S NOCK, WFF/B A MERRITT
CASE Category: 41 – AERONAUTICAL ENGR

NCC 5 422 **NEW MEXICO STATE UNIV - LAS CRUCES**
SIMULATIONS OF EXTENSIVE AIRWHOWERS USING BEOWULF- CLASS
SYSTEMS
09/30/1999 - 08/31/2002 FY03: -\$322 Total: \$137,908
Prin. Invest.: S STOCHAJ
Tech. Officer: GSFC/R E STREITMATTER
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 466 **NEW MEXICO STATE UNIV - LAS CRUCES**
MATHEMATICS AND SCIENCE EDUCATORS FOR THE FUTURE
03/02/2000 - 12/31/2003 FY03: \$0 Total: \$539,751
Prin. Invest.: H BAPTISTE
Tech. Officer: GSFC/B WHITE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 697 **NEW MEXICO STATE UNIV - LAS CRUCES**
RIOSOF T - TECHNOLOGY FOR INTEGRATED BIOLOGICAL PES T MANAGE-
MENT IN AGRICULTURE
04/29/2003 - 11/30/2003 FY03: \$56,462 Total: \$56,462
Prin. Invest.: N R PRASAD
Tech. Officer: GSFC/M CAUFIELD
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 40061 **NEW MEXICO STATE UNIV - LAS CRUCES**
TO SUPPORT PROGRAMS AND FELLOWSHIPS UNDER THE NATI COLLEGE
AND FELLOWSHIP PROGRAM.
03/04/1997 - 04/30/2002 FY03: \$0 Total: \$1,968,000
Prin. Invest.: P HYNES
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40087 **NEW MEXICO STATE UNIV - LAS CRUCES**
NEW MEXICO SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
02/16/2001 - 02/14/2005 FY03: \$570,735 Total: \$1,520,735
Prin. Invest.: P HYNES
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50457 **NEW MEXICO STATE UNIV - LAS CRUCES**
THE EFFECTS OF ORBITAL VARIATION UPON LONG-TERM AEOLIAN PRO-
CESSES ON THE MARTIAN SURFACE
04/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J MURPHY
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT13 52752 **NEW MEXICO STATE UNIV - LAS CRUCES**
CHARACTERIZATION OF DEFORMED PYROVALVE HOUSING CHARACTER-
IZATION OF DEFORMED PYROVALVE HOUSING
06/20/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: E G CONLEY
Tech. Officer: SSC/R P TRAVIS
CASE Category: 46 – MECHANICAL ENGR

NGT13 52764 **NEW MEXICO STATE UNIV - LAS CRUCES**
WHOLE FIELD STRAIN OF PYROVALVES USING LASER SPECKLE TECH-
NIQUE
07/01/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: E G CONLEY
Tech. Officer: SSC/W W ST. CYR
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 10143 **SOUTHWESTERN INDIAN POLYTECHNIC INST**
STARS ON EARTH, PROVIDING UNDERREPRESENTED NEW MEXICO HIGH
SCHOOL STUDENTS WITH RESEARCH EXPER
01/18/2001 - 12/31/2003 FY03: \$167,000 Total: \$488,000
Prin. Invest.: K GCHACHU
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NAG 9 1407 **SOUTHWESTERN INDIAN POLYTECHNIC INST**
SIPI PACE/MSET PROGRAM
06/27/2002 - 06/30/2004 FY03: \$0 Total: \$20,000
Prin. Invest.: C L ABEITA
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12918 **UNIV OF ALBUQUERQUE**
EXTRATERRESTRIAL STUDIES USING NUCLEAR INTERACTION
02/27/2003 - 03/31/2006 FY03: \$63,000 Total: \$63,000
Prin. Invest.: R REEDY
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 9 1312 **UNIV OF ALBUQUERQUE**
NASA TRAINING PROJECT
09/24/2001 - 09/30/2004 FY03: \$451,000 Total: \$1,352,200
Prin. Invest.: R A LAFARGE
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1439 **UNIV OF ALBUQUERQUE**
EXPERIMENTAL STUDIES OF PLANETARY MAGMAS AT HIGH P RESSURE
07/26/2002 - 12/31/2003 FY03: \$0 Total: \$79,950
Prin. Invest.: C B AGEE
Tech. Officer: JSC/E K STANSBERY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 9 1449 **UNIV OF ALBUQUERQUE**
EXPERIMENTAL STUDIES-HIGH PRESSURE LABORATOARY RES EARCY
08/02/2002 - 12/31/2003 FY03: \$0 Total: \$231,450
Prin. Invest.: C B AGEE
Tech. Officer: JSC/E K STANSBERY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 2 1437 **UNIV OF NEW MEXICO-ALBUQUERQUE**
CHARACTERIZATION & ANALYSIS OF ADVANCED THERMAL PROTECTION
MATERIALS
09/13/2000 - 08/14/2003 FY03: \$0 Total: \$59,996
Prin. Invest.: R E LOEHMAN
Tech. Officer: ARC/D T ELLERBY, ARC/S M JOHNSON
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 2 1480 **UNIV OF NEW MEXICO-ALBUQUERQUE**
NASA GROUP UNIV RESEARCH CENTER SECOND FIVE YEARS
05/01/2001 - 08/14/2002 FY03: \$0 Total: \$1,200,000
Prin. Invest.: P DORATO
Tech. Officer: ARC/A CARDENAS, ARC/A R GROSS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1516 **UNIV OF NEW MEXICO-ALBUQUERQUE**
CHARACTERIZATION AND ANALYSIS OF ULTRAHIGH TEMPERATURE CER-
RAMICS
08/15/2001 - 07/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: R E LOEHMAN
Tech. Officer: ARC/D ELLERBY, ARC/S JOHNSON
CASE Category: 47 – METAL & MATERIALS ENGR

NEW MEXICO

NASA'S UNIVERSITY PROGRAM

NAG 2 1547 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 INTEGRATING THE STOCHASTIC LEARNING AUTOMATA PARADIGM AND
 DISTRIBUTED NEURO FUZZY TECHNIQUES INTO A
 04/05/2002 - 05/14/2003 FY03: \$0 Total: \$290,822
Prin. Invest.: M JAMSHIDI
Tech. Officer: ARC/R MORRIS, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1553 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 ADVANCED THERMAL PROTECTION MATERIALS BASED ON ULTRA-HIGH
 TEMPERATURE CERAMICS
 04/16/2002 - 10/14/2003 FY03: \$0 Total: \$34,988
Prin. Invest.: R LOEHMAN
Tech. Officer: ARC/D T ELLERBY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 1976 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 NEW PHENOMENA IN STRONGLY COUNTERFLOWING HE-II
 10/22/1996 - 06/30/2004 FY03: \$0 Total: \$354,000
Prin. Invest.: S T BOYD, R V DUNCAN, M J ADVIAANS
Tech. Officer: GRC/B S SINGH
CASE Category: 13 – PHYSICS

NAG 3 2543 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 HIGH EFFICIENCY THERMOELECTRIC RADIOISOTOPE POWER SYSTEMS
 02/15/2001 - 06/30/2004 FY03: \$140,013 Total: \$384,522
Prin. Invest.: M EL-GENK
Tech. Officer: GRC/R L CATALDO
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2692 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 COMPUTATIONAL METHODS FOR JET NOISE SIMULATION COMPUTATIONAL
 METHODS FOR JET NOISE SIMULATION
 01/11/2002 - 09/30/2004 FY03: \$69,592 Total: \$137,161
Prin. Invest.: D HAGSTROM
Tech. Officer: GRC/J W GOODRICH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 8454 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 HIGH PERFORMANCE DATA COMPRESSION VLSI ARCHITECTURE; GSFC
 CONTROL NO. 3474
 04/20/1999 - 04/30/2002 FY03: -\$212 Total: \$459,788
Prin. Invest.: G MAKI
Tech. Officer: GSFC/W H MILLER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 8804 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 MARTIN IMPACT CRATER HYDROTHERMAL SYSTEMS, CLUES FROM THE
 LONAR CRATER, INDIA.
 01/06/2000 - 01/14/2003 FY03: \$0 Total: \$48,945
Prin. Invest.: H NEWSOM
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8821 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 BIOMIMETIC SELF-ASSEMBLY OF HARDENED (NACRE-LIKE) COMPOSITE
 COATINGS FOR TRANSHAB
 09/21/1999 - 08/31/2002 FY03: \$3,851 Total: \$496,599
Prin. Invest.: J BRINKER
Tech. Officer: GSFC/R CROUCH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9463 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 MICROBEAM STUDIES OF PLANETARY MATERIALS
 04/18/2000 - 08/14/2003 FY03: \$0 Total: \$761,800
Prin. Invest.: J J PAPIKE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9469 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 RECONFIGURABLE DATA PATH PROCESSOR
 04/17/2000 - 06/30/2002 FY03: \$0 Total: \$386,517
Prin. Invest.: G DONOHOE
Tech. Officer: GSFC/P YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 9704 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 SOFTWARE DEVELOPMENT ENVIRONMENT FOR A RECONFIGURABLE
 PROCESSOR
 06/22/2000 - 07/31/2002 FY03: \$39,928 Total: \$522,938
Prin. Invest.: G W DONOHOE
Tech. Officer: GSFC/W H MILLER
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 9798 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 FORMATION AND ALTERATION HISTORIES OF CHONDRITIC MATERIAL
 07/13/2000 - 06/30/2003 FY03: \$0 Total: \$190,000
Prin. Invest.: A BREARLEY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10359 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 NEUTRON AND HIGH ENERGY PARTICLE DETECTION WITH CRYOGENICS
 CALORIMETERS
 02/01/2001 - 01/14/2004 FY03: \$135,768 Total: \$392,250
Prin. Invest.: S BOYD
Tech. Officer: GSFC/M LI
CASE Category: 13 – PHYSICS

NAG 5 10372 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 SEMICONDUCTOR-RING-LASER-BASED ROTATION SENSORS PROPOSAL
 #293.
 02/15/2001 - 02/14/2004 FY03: \$0 Total: \$659,527
Prin. Invest.: M OSINSKI
Tech. Officer: GSFC/J GAMBINO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 10373 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 SOLID STATE OPTICAL REFRIGERATORS FOR SPACE MISSIONS, PRO-
 POSAL #214
 03/27/2001 - 03/14/2004 FY03: \$135,000 Total: \$735,000
Prin. Invest.: R I EPSTEIN
Tech. Officer: GSFC/E R CANAVAN
CASE Category: 13 – PHYSICS

NAG 5 10918 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 HELIOSEISMIC METROLOGY
 05/14/2001 - 05/31/2004 FY03: \$122,834 Total: \$356,181
Prin. Invest.: S JEFFERIES
Tech. Officer: GSFC/J GURMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10960 **UNIV OF NEW MEXICO-ALBUQUERQUE**
HIGH PERFORMANCE ULTRA-LOW POWER RADIATION TOLERANT CMOS
VLSI
06/11/2001 - 06/14/2002 FY03: \$0 Total: \$402,598
Prin. Invest.: G K MAKI
Tech. Officer: GSFC/P YEP
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11496 **UNIV OF NEW MEXICO-ALBUQUERQUE**
MARTIAN IMPACT CRATER HYDROTHERMAL SYSTEMS, CLUES FROM THE
LONAR CRATER, INDIA, AND OTHER TERRESTRIAL
12/27/2001 - 12/31/2004 FY03: \$25,500 Total: \$51,000
Prin. Invest.: H E NEWSOM
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11555 **UNIV OF NEW MEXICO-ALBUQUERQUE**
GEOCHRONOLOGY OF PLANETARY MATERIALS: A PETROLOGIC AP-
PROACH
01/09/2002 - 01/14/2005 FY03: \$100,000 Total: \$150,000
Prin. Invest.: L BORG
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11561 **UNIV OF NEW MEXICO-ALBUQUERQUE**
THE VIRTUAL COLLABORATIVE CLINIC: AN EARTH-BASED MODEL FOR
SPACE MEDICINE APPLICATIONS FOR INTERN
01/17/2002 - 01/31/2003 FY03: \$0 Total: \$60,000
Prin. Invest.: P J BOYCE
Tech. Officer: GSFC/L P CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11762 **UNIV OF NEW MEXICO-ALBUQUERQUE**
PETROLOGY OF HIERARCHICAL DUST ACCRETION IN AGGREGATE IDPS
02/19/2002 - 03/31/2005 FY03: \$128,000 Total: \$256,000
Prin. Invest.: F J RIETMEIJER
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11764 **UNIV OF NEW MEXICO-ALBUQUERQUE**
EXTRATERRESTRIAL STUDIES USING NUCLEAR INTERACTIONS
02/19/2002 - 03/31/2003 FY03: \$0 Total: \$63,000
Prin. Invest.: R C REEDY
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11862 **UNIV OF NEW MEXICO-ALBUQUERQUE**
MECHANISMS AND KINETICS OF AQUEOUS ALTERATION REACTIONS IN
CHONDRITIC METEORITES
03/11/2002 - 03/14/2005 FY03: \$35,000 Total: \$70,000
Prin. Invest.: A BREARLEY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11976 **UNIV OF NEW MEXICO-ALBUQUERQUE**
ACQUISITION OF AN ELECTRON MICROPROBE
04/08/2002 - 04/14/2003 FY03: \$0 Total: \$280,000
Prin. Invest.: J J PIPKE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12364 **UNIV OF NEW MEXICO-ALBUQUERQUE**
THE STRUCTURAL CHANGES OF TROPICAL CYCLONES UPON INTERAC-
TION WITH VERTICAL WIND SHEAR
07/22/2002 - 07/31/2003 FY03: \$0 Total: \$43,674
Prin. Invest.: E A RITCHIE-TYO
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12783 **UNIV OF NEW MEXICO-ALBUQUERQUE**
BEHAVIOR OF VOLATILES DURING SHOCK OF MARTIAN BASALTS
01/29/2003 - 01/31/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: C SHEARER
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12796 **UNIV OF NEW MEXICO-ALBUQUERQUE**
MICROBEAM STUDIES OF PLANETARY MATERIALS
01/27/2003 - 02/14/2006 FY03: \$267,499 Total: \$267,499
Prin. Invest.: J PAPIKE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12853 **UNIV OF NEW MEXICO-ALBUQUERQUE**
EXPERIMENTAL STUDIES PLANETARY MAGMAS AT HIGH PRESSURES
02/06/2003 - 02/28/2004 FY03: \$85,000 Total: \$85,000
Prin. Invest.: C AGEE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13046 **UNIV OF NEW MEXICO-ALBUQUERQUE**
FORMATION AND ALTERATION HISTORIES OF CHONDRITIC MATERIALS
03/11/2003 - 03/14/2006 FY03: \$95,000 Total: \$95,000
Prin. Invest.: A BREARLEY
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 11 – ASTRONOMY

NAG 5 13444 **UNIV OF NEW MEXICO-ALBUQUERQUE**
DISTRIBUTION, ORIGINS & PARENT BODY PROCESSING OF CARBON-
ACEOUS MATERIAL IN CHONDRITIC METEORITES
04/26/2003 - 06/30/2006 FY03: \$58,638 Total: \$58,638
Prin. Invest.: A BREARLEY
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1664 **UNIV OF NEW MEXICO-ALBUQUERQUE**
RESEARCH
06/01/2000 - 05/31/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: M OSINSKI
Tech. Officer: MSFC/M D WATSON
CASE Category: 46 – MECHANICAL ENGR

NAG 8 1758 **UNIV OF NEW MEXICO-ALBUQUERQUE**
BASIC AWARD FOR RESEARCH STUDY ENTITLED, "SURFACE PHYSICS
WITH HELIUM CRYSTALS IN MICROGRAVITY"
04/24/2001 - 10/31/2003 FY03: \$31,667 Total: \$201,667
Prin. Invest.: A V BABKIN
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1017 **UNIV OF NEW MEXICO-ALBUQUERQUE**
STIMULUS FOR STUDENTS TO STUDY PRE COLLEGE MATH
05/28/1998 - 07/31/2002 FY03: \$0 Total: \$297,351
Prin. Invest.: H E NEWSOM
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NEW YORK

NASA'S UNIVERSITY PROGRAM

NAG 9 1111 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 INST FOR THE STUDY OF BIOMARKERS IN ASTROMATERIALS
 05/14/1999 - 05/13/2003 FY03: \$0 Total: \$175,000
Prin. Invest.: J J PAPIKE
Tech. Officer: JSC/E K GIBSON
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 8 52915 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 A STUDY OF ROCKING RIDID BLOCKS
 05/24/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: T ROSS
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 44 – CIVIL ENGR

NAG 9 1324 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 ADVANCED CO2 REMOVAL SYSTEM USING AMINE FUNCTIONAL IZED
 MEMBRANES
 07/20/2001 - 01/31/2004 FY03: \$0 Total: \$335,000
Prin. Invest.: J BRINKER
Tech. Officer: JSC/G THOMAS
CASE Category: 42 – ASTRONAUTICAL ENGR

NGT 9 68 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 ISOTOPIC STUDY OF LUNAR MAGNESIUM (MG)-SUITE ROCKS APPLICATION
 OF SM-ND, RB-SR, & U-PB TECHNIQUES
 08/12/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J EDMUNSON
Tech. Officer: JSC/L E NYQUIST
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG13 03020 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 CENTER FOR RAPID ENVIRONMENTAL ASSESSMENT AND TERRAIN EVALU-
 ATION (CREATE)
 09/02/2003 - 09/01/2005 FY03: \$1,787,925 Total: \$1,787,925
Prin. Invest.: L SCUDERI
Tech. Officer: SSC/T STANLEY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NEW YORK

NAG 5 11863 **BARNARD COLLEGE**
 "8TH MEETING OF THE SOCIETY FOR RESEARCH ON BIOLOG ICAL
 RHYTHMS
 03/12/2002 - 03/31/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: R SILVER
Tech. Officer: GSFC/L P CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 02008 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 ADVANCED PARTICLE RADIATION TRANSPORT METHODS
 02/04/2002 - 07/31/2003 FY03: \$0 Total: \$69,948
Prin. Invest.: A PRINJA
Tech. Officer: LARC/R C SINGLETERRY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 7473 **CAYUGA COUNTY COMM COLLEGE**
 DEFINING EARTH SYSTEM ENTERPRISE INFO NEEDS & PILOT PROGRAMS
 FOR UTILIZATION BY LOCAL GOVERNMENT
 06/15/1998 - 06/14/2003 FY03: \$0 Total: \$3,450,000
Prin. Invest.: R BROWN
Tech. Officer: GSFC/W CAMPBELL
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 309 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 PERFORMING A REGIONAL ASSESSMENT & PROTOTYPING INTERNET
 ACCESSIBLE MTPE PRODUCTS TO THE UPPER RIO
 04/09/1998 - 12/31/2003 FY03: \$531,000 Total: \$2,923,687
Prin. Invest.: S MORAIN
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 00043 **CAYUGA COUNTY COMM COLLEGE**
 SPATIAL INFORMATION TECHNOLOGY CENTER AT FULTON MONTGOMERY
 COMM COLLEGE
 09/27/2000 - 09/26/2003 FY03: \$0 Total: \$1,491,400
Prin. Invest.: R FRESTOPKIK
Tech. Officer: SSC/D POWE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 350 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 PREPARATION FOR UNVIERSITY OF STUDENTS IN UNDEGRAD UATE
 EDUCATION
 07/01/1998 - 01/31/2004 FY03: \$0 Total: \$2,495,206
Prin. Invest.: L CROSSEY
Tech. Officer: GSFC/M MATHEWS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 00044 **CAYUGA COUNTY COMM COLLEGE**
 PHASE III:DEPLOYING ESE PILOT INFORMATION PROGRAMS FOR STATE &
 LOCAL GOVERNMENT INTHE NORTHEAST
 09/27/2000 - 09/26/2004 FY03: \$0 Total: \$14,099,000
Prin. Invest.: R BROWER
Tech. Officer: SSC/M MICK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC13 98002 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 AFFILIATED RESEARCH CENTER PROGRAM-COMMERCIAL RE- MOTE SENS-
 ING PARTNERSHIPS WITH INDUSTRY
 08/11/1998 - 08/10/2002 FY03: -\$2,040 Total: \$572,641
Prin. Invest.: S A MORAIN, S A MORAIN
Tech. Officer: SSC/A PEEK
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 02053 **CAYUGA COUNTY COMM COLLEGE**
 SPATIAL INFORMATION TECHNOLOGY CENTER AT FULTON MONTGOMERY
 COMM COLLEGE THIRDYEAR OPERATION
 08/23/2002 - 09/30/2004 FY03: \$0 Total: \$812,000
Prin. Invest.: M FLINTON
Tech. Officer: SSC/W DAMAGGIO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 1 02017 **UNIV OF NEW MEXICO-ALBUQUERQUE**
 GRADUATE STUDENT RESEARCHER PROGRAM (GSRP)
 06/18/2002 - 06/30/2003 FY03: \$10,000 Total: \$24,000
Prin. Invest.: R LAFARGE
Tech. Officer: LARC/M V RUIZ
CASE Category: 46 – MECHANICAL ENGR

NAG13 03030 **CAYUGA COUNTY COMM COLLEGE**
 EARTHSCOPE DEOSPATIAL APPLICATIONS PROJECT
 09/25/2003 - 09/30/2005 FY03: \$2,235,000 Total: \$2,235,000
Prin. Invest.: R N BROWER
Tech. Officer: SSC/M W MICK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11546 CITY UNIV NEW YORK KINGSBOROUGH COMM COLLEGE
 PETROLOGIC-GEOCHEMICAL STUDIES OF PRIMITIVE SOLAR SYSTEM MATERIALS
 01/08/2002 - 01/14/2005 FY03: \$44,000 Total: \$88,000
Prin. Invest.: M WEISBERG
Tech. Officer: HQ/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 3 2268 CITY UNIV OF NY HERBERT H. LEHMAN COLL
 MATHEMATICS, SCIENCE AND TECHNOLOGY WITH EXCELLENCE IN RESEARCH: A SCIENCE AND TECHNOLOGY ENTRY PR
 05/17/1999 - 08/31/2002 FY03: \$0 Total: \$300,000
Prin. Invest.: A L ROTHSETIN
Tech. Officer: GRC/R F LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10152 CITY UNIV COLLEGE OF NEW YORK YORK COLLEGE
 YORK COLLEGE OBSERVATORY EDUCATIONAL OUTREACH SVC. TO THE COLLEGE & THE PUBLIC SCHOOL COMM
 12/08/2000 - 12/31/2003 FY03: \$192,000 Total: \$579,000
Prin. Invest.: M SPERGEL
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NAG 1 2028 CITY UNIV OF NEW YORK CITY COLLEGE
 EIGENSTRUCTURE ASSIGNMENT FOR FAULT TOLERANT FLIGHT CONTROL DESIGN
 03/09/1998 - 01/31/2002 FY03: -\$1,237 Total: \$297,559
Prin. Invest.: K SOBEL
Tech. Officer: LARC/S M JOSHI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2259 CITY UNIV OF NEW YORK CITY COLLEGE
 IRA (INSTAL RESEARCH AWARD) PROGRAM TRANSFER NAGW5-6952
 01/19/2000 - 11/30/2003 FY03: \$0 Total: \$1,500,000
Prin. Invest.: R A ALFANO
Tech. Officer: LARC/N P BARNES, LARC/J C BARNES
CASE Category: 13 – PHYSICS

NAG 3 2258 CITY UNIV OF NEW YORK CITY COLLEGE
 SCIENCE AND TECHNOLOGY TEACHERS FOR THE NEXT MILLENNIUM PHASE II (MASTAP)
 05/03/1999 - 03/22/2002 FY03: \$0 Total: \$600,000
Prin. Invest.: L P JOHNSON
Tech. Officer: GRC/R F LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2259 CITY UNIV OF NEW YORK CITY COLLEGE
 ULTRASONIC ASSESSMENT OF IMPACT-INDUCED DAMAGE AND MICROCRACKING IN POLYMER MATRIX COMPOSITES
 05/01/1999 - 01/31/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: B LIAW
Tech. Officer: GRC/K J BOWLES
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2335 CITY UNIV OF NEW YORK CITY COLLEGE
 MOLECULAR DYNAMICS OF FLUID-SOLID SYSTEMS MOLECULAR DYNAMICS OF FLUID-SOLID SYSTEMS
 02/17/2000 - 12/31/2003 FY03: \$45,000 Total: \$165,085
Prin. Invest.: D KOPLIK
Tech. Officer: GRC/F P CHIARMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2698 CITY UNIV OF NEW YORK CITY COLLEGE
 PARTICLE SEGREGATION IN A FLOWING CONCENTRATED SUSPENSION SUBJECT TO HIGH-GRADIENT STRONG ELECTRIC
 01/29/2002 - 10/31/2005 FY03: \$89,280 Total: \$170,880
Prin. Invest.: D ACHRIVOS
Tech. Officer: GRC/M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2720 CITY UNIV OF NEW YORK CITY COLLEGE
 USING REMOBILIZING SURFACTANTS TO ENHANCE THE THERMAL CAPILLARY MIGRATION OF BUBBLES RETARDED BY THE A
 02/27/2002 - 09/30/2005 FY03: \$80,704 Total: \$153,635
Prin. Invest.: D MALDARELLI
Tech. Officer: GRC/M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2849 CITY UNIV OF NEW YORK CITY COLLEGE
 AQUEOUS SPREADING ON HYDROPHOBIC SURFACES AQUEOUS SPREADING ON HYDROPHOBIC SURFACES
 02/13/2003 - 01/02/2006 FY03: \$99,356 Total: \$99,356
Prin. Invest.: A COUZIS
Tech. Officer: GRC/J C GOLDSBY
CASE Category: 12 – CHEMISTRY

NAG 3 2851 CITY UNIV OF NEW YORK CITY COLLEGE
 MICROGRAVITY EFFECTS ON TRANSVASCULAR TRANSPORT AND VASCULAR CONTROL
 03/04/2003 - 02/12/2006 FY03: \$57,785 Total: \$57,785
Prin. Invest.: J M TARBELL
Tech. Officer: GRC/P A PARSONS-WINGERT
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 7160 CITY UNIV OF NEW YORK CITY COLLEGE
 HIGH DENSITY SOLID STATE MEMORIES
 03/11/1998 - 03/14/2002 FY03: \$0 Total: \$294,347
Prin. Invest.: N SCHEINBERG
Tech. Officer: GSFC/H SHAW
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 7827 CITY UNIV OF NEW YORK CITY COLLEGE
 WINDS, WATER BUDGETS, AND STABLE ISOTOPES IN TROPICAL CYCLONES USING TRMM AND QUICKSCAT
 12/14/1998 - 12/14/2002 FY03: \$0 Total: \$229,552
Prin. Invest.: S GEDZELMAN
Tech. Officer: GSFC/O W THIELE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10845 CITY UNIV OF NEW YORK CITY COLLEGE
 ADVANCING MINORITIES IN SCIENCE AND ENGINEERING EDUCATION
 05/01/2001 - 05/14/2002 FY03: \$0 Total: \$157,608
Prin. Invest.: J BARBA
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11690 CITY UNIV OF NEW YORK CITY COLLEGE
 CIO MEASUREMENTS & ANALYSIS IN THE NETWORK FOR THE DETECTION OF STRATOSPHERIC CHANGE
 01/31/2002 - 01/31/2005 FY03: \$448,476 Total: \$847,623
Prin. Invest.: P M SOLOMON
Tech. Officer: GSFC/M KURYLO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11813 **CITY UNIV OF NEW YORK CITY COLLEGE**
 COMBINING ACTIVE & PASSIVE OPTICAL REMOTE SENSING TECHNIQUES
 TO MEASURE TROPOSPHERIC AEROSOL PROFILE
 03/05/2002 - 03/14/2005 FY03: \$0 Total: \$98,059
Prin. Invest.: B GROSS
Tech. Officer: GSFC/B CARLSON
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 13664 **CITY UNIV OF NEW YORK CITY COLLEGE**
 ADVANCING MINORITIES IN SCIENCE AND ENGINEERING EDUCATION
 09/10/2003 - 05/31/2004 FY03: \$157,608 Total: \$157,608
Prin. Invest.: J BARBA
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 03009 **CITY UNIV OF NEW YORK CITY COLLEGE**
 UNIV RESEARCH CTR FOR OPTICAL SENSING & IMAGING OF THE EARTH
 AND ENVIRONMENT
 05/09/2003 - 04/30/2008 FY03: \$1,099,608 Total: \$1,099,608
Prin. Invest.: R R ALFANO, S AHMED
Tech. Officer: LARC/H BARNES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 3 607 **CITY UNIV OF NEW YORK CITY COLLEGE**
 THE SYNERGISM OF ELECTORHEOLOGICAL RESPONSE, DIELECTRO-
 PHORESIS AND SHEAR-INDUCED DIFFUSION IN FLOW
 04/07/1998 - 07/31/2002 FY03: \$0 Total: \$296,250
Prin. Invest.: A ACRIVOS
Tech. Officer: GRC/F D CHIARAMONTE
CASE Category: 46 – MECHANICAL ENGR

NCC 5 344 **CITY UNIV OF NEW YORK CITY COLLEGE**
 INTEGRATION OF RESEARCH AND EDUCATION IN REMOTE SENSING AND
 ENVIRONMENTAL CLIMATE RESEARCH
 07/15/1998 - 06/30/2004 FY03: \$0 Total: \$2,500,000
Prin. Invest.: R KHANBILVARDI
Tech. Officer: HQ/B WHITE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 520 **CITY UNIV OF NEW YORK CITY COLLEGE**
 COOPERATIVE RESEARCH & EDUCATION PROGRAM: INST. ON CLIMATE &
 PLANETS.
 11/02/2000 - 12/31/2002 FY03: \$0 Total: \$349,123
Prin. Invest.: N A PARKER
Tech. Officer: GSFC/L TRAVIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 530 **CITY UNIV OF NEW YORK CITY COLLEGE**
 AN URBAN COLLABORATION FOR NETWORKS CONNECTIVITY & INTERNET
 ACCESS/MUSPINNRTS PROGRAM.
 02/01/2001 - 01/31/2004 FY03: \$350,000 Total: \$1,099,765
Prin. Invest.: S AUSTIN
Tech. Officer: GSFC/J HARRINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12280 **CITY UNIV OF NEW YORK SYSTEM**
 ADVANCING MINORITIES IN SCIENCE AND ENGINEERING EDUCATION
 06/11/2002 - 05/31/2003 FY03: \$0 Total: \$157,608
Prin. Invest.: J BARBA
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 654 **CITY UNIV OF NEW YORK SYSTEM**
 TECHNOLOGY INTEGRATED PROGRAM FOR PREPARATION OF T OMO-
 ROW'S MSET TEACHERS
 08/19/2002 - 08/30/2005 FY03: \$0 Total: \$200,000
Prin. Invest.: M WEINER
Tech. Officer: GSFC/M MATEU
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 3 2393 **CLARKSON UNIV**
 QUANTIFICATION OF ENERGY RELEASE IN COMPOSITE STRUCTURES
 04/18/2000 - 09/30/2002 FY03: \$0 Total: \$69,529
Prin. Invest.: D MINNETYAN
Tech. Officer: GRC/C C CHAMIS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2394 **CLARKSON UNIV**
 TEST-FREE FRACTURE TOUGHNESS, REF. #00169 TEST-FREE FRACTURE
 TOUGHNESS, REF. #00169
 04/18/2000 - 09/30/2002 FY03: \$0 Total: \$70,554
Prin. Invest.: D MINNETYAN
Tech. Officer: GRC/C C CHAMIS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2609 **CLARKSON UNIV**
 COMPUTATIONAL SIMULATION OF COMPOSITE STRUCTURAL FATIGUE
 05/16/2001 - 05/31/2004 FY03: \$0 Total: \$25,118
Prin. Invest.: D MINNETYAN
Tech. Officer: GRC/C C CHAMIS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2703 **CLARKSON UNIV**
 MOTION OF DROPS ON SURFACES WITH WETTABILITY GRADIENTS
 02/07/2002 - 11/30/2005 FY03: \$93,000 Total: \$179,700
Prin. Invest.: R SUBRAMANIAN
Tech. Officer: GRC/M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2717 **CLARKSON UNIV**
 CONSTITUTIVE RELATION IN TRANSITIONAL GRANULAR FLOWS, REF
 #01233
 02/27/2002 - 12/31/2005 FY03: \$99,510 Total: \$194,285
Prin. Invest.: D H SHEN
Tech. Officer: GRC/R D GREEN
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1482 **CLARKSON UNIV**
 R/S IMPROVED CRYSTAL QUALITY BY DETACHED SOLIDIFICATION IN
 MICROGRAVITY
 02/12/1998 - 01/31/2003 FY03: \$0 Total: \$356,250
Prin. Invest.: L L REGEL
Tech. Officer: MSFC/C TALLEY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1703 **CLARKSON UNIV**
 RESIDUAL GAS EFFECTS ON DETACHED SOLIDIFICATION IN MICROGRAV-
 ITY
 06/22/2000 - 11/28/2003 FY03: \$100,000 Total: \$335,000
Prin. Invest.: W R WILCOX
Tech. Officer: MSFC/P DOTY
CASE Category: 12 – CHEMISTRY

NGT 1 52222 **CLARKSON UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 06/29/1999 - 06/30/2002 FY03: -\$1 Total: \$66,000
Prin. Invest.: R F SCHMIT, M GLAUSER
Tech. Officer: LARC/J JUANG, LARC/L HORTA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1345 **COLUMBIA UNIV**
 DEVELOPMENT & FUNCTION OF THE MOUSE VESTIBULAR SYSTEM IN THE
 ABSENCE OF GRAVITY PERCEPTION
 07/16/1999 - 07/14/2004 FY03: \$0 Total: \$520,863
Prin. Invest.: D J WOLGEMUTH
Tech. Officer: ARC/M M AVRENER, ARC/G C JAHN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1637 **COLUMBIA UNIV**
 FUNCTIONAL ROLE OF THE BETAIG H3 GENE IN HIGH ENERGY HEAVY
 IONS INDUCED CARCINOGENESIS
 07/24/2003 - 06/30/2007 FY03: \$246,252 Total: \$246,252
Prin. Invest.: Y ZHAO
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 4649 **COLUMBIA UNIV**
 EARLY DIFFERENTIATION OF THE MOON: EXPERIMENTAL AND
 06/11/1997 - 05/31/2002 FY03: \$0 Total: \$710,000
Prin. Invest.: D LONGHI
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 5123 **COLUMBIA UNIV**
 X-RAY SPECTROSCOPIC LABORATORY EXPERIMENTS IN SUPPORT OF THE
 NASA X-RAY ASTRONOMY PROGRAM
 02/20/1997 - 05/31/2003 FY03: \$0 Total: \$761,261
Prin. Invest.: S M KAHN
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5254 **COLUMBIA UNIV**
 HIGH-PERFORMANCE MULTILAYER COATINGS FOR THE NEXT GENERATION
 OF HIGH-RESOLUTION X-RAY OPTICS
 02/22/2000 - 02/03/2004 FY03: \$0 Total: \$580,000
Prin. Invest.: D L WINDT
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5260 **COLUMBIA UNIV**
 THERMALLY-FORMED GLASS OPTICS FOR X-RAY AND GAMMA-RAY MIS-
 SIONS
 02/18/2000 - 02/10/2004 FY03: \$0 Total: \$569,000
Prin. Invest.: C J HAILEY
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 5261 **COLUMBIA UNIV**
 MEASUREMENTS, CALCULATIONS, AND ASTROPHYSICAL IMPLICATIONS
 OF NEW LOW TEMPERATURE DIELECTRONIC
 02/11/2000 - 02/10/2004 FY03: \$0 Total: \$353,040
Prin. Invest.: D W SAVIN
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5275 **COLUMBIA UNIV**
 FUNDING FOR PHASE 1 OF SPACE PROJECT FUNDING FOR PHASE 1 OF
 SPACE PROJECT
 04/17/2000 - 04/13/2006 FY03: \$0 Total: \$299,510
Prin. Invest.: B CAIRNS
Tech. Officer: GSFC/D L PIERCE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5280 **COLUMBIA UNIV**
 DEVELOPMENT OF XENON TIME PROJECTION CHAMBERS FOR PRECISE
 COMPTON IMAGING OF ASTROPHYSICAL LINES
 05/31/2000 - 12/31/2003 FY03: \$179,964 Total: \$1,352,464
Prin. Invest.: E APRILE
Tech. Officer: GSFC/B A MERRITT
CASE Category: 11 – ASTRONOMY

NAG 5 5393 **COLUMBIA UNIV**
 GAPS: GASEOUS ANTIMATTER PARTICLE SPECTROMETER FIRST YEAR
 FUNDING FOR THREE YEAR GRANT
 04/04/2003 - 04/04/2006 FY03: \$196,000 Total: \$196,000
Prin. Invest.: D HAILEY
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5403 **COLUMBIA UNIV**
 DEVELOPMENT OF NOVEL TELESCOPE FAB TECHNIQUES FOR FUTURE
 HIGH-THROUGHPUT X-RAY GAMMA-RAY ASTRONOMY
 02/05/2003 - 02/11/2006 FY03: \$296,400 Total: \$296,400
Prin. Invest.: N AVAILABLE
Tech. Officer: GSFC/J BRINTON
CASE Category: 11 – ASTRONOMY

NAG 5 5406 **COLUMBIA UNIV**
 HIGH-PERFORMANCE MULTILAYER COATINGS FOR THE NEXT GENERATION
 OF ASTRONOMICAL X-RAY OPTICS FIRST YEAR
 02/05/2003 - 02/04/2006 FY03: \$205,300 Total: \$205,300
Prin. Invest.: N AVAILABLE
Tech. Officer: GSFC/J BRINTON
CASE Category: 11 – ASTRONOMY

NAG 5 5407 **COLUMBIA UNIV**
 "HIGH ENERGY FOCUSING TELESCOPE" FIRST YEAR OF GRANT
 02/06/2003 - 12/31/2005 FY03: \$0 Total: \$0
Prin. Invest.: C HAILEY
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5420 **COLUMBIA UNIV**
 NEW LOW TEMPERATURE DIELECTRONIC RECOMBINATION RATE COEFFI-
 CIENTS FOR PHOTOIONIZED COSMIC PLASMAS
 04/04/2003 - 04/03/2006 FY03: \$174,528 Total: \$174,528
Prin. Invest.: D SAVIN
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 6035 **COLUMBIA UNIV**
 SURFING THE HIGH DENSITY UNIVERSE
 10/03/1997 - 09/30/2003 FY03: \$0 Total: \$591,800
Prin. Invest.: D HELFAND
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 6450 **COLUMBIA UNIV**
 PRODUCTION AND ANALYSIS OF GLOBAL WAVE AND PHOTOSYNTHETICALLY ACTIVE SURFACE IRRADIANCE FIELDS U
 10/31/1997 - 06/30/2002 FY03: \$0 Total: \$485,933
Prin. Invest.: J A BISHOP
Tech. Officer: GSFC/J A MARRA
CASE Category: 33 - OCEANOGRAPHY

NAG 5 6876 **COLUMBIA UNIV**
 INFLUENCE OF ARCTIC SEA ICE ON NATURAL AND ANTHROPOGENICALLY-INDUCED CLIMATE VARIABILITY
 01/30/1998 - 03/31/2003 FY03: \$0 Total: \$235,200
Prin. Invest.: D G MARTINSON
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 7461 **COLUMBIA UNIV**
 POLYNYAS, PREDATORS AND PACK ICE VARIABILITY IN THE SOUTHERN OCEAN
 10/26/1998 - 12/31/2002 FY03: \$0 Total: \$249,868
Prin. Invest.: S S JACOBS
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 7737 **COLUMBIA UNIV**
 SCIENCE AND CALIBRATION SUPPORT FOR THE REFLECTING GRATING SPECTROMETER ON THE X-RAY MULTI-MIRROR M
 10/01/1998 - 03/31/2004 FY03: \$974,000 Total: \$3,943,750
Prin. Invest.: S M KAHN
Tech. Officer: GSFC/N E WHITE
CASE Category: 11 - ASTRONOMY

NAG 5 7922 **COLUMBIA UNIV**
 EFFECT OF HISTORICAL AND PROJECTED CLIMATE CHANGE ON SOUTHERN OCEAN SEA ICE AND ANTARCTIC MASS BALANCE
 12/21/1998 - 12/31/2002 FY03: \$0 Total: \$154,000
Prin. Invest.: D MARTINSON
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 7935 **COLUMBIA UNIV**
 THE NATURE OF RADIO-QUIET X-RAY PULSARS IN SUPERNOVA REMNANTS (LTSA-98)
 12/14/1998 - 12/31/2003 FY03: \$123,313 Total: \$581,015
Prin. Invest.: E V GOTTHELF
Tech. Officer: GSFC/D K WEST
CASE Category: 11 - ASTRONOMY

NAG 5 7977 **COLUMBIA UNIV**
 ACCRETION RATES IN CATAclysmic VARIABLES (ADP98)
 12/23/1998 - 12/31/2001 FY03: -\$2,976 Total: \$103,823
Prin. Invest.: J O PATTERSON
Tech. Officer: GSFC/D K WEST
CASE Category: 11 - ASTRONOMY

NAG 5 8725 **COLUMBIA UNIV**
 SEASONAL AND INTERANNUAL VARIABILITY OF AIR-SEA-ICE COUPLING PROCESSES IN THE SUBPOLAR SOUTHERN OCEAN
 08/04/1999 - 08/31/2002 FY03: \$0 Total: \$184,254
Prin. Invest.: X YUAN
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 8848 **COLUMBIA UNIV**
 FIRST YEAR FUNDING FOR SENH99-0121, LANDSLIDE MECHANISMS & HAZARD ASSESSMENT IN MOUNTAIN REGIONS
 12/16/1999 - 09/30/2003 FY03: \$0 Total: \$460,199
Prin. Invest.: J K WEISSEL
Tech. Officer: GSFC/H V FREY
CASE Category: 32 - GEOLOGICAL SCIENCE

NAG 5 9056 **COLUMBIA UNIV**
 CONTINENT-WIDE ESTIMATION AND CALIBRATION OF CLIMATOLOGICAL PARAMETERS USING SRTM AND LASER
 02/15/2000 - 02/29/2004 FY03: \$0 Total: \$121,096
Prin. Invest.: C P STARK
Tech. Officer: GSFC/H V FREY
CASE Category: 32 - GEOLOGICAL SCIENCE

NAG 5 9094 **COLUMBIA UNIV**
 TESTING FOR X-RAY PERIODICITIES IN SEYFERT GALAXIES - ADP 99
 02/18/2000 - 02/28/2002 FY03: -\$739 Total: \$21,413
Prin. Invest.: J P HALPERN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 9136 **COLUMBIA UNIV**
 ON THE EVOLUTION OF YOUNG NEUTRON STARS: ANOMALOUS COMPACT OBJECTS WITHIN SUPERNOVA REMNANTS
 03/01/2000 - 02/28/2003 FY03: \$0 Total: \$157,353
Prin. Invest.: E V GOTTHELF
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 9581 **COLUMBIA UNIV**
 UNRAVELING THE PHYSICAL CONDITIONS IN THE SOLAR ATMOSPHERE: EXPERIMENTAL AND THEORETICAL RATES FOR
 05/09/2000 - 04/30/2004 FY03: \$64,245 Total: \$386,206
Prin. Invest.: D W SAVIN
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 - PHYSICS

NAG 5 9615 **COLUMBIA UNIV**
 HIGH-PERFORMANCE MULTILAYER X-RAY OPTICS FOR SOLAR PHYSICS
 05/23/2000 - 04/30/2003 FY03: \$0 Total: \$284,630
Prin. Invest.: D WINDT
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 - PHYSICS

NAG 5 9759 **COLUMBIA UNIV**
 ASSIMILATION OF REMOTELY SENSED SNOW OBSERVATIONS INTO THE NSIPP LAND SURFACE MODEL
 06/26/2000 - 06/30/2004 FY03: \$74,179 Total: \$177,626
Prin. Invest.: M STIEGLITZ
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 9870 **COLUMBIA UNIV**
 SURVEYING THE GALACTIC PLANE WITH XMM
 09/29/2000 - 09/30/2002 FY03: -\$672 Total: \$60,328
Prin. Invest.: D HELFAND
Tech. Officer: GSFC/P ATKINS
CASE Category: 11 - ASTRONOMY

NAG 5 9898 **COLUMBIA UNIV**
 THE NATURE OF ISOLATED NEUTRON STARS AND THE EQUATION OF
 STATE AT SUPRA-NUCLEAR DENSITY
 09/06/2000 - 09/14/2002 FY03: \$0 Total: \$8,500
Prin. Invest.: F B PAERLES
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9911 **COLUMBIA UNIV**
 AN ULTRA-MAGNETIZED X-RAY PULSAR IN THE SUPERNOVA REMNANT
 KES 73
 09/05/2000 - 09/30/2002 FY03: \$0 Total: \$27,365
Prin. Invest.: E V GOTTHELF
Tech. Officer: GSFC/R M MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9929 **COLUMBIA UNIV**
 AN X-RAY SPECTROSCOPIC DETERMINATION OF THE HUBBLE CONSTANT
 09/07/2000 - 09/14/2002 FY03: \$0 Total: \$24,619
Prin. Invest.: F B PAERLES
Tech. Officer: GSFC/D F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9946 **COLUMBIA UNIV**
 TAKING THE PULSE OF OUR YOUNGEST NEIGHBORHOOD NEUTRON STAR
 09/06/2000 - 09/14/2002 FY03: \$0 Total: \$32,900
Prin. Invest.: D J HELFAND
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9950 **COLUMBIA UNIV**
 A POSSIBLE IDENTIFICATION OF THE EGRET SOURCE 2EG J2227+6122
 09/07/2000 - 08/31/2002 FY03: \$0 Total: \$30,662
Prin. Invest.: J P HALPERN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10082 **COLUMBIA UNIV**
 THE X-RAY TEMPERATURE FUNCTION AND STRUCTURE OF CLUSTERS AT
 $Z=0.6-1$
 11/06/2000 - 11/14/2002 FY03: \$0 Total: \$5,625
Prin. Invest.: C A SCHARF
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10607 **COLUMBIA UNIV**
 USING A CLOUD-RESOLVING MODEL TO UNDERSTAND LARGE-SCALE
 VARIATIONS IN TROPICAL RAINFALL: A NO
 03/15/2001 - 03/14/2004 FY03: \$0 Total: \$194,071
Prin. Invest.: A SOBEL
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11049 **COLUMBIA UNIV**
 RECOMBINATION RATES OF METHYL RADICALS AT LOW TEMPERATURES
 IN HYDROGEN. (LOW TEMPERATURE PHOTOCHEMISTRY)
 06/18/2001 - 05/31/2004 FY03: \$0 Total: \$130,000
Prin. Invest.: R BERSOHN
Tech. Officer: GSFC/D J BOGAN
CASE Category: 12 – CHEMISTRY

NAG 5 11215 **COLUMBIA UNIV**
 MESOSCALE CIRCULATION AND ECOSYSTEM PROCESSES OFF WESTERN
 AUSTRALIA: A SYNERGISTIC APPROACH OF REMO
 08/13/2001 - 09/30/2003 FY03: \$244,366 Total: \$487,847
Prin. Invest.: O ANDERSON
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11357 **COLUMBIA UNIV**
 TIME VARIATIONS OF THE NET AIR-SEA CO₂ FLUX
 09/25/2001 - 09/30/2004 FY03: \$91,667 Total: \$178,767
Prin. Invest.: T TAKAHASHI
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11530 **COLUMBIA UNIV**
 INTEGRATED CIRRUS REMOTE SENSING USING MULTIANGLE, MULTISPEC-
 TRAL POLARIMETRIC MEASUREMENTS
 01/09/2002 - 11/30/2003 FY03: \$49,120 Total: \$371,088
Prin. Invest.: B CAIRNS
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11697 **COLUMBIA UNIV**
 MODELING STUDY OF THE EFFECT OF CARBONACEOUS INCLUSIONS AND
 SULFATE AEROSOLS ON THE CLOUD RADIATIVE
 02/07/2002 - 02/14/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: S MENON
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11799 **COLUMBIA UNIV**
 SCALING ANALYSIS & CATCHMENT PROCESSING OF TOPOGRAPHIC DATA
 FOR A GCM LAND SURFACE MODEL
 03/01/2002 - 11/30/2003 FY03: \$0 Total: \$67,539
Prin. Invest.: C P STARK
Tech. Officer: GSFC/R KOSTER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12074 **COLUMBIA UNIV**
 EARLY DIFFERENTIATION OF THE MOON: EXPERIMENTAL & MODELLING
 STUDIES
 04/23/2002 - 05/31/2005 FY03: \$167,000 Total: \$334,000
Prin. Invest.: J LONGHI
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 12586 **COLUMBIA UNIV**
 THE ANTARCTIC DIPOLE: INTERACTION WITH POLAR/EXTRA POLAR CLIMATE
 VARIATIONS AND ITS PREDICTION
 09/18/2002 - 09/14/2005 FY03: \$0 Total: \$81,740
Prin. Invest.: X YUAN
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12797 **COLUMBIA UNIV**
 HIGH PERFORMANCE XUV MULTILAYERS FOR SOLAR PHYSICS
 01/23/2003 - 01/31/2004 FY03: \$20,000 Total: \$20,000
Prin. Invest.: D WINDT
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12798 **COLUMBIA UNIV**
 MEASUREMENTS OF HIGH TEMPERATURE DIELECTRONIC RECOMBINATION RATE COEFFICIENTS IN SUPPORT OF NASA
 01/24/2003 - 01/31/2006 FY03: \$112,924 Total: \$112,924
Prin. Invest.: D SAVIN-WOLF
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12800 **COLUMBIA UNIV**
 A SEARCH FOR PULSARS IN EGRET SOURCE ERROR BOXES
 02/05/2003 - 02/14/2004 FY03: \$41,647 Total: \$41,647
Prin. Invest.: J P HALPERN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 12923 **COLUMBIA UNIV**
 GOING TO THE BOTTOM OF THE EXPLOSION THAT FORMED CAS A
 02/27/2003 - 08/31/2004 FY03: \$31,224 Total: \$31,224
Prin. Invest.: J VINK
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 13062 **COLUMBIA UNIV**
 MULTI-WAVELENGTH IMAGE OF THE GALAXY: MID-IR EMISSION AS A KEY DISCRIMINANT BETWEEN NON-THE
 03/12/2003 - 03/14/2005 FY03: \$43,944 Total: \$43,944
Prin. Invest.: D HELFAND
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13081 **COLUMBIA UNIV**
 CREATION AND EVOLUTION OF SUPERNOVA REMNANT 1987A
 03/13/2003 - 03/14/2008 FY03: \$118,823 Total: \$118,823
Prin. Invest.: A CROTTS
Tech. Officer: GSFC/J HAYES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13184 **COLUMBIA UNIV**
 SURVEYING THE GALACTIC PLANE WITH XMM-NEWTON
 03/28/2003 - 03/31/2004 FY03: \$18,700 Total: \$18,700
Prin. Invest.: D HELFAND
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13185 **COLUMBIA UNIV**
 MEASUREMENT OF THE INTERSTELLAR ABSORPTION SPECTRUM TOWARD SCO X-1
 03/28/2003 - 03/31/2004 FY03: \$51,297 Total: \$51,297
Prin. Invest.: A RASMUSSEN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13266 **COLUMBIA UNIV**
 SEEKING THE ORIGIN OF X-RAYS FROM CHEMICALLY PECULIAR LATE B STARS
 04/03/2003 - 04/14/2004 FY03: \$9,000 Total: \$9,000
Prin. Invest.: S M KAHN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13352 **COLUMBIA UNIV**
 TECHNOLOGY INVESTIGATION OF A REFLECTION GRATING SPECTROMETER (RGS) ABOARD THE CONSTELLATION-XOBER
 04/17/2003 - 04/30/2006 FY03: \$115,000 Total: \$115,000
Prin. Invest.: A RASMUSSEN
Tech. Officer: GSFC/K HARTMAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 13353 **COLUMBIA UNIV**
 XMM-NEWTON OBSERVATIONS OF TYPE I X-RAY BURSTS FROM GS 1826-238
 04/17/2003 - 04/30/2004 FY03: \$15,880 Total: \$15,880
Prin. Invest.: F PAERELS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13354 **COLUMBIA UNIV**
 A SURVEY OF SMALL GALAXY GROUPS AT HIGH REDSHIFT
 04/17/2003 - 04/30/2004 FY03: \$49,400 Total: \$49,400
Prin. Invest.: F PAERELS
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13382 **COLUMBIA UNIV**
 EXPLOSION DYNAMICS IN GAMMA-RAY BURSTS
 04/17/2003 - 06/30/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: A BELOBORODOV
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13553 **COLUMBIA UNIV**
 ELEMENTAL ABUNDANCES IN THE CORONA OF GL35 (LQHYA)
 08/13/2003 - 08/14/2004 FY03: \$9,000 Total: \$9,000
Prin. Invest.: M AUDARD
Tech. Officer: GSFC/S L SNOWDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13572 **COLUMBIA UNIV**
 THE 1600-YR OLD PULSAR/SNR SYSTEM PSR J1119-6127/ G9292.2-0.5
 08/19/2003 - 08/14/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: F CAMILO
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13577 **COLUMBIA UNIV**
 MONITORING BABY- LISTENING IN ON THE YOUNGEST KNOWN PULSAR
 08/21/2003 - 08/14/2004 FY03: \$13,000 Total: \$13,000
Prin. Invest.: E V GOTTHELF
Tech. Officer: GSFC/J H SWANK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13731 **COLUMBIA UNIV**
 LANDSLIDE MECHANISMS AND HAZARD ASSESSMENT IN MOUNTAIN REGIONS OF THE PACIFIC RIM
 09/26/2003 - 09/30/2006 FY03: \$120,989 Total: \$120,989
Prin. Invest.: J WEISSEL
Tech. Officer: GSFC/H V FREY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13742 **COLUMBIA UNIV**
 THE SPIN FREQUENCY OF THE NEUTRON STAR IN EXO 0748 676
 09/25/2003 - 09/30/2004 FY03: \$3,352 Total: \$3,352
Prin. Invest.: F B PAERELS
Tech. Officer: GSFC/J H SWANK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NAG 5 13772 **COLUMBIA UNIV**
 CONTINENT-WIDE ESTIMATION & CALIBRATION CATCHMENT HYDROLOGIC
 PARAMETERS USING SRTM & LASER DATA
 09/30/2003 - 09/30/2006 FY03: \$45,000 Total: \$45,000
Prin. Invest.: C STARK
Tech. Officer: GSFC/H V FREY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 9 1148 **COLUMBIA UNIV**
 INDIVIDUAL SUSCEPTIBILITY TO RADIATION EFFECTS
 09/14/1999 - 09/30/2003 FY03: \$0 Total: \$1,015,030
Prin. Invest.: E J HALL
Tech. Officer: JSC/F A CUCINOTTA
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1519 **COLUMBIA UNIV**
 INDIVIDUAL GENETIC SUSCEPTIBILITY
 05/19/2003 - 05/31/2007 FY03: \$268,949 Total: \$268,949
Prin. Invest.: E HALL
Tech. Officer: JSC/JDARDANO
CASE Category: 56 – MEDICL

NAS 2 02039 **COLUMBIA UNIV**
 TRANSLATION OF DISEASE MARKERS INTO BULLUMINESCENT SIGNALS-
 BASIC RESEARCH
 12/20/2001 - 11/30/2004 FY03: \$499,527 Total: \$1,005,525
Prin. Invest.: D W LANDY
Tech. Officer: ARC/P P FUNG
CASE Category: 56 – MEDICL

NAS 3 02118 **COLUMBIA UNIV**
 DESIGN OF A MICRO STEAM TURBINE POWER PLANT ON A CHIP FOR
 AEROSPACE POWER GENERATION
 06/25/2002 - 03/24/2003 FY03: \$80,000 Total: \$80,000
Prin. Invest.: L G FRECHETTE
Tech. Officer: GRC/G M BEHEIM, GRC/D ERCEGOVIC
CASE Category: 41 – AERONAUTICAL ENGR

NAS 3 03105 **COLUMBIA UNIV**
 NRA TECHNOLOGY DEVELOPMENT FOR A MICRO STEAM TURBINE POWER
 PLAN ON A CHIP
 09/26/2003 - 09/25/2005 FY03: \$215,000 Total: \$215,000
Prin. Invest.: L G FRECHETTE
Tech. Officer: GRC/G BEHEIM, GRC/K PHAM
CASE Category: 41 – AERONAUTICAL ENGR

NAS 5 03117 **COLUMBIA UNIV**
 PROVIDE SERVICES IN SUPPORT OF THE SOCIOECONOMIC DATA &
 APPLICATION CENTER (SEDAC) FOR THE EARTH
 06/24/2003 - 09/30/2003 FY03: \$1,307,200 Total: \$1,307,200
Prin. Invest.: R CHEN
Tech. Officer: GSFC/Q A BARKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 97164 **COLUMBIA UNIV**
 ACRIM SCIENCE TEAM
 04/21/1997 - 12/14/2003 FY03: \$421,000 Total: \$2,982,807
Prin. Invest.: R C WILSON
Tech. Officer: GSFC/V GRIFFIN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAS 5 98162 **COLUMBIA UNIV**
 EOSDIS SEDAC
 07/01/1998 - 06/30/2003 FY03: \$2,205,801 Total: \$17,092,915
Prin. Invest.: R S CHEN
Tech. Officer: GSFC/Q BARKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 505 **COLUMBIA UNIV**
 INTERDISCIPLINARY RESEARCH ON CLIMATE VARIABILITY AND CLIMATE
 CHANGE
 07/21/2000 - 07/31/2004 FY03: \$482,263 Total: \$2,527,779
Prin. Invest.: M CHANDLER
Tech. Officer: GSFC/D RIND
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 510 **COLUMBIA UNIV**
 LAND SURFACE MODEL DEVELOPMENT FOR THE NASA SEASONAL TO
 INTERANNUAL PREDICTION PROJECT
 08/21/2000 - 08/14/2003 FY03: \$0 Total: \$305,012
Prin. Invest.: M STIEGLITZ
Tech. Officer: GSFC/R KOSTER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 546 **COLUMBIA UNIV**
 INTERDISCIPLINARY GLOBAL CHANGE RESEARCH
 04/04/2001 - 03/31/2004 FY03: \$634,441 Total: \$2,489,367
Prin. Invest.: L M DRUYAN
Tech. Officer: GSFC/A LACIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 547 **COLUMBIA UNIV**
 MODELING OF OCEAN CIRCULATION AND ATMOSPHERIC CHEMICAL
 SYSTEMS
 04/06/2001 - 03/31/2004 FY03: \$1,088,377 Total: \$3,025,799
Prin. Invest.: C K CHU
Tech. Officer: GSFC/R B STOTHERS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 549 **COLUMBIA UNIV**
 "ICP: RESEARCH EDUCATION PROGRAM"
 04/09/2001 - 12/31/2002 FY03: \$0 Total: \$360,981
Prin. Invest.: C HARRIS
Tech. Officer: GSFC/B CARLSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 558 **COLUMBIA UNIV**
 MODELING OF ATMOSPHERIC CIRCULATION AND CHEMISTRY.
 06/06/2001 - 02/29/2004 FY03: \$189,830 Total: \$754,350
Prin. Invest.: L M POLVANI
Tech. Officer: GSFC/R STOTHERS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 674 **COLUMBIA UNIV**
 INST ON CLIMATE AND PLANETS (ICP): A RESEARCH EDUCATION PRO-
 GRAM
 10/30/2002 - 08/31/2003 FY03: \$86,330 Total: \$86,330
Prin. Invest.: C HARRIS
Tech. Officer: GSFC/B CARLSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

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NGT 5 30167 **COLUMBIA UNIV**
 VARIABILITY OF BIOGEOCHEMICAL REGIMES IN THE ROSS SEA: AN
 ANALYSIS USING HIGH RESOLUTION SEA SURFACE
 09/02/1998 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: T TAKAHASHI
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30374 **COLUMBIA UNIV**
 INCREASING HAZARD IN GREATER CARACAS, VENEZUELA: I NTERAC-
 TIONS OFS NEOTECTONICS, LANDSLIDES AN
 08/13/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: W MENKE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30391 **COLUMBIA UNIV**
 SENSITIVITY AND RESPONSE OF ICE-OCEAN-ATMOSPHERE I NTERAC-
 TIONS IN THE SOUTH PACIFIC SECTOR OF THE
 08/14/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: D MARTINSON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30442 **COLUMBIA UNIV**
 IMPACTS OF THE NORTH ATLANTIC OSCILLATION ON PLANK TONIC
 ECOSYSTEMS AND THE CARBON CYCLE:
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: M VISBECK
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30465 **COLUMBIA UNIV**
 AN IMPROVED SCHEME FOR INITIALIZATION OF AN ENSO F ORECASTING
 MODEL:USINGSINGULAR VECTOR ANALYSIS TO
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: M A CANE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30532 **COLUMBIA UNIV**
 LINKING CLIMATE AND GEOMORPHOLOGY STUDENT: JONATHAN BARBOUR
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J WEISSEL
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50323 **COLUMBIA UNIV**
 PREDICTION OF MOSQUITO ABUNDANCE WITH A LAND SURFA CE HYDROL-
 OGY MODEL & LANDSAT THERMATIC MAPPER IMA
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: M CANE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50353 **COLUMBIA UNIV**
 X-RAY SPECTROSCOPIC INVESTIGATIONS OF OUTFLOWS IN ACTIVE GA-
 LACTIC NUCLEI
 05/11/2001 - 06/30/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: S KAHN
Tech. Officer: GSFC/K E BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50392 **COLUMBIA UNIV**
 HARD X-RAY OBSERVATION OF YOUNG SUPERNOVA REMNANTS STUDENT:
 JAMES CHONKO
 05/23/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C HAILEY
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 02001 **CORNELL UNIV**
 DEVELOPMENT OF TECHNOLOGIES FOR MODELING DAMAGE IN STIFF-
 ENED THIN SHELL STRUCTURES
 10/18/2001 - 10/31/2004 FY03: \$0 Total: \$50,606
Prin. Invest.: A R INGRAFFEA
Tech. Officer: LARC/D YOUNG
CASE Category: 46 – MECHANICAL ENGR

NAG 1 02051 **CORNELL UNIV**
 COMPUTATIONAL MICRO-MECHANICAL INVESTIGATIONS OF CRACK INITIA-
 TION IN METALLIC POLYCRYSTALS
 02/04/2002 - 03/31/2005 FY03: \$75,488 Total: \$147,733
Prin. Invest.: A R INGRAFFEA
Tech. Officer: LARC/E H GLAESSGEN, LARC/I S RAJU
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2224 **CORNELL UNIV**
 HIGH PRESSURE COMBUSTION OF AN UNSUPPORTED SOOTING FUEL
 DROPLET IN MICROGRAVITY
 01/12/1999 - 11/11/2003 FY03: \$26,252 Total: \$306,892
Prin. Invest.: T AVEDISIAN
Tech. Officer: GRC/D L DIETRICH
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2349 **CORNELL UNIV**
 TURBULENCE-INDUCED COALESCENCE OF AEROSOL PARTICLE S
 03/23/2000 - 11/30/2003 FY03: \$100,000 Total: \$340,000
Prin. Invest.: D L KOCH
Tech. Officer: GRC/H K NAHRA
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2353 **CORNELL UNIV**
 SHEET FLOWS, AVALANCHES, AND DUNE EVOLUTION ON EAR TH AND
 MARS
 03/14/2000 - 08/30/2004 FY03: \$65,894 Total: \$234,909
Prin. Invest.: D T JENKINS
Tech. Officer: GRC/F P CHIARMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2440 **CORNELL UNIV**
 RAPIDLY SHEARED BUBBLY SUSPENSION RAPIDLY SHEARED BUBBLY
 SUSPENSION
 05/31/2000 - 04/30/2005 FY03: \$140,000 Total: \$553,000
Prin. Invest.: D L KOCH
Tech. Officer: GRC/H K NAHRA
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2705 **CORNELL UNIV**
 GAS-PARTICLE INTERACTIONS IN A MICROGRAVITY FLOW C ELL #OSP
 41286
 02/27/2002 - 12/31/2005 FY03: \$179,000 Total: \$379,000
Prin. Invest.: D LOUGE
Tech. Officer: GRC/M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2713 **CORNELL UNIV**
 DYNAMICS AND STABILITY OF CAPILLARY SYSTEMS: MOVIN G LIQUIDS BY DESIGN
 02/25/2002 - 11/30/2005 FY03: \$90,000 Total: \$166,500
Prin. Invest.: D STEEN
Tech. Officer: GRC/M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2821 **CORNELL UNIV**
 DYNAMICS OF AEROSOL PARTICLES IN STATIONARY, ISOTROPIC TURBULENCE, OSP# 43181
 12/03/2002 - 12/31/2003 FY03: \$80,000 Total: \$80,000
Prin. Invest.: L COLLINS
Tech. Officer: GRC/D W GRIFFIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2871 **CORNELL UNIV**
 STUDIES OF ATOMIC FREE RADICALS IN A CRYOGENIC ENVIRONMENT
 04/10/2003 - 03/31/2007 FY03: \$100,000 Total: \$100,000
Prin. Invest.: D M LEE
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2942 **CORNELL UNIV**
 MICROSCALE MIXER FOR PROTEIN FOLDING MICROSCALE MIXER FOR PROTEIN FOLDING
 09/30/2003 - 08/15/2005 FY03: \$70,000 Total: \$70,000
Prin. Invest.: L POLLACK
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2943 **CORNELL UNIV**
 BIODEGRADABLE POLYMERS BIODEGRADABLE POLYMERS
 09/29/2003 - 08/31/2005 FY03: \$81,942 Total: \$81,942
Prin. Invest.: C A BATT
Tech. Officer: GRC/C W LEK
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 5233 **CORNELL UNIV**
 SIERRA PI DR. PAUL KINTNER
 02/10/1999 - 03/31/2002 FY03: -\$97 Total: \$524,071
Prin. Invest.: P M KINTNER
Tech. Officer: MSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5244 **CORNELL UNIV**
 FIRST YEAR OF A THREE GRANT NAG5-5244 PI DR. MICHAEL C. KELLEY
 03/29/1999 - 03/31/2003 FY03: \$0 Total: \$189,538
Prin. Invest.: M C KELLEY
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5366 **CORNELL UNIV**
 SVALBARD EISCAT RADAR SOUNDING OF ION OUTFLOWS: SE RSIO
 06/19/2002 - 06/12/2005 FY03: \$157,284 Total: \$359,631
Prin. Invest.: P KINTNER
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5370 **CORNELL UNIV**
 ELECTRODYNAMICS OF THE NIGHTTIME EQUATORIAL ELECTROJECT: THE EFFECTS OF WINDS AND WAVES
 06/19/2002 - 06/12/2005 FY03: \$164,000 Total: \$369,000
Prin. Invest.: L GELINAS
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5380 **CORNELL UNIV**
 ROCKET INVESTIGATION OF ELECTRODYNAMICS AND SCATTERING RING LAYERS IN THE BOTTOMSIDE EQUATORIAL REGION
 06/25/2002 - 06/19/2005 FY03: \$56,609 Total: \$98,611
Prin. Invest.: D HYSELL
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5417 **CORNELL UNIV**
 "CASCADES: THE CHANGING AURORA: IN SITU AND CAMERA ANALYSIS OF DYNAMIC ELECTRON PRECIPITATION
 04/04/2003 - 04/03/2006 FY03: \$102,623 Total: \$102,623
Prin. Invest.: P KINTNER
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 6495 **CORNELL UNIV**
 DEVELOPMENT OF 256X256 SI:SB AND SI:AS BIBIB DETECTORS FOR SOFIA
 10/31/1997 - 12/31/2002 FY03: \$0 Total: \$840,000
Prin. Invest.: D L HERTER
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 11 – ASTRONOMY

NAG 5 7497 **CORNELL UNIV**
 UNDERSTANDING METEOROLOGICAL CONTROLS OF GLACIER MASS BALANCE
 06/29/1998 - 06/30/2002 FY03: \$0 Total: \$270,000
Prin. Invest.: K H COOK
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8356 **CORNELL UNIV**
 ASTROPHYSICS OF FAST MOVING NEUTRON STARS (ATP98)
 03/11/1999 - 03/14/2004 FY03: \$0 Total: \$329,504
Prin. Invest.: D F CHERNOFF
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8673 **CORNELL UNIV**
 A SCANNING DOUBLE HALF-WAVE INTERFEROMETER FOR SOFIA
 07/09/1999 - 07/14/2002 FY03: \$0 Total: \$315,665
Prin. Invest.: G J STACEY
Tech. Officer: GSFC/G MUCKLOW
CASE Category: 11 – ASTRONOMY

NAG 5 8775 **CORNELL UNIV**
 ENGINEERING CONTROL OF BIOMOLECULAR MOTOR POWERED NANO-CHEMICAL DEVICE
 09/01/1999 - 08/31/2002 FY03: \$0 Total: \$434,076
Prin. Invest.: C MONTEEMAGNO
Tech. Officer: GSFC/S DAVISON
CASE Category: 99 – MULTI-INTERDISCIPLINARY, OTHER

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NAG 5 9034 **CORNELL UNIV**
 RADAR SYNTHESIS IMAGING OF SMALL BODIES
 02/07/2000 - 02/14/2003 FY03: \$0 Total: \$186,750
Prin. Invest.: B CAMPBELL
Tech. Officer: GSFC/J GRANT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9047 **CORNELL UNIV**
 ACCRETION TO MAGNETIZED ROTATING NEUTRON STARS (ATP 99)
 03/09/2000 - 03/14/2003 FY03: \$0 Total: \$183,294
Prin. Invest.: R LOVELACE
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9067 **CORNELL UNIV**
 SCALING & CROSS CORRELATION STUDIES OF LAND SLIDES
 02/17/2000 - 02/28/2003 FY03: \$0 Total: \$180,000
Prin. Invest.: D L TURCOTTE
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9140 **CORNELL UNIV**
 INVESTIGATION OF CELESTIAL SOLID ANALOGS
 02/29/2000 - 02/28/2003 FY03: \$0 Total: \$116,520
Prin. Invest.: A SIEVERS
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 9199 **CORNELL UNIV**
 ELECTRON AND ION ACCELERATION ASSOCIATED WITH ALFVENIC STRUCTURES
 03/09/2000 - 05/15/2003 FY03: \$0 Total: \$235,500
Prin. Invest.: C E SEYLER
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9492 **CORNELL UNIV**
 STUDIES OF VOLCANISM AND TECTONISM ON MARS AND THE MOON
 04/17/2000 - 10/14/2003 FY03: \$0 Total: \$103,750
Prin. Invest.: D L TURCOTTE
Tech. Officer: GSFC/J A GRANT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9594 **CORNELL UNIV**
 PARTICIPATION IN SHOEMAKER-LEVY 9 IMPACT MODELING INVESTIGATION
 06/08/2000 - 06/14/2004 FY03: \$0 Total: \$211,476
Prin. Invest.: J HARRINGTON
Tech. Officer: GSFC/L D DEMING
CASE Category: 11 – ASTRONOMY

NAG 5 9735 **CORNELL UNIV**
 MAGNETOHYDRODYNAMICS AND PLASMA PHENOMENA IN PROTE STELLAR SYSTEMS
 06/21/2000 - 06/30/2003 FY03: \$0 Total: \$68,400
Prin. Invest.: R LOVELACE
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9774 **CORNELL UNIV**
 SUB-PIXEL DETECTABILITY OF MATERIALS AT THE PATH FINDER LANDING SITE: IMPLICATIONS FOR MARTIAN SURF
 06/30/2000 - 06/30/2003 FY03: \$0 Total: \$210,000
Prin. Invest.: J F BELL
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9794 **CORNELL UNIV**
 DETERMINATION OF AERODYNAMIC ROUGHNESS FROM SURFACE-BASED STEREO IMAGING
 07/11/2000 - 07/14/2003 FY03: \$0 Total: \$85,100
Prin. Invest.: R J SULLIVAN
Tech. Officer: GSFC/J BOYCE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10168 **CORNELL UNIV**
 SURFACES OF PLANETS, SATELLITES, AND ASTEROIDS
 01/04/2001 - 11/30/2003 FY03: \$0 Total: \$78,600
Prin. Invest.: P THOMAS
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10356 **CORNELL UNIV**
 QUANTUM WELL ELECTRON GAIN STRUCTURES FOR IMPROVED INFRARED DETECTOR READ NOISE
 02/07/2001 - 01/31/2004 FY03: -\$110,260 Total: \$432,797
Prin. Invest.: S EIKENBERRY
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10434 **CORNELL UNIV**
 OPERATE THE SPACECRAFT PLANETARY IMAGING FACILITY AT CORNELL
 02/16/2001 - 02/28/2006 FY03: \$37,600 Total: \$112,200
Prin. Invest.: J VEVERKA
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 10438 **CORNELL UNIV**
 THE IRREGULAR SATELLITE SYSTEMS OF THE GIANT PLANETS
 02/20/2001 - 02/28/2004 FY03: \$50,000 Total: \$159,800
Prin. Invest.: P NICHOLSON
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10574 **CORNELL UNIV**
 EVALUATION OF DUST AVALANCHES AND HIGH-ALTITUDE AEOLIAN FEATURES
 03/13/2001 - 03/14/2004 FY03: \$45,000 Total: \$135,000
Prin. Invest.: R SULLIVAN
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10579 **CORNELL UNIV**
 DUST LIFTING & TRANSPORT ON MARS: ANALYSIS OF MGS DATA WITH A MESOSCALE MODEL
 03/19/2001 - 02/29/2004 FY03: \$71,000 Total: \$213,000
Prin. Invest.: P GIERASCH
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10580 **CORNELL UNIV**
 OBSERVATIONAL STUDY OF THE MARS POLAR VORTEX
 03/19/2001 - 02/29/2004 FY03: \$60,000 Total: \$180,000
Prin. Invest.: B CONRATH
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10584 **CORNELL UNIV**
 ELASTIC PROPERTIES OF FILMS OF WATER & NOBLE GASES CONDENSED
 AT LOW TEMPERATURES
 03/13/2001 - 05/31/2003 FY03: \$0 Total: \$45,000
Prin. Invest.: R O POHL
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10636 **CORNELL UNIV**
 MINERALOGY AND WEATHERING HISTORY OF THE MARTIAN SURFACE
 03/17/2001 - 03/14/2004 FY03: \$95,000 Total: \$271,200
Prin. Invest.: J F BELL, III
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 10848 **CORNELL UNIV**
 UNDERGRADUATE COURSE ON SATELLITE REMOTE SENSING IN BIOLOGI-
 CAL OCEANOGRAPHY
 05/03/2001 - 04/14/2002 FY03: \$0 Total: \$89,482
Prin. Invest.: B MONGER
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11424 **CORNELL UNIV**
 TOPOGRAPHIC SIGNALS OF CENTRAL ANDEAD TECTONIC
 11/28/2001 - 11/30/2003 FY03: \$50,000 Total: \$100,000
Prin. Invest.: B L ISACKS
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11480 **CORNELL UNIV**
 DYNAMICS OF SMALL SOLAR SYSTEM BODIES: PLANETARY RINGS, DUST,
 ASTEROIDS, AND SATELLITES
 12/19/2001 - 12/31/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: J A BURNS
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11492 **CORNELL UNIV**
 STUDY OF THE EFFECTS OF PHOTOMETRIC GEOMETRY ON SP ECTRAL
 REFLECTANCE MEASUREMENTS
 12/27/2001 - 12/31/2004 FY03: \$52,000 Total: \$104,000
Prin. Invest.: P HELFENSTEIN
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11514 **CORNELL UNIV**
 PHYSICAL STUDIES OF PLANETARY AND SATELLITE SURFAC ES
 12/31/2001 - 12/31/2004 FY03: \$85,100 Total: \$170,200
Prin. Invest.: J VERERKA
Tech. Officer: GSFC/D SENKSE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11515 **CORNELL UNIV**
 DYNAMICAL STUDIES OF PLANETARY RINGS AND SATELLITE S
 12/31/2001 - 12/31/2004 FY03: \$61,900 Total: \$123,800
Prin. Invest.: P D NICHOLSON
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11819 **CORNELL UNIV**
 THIS PROPOSED HIGH ALTITUDE WORK WILL EXPLORE THE USE OF
 TECHNIQUES DEVELOPED FOR LOW EARTH ORBITING
 03/01/2002 - 02/28/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: M L PSIANKI
Tech. Officer: GSFC/S KANT
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 11919 **CORNELL UNIV**
 EULER DYNAMICS-BASED ESTIMATION ALGORITHMS FOR SPA CECRAFT
 ATTITUDE AND RATE DETERMINATION
 03/28/2002 - 03/31/2004 FY03: \$60,000 Total: \$160,000
Prin. Invest.: D PSIANKI
Tech. Officer: GSFC/R R HARMAN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12034 **CORNELL UNIV**
 THERMAL RADIATION FROM STRONGLY MAGNETIZED NEUTRON STARS
 04/12/2002 - 04/14/2005 FY03: \$59,205 Total: \$136,485
Prin. Invest.: D LAI
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12082 **CORNELL UNIV**
 ASTROSTATISTICAL TOOLS IN PYTHON
 04/23/2002 - 04/30/2005 FY03: \$123,483 Total: \$245,976
Prin. Invest.: T LOREDO
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12089 **CORNELL UNIV**
 DEVELOPMENT OF GPS TRANSLATOR INSTRUMENTATION
 04/30/2002 - 04/30/2005 FY03: \$100,247 Total: \$190,736
Prin. Invest.: P M KINTNER
Tech. Officer: GSFC/J SPANN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12164 **CORNELL UNIV**
 INVESTIGATION OF PLASMA TURBULENCE IN THE EQUATORIAL IONO-
 SPHERE
 06/13/2002 - 02/29/2004 FY03: \$0 Total: \$46,321
Prin. Invest.: D L HYSSELL
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12187 **CORNELL UNIV**
 TRANSIENT AND FORCED WAVES IN MARS' ATMOSPHERE
 05/14/2002 - 05/14/2005 FY03: \$67,249 Total: \$132,249
Prin. Invest.: D BANFIELD
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12211 **CORNELL UNIV**
 DUAL FREQUENCY GPS SOFTWARE RECEIVER DEVELOPMENT
 05/20/2002 - 05/31/2005 FY03: \$91,916 Total: \$180,346
Prin. Invest.: M PSIANKI
Tech. Officer: GSFC/J Q SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12231 **CORNELL UNIV**
 VALIDATION OF THE ION-F FORMATION FLIGHT HARDWARE AND SOFTWARE
 06/04/2002 - 11/14/2003 FY03: \$25,000 Total: \$45,000
Prin. Invest.: M CAMPBELL
Tech. Officer: GSFC/L COX
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 12332 **CORNELL UNIV**
 OLIGONUCLEOTIDE TEMPLATES AND PEPTIDE BOND FORMATION: A NEW APPROACH
 07/08/2002 - 06/30/2005 FY03: \$77,232 Total: \$165,741
Prin. Invest.: D A USHER
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12470 **CORNELL UNIV**
 LATITUDE-RESOLVED AO SPECTRA OF NEPTUNE & URANUS: CIRCULATION MONITORING
 08/14/2002 - 08/14/2005 FY03: \$0 Total: \$65,953
Prin. Invest.: D J BANFIELD
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12625 **CORNELL UNIV**
 PHOTOMETRY OF TERRAINS ON EROS
 10/02/2002 - 09/30/2004 FY03: \$86,846 Total: \$86,846
Prin. Invest.: B CLARK
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12631 **CORNELL UNIV**
 INVESTIGATION OF THE OPTICAL PROPERTIES AND MECHANICAL STRUCTURE OF GEOLOGICAL MATERIALS ON AST
 10/02/2002 - 09/30/2005 FY03: \$49,000 Total: \$49,000
Prin. Invest.: P HELFENSTEIN
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12632 **CORNELL UNIV**
 REGIOITH OF EROS: DISTRIBUTION & ORIGIN OF ITS COMPONENTS
 10/02/2002 - 09/30/2004 FY03: \$115,861 Total: \$115,861
Prin. Invest.: P THOMAS
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12676 **CORNELL UNIV**
 USING THE GAPS MODEL WITH GLOBE STUDENT DATA FOR UNDERSTANDING SOIL AND ENVIRONMENTAL PROCESSES.
 12/02/2002 - 11/30/2005 FY03: \$79,800 Total: \$79,800
Prin. Invest.: S RIHA
Tech. Officer: GSFC/E R LEVINE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12886 **CORNELL UNIV**
 MARS ACOUSTIC ANEMOMETER
 02/10/2003 - 01/31/2005 FY03: \$257,352 Total: \$257,352
Prin. Invest.: D BANFIELD
Tech. Officer: GSFC/S NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12894 **CORNELL UNIV**
 VALIDATION OF A NEW ELECTRIC FIELD INSTRUMENT & ANALYSIS OF FLUCTUATING ELECTRIC & MAGNETIC FIELDS
 02/24/2003 - 02/28/2004 FY03: \$82,395 Total: \$82,395
Prin. Invest.: P KINTNER
Tech. Officer: GSFC/M MELLOTT
CASE Category: 11 – ASTRONOMY

NAG 5 12991 **CORNELL UNIV**
 STUDIES OF BBELF FLUCTUATIONS & TRANSVERSE ION ACCELERATION
 03/06/2003 - 03/14/2006 FY03: \$82,000 Total: \$82,000
Prin. Invest.: C SEYLER
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13060 **CORNELL UNIV**
 PROBING OF ACCRETION AND OUTFLOW IN CLASSICAL T TAU STARS: COMPARISON OF HST AND FUSE UV SPECTRA
 03/12/2003 - 03/15/2008 FY03: \$64,000 Total: \$64,000
Prin. Invest.: M ROMANOVA
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13121 **CORNELL UNIV**
 STUDIES OF VOLCANISM AND TECTONISM ON MARS AND THE MOON
 03/15/2003 - 04/16/2003 FY03: \$0 Total: \$0
Prin. Invest.: D TURCOTTE
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13154 **CORNELL UNIV**
 COMPOSITION & TEMPERATURE OF THE TRANSITING EXTRASOLAR PLANET HD209458B
 03/20/2003 - 03/31/2006 FY03: \$132,000 Total: \$132,000
Prin. Invest.: J HARRINGTON
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13220 **CORNELL UNIV**
 DYNAMICS OF PROTOPLANETARY DISKS AROUND MAGNETIZED STARS
 04/01/2003 - 03/31/2006 FY03: \$78,000 Total: \$78,000
Prin. Invest.: R LOVELACE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13235 **CORNELL UNIV**
 DYNAMICS OF LOCAL REGIONAL ON JUPITER
 04/07/2003 - 04/14/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: P GIERASCH
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13566 **CORNELL UNIV**
 SURFACE PROPERTIES FROM RADAR & RADIO OBSERVATIONS
 08/04/2003 - 07/31/2006 FY03: \$64,000 Total: \$64,000
Prin. Invest.: D CAMPBELL
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13586 **CORNELL UNIV**
 MARS AQUEOUS ALTERATION FROM MGS/TES DATA
 08/05/2003 - 07/31/2005 FY03: \$71,000 Total: \$71,000
Prin. Invest.: J BELL
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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<p>NAG 8 1445 STUDIES OF FREE RADICALS 02/16/1998 - 01/31/2003 FY03: \$0 <i>Prin. Invest.:</i> D M LEE <i>Tech. Officer:</i> MSFC/J W POE <i>CASE Category:</i> 13 – PHYSICS</p>	<p>CORNELL UNIV Total: \$733,500</p>	<p>NCC 2 1201 DO INTEGRINS MEDIATE THE SKELETAL RESPONSES TO ALT ERED LOADING IN VIVO (SUB-PROJECT B) 09/12/2000 - 09/30/2004 FY03: \$0 <i>Prin. Invest.:</i> M C VAN DER MEULEN <i>Tech. Officer:</i> ARC/R K GLOBUS, ARC/E M HOLTON <i>CASE Category:</i> 51 – BIOLOGY (EXCLUDING ENVIR)</p>	<p>CORNELL UNIV Total: \$101,966</p>
<p>NAG 8 1574 IMPURITY EFFECTS IN MACROMOLECULAR CRYSTAL GROWTH 01/05/1999 - 11/30/2002 FY03: \$0 <i>Prin. Invest.:</i> R THORNE <i>Tech. Officer:</i> MSFC/B GUYNES <i>CASE Category:</i> 51 – BIOLOGY (EXCLUDING ENVIR)</p>	<p>CORNELL UNIV Total: \$210,150</p>	<p>NCC 2 5459 SYNTHETIC & MICROBIAL FOOD INGREDIENTS FOR LONG DU RATION SPACE MISSIONS 08/27/2001 - 07/31/2003 FY03: \$0 <i>Prin. Invest.:</i> J B HUNTER <i>Tech. Officer:</i> ARC/H W JONES, ARC/M H KLISS <i>CASE Category:</i> 59 – LIFE SCIENCE, OTHER</p>	<p>CORNELL UNIV Total: \$18,293</p>
<p>NAG 8 1666 INFLUENCE OF HOMOGENEITY AND FRAGILITY ON THE DYNAMICAL PROPERTIES OF GLASSY NETWORKS. 05/12/2000 - 09/30/2003 FY03: \$110,000 <i>Prin. Invest.:</i> A J SIEVERS <i>Tech. Officer:</i> MSFC/P DOTY <i>CASE Category:</i> 47 – METAL & MATERIALS ENGR</p>	<p>CORNELL UNIV Total: \$379,500</p>	<p>NCC 3 797 PARTICLE SEGREGATION IN COLLISIONAL SHEARING FLOWS PARTICLE SEGREGATION IN COLLISIONAL SHEARINGFLOW 05/18/2000 - 04/30/2005 FY03: \$288,288 <i>Prin. Invest.:</i> J JENKINS <i>Tech. Officer:</i> GRC/F P CHARIAMONTE 111 <i>CASE Category:</i> 46 – MECHANICAL ENGR</p>	<p>CORNELL UNIV Total: \$718,155</p>
<p>NAG 8 1671 ON THE CONTROL OF THE EFFECTS OF GRAVITY ON THE SO LIDIFIATION MICROSTRUCTURES USING OPTIMALLY DESIG 06/16/2000 - 12/31/2003 FY03: \$95,000 <i>Prin. Invest.:</i> N ZABARAS <i>Tech. Officer:</i> MSFC/P DOTY <i>CASE Category:</i> 43 – CHEMICAL ENGR</p>	<p>CORNELL UNIV Total: \$325,250</p>	<p>NCC 3 832 HIGH TEMPERATURE POLYIMIDE NANOCOMPOSITES HIGH TEMPERATURE POLYIMIDE NANOCOMPOSITES 01/04/2001 - 12/12/2003 FY03: \$60,000 <i>Prin. Invest.:</i> D P GIANNELIS <i>Tech. Officer:</i> GRC/M MEADOR <i>CASE Category:</i> 47 – METAL & MATERIALS ENGR</p>	<p>CORNELL UNIV Total: \$187,850</p>
<p>NAG 8 1759 BIODEGRADABLE POLYMERS 05/02/2001 - 03/31/2005 FY03: \$0 <i>Prin. Invest.:</i> C A BATT, E P GIANNELIS <i>Tech. Officer:</i> MSFC/D S HUBBARD <i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER</p>	<p>CORNELL UNIV Total: \$151,637</p>	<p>NCC 5 298 CARBON AND NUTRIENT STOCKS, SOIL WATER DYNAMICS, A ND TRACE GAS FLUXES IN ABANDONED PASTURES AND AGR 06/16/1998 - 03/31/2003 FY03: \$0 <i>Prin. Invest.:</i> E FERNANDES <i>Tech. Officer:</i> GSFC/D DEERING <i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER</p>	<p>CORNELL UNIV Total: \$1,271,886</p>
<p>NAG 8 1778 MICROSCALE MIXER FOR PROTEIN FOLDING 05/02/2001 - 12/31/2005 FY03: \$0 <i>Prin. Invest.:</i> L POLLACK <i>Tech. Officer:</i> MSFC/D HUBBARD <i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER</p>	<p>CORNELL UNIV Total: \$145,000</p>	<p>NCC 5 539 OUTER PLANETS, ATMOSPHERIC STRUCTURE AND PARTICIPA TION IN CIRS 02/12/2001 - 02/14/2004 FY03: \$170,000 <i>Prin. Invest.:</i> P J GIERASCH <i>Tech. Officer:</i> GSFC/F M FLASAR <i>CASE Category:</i> 11 – ASTRONOMY</p>	<p>CORNELL UNIV Total: \$490,100</p>
<p>NAG 8 1831 R/S "MACROMOLECULAR CRYSTAL GROWTH: TECHNIQUES, DEVELOP- MENT, FUNDAMENTAL STUDIES, AND APPS. 08/30/2001 - 11/30/2005 FY03: \$144,000 <i>Prin. Invest.:</i> R E THORNE <i>Tech. Officer:</i> MSFC/G GUYNES <i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER</p>	<p>CORNELL UNIV Total: \$714,000</p>	<p>NCC 5 563 DEVELOPMENT OF GPS SOFTWARE RECEIVER ALGORITHMS FOR USE IN HIGH-ALTITUDE SPACECRAFT NAVIGATION 06/12/2001 - 06/30/2003 FY03: \$51,908 <i>Prin. Invest.:</i> M L PSIAKI <i>Tech. Officer:</i> GSFC/B L EDWARDS <i>CASE Category:</i> 42 – ASTRONAUTICAL ENGR</p>	<p>CORNELL UNIV Total: \$91,908</p>
<p>NASW 00005 PRINCIPAL INVESTIGATOR & CO'IS NASA'S CONTOUR DISCOVERY MISSION 07/03/2000 - 03/31/2004 FY03: \$696,554 <i>Prin. Invest.:</i> J F VEVERKA <i>Tech. Officer:</i> JPL/D B JARRETT <i>CASE Category:</i> 11 – ASTRONOMY</p>	<p>CORNELL UNIV Total: \$2,555,002</p>	<p>NCC 5 622 RADIATIVE STUDIES OF PLANETARY ATMOSPHERES 01/16/2002 - 02/14/2005 FY03: \$120,608 <i>Prin. Invest.:</i> B J CONRATH <i>Tech. Officer:</i> GSFC/F M FLASAR <i>CASE Category:</i> 11 – ASTRONOMY</p>	<p>CORNELL UNIV Total: \$241,216</p>

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NCC 5 705 **CORNELL UNIV**
 CARBON AND NUTRIENT STOCKS AND REGROWTH IN REDUCED IMPACT
 AND CONVENTIONALLY LOGGED FORESTS ANDSETT
 03/03/2003 - 02/28/2006 FY03: \$249,920 Total: \$249,920
Prin. Invest.: E C FERNANDES
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 722 **CORNELL UNIV**
 RELATIVE NAVIGATION OF FORMATIONS OF HIGH-EARTH- ORBITING SAT-
 ELLITES USING DUAL-FREQUENCY CIVILIAN
 04/14/2003 - 06/30/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: M L PSIAKI
Tech. Officer: GSFC/M MOREAU
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 9 89 **CORNELL UNIV**
 COORDINATE ANALYSIS AND CALIBRATION STUDIES
 07/20/1999 - 07/19/2002 FY03: \$0 Total: \$30,000
Prin. Invest.: R V MORRIS, J F BELL
Tech. Officer: JSC/R V MORRIS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 1 02011 **CORNELL UNIV**
 GRADUATE STUDENT RESEARCHER PROGRAM (GSRP)
 06/12/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: S B POPE, M A SINGER
Tech. Officer: LARC/P J DRUMMOND
CASE Category: 21 – MATHEMATICS

NGT 1 03017 **CORNELL UNIV**
 GRADUATE STUDENT RESEARCHS PROGRAM
 04/28/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: E GARCIA
Tech. Officer: LARC/A MCGOWAN
CASE Category: 46 – MECHANICAL ENGR

NGT 1 03021 **CORNELL UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 08/08/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: E GARCIA, J E MANZO
Tech. Officer: LARC/G C HORMER
CASE Category: 46 – MECHANICAL ENGR

NGT 1 03022 **CORNELL UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 08/11/2003 - 08/20/2003 FY03: \$24,000 Total: \$24,000
Prin. Invest.: E GARCIA
Tech. Officer: LARC/M R WASZOK
CASE Category: 45 – ELECTRICAL ENGR

NGT 3 52362 **CORNELL UNIV**
 NASA GRADUATE STUDENT RESEARCHERS PROGRAM NASA GRADUATE
 STUDENT RESEARCHERS PROGRAM
 06/07/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D KOCH
Tech. Officer: GRC/H K NAHRA
CASE Category: 43 – CHEMICAL ENGR

NGT 5 30210 **CORNELL UNIV**
 HAVE WE GROSSLY UNDERESTIMATED METHANE PRODUCTION & CON-
 SUMPTION? APPLICATION OF A NEW STABLE ISOTOPE
 08/20/1999 - 08/31/2002 FY03: \$0 Total: \$46,200
Prin. Invest.: L O HEDIN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30461 **CORNELL UNIV**
 LANDSCAPE EVOLUTION GRADIENTS IN THE CENTRAL ANDEAN FOREARC
 BETWEEN 12 SAND 32 S. SOUTHERN PERU AND
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: T JORDAN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30478 **CORNELL UNIV**
 INTEGRATED APPROACH TO MODELING THE EVOLUTION OF LARGE
 SILICIC CALDERAS IN THE CENTRAL ANDES
 09/29/2003 - 08/31/2005 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S KAY
Tech. Officer: GSFC/M WEI
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 5 40078 **CORNELL UNIV**
 NEW YORK SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 02/09/2001 - 01/31/2005 FY03: \$580,171 Total: \$1,545,867
Prin. Invest.: Y TERZIAN
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50375 **CORNELL UNIV**
 BONE ADAPTATION TO PRECISELY CONTROLLED CYCLIC LOADING (STU-
 DENT: JAMES FRITTON)
 06/29/2001 - 07/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: M H VAN DER MUELEN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50390 **CORNELL UNIV**
 INFRARED TRANSMISSION SPECTROSCOPY AND TIME-SERIES PHOTOM-
 ETRY OF EXTRA-SOLAR PLANET ATMOSPHERES/MICHA
 05/23/2002 - 07/31/2003 FY03: \$1,000 Total: \$25,000
Prin. Invest.: J HOUCK
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50470 **CORNELL UNIV**
 ZEUS: THE REDSHIFT AND EARLY UNIVERSE SPECTROMETER. GSRP
 STUDENT: STEVEN HAILE
 05/05/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: G STACEY
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50484 **CORNELL UNIV**
 CONTROL MECHANICS OF COLLAGEN GELS FOR CARTILAGE TISSUE
 ENGINEERING BY NON-ENZYMATIC GLYCATION
 09/04/2003 - 07/31/2005 FY03: \$24,000 Total: \$24,000
Prin. Invest.: L BONASSAR
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52897 **CORNELL UNIV**
 UNDERSTANDING THE COVARIABILITY OF AFRICAN AND INDIAN SUMMER
 RAINFALL
 05/25/2001 - 06/30/2002 FY03: \$0 Total: \$22,000
Prin. Invest.: K H COOK
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT10 52623 **CORNELL UNIV**
 GRADUATE STUDENT RESEARCHER'S PROGRAM
 08/23/1999 - 06/30/2003 FY03: \$0 Total: \$90,000
Prin. Invest.: L ALBRIGHT
Tech. Officer: KSC/RWHEELER
CASE Category: 55 – AGRICULTURE

NGT10 52639 **CORNELL UNIV**
 GSRP - EFFECTS OF GREEN PLANTS ON ISOLATED COMMUNITIES IN
 EXTREME ENVIRONMENTS
 07/28/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R LANGHANS
Tech. Officer: KSC/E L DEL CASTILLO
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 11780 **HOFSTRA UNIV**
 STUDIES OF THE EFFECT OF RAINFALL OVER THE OCEAN ON THE
 SEAWINDS SCATTEROMETER & RAINRATE ESTIMATES
 02/28/2002 - 03/31/2003 FY03: \$0 Total: \$120,341
Prin. Invest.: D WEISSMAN
Tech. Officer: GSFC/E LINDTSROM
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13230 **HOFSTRA UNIV**
 MEASUREMENTS OF OCEAN RAINFALL BY THE SEAWINDS SCATTEROMETER
 TO IMPROVE WIND VECTOR ESTIMATES
 04/02/2003 - 03/31/2004 FY03: \$138,174 Total: \$138,174
Prin. Invest.: D WEISSMANN
Tech. Officer: GSFC/B EMERY
CASE Category: 33 – OCEANOGRAPHY

NAG13 02015 **HOFSTRA UNIV**
 SCATTEROMETER DERIVED OPERATIONAL WINDS, SURFACE PRESSURES
 AND RAIN
 12/18/2001 - 09/18/2004 FY03: \$65,000 Total: \$130,000
Prin. Invest.: D E WEISSMAN
Tech. Officer: SSC/R MILLER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11398 **IONA COLLEGE**
 "HDO ON MARS."
 11/28/2001 - 11/30/2004 FY03: \$0 Total: \$10,000
Prin. Invest.: R NOVAK
Tech. Officer: GSFC/M J MUMMA
CASE Category: 13 – PHYSICS

NAG 5 9889 **MARIST COLLEGE**
 PERSISTENCE & INFECTIVITY OF CYANOPHAGE FROM POLAR ENVIRONMENTS:
 IMPLICATIONS FOR PLANETARY PROTECTION
 08/30/2000 - 06/30/2004 FY03: \$75,000 Total: \$220,650
Prin. Invest.: R KEPNER
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9256 **MEDGAR EVERS COLLEGE**
 MEDGAR EVERS COLLEGE AERONAUTICS AND EARTH SCIENCE ACADEMY
 03/15/2000 - 02/28/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: L JOHNSON
Tech. Officer: HQ/M STOUTSENBERGER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10142 **MEDGAR EVERS COLLEGE**
 THE NEW YORK CITY SPACE SCIENCE RESEARCH ALLIANCE
 12/19/2000 - 12/31/2003 FY03: \$245,000 Total: \$735,000
Prin. Invest.: L P JOHNSON
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NAG 2 946 **MT SINAI SCH OF MED OF THE CUNY**
 ANATOMICAL STUDIES OF CENTRAL VESTIBULAR ADAPTATION
 01/10/1995 - 03/31/2002 FY03: -\$4,004 Total: \$690,828
Prin. Invest.: G R HOLSTEIN, G R HOLSTEIN
Tech. Officer: ARC/W E HINDS, ARC/C M WINGET
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1191 **MT SINAI SCH OF MED OF THE CUNY**
 NITRIC OXIDE SIGNALING IN HYPERGRAVITY INDUCED NEURONAL
 PLASTICITY
 03/23/1998 - 08/31/2002 FY03: \$0 Total: \$636,166
Prin. Invest.: G R HOLSTEIN, G P MARTINELLI
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1173 **MT SINAI SCH OF MED OF THE CUNY**
 NEUROLAB COMPLETION PROPOSAL: ANATOMICAL STUDIES OF CENTRAL
 VESTIBULAR ADAPTATION
 04/17/2000 - 01/14/2004 FY03: \$217,397 Total: \$455,945
Prin. Invest.: G R HOLSTEIN
Tech. Officer: ARC/M F VASQUES, ARC/P D SAVAGE
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 9 128 **MT SINAI SCH OF MED OF THE CUNY**
 VALIDATION CENTRIFUGATION AS A COUNTER MEASURE FOR OTOLITH
 DECONDITIONING DURING SPACEFLIGHT
 06/14/2001 - 09/30/2004 FY03: \$120,394 Total: \$621,440
Prin. Invest.: S MOORE
Tech. Officer: JSC/M E ANDERSON
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 2 1426 **NEW YORK UNIV**
 GRAVITATION & DEVELOPMENT MOTRICITY
 07/26/2000 - 07/31/2002 FY03: \$0 Total: \$80,000
Prin. Invest.: K D WALTON
Tech. Officer: ARC/MM AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 9246 **NEW YORK UNIV**
 SENSITIVITY OF THE ATMOSPHERIC SHOWERS OF EXTREMELY HIGH
 ENERGY COSMIC RAYS TO UNKNOWN ASPECTS OF
 03/14/2000 - 03/14/2004 FY03: \$0 Total: \$299,869
Prin. Invest.: G FARRAR
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NEW YORK

NASA'S UNIVERSITY PROGRAM

NAG 5 9871 **NEW YORK UNIV**
 AN INVESTIGATION OF THE PREDICTABILITY OF THE NSIPP FORECAST SYSTEM
 08/08/2000 - 08/14/2003 FY03: \$0 Total: \$185,000
Prin. Invest.: R KLEEMAN
Tech. Officer: GSFC/M REINECKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11669 **NEW YORK UNIV**
 TOOLS FOR GALAXY ASTROPHYSICS WITH SIRT (L TSA 200 1)
 01/28/2002 - 01/31/2007 FY03: \$97,924 Total: \$190,961
Prin. Invest.: D W HOGG
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 12100 **NEW YORK UNIV**
 PROBING COSMOLOGY WITH DEEP SURVEYS
 04/24/2002 - 04/30/2005 FY03: \$47,238 Total: \$113,595
Prin. Invest.: R SCOCCIMARRO
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12419 **NEW YORK UNIV**
 ICE-SHELF OCEAN INTERACTIONS ALONG THE WESTERN ANTARTIC PENINSULA
 08/07/2002 - 07/31/2005 FY03: \$89,615 Total: \$174,536
Prin. Invest.: D HOLLAND
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12427 **NEW YORK UNIV**
 AN INVESTIGATION OF PREDICTABILITY OF THE NSIPP FORECAST SYSTEM.
 08/19/2002 - 08/14/2005 FY03: \$100,179 Total: \$156,155
Prin. Invest.: R KLEEMAN
Tech. Officer: GSFC/M REINECKER
CASE Category: 33 – OCEANOGRAPHY

NAG 9 1024 **NEW YORK UNIV**
 CANCER RISK MECHANISM FOLLOWING REPEATED EXPOSURE TO HIGH LET RADIATION
 06/04/1998 - 08/30/2002 FY03: \$0 Total: \$796,734
Prin. Invest.: F J BURNS
Tech. Officer: JSC/F A CUCINOTTA
CASE Category: 56 – MEDICL

NAG 9 1528 **NEW YORK UNIV**
 STUDY OF DIETARY RETINOID FOR PREVENTION OF 56FE-I NDUCED CANCERS IN RAT SKIN
 06/27/2003 - 06/30/2007 FY03: \$278,782 Total: \$278,782
Prin. Invest.: F J BURNS
Tech. Officer: JSC/J DARDANO
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NCC 2 5472 **NEW YORK UNIV**
 VISION MODELING FOR THE SYNTHETIC VISION PROJECT
 10/25/2001 - 10/31/2002 FY03: \$0 Total: \$68,474
Prin. Invest.: M S LANDY
Tech. Officer: ARC/B L BEARD, ARC/D FOYLE
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 5513 **NEW YORK UNIV**
 USER INTERFACES FOR IMAGE DISCRIMINABILITY MODELS
 08/02/2002 - 07/31/2003 FY03: \$0 Total: \$42,735
Prin. Invest.: M S LANDY
Tech. Officer: ARC/A J AHUMADA, ARC/A B WATSON
CASE Category: 61 – PSYCHOLOGY BIOLOGY

NGT 2 52293 **NEW YORK UNIV**
 HIDE AND SEEK WITH HIGH STAKES VISUAL SEARCH THREAT DETECTION AND VIGILANCE
 08/05/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: L T MALONEY
Tech. Officer: ARC/B J COLLINS, ARC/J B MULLIGANS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 8 182 **NIAGARA UNIV**
 ALGORITHM DEVELOPMENT AND SCIENCES ANALYSIS OF STANDARD DATA PRODUCTS FROM LIGHTNING INSTR. SPACE
 04/26/1999 - 07/31/2003 FY03: \$0 Total: \$67,514
Prin. Invest.: W BOECK
Tech. Officer: MSFC/R BLAKESLEE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 3 2533 **POLYTECHNIC UNIV - BROOKLYN,NY**
 REFLECTION & REFRACTION OF SOUND WAVES THROUGH GLOW DISCHARGES
 01/25/2001 - 12/31/2002 FY03: \$0 Total: \$130,000
Prin. Invest.: M OTUGEN
Tech. Officer: GRC/D B ZAMAN
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2679 **POLYTECHNIC UNIV - BROOKLYN,NY**
 MICRO-OPTICAL DISTRIBUTED SENSORS FOR AERO PROPULSION APPLICATIONS
 12/17/2001 - 09/30/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: D OTUGAN
Tech. Officer: GRC/R SEASHOLTZ
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11365 **POLYTECHNIC UNIV - BROOKLYN,NY**
 ALGORITHMS AND ARCHITECTURES FOR CONTROL OF DISTRIBUTED SPACECRAFT FORMATIONS
 10/05/2001 - 09/30/2003 FY03: \$0 Total: \$62,895
Prin. Invest.: V KAPILA
Tech. Officer: GSFC/J A LEITNER
CASE Category: 42 – ASTRONAUTICAL ENGR

NGT 5 151 **POLYTECHNIC UNIV - BROOKLYN,NY**
 ARCHITECTURES AND ALGORITHMS FOR DISTRIBUTED SPACECRAFT FORMATION CONTROL STUDENT: HONG WONG
 08/26/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: V KAPILA
Tech. Officer: GSFC/M BURRELL
CASE Category: 46 – MECHANICAL ENGR

NAG 1 02089 **RENSSELAER POLYTECHNIC INST**
 DEVELOPMENT OF HIGH PERFORMANCE AVALANCHE PHOTO- DETECTORS (1/7-2.5UM) USING LATTICE MATCHED GAL-X
 05/01/2002 - 04/30/2003 FY03: \$0 Total: \$125,062
Prin. Invest.: P DUTTA
Tech. Officer: LARC/M N ABEDIN
CASE Category: 13 – PHYSICS

NAG 1 03040 **RENSSELAER POLYTECHNIC INST**
 UV TO FAR INFRARED MULTI-COLOR FOCAL PLANE ARRAY TECHNOLOGY
 DEVELOPMENT RPI PROPOSAL
 04/25/2003 - 04/24/2004 FY03: \$200,000 Total: \$200,000
Prin. Invest.: I BHAT, P DUTTA
Tech. Officer: LARC/M N ABEDIN
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2351 **RENSSELAER POLYTECHNIC INST**
 THEORETICAL AND EXPERIMENTAL INVESTIGATION OF THE STABILITY OF
 AN EVAPORATING CONSTRAINED VAPOR BUBB
 03/24/2000 - 11/30/2003 FY03: \$54,000 Total: \$186,800
Prin. Invest.: D C WAYNER
Tech. Officer: GRC/R SKARDA
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2383 **RENSSELAER POLYTECHNIC INST**
 R & D WORK ON THE CONSTRAINED VAPOR BUBBLE SYSTEM FOR A
 MICROGRAVITY EXPERIMENT
 04/18/2000 - 04/21/2005 FY03: \$151,000 Total: \$615,250
Prin. Invest.: P C WAGNER
Tech. Officer: GRC/J SKARDA
CASE Category: 43 – CHEMICAL ENGR

NAG 3 2525 **RENSSELAER POLYTECHNIC INST**
 THE PREPARATION OF SIC NANOTUBES & NANOLAYERS #207 -01-253B
 01/17/2001 - 09/23/2003 FY03: \$0 Total: \$199,194
Prin. Invest.: D INTERRANTE
Tech. Officer: GRC/D LARKIN
CASE Category: 12 – CHEMISTRY

NAG 3 2714 **RENSSELAER POLYTECHNIC INST**
 DYNAMICS AND STABILITY OF CAPILLARY SYSTEMS: MOVING LIQUIDS BY
 DESIGN
 02/25/2002 - 11/30/2005 FY03: \$18,600 Total: \$35,600
Prin. Invest.: D HIRSA
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 7598 **RENSSELAER POLYTECHNIC INST**
 ORIGIN OF LIFE: INTERSTELLAR MOLECULES TO INTRONS
 07/15/1998 - 12/14/2003 FY03: \$0 Total: \$3,752,712
Prin. Invest.: D P FERRIS
Tech. Officer: GSFC/M A MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 7884 **RENSSELAER POLYTECHNIC INST**
 THE NATURE AND EVOLUTION OF INTERSTELLAR & CIRCUMSTELLAR ICES
 & ORGANIC MATTER
 12/01/1998 - 12/31/2003 FY03: \$17,378 Total: \$81,973
Prin. Invest.: D C WHITTET
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8976 **RENSSELAER POLYTECHNIC INST**
 PARTICIPATING SCIENTIST: ANALYSIS OF THE MSI/NIS SPECTRA OF EROS
 01/24/2000 - 03/31/2002 FY03: -\$701 Total: \$70,186
Prin. Invest.: M J GAFFEY
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 9148 **RENSSELAER POLYTECHNIC INST**
 AN INVENTORY OF CARBONACEOUS MOLECULES IN INTERSTELLAR ICES
 & THEIR RELATION TO COMETS
 03/03/2000 - 09/14/2003 FY03: \$0 Total: \$164,458
Prin. Invest.: D WHITTET
Tech. Officer: GSFC/M MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 9607 **RENSSELAER POLYTECHNIC INST**
 A LABORATORY INVESTIGATION OF PHOTOCHEMICAL PROCESSES ON
 TITAN
 05/12/2000 - 05/14/2004 FY03: \$133,000 Total: \$399,000
Prin. Invest.: J P FERRIS
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10345 **RENSSELAER POLYTECHNIC INST**
 CHARACTERIZATIONS OF ASTEROID SURFACE MATERIALS: METEORITE
 PARENT BODIES & ASTEROID EVOLUTION
 02/01/2001 - 02/14/2003 FY03: \$14,571 Total: \$115,371
Prin. Invest.: D J GAFFEY
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 11662 **RENSSELAER POLYTECHNIC INST**
 ENANTIOMERIC EXCESSES IN THE EARLY SOLAR SYSTEM-THE ROLE OF
 CIRCULARLY POLARIZED RADIATION
 02/07/2002 - 02/14/2005 FY03: \$30,000 Total: \$60,000
Prin. Invest.: D WHITTET
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12750 **RENSSELAER POLYTECHNIC INST**
 INTERSTELLAR MOLECULES TO INTRONS (ORIGINS OF LIFE)
 01/13/2003 - 12/31/2003 FY03: \$207,862 Total: \$207,862
Prin. Invest.: J P FERRIS
Tech. Officer: GSFC/M A MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 12861 **RENSSELAER POLYTECHNIC INST**
 COOLING RATES OF IRON METEORITES: NEW DIFFUSION DATA TO REFINE
 AND EXTEND MODELING CAPABILITIES
 01/31/2003 - 01/31/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: B WATSON
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 13364 **RENSSELAER POLYTECHNIC INST**
 THE 17TH ANNUAL NATIONAL CONFERENCE OF THE BLACK PHYSICS
 STUDENTS (NCBPS)
 04/18/2003 - 04/30/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: C R MCINTYRE
Tech. Officer: GSFC/D MENCHAN
CASE Category: 13 – PHYSICS

NAG 5 13469 **RENSSELAER POLYTECHNIC INST**
 AN INVESTIGATION OF THE CIRCULAR POLARIZATION MODEL FOR THE
 ORIGIN OF CHIRAL ASYMMETRY IN THE EAR
 04/27/2003 - 04/30/2006 FY03: \$46,175 Total: \$46,175
Prin. Invest.: D WHITTET
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1696 **RENSSELAER POLYTECHNIC INST**
 FOLLOW-ON RESEARCH ACTIVITIES FOR THE RENSSELAER ISOTHERMAL
 DENDRITIC GROWTH EXPERIMENT (RIDGE)
 05/15/2000 - 11/30/2003 FY03: \$100,000 Total: \$335,000
Prin. Invest.: M E GLICKSMAN, M B KOSS
Tech. Officer: MSFC/P M DOTY
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1795 **RENSSELAER POLYTECHNIC INST**
 EXPERIMENTAL INVESTIGATION INTO ADVANCED PROPULSION FORTH
 GENERATION SPACE TRANSPORTATION
 04/12/2001 - 03/31/2004 FY03: \$0 Total: \$139,000
Prin. Invest.: L N MYRABO, H NAGAMATSU
Tech. Officer: MSFC/J W LEHNER
CASE Category: 46 – MECHANICAL ENGR

NAG13 03026 **RENSSELAER POLYTECHNIC INST**
 "WILDFIRE AIRBORNE SENSOR PROGRAM (WASP) PROJECT: NEAR REAL-
 TIME FIRE MAPPING/SPECIAL DESCRIMINATION
 09/16/2003 - 09/15/2004 FY03: \$1,341,000 Total: \$1,341,000
Prin. Invest.: H RHODY, D M MCKEOWN
Tech. Officer: JSC/B DAVIS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 5494 **RENSSELAER POLYTECHNIC INST**
 CREATION OF ENCAPSULATED SPIECES IN FULLERNE AND D IAMOND
 BASED NANOSTRUCTURES
 06/05/2002 - 07/31/2003 FY03: \$42,000 Total: \$85,000
Prin. Invest.: P M AJAYAN
Tech. Officer: ARC/T R GOVINDAN, ARC/A GRADY-HEISER
CASE Category: 13 – PHYSICS

NCC 8 97 **RENSSELAER POLYTECHNIC INST**
 SPACE AND GROUND BASED CRYSTAL GROWTH USING MAGNETICALLY
 COUPLED BAFFLE
 06/13/1996 - 12/31/2003 FY03: \$95,000 Total: \$1,064,090
Prin. Invest.: A G OSTROGORSKY
Tech. Officer: MSFC/D SCHAEFER
CASE Category: 13 – PHYSICS

NGT 5 50382 **RENSSELAER POLYTECHNIC INST**
 MAIN BELT ASTEROIDS: COMPOSITIONAL EVIDENCE FOR DYNAMIC
 EARLY SOLAR SYSTEM PROCESSES/STUDENT: PAUL
 05/20/2002 - 06/30/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: M GAFFEY
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2593 **ROCHESTER INST OF TECHNOLOGY**
 DEVELOPMENT OF ADVANCED GRAVITY-INDEPENDENT HIGH H EAT FLUX
 PHASE CHANGE HEAT EXCHANGER TECH & DESIG
 05/11/2001 - 06/30/2003 FY03: \$51,919 Total: \$136,843
Prin. Invest.: D RAFFAELLE
Tech. Officer: GRC/S BAILEY
CASE Category: 13 – PHYSICS

NAG 3 2595 **ROCHESTER INST OF TECHNOLOGY**
 QUANTUM DOT DEVICE CHARACTERIZATION AND DEVELOPMENT T
 04/30/2001 - 05/31/2005 FY03: \$50,000 Total: \$100,000
Prin. Invest.: D P RAFFAELLE
Tech. Officer: GRC/S BAILEY
CASE Category: 13 – PHYSICS

NAG 3 2596 **ROCHESTER INST OF TECHNOLOGY**
 SIC SOLAR CELLS SIC SOLAR CELLS
 04/30/2001 - 05/31/2002 FY03: \$0 Total: \$36,889
Prin. Invest.: D RAFFAELLE
Tech. Officer: GRC/S BAILEY
CASE Category: 13 – PHYSICS

NAG 3 2828 **ROCHESTER INST OF TECHNOLOGY**
 CARBON NANOTUBE THERMIONIC POWER CONVERTER CARBON NANO-
 TUBE THERMIONIC POWER CONVERTER
 12/10/2002 - 11/30/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: R P RAFAELLE
Tech. Officer: GRC/S G BAILEY
CASE Category: 13 – PHYSICS

NAG 5 9090 **ROCHESTER INST OF TECHNOLOGY**
 A PROGRAM TO DEVELOP HYBRIDIZED 2K X 2K SI PIN ARRAYS FOR SPACE
 02/17/2000 - 07/31/2003 FY03: \$0 Total: \$679,700
Prin. Invest.: Z NINKOV
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 10051 **ROCHESTER INST OF TECHNOLOGY**
 FOREST FIRES IMAGING EXPERIMENT SYSTEMS
 09/29/2000 - 08/31/2003 FY03: \$0 Total: \$4,770,275
Prin. Invest.: A VODECEK
Tech. Officer: GSFC/T D GUBBELS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11009 **ROCHESTER INST OF TECHNOLOGY**
 SYNERGISTIC APPLICATIONS OF EO-1 AND LANDSAT 7 FOR CANOPY
 TEMPERA
 06/06/2001 - 12/31/2003 FY03: \$0 Total: \$69,997
Prin. Invest.: D SCHOTT
Tech. Officer: GSFC/J A SMITH
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 11298 **ROCHESTER INST OF TECHNOLOGY**
 YEAR ONE OF SOLICITED PROPOSAL ENTITLED,"LANDSAT RADIOMETRIC
 CALIBRATION: TOWARDS A 20 YEAR RECORD
 08/29/2001 - 08/31/2004 FY03: \$66,500 Total: \$189,989
Prin. Invest.: J SCHOTT
Tech. Officer: GSFC/B L MARKHAM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13158 **ROCHESTER INST OF TECHNOLOGY**
 MAGNETIC ACTIVITY IN ASYMPTOTIC GIANT BRANCH STARS
 03/20/2003 - 03/31/2004 FY03: \$45,900 Total: \$45,900
Prin. Invest.: J H KASTNER
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG13 02051 **ROCHESTER INST OF TECHNOLOGY**
 WILDFIRE AIRBORNE SENSOR PROGRAM (WASP)
 09/10/2002 - 11/30/2003 FY03: \$0 Total: \$1,370,001
Prin. Invest.: I GATLEY
Tech. Officer: SSC/B DAVIS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 3 786 **ROCHESTER INST OF TECHNOLOGY**
 INTEGRATED POWER SOURCES INTEGRATED POWER SOURCES
 03/23/2000 - 04/30/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: D P RAFAELLE
Tech. Officer: GRC/A F HEPPE
CASE Category: 13 – PHYSICS

NCC 3 937 **ROCHESTER INST OF TECHNOLOGY**
 SCANNING, TUNNELING OPTICAL RESONANCE MICROSCOPY (STORM)
 02/12/2002 - 01/24/2005 FY03: \$112,836 Total: \$204,302
Prin. Invest.: D P RAFFAELLE
Tech. Officer: GRC/D BAILEY
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 953 **ROCHESTER INST OF TECHNOLOGY**
 WIDE BANDGAP SPACE PHOTOVOLTAICS DEVELOPMENT WIDE BANDGAP
 SPACE PHOTOVOLTAICS DEVELOPMENT
 04/11/2002 - 03/31/2005 FY03: \$58,868 Total: \$105,963
Prin. Invest.: D RAFFAELLE
Tech. Officer: GRC/G LANDIS
CASE Category: 13 – PHYSICS

NCC 3 956 **ROCHESTER INST OF TECHNOLOGY**
 HIGH PURITY SINGLE WALL NANOTUBE ANODES HIGH PURITY SINGLE
 WALL NANOTUBE ANODES
 05/02/2002 - 04/17/2005 FY03: \$26,808 Total: \$46,808
Prin. Invest.: D P RAFFAELLE
Tech. Officer: GRC/A F HEPP
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC13 98001 **ST UN NY COL-ENV SCI & FORESTRY**
 A CENTER FOR EXPLORING AND DEVELOPING COMMERCIAL APPLICA-
 TIONS OF REMOTE SENSING AND GEO-SPATIAL TEC
 09/01/1998 - 12/31/2002 FY03: -\$6,177 Total: \$618,823
Prin. Invest.: P HOPKINS
Tech. Officer: SSC/N SOVIK
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 01003 **STATE U NY COLL OF ENVIR SCI & FORESTRY**
 APPLYING REMOTE SENSING TO FOREST MANAGEMENT IN ST ATE
 AGENCIES
 06/01/2001 - 05/31/2002 FY03: -\$324 Total: \$448,686
Prin. Invest.: P HOPKINS
Tech. Officer: SSC/N SOVIK
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 6227 **STATE UNIV OF NEW YORK - ALBANY**
 DETECTING INTERACTIONS BETWEEN VEGETATION AND THE THE NORTH-
 EASTERN UNITED STATES
 09/12/1997 - 12/31/2001 FY03: \$0 Total: \$296,085
Prin. Invest.: D R FITZJARRALD
Tech. Officer: GSFC/D WICKLAND
CASE Category: 11 – ASTRONOMY

NAG 5 8815 **STATE UNIV OF NEW YORK - ALBANY**
 GENETIC COMPLEXITY IN THE RNA WORLD: AN EXAMINATIO N OF THE
 GENETIC LOAD IN RNA POPULATIONS
 10/06/1999 - 09/30/2001 FY03: \$0 Total: \$155,360
Prin. Invest.: N E LEHMAN
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 9690 **STATE UNIV OF NEW YORK - ALBANY**
 DEVELOPING & TESTING OF NEW TECHNIQUES FOR CONSER- VATIONAL
 BIOGEOPHYSICAL MINERALEXPLORATION
 06/19/2000 - 11/30/2003 FY03: \$35,616 Total: \$195,258
Prin. Invest.: H MASSONE
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11008 **STATE UNIV OF NEW YORK - ALBANY**
 RELATIONSHIP BETWEEN CORE CONVECTIVE STRUCTURE AND INTEN-
 SITY CHANGE IN TROPICAL CYCLONES
 06/06/2001 - 06/14/2004 FY03: \$90,000 Total: \$254,150
Prin. Invest.: J MOLINARI
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG13 02043 **STATE UNIV OF NEW YORK - ALBANY**
 APPLYING REMOTE SENSING TO FOREST MANAGEMENT IN STATE AGEN-
 CIES
 08/01/2002 - 05/31/2003 FY03: \$0 Total: \$428,000
Prin. Invest.: P F HOPKINS
Tech. Officer: SSC/M GIARDINO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 03016 **STATE UNIV OF NEW YORK - ALBANY**
 TECHNOLOGY AND POLICY ASPECTS OF APPLYING REMOTE SENSING TO
 FOREST MANAGEMENT IN STATE AGENCIES
 09/18/2003 - 09/18/2004 FY03: \$447,000 Total: \$447,000
Prin. Invest.: J M HASSETT
Tech. Officer: JSC/C E DELCASTILLO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 1 18942 **STATE UNIV OF NEW YORK - ALBANY**
 SAGE III SCIENCE SUPPORT - P.I. - DR. V. MOHNEN
 01/31/1990 - 12/31/2002 FY03: \$0 Total: \$627,630
Prin. Invest.: V MOHNEN
Tech. Officer: LARC/G L MADDREA, LARC/L R MCMASTER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5380 **STATE UNIV OF NEW YORK - ALBANY**
 A PRELIMINARY TEST OF THE CO2 RECTIFIER HYPOTHESIS USING
 EXISTING UPPER TROPOSPHERIC MEASUREMENTS...
 04/15/2000 - 10/14/2002 FY03: \$0 Total: \$48,710
Prin. Invest.: M KRITZ
Tech. Officer: ARC/L PFISLER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5504 **STATE UNIV OF NEW YORK - ALBANY**
 ANALYS OF CARBON DIOXIDE AND RADON MEASUREMENTS MA DE IN THE
 UPPER TROPOSPHERE OVER THE UNITED STATE
 07/19/2002 - 06/30/2003 FY03: \$0 Total: \$24,572
Prin. Invest.: M KRITZ
Tech. Officer: ARC/L PFISTER, ARC/R S HIRSKIND
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 3 891 **STATE UNIV OF NEW YORK - ALBANY**
 POLYTYPE MAPPING AND DEFECT CHARACTERIZATION IN SILICON CAR-
 BIDE HETEROEPITAXIAL STRUCTURES
 06/04/2001 - 09/30/2003 FY03: \$85,000 Total: \$205,000
Prin. Invest.: D DUDLEY
Tech. Officer: GRC/P NEUDECK
CASE Category: 45 – ELECTRICAL ENGR

NCC 5 283 **STATE UNIV OF NEW YORK - ALBANY**
 PERIODIC, TRANSIENT, AND SPATIALLY INHOMOGENEOUS I NFLUENCES
 ON C EXCHANGE IN AMAZONIA
 06/23/1998 - 02/28/2003 FY03: \$0 Total: \$1,413,239
Prin. Invest.: D R FRITZJARRALD
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NEW YORK

NASA'S UNIVERSITY PROGRAM

NGT 5 30431 STATE UNIV OF NEW YORK - ALBANY
 PHOTOCHEMICAL MINERALIZATION OF DISSOLVED ORGANIC MATTER AND
 THE GLOBAL CARBON CYCLE (STUDENT: EMIL
 08/26/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D KIEBER
Tech. Officer: GSFC/M WEI
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 9069 STATE UNIV OF NEW YORK - BINGHAMTON
 USE OF ROTATIONAL & GRAVITATIONAL OBSERVATIONS TO INFER CORE-
 MANTLE COUPLING & LONG TIDAL PERIODS
 03/08/2000 - 05/31/2002 FY03: \$1,369 Total: \$108,369
Prin. Invest.: S DICKMAN
Tech. Officer: GSFC/H FREY
CASE Category: 32 - GEOLOGICAL SCIENCE

NCC 1 336 STATE UNIV OF NEW YORK - BINGHAMTON
 RELIABILITY CRITERIA-BASED FLIGHT SYSTEM CONTROL MY 1/3
 04/30/1999 - 01/31/2002 FY03: -\$1 Total: \$159,254
Prin. Invest.: N WU
Tech. Officer: LARC/C M BELCASTRO, LARC/C M BELCASTRO
CASE Category: 41 - AERONAUTICAL ENGR

NCC 1 02009 STATE UNIV OF NEW YORK - BINGHAMTON
 FAULT TOLERANT CONTROL OF AEROSPACE VEHICLES
 02/12/2002 - 01/31/2005 FY03: \$61,414 Total: \$117,414
Prin. Invest.: N E WU
Tech. Officer: LARC/C M BELCASTRO
CASE Category: 41 - AERONAUTICAL ENGR

NAG 1 2238 STATE UNIV OF NEW YORK - BUFFALO
 FILTERED MASS DENSITY FUNCTION FOR DESIGN SIMULATIONS OF
 HIGH SPEED AIRBREATHING PROPULSION SYS.
 09/20/1999 - 08/31/2002 FY03: -\$2 Total: \$94,815
Prin. Invest.: P GIVI
Tech. Officer: LARC/J P DRUMMOND
CASE Category: 46 - MECHANICAL ENGR

NAG 2 1429 STATE UNIV OF NEW YORK - BUFFALO
 A NEW SEMI-ACTIVE APPROACH FOR DYNAMIC RESPONSE MODIFICATION
 OF HELICOPTERS
 08/11/2000 - 12/31/2003 FY03: \$78,244 Total: \$125,238
Prin. Invest.: G LEE
Tech. Officer: ARC/C TUNG
CASE Category: 41 - AERONAUTICAL ENGR

NAG 3 2225 STATE UNIV OF NEW YORK - BUFFALO
 LARGE EDDY SIMULATION OF GRAVITATIONAL EFFECTS ON TRANSITIONAL
 AND TURBULENT GAS-JET DIFFUSION FLAME
 01/22/1999 - 08/10/2003 FY03: \$23,200 Total: \$382,920
Prin. Invest.: D GIVI
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 - ENGINEERING, OTHER

NAG 5 9390 STATE UNIV OF NEW YORK - BUFFALO
 THE PLANETARY GEOLOGY AND GEOPHYSICS UNDERGRADUATE RE-
 SEARCH PROGRAM
 04/04/2000 - 07/14/2003 FY03: \$0 Total: \$241,430
Prin. Invest.: T GREGG
Tech. Officer: GSFC/J A GRANT
CASE Category: 32 - GEOLOGICAL SCIENCE

NAG 5 9619 STATE UNIV OF NEW YORK - BUFFALO
 VOLCANIC EVOLUTION & EROSIONAL HISTORY OF TYRRHENA & HADRIACA
 PATERAE, MARS
 05/18/2000 - 05/14/2004 FY03: \$0 Total: \$164,200
Prin. Invest.: T GREGG
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 9873 STATE UNIV OF NEW YORK - BUFFALO
 A NEW CLASS OF UNNATURAL FOLDING OLIGOMERS: HELICES WITH
 NANO-SIZED CAVITIES
 08/10/2000 - 08/31/2003 FY03: \$0 Total: \$346,322
Prin. Invest.: B GONG
Tech. Officer: GSFC/S DAVISON
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 10608 STATE UNIV OF NEW YORK - BUFFALO
 REMOTE SENSING OF GROUND WATER: CALIBRATION OF ENVIRONMEN-
 TAL GROUND WATER FLOW MODELS TO SATELL
 03/15/2001 - 03/14/2004 FY03: \$0 Total: \$200,739
Prin. Invest.: M BECKER
Tech. Officer: GSFC/M BECKER
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 11835 STATE UNIV OF NEW YORK - BUFFALO
 EVOLUTION OF WESTERN HESPERIA PLANUM, MARS
 03/06/2002 - 02/28/2005 FY03: \$45,000 Total: \$90,000
Prin. Invest.: T K GREGG
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 12409 STATE UNIV OF NEW YORK - BUFFALO
 ASSESSMENT, MONITORING, AND MODELING OF LCLUC AND THEIR IM-
 PACTS ON GROUNDWATER RESOURCES, ECOSYSTEM
 08/01/2002 - 07/31/2004 FY03: \$153,932 Total: \$217,807
Prin. Invest.: M SULTAN
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 13428 STATE UNIV OF NEW YORK - BUFFALO
 PLANETARY GEOLOGY AND GEOPHYSICS UNDERGRADUATE RESEARCH
 PROGRAM (PGGURP)
 04/24/2003 - 04/14/2006 FY03: \$92,063 Total: \$92,063
Prin. Invest.: T GREGG
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NGT 1 01034 STATE UNIV OF NEW YORK - BUFFALO
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 06/22/2001 - 06/30/2003 FY03: \$0 Total: \$22,000
Prin. Invest.: K LEWIS
Tech. Officer: LARC/S L PADULA
CASE Category: 49 - ENGINEERING, OTHER

NGT 1 52185 STATE UNIV OF NEW YORK - BUFFALO
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 05/12/1998 - 06/30/2002 FY03: -\$680 Total: \$65,321
Prin. Invest.: K E LEWIS
Tech. Officer: LARC/J SOBIESKI
CASE Category: 41 - AERONAUTICAL ENGR

NAG 1 2166 STATE UNIV OF NEW YORK - STONY BROOK
 SAGE II RESEARCH ON THE CONTROLLING PROCESSES OF UPPER
 TROPOSPHERIC & STRATOSPHERIC WATER VAPOR
 03/17/1999 - 06/14/2003 FY03: \$0 Total: \$338,787
Prin. Invest.: M A GELLER
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01052 STATE UNIV OF NEW YORK - STONY BROOK
 CENTER FOR EMERGING TECHNOLOGIES: LONG ISLAND TECHNICAL
 CENTER
 03/30/2001 - 04/14/2004 FY03: \$0 Total: \$997,800
Prin. Invest.: Y SHAMASH
Tech. Officer: LARC/R R ANTCLIFF
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1325 STATE UNIV OF NEW YORK - STONY BROOK
 APPLICATIONS OF COMPUTATIONAL GEOMETRY IN AIR TRAFFIC MANAGE-
 MENT
 05/19/1999 - 08/31/2002 FY03: \$0 Total: \$105,000
Prin. Invest.: J S MITCHELL
Tech. Officer: ARC/G MEYER
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1379 STATE UNIV OF NEW YORK - STONY BROOK
 EFFECT OF SIMULATED MICROGRAVITY ON ACTIVATED T CELL GENE
 TRANSCRIPTION
 08/16/1999 - 02/28/2003 FY03: \$0 Total: \$257,046
Prin. Invest.: M A MORROW
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1517 STATE UNIV OF NEW YORK - STONY BROOK
 ELUCIDATING THE MOLECULAR EVENTS OF BONE MECHANORECEPTION
 08/31/2001 - 08/14/2004 FY03: \$292,175 Total: \$720,552
Prin. Invest.: M HADJIARYROU
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1620 STATE UNIV OF NEW YORK - STONY BROOK
 GEOMETRIC ALGORITHMS FOR THE NATIONAL AIRSPACE SYSTEM
 03/03/2003 - 02/28/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: J MITCHELL
Tech. Officer: ARC/G MEYER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2693 STATE UNIV OF NEW YORK - STONY BROOK
 MICROSTRUCTURAL ENGINEERING AND AN INTEGRATED PROCESSING
 APPROACH FOR REVOLUTIONARY TBC'S
 02/12/2002 - 01/09/2005 FY03: \$150,000 Total: \$350,000
Prin. Invest.: C C BERNDT
Tech. Officer: GRC/J J ELDRIDGE
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 3718 STATE UNIV OF NEW YORK - STONY BROOK
 LABORATORY SPECTROSCOPIC MEASUREMENTS RELEVANT TO RE-
 SEARCH
 01/24/1997 - 08/29/2004 FY03: \$0 Total: \$439,441
Prin. Invest.: D VARANABI
Tech. Officer: GSFC/M J KURYLO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 4043 STATE UNIV OF NEW YORK - STONY BROOK
 CIO MEASUREMENTS AND ANALYSIS IN THE NETWORK FOR TROPO-
 SPHERIC CHANGE
 05/06/1997 - 03/31/2002 FY03: \$6 Total: \$1,397,457
Prin. Invest.: P SOLOMON
Tech. Officer: GSFC/M J KURYLO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 6601 STATE UNIV OF NEW YORK - STONY BROOK
 DEVELOPMENT AND VALIDATION OF A TROPICAL ISOPRENE EMISSION
 MODEL
 12/09/1997 - 03/31/2002 FY03: \$0 Total: \$117,349
Prin. Invest.: M LERDAU
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 6879 STATE UNIV OF NEW YORK - STONY BROOK
 STUDIES OF EXCITED SPECIES IN PLANETARY UPPER ATMOSPHERES
 01/30/1998 - 08/14/2002 FY03: \$0 Total: \$266,738
Prin. Invest.: J L FOX
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 7978 STATE UNIV OF NEW YORK - STONY BROOK
 A COMPREHENSIVE STUDY OF NEUTRON STAR PHOTOSPHERES _
 (LTS98)
 01/06/1999 - 12/31/2003 FY03: \$75,000 Total: \$328,000
Prin. Invest.: F M WALTER
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 9029 STATE UNIV OF NEW YORK - STONY BROOK
 ADSORPTION OF SIMPLE ORGANIC MOLECULES ONTO PYRITE: POSSIBLY AN
 IMPORTANT STEP IN THE ORIGIN OF LIFE
 02/08/2000 - 12/31/2001 FY03: \$0 Total: \$45,519
Prin. Invest.: M A SCHOONEN
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 9053 STATE UNIV OF NEW YORK - STONY BROOK
 A SELF-CONSISTENT GLOBAL VELOCITY GRADIENT TENSOR FIELD MODEL
 02/10/2000 - 02/14/2002 FY03: \$0 Total: \$170,000
Prin. Invest.: W E HOLT
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9680 STATE UNIV OF NEW YORK - STONY BROOK
 THE STABILITY OF ORBITAL CONFIGURATIONS AND THE ULTIMATE
 CONFIGURATIONS OF PLANETARY AND SATELLITE
 06/21/2000 - 06/14/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: J J LISSAUR
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9958 STATE UNIV OF NEW YORK - STONY BROOK
 THE EVOLUTION OF STELLAR CORONAE FROM THE PMS THROUGH THE
 ZAMS
 09/13/2000 - 09/14/2002 FY03: -\$42 Total: \$44,958
Prin. Invest.: F M WALTER
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10284 STATE UNIV OF NEW YORK - STONY BROOK
 VERTICAL PROFILES OF LATENT HEATING IN TRMM: VALIDATION &
 ASSIMILATION IN THE GEOS DATA ASSIMILATION
 01/31/2001 - 01/31/2004 FY03: \$50,000 Total: \$150,000
Prin. Invest.: M ZHANG
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10318 STATE UNIV OF NEW YORK - STONY BROOK
 THE EARLY EVOLUTION OF THE CIRCUMSTELLAR ENVIRONMENT OF
 SOLAR-LIKE STARS FUSE 2000
 01/25/2001 - 01/31/2002 FY03: \$0 Total: \$36,000
Prin. Invest.: F M WALTER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10506 STATE UNIV OF NEW YORK - STONY BROOK
 SURFICIAL PROCESSES ON MARS: AN EXPERIMENTAL APPROACH
 03/05/2001 - 05/31/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: S MCLENNAN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10583 STATE UNIV OF NEW YORK - STONY BROOK
 SEDIMENTARY GEOCHEMISTRY ON MARS
 03/19/2001 - 02/28/2004 FY03: \$28,000 Total: \$84,000
Prin. Invest.: S MCLENNAN
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10772 STATE UNIV OF NEW YORK - STONY BROOK
 EARLY BATSE GRB AFTERGLOWS (ADP 2000)
 04/26/2001 - 04/30/2002 FY03: \$0 Total: \$10,000
Prin. Invest.: R A WIJERS
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10995 STATE UNIV OF NEW YORK - STONY BROOK
 COSMIC RAYS IN INTERPLANETARY SPACE: SCATTERING THEORY IN
 THREE DIMENSIONAL TURBULENCE
 05/31/2001 - 05/31/2004 FY03: \$182,014 Total: \$360,064
Prin. Invest.: M A FORMAN
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 11033 STATE UNIV OF NEW YORK - STONY BROOK
 INTRASEASONAL VARIABILITY IN THE INDIAN OCEAN
 06/08/2001 - 06/30/2004 FY03: \$69,440 Total: \$194,242
Prin. Invest.: D WALISER
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11240 STATE UNIV OF NEW YORK - STONY BROOK
 TROPICAL UPWELLING AND STRATOSPHERIC WATER VAPOR VARIABILITY
 08/15/2001 - 08/31/2004 FY03: \$77,694 Total: \$151,650
Prin. Invest.: M GELLER
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11615 STATE UNIV OF NEW YORK - STONY BROOK
 PROPOSAL FOR SPARK DATA CENTER
 01/17/2002 - 01/31/2005 FY03: \$75,000 Total: \$150,000
Prin. Invest.: M GELLER
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12070 STATE UNIV OF NEW YORK - STONY BROOK
 MODELS OF PLANETARY THERMOSPHERES/IONOSPHERES
 04/18/2002 - 09/30/2002 FY03: -\$88,213 Total: \$0
Prin. Invest.: J L FOX
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12441 STATE UNIV OF NEW YORK - STONY BROOK
 THE PECULIAR B STAR HD 28867E
 08/06/2002 - 08/14/2004 FY03: \$0 Total: \$17,800
Prin. Invest.: F M WALTER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12842 STATE UNIV OF NEW YORK - STONY BROOK
 THE CIRCUMSTELLAR ENVIRONMENT OF SOLAR-LIKE STARS FUSE 01
 01/28/2003 - 01/31/2004 FY03: \$40,200 Total: \$40,200
Prin. Invest.: F M WALTER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12916 STATE UNIV OF NEW YORK - STONY BROOK
 SURFICIAL PROCESSES ON MARS: AN EXPERIMENTAL APPROACH
 02/27/2003 - 02/28/2006 FY03: \$79,000 Total: \$79,000
Prin. Invest.: S MCLENNAN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 13029 STATE UNIV OF NEW YORK - STONY BROOK
 CORRELATIVE GROUND-BASED MM-WAVE SPECTROSCOPY IN SUPPORT
 OF SATELLITE OBSERVATIONS
 03/11/2003 - 05/31/2006 FY03: \$18,288 Total: \$18,288
Prin. Invest.: R DEZAFRA
Tech. Officer: GSFC/M KURYLO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13438 STATE UNIV OF NEW YORK - STONY BROOK
 EXPERIMENTAL STUDY OF THE FORMATION AND FATE OF AMMONIA VIA
 HYDROTHERMAL SEAWATER-CRUST INTERACTIONS
 04/29/2003 - 05/31/2006 FY03: \$59,524 Total: \$59,524
Prin. Invest.: M SCHOONEN
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13493 STATE UNIV OF NEW YORK - STONY BROOK
 PACIFIC CENTERS OF ACTION: LINKAGE BETWEEN THE SOLAR CYCLE
 AND REGIONAL CLIMATE
 05/05/2003 - 04/30/2006 FY03: \$94,450 Total: \$94,450
Prin. Invest.: S HAMEED
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13625 STATE UNIV OF NEW YORK - STONY BROOK
 VERTICAL STRUCTURES OF LATENT HEATING: ANALYSIS, VALIDATION
 STUDIES AND APPLICATION
 09/15/2003 - 09/14/2006 FY03: \$52,500 Total: \$52,500
Prin. Invest.: Z MINGHUA
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 8 1698 STATE UNIV OF NEW YORK - STONY BROOK
 MICROGRAVITY PROCESSING OF POLYMER THIN FILMS
 06/02/2000 - 11/30/2003 FY03: \$100,000 Total: \$335,000
Prin. Invest.: M RAFAILOVICH
Tech. Officer: MSFC/P DOTY
CASE Category: 12 – CHEMISTRY

NAG 8 1700 STATE UNIV OF NEW YORK - STONY BROOK
 DEFECTS NUMERICALLY DECREASED (DENUDE)
 08/07/2000 - 11/30/2003 FY03: \$127,501 Total: \$315,001
Prin. Invest.: D LARSON
Tech. Officer: MSFC/P M DOTY
CASE Category: 13 – PHYSICS

NAG 9 1433 STATE UNIV OF NEW YORK - STONY BROOK
 LOW INTENSITY MECHANICAL COUNTERMEASURE TO PROHIBIT OSTEOPOROSIS DURING LONGTERM SPACEFLIGHT
 06/19/2002 - 02/29/2004 FY03: \$0 Total: \$99,903
Prin. Invest.: C RUBIN
Tech. Officer: JSC/S MCCOLLUM
CASE Category: 56 – MEDICL

NAG 9 01499 STATE UNIV OF NEW YORK - STONY BROOK
 GENETIC BASIS LOSS OF MUSCULO-SKELETAL TISSUE DURING WEIGHT-LESSNESS
 01/14/2003 - 01/27/2006 FY03: \$267,774 Total: \$267,774
Prin. Invest.: S JUDEX
Tech. Officer: JSC/C LLOYD
CASE Category: 56 – MEDICL

NAS 1 98142 STATE UNIV OF NEW YORK - STONY BROOK
 CERES SCIENCE INVESTIGATIONS
 10/29/1998 - 10/31/2003 FY03: \$139,672 Total: \$798,623
Prin. Invest.: R D CESS
Tech. Officer: LARC/B A WIELICKI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 3 957 STATE UNIV OF NEW YORK - STONY BROOK
 HIGH RESOLUTION TRIPLE-AXIS X-RAY DIFFRACTION (HRT XD) AND SYNCHROTRON WHITE BEAM X-RAY TOPOGRAPHY ()
 04/24/2002 - 03/31/2004 FY03: \$30,000 Total: \$50,000
Prin. Invest.: D DUDLEY
Tech. Officer: GRC/R OKOJIE
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 5 342 STATE UNIV OF NEW YORK - STONY BROOK
 INTERDISCIPLINARY GLOBAL CHANGE RESEARCH
 06/23/1998 - 03/14/2002 FY03: \$0 Total: \$136,741
Prin. Invest.: M GELLER
Tech. Officer: GSFC/B CARLSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 8 208 STATE UNIV OF NEW YORK - STONY BROOK
 GROWTH DEFECT CHARACTERIZATION USING WHITE BEAM SYNCHROTRON X-RAY TOPOGRAPHY
 11/06/2000 - 11/05/2001 FY03: \$0 Total: \$40,000
Prin. Invest.: M DUDLEY
Tech. Officer: MSFC/C HUA SU
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 5 50322 STATE UNIV OF NEW YORK - STONY BROOK
 EVOLUTION OF THE THREE-DIMENSIONAL MOISTURE STRUCTURE ASSOCIATED WITH THE LIFE CYCLE OF THE MADDEN
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D WALISER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50431 STATE UNIV OF NEW YORK - STONY BROOK
 IDENTIFICATION OF CHROMOSOMAL REGIONS RESPONSIBLE FOR LOSS OF BONE STRENGTH IN HINDLIMB UNLOAD
 04/16/2003 - 05/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S JUDEX
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9383 STATE UNIV OF NEW YORK COL - PLATTSBURGH
 TRACE ELEMENT ANALYSIS OF COSMIC DUST
 04/04/2000 - 06/30/2003 FY03: \$0 Total: \$140,700
Prin. Invest.: G J FLYNN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11904 STATE UNIV OF NEW YORK COL - PLATTSBURGH
 SYNCHROTRON-BASED X-RAY MICROANALYSIS FACILITY FOR CHEMICAL AND MINERALOGICAL CHARACTERIZATION
 04/25/2002 - 04/30/2005 FY03: \$0 Total: \$247,000
Prin. Invest.: G J FLYNN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12358 STATE UNIV OF NEW YORK COL - PLATTSBURGH
 CARBON IDENTIFICATION AND CHARACTERIZATION IN INTERPLANETARY DUST PARTICLES: AN EXAMINATION
 07/09/2002 - 06/30/2005 FY03: \$56,597 Total: \$112,116
Prin. Invest.: G J FLYNN
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTINTERDISCIPL, OTHER

NAG 5 12976 STATE UNIV OF NEW YORK COL - PLATTSBURGH
 TRACE ELEMENT CHEMICAL ANALYSIS AND MINERALOGICAL ANALYSIS OF COSMIC DUST
 03/06/2003 - 06/30/2006 FY03: \$51,000 Total: \$51,000
Prin. Invest.: G FLYNN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 9 1109 STATE UNIV OF NEW YORK COL - PLATTSBURGH
 JSC ASTROBIOLOGY INST
 05/11/1999 - 05/13/2004 FY03: \$10,000 Total: \$105,000
Prin. Invest.: G J FLYNN
Tech. Officer: JSC/E K GIBSON
CASE Category: 13 – PHYSICS

NAG 5 4691 STATE UNIV OF NEW YORK COLLEGE - PURCHASE
 CARBON AND NITROGEN ABUNDANCES IN INTERPLANETARY TO PREBIOTIC ORGANIC MATTER ON EARTH
 06/26/1997 - 10/31/2001 FY03: \$0 Total: \$73,550
Prin. Invest.: D J FLYNN
Tech. Officer: GSFC/M A MEYER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 9370 STATE UNIV OF NEW YORK COLLEGE - PURCHASE
 VALIDATION AND IMPROVEMENT OF DAO ANALYSES USING FLIGHT DATA
 RECORDER OBSERVATIONS
 04/12/2000 - 03/31/2004 FY03: \$5,000 Total: \$220,000
Prin. Invest.: J TENENBAUM
Tech. Officer: GSFC/M HELFAND
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10221 STATE UNIV OF NEW YORK COLLEGE - PURCHASE
 EXPERIMENTAL STUDY OF THE IMPACT DISRUPTION OF MET EORITIC
 SAMPLES: PARENT BODY FRAGMENTATION & THE
 01/11/2001 - 01/14/2004 FY03: \$31,000 Total: \$91,500
Prin. Invest.: G FLYNN
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTIINTERDISCIPL, OTHER

NAG 3 2464 STATE UNIV OF NEW YORK COLLEGE, BUFFALO
 DYNAMICS OF AEROSOL PARTICLES IN STATIONARY ISOTROPIC TURBULENCE
 06/16/2000 - 11/30/2003 FY03: \$60,000 Total: \$194,000
Prin. Invest.: H MENG
Tech. Officer: GRC/F P CHIARAMONTE 111
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 7579 STATE UNIV OF NEW YORK COLLEGE, BUFFALO
 FUNDING FOR 'DEBRIS FLOW HAZARD ASSESSMENT, PICO DE ORIZABA,
 MEXICO' (SENH98-0089)
 08/04/1998 - 07/31/2002 FY03: \$0 Total: \$300,000
Prin. Invest.: M F SHERIDAN
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7581 STATE UNIV OF NEW YORK COLLEGE, BUFFALO
 FUNDING FOR 'TEPHROSTRATIGRAPHIC AND SATELLITE IMAGES ANALYSIS
 OF THE KAMCHATKA SHORELINE...' (SE
 08/04/1998 - 01/31/2002 FY03: -\$2,087 Total: \$97,913
Prin. Invest.: M BURSİK
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10648 STATE UNIV OF NEW YORK COLLEGE, BUFFALO
 ANALYSIS OF VOLCANOTECTONIC DEFORMATION & VOLCANIC HAZARDS
 USING TOPSAR & SRTM, MONO BASIN CALIFORNIA
 04/02/2001 - 04/14/2004 FY03: \$0 Total: \$70,000
Prin. Invest.: M I BURSİK
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11331 STATE UNIV OF NEW YORK COLLEGE, BUFFALO
 ATTITUDE DETERMINATION SCHEMES FOR THE CEGANS SENSORS
 09/27/2001 - 11/30/2001 FY03: -\$2 Total: \$5,898
Prin. Invest.: J CRASSIDIS
Tech. Officer: GSFC/D A QUINN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12179 STATE UNIV OF NEW YORK COLLEGE, BUFFALO
 DEVELOPMENT OF AUTOMATED SPACECRAFT ALIGNMENT AND CALIBRATION
 ALGORITHMS
 05/10/2002 - 05/14/2005 FY03: \$50,000 Total: \$95,998
Prin. Invest.: J CRASSIDIS
Tech. Officer: GSFC/R HARMAN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12884 STATE UNIV OF NEW YORK-OSWEGO
 STXM UPGRADE FOR SOFT X-RAY CARBON, NITROGEN AND OXYGEN
 MAPPING AND NANOSCALE SPECTROSCOPY TO CHARA
 02/26/2003 - 02/14/2006 FY03: \$111,619 Total: \$111,619
Prin. Invest.: G FLYNN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2419 SYRACUSE UNIV
 MEASUREMENT OF TURBULENT PRESSURE AND TEMPERATURE FLUCTUATIONS
 IN A GAS TURBINE COMBUSTOR
 05/11/2000 - 02/13/2004 FY03: \$75,000 Total: \$327,551
Prin. Invest.: D LAGRAFF
Tech. Officer: GRC/D A POVINELLI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2427 SYRACUSE UNIV
 RAPIDLY SHEARED BUBBLY SUSPENSIONS RAPIDLY SHEARED BUBBLY
 SUSPENSIONS
 05/24/2000 - 04/30/2005 FY03: \$70,000 Total: \$276,500
Prin. Invest.: D SANGANI
Tech. Officer: GRC/H K NAHRA
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2831 SYRACUSE UNIV
 3D VISCOUS INVERSE METHOD FOR ANTI FLOW-SEPARATION TAILORED
 COMPRESS BLADES
 01/15/2003 - 12/31/2004 FY03: \$80,000 Total: \$80,000
Prin. Invest.: T DANG
Tech. Officer: GRC/L LAROSILLIERE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2837 SYRACUSE UNIV
 WORKSHOP ON TRANSITION AND UNSTEADY ASPECTS OF TURBOMACHINERY
 FLOWS
 01/07/2003 - 12/17/2003 FY03: \$8,000 Total: \$8,000
Prin. Invest.: J LAGRAFF
Tech. Officer: GRC/D E ASHIPS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 6822 SYRACUSE UNIV
 STUDIES OF REACTIONS ON INTERSTELLAR GRAIN ANALOGUES IN A
 UV-RICH ENVIRONMENT
 01/12/1998 - 12/31/2001 FY03: -\$5 Total: \$229,471
Prin. Invest.: G VIDALI
Tech. Officer: GSFC/H HASAN
CASE Category: 11 – ASTRONOMY

NAG 5 9093 SYRACUSE UNIV
 ENERGETICS OF MOLECULAR HYDROGEN FORMATION
 02/17/2000 - 01/31/2003 FY03: \$0 Total: \$135,940
Prin. Invest.: G VIDALI
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 11227 SYRACUSE UNIV
 APPLY SENSE, ANALYZE, INTERPRET AND DECIDE (SAID) TO THE DEVELOPMENT
 OF INTELLIGENT ALGORITHMS & SYSTEMS
 08/13/2001 - 08/14/2003 FY03: \$0 Total: \$997,800
Prin. Invest.: P K VARSHNEY
Tech. Officer: GSFC/E J MASUOKA
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 11438 **SYRACUSE UNIV**
MOLECULE FORMATION ON DUST GRAIN ANALOGUES: STUDY OF KINETICS AND ENERGETICS
12/04/2001 - 12/31/2004 FY03: \$70,000 Total: \$142,000
Prin. Invest.: G VIDALI
Tech. Officer: GSFC/H HASAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12391 **SYRACUSE UNIV**
FABRICATION OF LINBO3 CYLINDER "D" SHAPED FIBER
07/22/2002 - 07/31/2003 FY03: \$0 Total: \$6,000
Prin. Invest.: D KORNREIGH
Tech. Officer: GSFC/H SHAW
CASE Category: 13 – PHYSICS

NAG 5 12737 **SYRACUSE UNIV**
FABRICATION OF LINBO3 CYLINDER "D" SHAPED FIBER
01/03/2003 - 01/14/2004 FY03: \$14,000 Total: \$14,000
Prin. Invest.: P KORNREICH
Tech. Officer: GSFC/T JAMISON
CASE Category: 49 – ENGINEERING, OTHER

NAS 3 00172 **SYRACUSE UNIV**
ENHANCED 3D VISCOUS INVERSE DESIGN CFD CODE
11/03/2000 - 02/15/2004 FY03: \$25,000 Total: \$206,504
Prin. Invest.: N AVAILABLE
Tech. Officer: GRC/C COLES-HAMILTON
CASE Category: 22 – COMPUTER SCIENCE

NAS 3 03084 **SYRACUSE UNIV**
BLENDED WING BODY WITH DISTRIBUTED CROSS FLOW FAN PROPULSION FOR PERSONAL AIRCRAFT APPLICATIONS
05/02/2003 - 05/01/2005 FY03: \$100,851 Total: \$100,851
Prin. Invest.: T DANG
Tech. Officer: GRC/H D KIM
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 01004 **SYRACUSE UNIV**
AN ADVANCED INTERACTIVE DISCOVERY ENVIRONMENT FOR ENGINEERING EDUCATION
02/07/2001 - 12/31/2004 FY03: \$893,700 Total: \$2,841,700
Prin. Invest.: B D DAVIDSON, E D LIDDY
Tech. Officer: LARC/R D BRAUN, LARC/K A CANNON
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 50446 **SYRACUSE UNIV**
NEUROMUSCULAR FUNCTION AND COUNTERMEASURES TO PROLONGED UNWEIGHTING (STUDENT: BRIAN CLARK)
04/22/2003 - 05/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: L PLOUTZ-SNYDER
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50465 **SYRACUSE UNIV**
DEVELOPMENT OF LARGE-SCALE HEB FOCAL PLANE ARRAYS FOR THE SUBMM (STUDENT: ROSINA LOMBARDI)
05/02/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: L NAFIE
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1142 **UNIV OF ROCHESTER**
PROPOSAL FOR INFRARED SUBMILLIMETER, AND RADIO ASTRONOMY
07/22/1997 - 05/31/2002 FY03: \$0 Total: \$1,479,766
Prin. Invest.: W J FORREST, J L PIPHER
Tech. Officer: ARC/C R MCCREIGHT, ARC/R E MCMURRAY
CASE Category: 13 – PHYSICS

NAG 2 1280 **UNIV OF ROCHESTER**
DEVELOPMENT OF DETECTOR ARRAYS FOR LOW-BACKGROUND SPACE ASTRONOMY
01/12/1999 - 02/28/2002 FY03: \$0 Total: \$195,000
Prin. Invest.: W J FORREST
Tech. Officer: ARC/C R MCCREIGHT
CASE Category: 45 – ELECTRICAL ENGR

NAG 2 1452 **UNIV OF ROCHESTER**
DEVELOPMENT OF OPTIMIZED 1K X 1K MULTIPLEXER FOR N GST
02/01/2001 - 12/31/2004 FY03: \$225,000 Total: \$1,125,000
Prin. Invest.: W J FORREST
Tech. Officer: ARC/C R MCCREIGHT, ARC/R E MCMURRAY, JR
CASE Category: 11 – ASTRONOMY

NAG 2 1533 **UNIV OF ROCHESTER**
DEVELOPMENT OF 10 UM HGCDTE DETECTOR ARRAYS FOR PASSIVELY COOLED SPACE MISSIONS
02/12/2002 - 05/31/2004 FY03: \$65,000 Total: \$130,753
Prin. Invest.: W J FORREST, J L PIPHER
Tech. Officer: ARC/C R MCCREIGHT, ARC/R E MCMURRAY
CASE Category: 11 – ASTRONOMY

NAG 3 2348 **UNIV OF ROCHESTER**
LIQUID CRYSTAL POINT-DIFFRACTION INTERFEROMETER (L CPDI) MATERIALS AND DEVICES FOR MICROGRAVITY FLUI
03/08/2000 - 11/30/2004 FY03: \$91,506 Total: \$311,634
Prin. Invest.: K MARSHALL
Tech. Officer: GRC/D GRIFFIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 6267 **UNIV OF ROCHESTER**
DEVELOPMENT OF LOW DARK CURRENT, HIGH QUANTUM EFFICIENCY PASSIVELY COOLED SPACE EXPERIMENTS
08/21/1997 - 06/30/2003 FY03: \$0 Total: \$715,562
Prin. Invest.: J L PIPHER
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 11 – ASTRONOMY

NAG 5 8428 **UNIV OF ROCHESTER**
THE PHYSICS OF RADIATIVE MHD JETS: A NUMERICAL STUDY OF MAGNETIZED YSO OUTFLOWS
06/02/1999 - 06/14/2004 FY03: \$0 Total: \$278,780
Prin. Invest.: A FRANK
Tech. Officer: GSFC/R K OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 8642 **UNIV OF ROCHESTER**
DEVELOPMENT OF 2 - 10 MICRON HGCDTE ARRAYS FOR EXPLORER MISSIONS AND SOFIA.
07/08/1999 - 06/30/2002 FY03: \$0 Total: \$492,402
Prin. Invest.: J L PIPHER
Tech. Officer: GSFC/G MUCKLOW
CASE Category: 11 – ASTRONOMY

NORTH CAROLINA

NASA'S UNIVERSITY PROGRAM

NAG 5 9351 **UNIV OF ROCHESTER**
 DEVELOPMENT OF EXTRINSIC GERMANIUM BLOCKED-IMPURIT Y-BAND
 DETECTOR ARRAYS FOR FAR-INFRARED ASTRONOMY
 03/30/2000 - 06/30/2004 FY03: \$128,000 Total: \$596,000
Prin. Invest.: D M WATSON
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 13 – PHYSICS

NAG 5 10429 **UNIV OF ROCHESTER**
 NGST DETECTOR ARRAY TESTING AT THE UNIV OF R OCHESTER
 02/22/2001 - 02/28/2005 FY03: \$190,000 Total: \$373,000
Prin. Invest.: D J FORREST
Tech. Officer: GSFC/M GREENHOUSE
CASE Category: 11 – ASTRONOMY

NAG 5 11557 **UNIV OF ROCHESTER**
 MULTISENSORY INTERACTIONS SUBSERVING ORIENTING BEH AVIOR
 01/09/2002 - 03/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: G PAIGE
Tech. Officer: GSFC/G FOGLEMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13480 **UNIV OF ROCHESTER**
 MECHANISMS OF MOLYBDENUM ISOTOPE FRACTIONATION: A SSESSING A
 NEW TOOL FOR THE STUDY OF ANCIENT OC
 04/30/2003 - 04/30/2006 FY03: \$114,467 Total: \$114,467
Prin. Invest.: A ANBAR
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1360 **UNIV OF ROCHESTER**
 CIRCADIAN RYTHMS AN DCONTROL OF HEMATOPOIESIS
 07/27/2001 - 09/30/2004 FY03: \$0 Total: \$0
Prin. Invest.: J H WU
Tech. Officer: JSC/D RISEN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 01360 **UNIV OF ROCHESTER**
 CIRCADIAN RHYTHMS AND CONTROL OF HEMATOPIESIS
 07/27/2001 - 09/30/2004 FY03: \$370,000 Total: \$370,000
Prin. Invest.: J H DAVID WU
Tech. Officer: JSC/D RISIN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 2 52302 **UNIV OF ROCHESTER**
 AN EMPERICAL ANALYSIS OF THE BENEFITS OF NATURALNE SS IN
 SPOKEN DIALOGUE INTERFACE DESIGN
 09/17/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M K TANENHAUS
Tech. Officer: ARC/B J COLLINS, ARC/R W REMINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 104 **UNIV OF ROCHESTER**
 THE NUCLEATION OF REFRACTORY VAPORS & ITS IMPACT ON ASTRO-
 PHYSICAL PROCESSES/STUDENT: DANIEL MARTINE
 05/25/2000 - 08/31/2003 FY03: \$0 Total: \$22,000
Prin. Invest.: R H HEIST
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 43 – CHEMICAL ENGR

NGT 5 50360 **UNIV OF ROCHESTER**
 EXPERIMENTAL EFFOR FOR THE OBSERVATION OF MACROSCO PIC
 QUANTUM COHERENCE IN AN RF - SQUID
 05/25/2001 - 05/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: M BOCKO
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NORTH CAROLINA

NAG 1 01014 **DUKE UNIV**
 IMPACT OF MODEL UNCERTAINTY ON SPATIAL COMPENSATN IN STRUC-
 TURAL ACOUSTIC CONTROL
 03/27/2001 - 12/31/2003 FY03: \$59,570 Total: \$171,989
Prin. Invest.: R L CLARK
Tech. Officer: LARC/R H CABELL
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01062 **DUKE UNIV**
 THE MECHANICS OF FLAPPING FLIGHT
 04/11/2001 - 01/31/2004 FY03: \$0 Total: \$111,343
Prin. Invest.: K C HALL
Tech. Officer: LARC/D E COX
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1377 **DUKE UNIV**
 EVOLUTION OF GENE REGULATORY SYSTEM: STRUCTURAL & FUNC-
 TIONAL ANALYSES OF EVOLUTIONARY DIVERSIFICAT
 08/19/1999 - 09/30/2002 FY03: \$0 Total: \$381,865
Prin. Invest.: G A WRAT
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1583 **DUKE UNIV**
 EVOLUTION OF ENDO 16 PROMETER FUNCTION WITHIN CAMA RODONT
 SEA URCHINS
 10/25/2002 - 10/31/2003 FY03: \$216,459 Total: \$216,459
Prin. Invest.: G A WRAY
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1629 **DUKE UNIV**
 MECHANISMS OF HZE PARTICLE INDUCED GENETIC INSTABI LITY CARCIO-
 GENIC TRANSFORMATION AND THEIR PREVENT
 05/19/2003 - 06/30/2007 FY03: \$200,000 Total: \$200,000
Prin. Invest.: C Y LI
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 1838 **DUKE UNIV**
 DENSITY EQUILIBATION IN FLUIDS NEAR THE LIQUIRD-VA POR CRITIAL
 POINT
 04/22/1996 - 04/30/2004 FY03: \$0 Total: \$350,000
Prin. Invest.: H MEYER
Tech. Officer: GRC/B S SINGH
CASE Category: 13 – PHYSICS

NAG 3 2372 **DUKE UNIV**
 GRAVITY AND GRANULAR MATERIALS GRAVITY AND GRANULAR MATERI-
 ALS
 04/07/2000 - 11/30/2003 FY03: \$130,420 Total: \$432,130
Prin. Invest.: R P BEHRINGER
Tech. Officer: GRC/R A WILKINSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2627 **DUKE UNIV**
 MODELING OF UNSTEADY THREE-DIMENSIONAL FLOWS IN MU LTISTAGE MACHINES
 06/07/2001 - 04/02/2005 FY03: \$100,000 Total: \$214,687
Prin. Invest.: K C HALL
Tech. Officer: GRC/A P KURKOV
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2928 **DUKE UNIV**
 NESTEM PROBABILISTIC ANALYSIS OF MISTUNED BLADED D ISKS AND BLISKS WITH AERODYNAMIC AND STRUCTURALC
 08/22/2003 - 09/30/2005 FY03: \$29,424 Total: \$29,424
Prin. Invest.: R E KIELB
Tech. Officer: GRC/S S PAI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 8533 **DUKE UNIV**
 TO WHAT EXTENT CAN INCREASED EVAPOTRANSPIRATION DUE TO GROUNDWATER BASED IRRIGATION IN THE GREAT
 07/02/1999 - 07/14/2003 FY03: \$0 Total: \$233,754
Prin. Invest.: S ROJSTACZER
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9348 **DUKE UNIV**
 PHYSICAL VARIABILITY, ECOSYSTEM RESPONSE & BIOGEO CHEMICAL CONSEQUENCES IN THE PACIFIC OCEAN: UNDERS
 03/28/2000 - 04/30/2004 FY03: \$57,918 Total: \$539,558
Prin. Invest.: R T BARBER
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9605 **DUKE UNIV**
 CONTINUED DEVELOPMENT & APPLICATION OF DATA ASSIMI LATION TECHNIQUES FOR TROPOSPHERIC CHEMISTY STUDI
 05/31/2000 - 09/30/2003 FY03: \$87,171 Total: \$662,337
Prin. Invest.: P KASIBHATLA
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10270 **DUKE UNIV**
 MAGENETOSPHERIC, IONOSPHERIC, & ATMOSPHERIC EFFECT OF INTENSE LIGHTNING-GENERATED ELECTROMAGNETIC
 01/08/2001 - 01/14/2004 FY03: \$81,571 Total: \$233,234
Prin. Invest.: S CUMMER
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11400 **DUKE UNIV**
 SUPPORT FOR THE NASA-HYDROMETEOROLOGY SCIENCE TEAM OFFICE
 01/10/2002 - 07/14/2003 FY03: \$49,475 Total: \$109,544
Prin. Invest.: R AVISSAR
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11401 **DUKE UNIV**
 THE IMPACTS OF LAND-USE/LAND-COVER CHANGE IN AMAZONIA ON HYDROMETEOROLOGICAL PROCESSES AT
 01/10/2002 - 02/28/2004 FY03: \$0 Total: \$214,647
Prin. Invest.: R AVISSAR
Tech. Officer: GSFC/P HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11402 **DUKE UNIV**
 A STUDY OF TELECONNECTIONS USING A NESTED GCM-RCM & SATELLITE OBSERVATIONS
 02/05/2002 - 06/30/2004 FY03: \$50,000 Total: \$277,776
Prin. Invest.: R AVISSAR
Tech. Officer: GSFC/Y SUD
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11680 **DUKE UNIV**
 IMPACT OF FIELD-SCALE HETEROGENEITY IN SURFACE MOI STURE AND VEGETATION COVER ON REGIONAL SCALE FLUX
 01/31/2002 - 01/31/2005 FY03: \$48,999 Total: \$52,998
Prin. Invest.: J ALBERTSON
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12072 **DUKE UNIV**
 MAGNETOSPHERIC RADIO TOMOGRAPHY: OBSERVABLES, ALGO RITHMS, AND EXPERIMENTAL ANALYSIS
 04/19/2002 - 04/30/2005 FY03: \$76,688 Total: \$149,808
Prin. Invest.: S A CUMMER
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12336 **DUKE UNIV**
 THE HIERARCHICAL STRUCTURE OF ORGANISMS: IS THERE ANY INCREASING TENDENCY IN EVOLUTION?
 07/15/2002 - 06/30/2004 FY03: \$0 Total: \$60,075
Prin. Invest.: D MCSHEA
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12497 **DUKE UNIV**
 "CONSTRUCTING GRIDDED GLOBAL MAPS FOR ISLSCP II"
 08/29/2002 - 02/28/2004 FY03: \$0 Total: \$50,000
Prin. Invest.: R B JACKSON
Tech. Officer: GSFC/B W MEESON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12649 **DUKE UNIV**
 ESTIMATING ROOT ZONE SOIL MOISTURE AND EXPLORING S CALE ASPECTS OF ITS COUPLING TO THE ATMOSPHERIC
 10/25/2002 - 06/30/2003 FY03: \$75,777 Total: \$75,777
Prin. Invest.: J D ALBERTSON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13781 **DUKE UNIV**
 TESTING THE OCEAN-LAND-ATMOSPHERE MODEL (OLAM)
 09/30/2003 - 09/30/2004 FY03: \$149,610 Total: \$149,610
Prin. Invest.: R AVISSAR
Tech. Officer: GSFC/T LEE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 8 1581 **DUKE UNIV**
 R/S DIFFERENTIATION AND MAINTENANCE OF SKELETAL AND CARDIAC MUSCLE IN SIMULATED GRAVITY
 04/28/1999 - 11/30/2003 FY03: \$0 Total: \$565,000
Prin. Invest.: W E KRAUS
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NORTH CAROLINA

NASA'S UNIVERSITY PROGRAM

NAG 8 1715 **DUKE UNIV**
 RESEARCH ENTITLED: DYNAMIC STRUCTURAL MODELING AND AND
 TESTING OF THIN-FILM STRUCTURE.
 03/23/2000 - 06/02/2003 FY03: \$0 Total: \$121,102
Prin. Invest.: L N VIRGIN, K N SLADE
Tech. Officer: MSFC/M TINKER, MSFC/L CURTIS
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1781 **DUKE UNIV**
 QUANTUM COHERENCE IN ULTRACOLD FERMIONIC VAPORS
 05/01/2001 - 04/30/2005 FY03: \$0 Total: \$145,000
Prin. Invest.: J E THOMAS
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 1 03018 **DUKE UNIV**
 SYSTEM INTEGRATION AND CONTROL OF MORPHING AIRCRAFT STRUC-
 TURES
 04/07/2003 - 12/31/2005 FY03: \$150,104 Total: \$150,104
Prin. Invest.: L E HOWLE, R L CLARK, K HALL
Tech. Officer: LARC/M R WASZAK
CASE Category: 41 – AERONAUTICAL ENGR

NCC 9 83 **DUKE UNIV**
 PREBREATHE REDUCTION PROTOCOL
 03/11/1999 - 04/01/2004 FY03: \$0 Total: \$704,999
Prin. Invest.: R VANN
Tech. Officer: JSC/M GERNHARDT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 1 02009 **DUKE UNIV**
 GRADUATE STUDENT RESEARCHER PROGRAM (GSRP)
 06/12/2002 - 05/31/2005 FY03: \$10,000 Total: \$24,000
Prin. Invest.: L VIRGIN, D HOLLAND
Tech. Officer: LARC/K BELVIN
CASE Category: 46 – MECHANICAL ENGR

NGT 1 03008 **DUKE UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 04/15/2003 - 08/24/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R L CLARK, L A SCOTT
Tech. Officer: LARC/E J SIOCHI
CASE Category: 46 – MECHANICAL ENGR

NGT 1 03016 **DUKE UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 04/25/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: L FRANZONI, T A DUVALL
Tech. Officer: LARC/K SHEPHERD
CASE Category: 46 – MECHANICAL ENGR

NGT 5 30355 **DUKE UNIV**
 EFFECTS OF PRECIPITATION VARIABILITY & DESERTIFICATION ON WATER
 DYNAMICS IN ARID LANDS: A PATCH & LA
 08/24/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: J REYNOLDS
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30379 **DUKE UNIV**
 THE INFLUENCE OF IRRIGATION ON WARM SEASON PRECIPITATION IN
 THE GREW PLAINS/NATHAN J. MOORE
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$69,412
Prin. Invest.: S ROJSTACZER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30397 **DUKE UNIV**
 MECHANISMS CONTROLLING THE RESPONSE OF DEITRIFICATION TO
 ANTHROPOGENIC NITROGEN DEPOSITION (STUDENT
 08/14/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: W H SCHLESSINGER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30472 **DUKE UNIV**
 MONITORING AND MODELING THE RESPONSE OF COASTAL ECOSYSTEMS
 AND CARBON STORAGE TO RISING SEA LEVEL
 08/27/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: N L CHRISTENSEN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30524 **DUKE UNIV**
 CONSTRAINED REGIONAL LAND ATMOSPHERE EXCHANGE PREDICTION IN
 SEMI-ARID REGIONS
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J ALBERTSON
Tech. Officer: GSFC/M WEI
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 6045 **EAST CAROLINA UNIV**
 SC2000/SC2001 COMPUTATIONAL SCIENCE LEADERSHIP PROGRAM FOR
 HIGH SCHOOL TEACHERS
 08/23/2000 - 07/31/2003 FY03: \$0 Total: \$108,000
Prin. Invest.: J C HUSKAMP
Tech. Officer: ARC/J P ZIEBARTH, ARC/M J LEON
CASE Category: 22 – COMPUTER SCIENCE

NAG13 02034 **EAST CAROLINA UNIV**
 EVALUATING THE EFFECTS OF BOTTOM TRAWLS IN THE PAMLICO RIVER,
 NC: AN APPLICATION OF REMOTE SENSING
 02/26/2002 - 08/24/2003 FY03: \$0 Total: \$74,999
Prin. Invest.: D CORBETT
Tech. Officer: SSC/R MILLER
CASE Category: 32 – GEOLOGICAL SCIENCE

NCC 1 01027 **EAST CAROLINA UNIV**
 THE LIVES, CAREERS, AND ENGINEERING ACCOMPLISHMENTS OF
 WILBUR AND ORVILLE WRIGHT
 03/13/2001 - 09/30/2003 FY03: \$26,000 Total: \$165,877
Prin. Invest.: L TISE
Tech. Officer: LARC/S E MASSENBERG
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1165 **EAST CAROLINA UNIV**
 HYPERGRAVITY EFFECTS ON THE MATERNAL-FETAL SYSTEM
 03/27/2000 - 03/14/2003 FY03: \$0 Total: \$58,902
Prin. Invest.: H W BURDEN
Tech. Officer: ARC/A E RONCA
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

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NORTH CAROLINA

NAG 3 2150 **ELIZABETH CITY STATE UNIV**
 CONTROLLING CHAOS IN JOSEPHSON JUNCTION CONTROLLING CHAOS
 IN JOSEPHSON JUNCTION
 04/07/1998 - 05/31/2002 FY03: -\$4,269 Total: \$240,003
Prin. Invest.: D SENGUPTA, S K KANA, K D EDOH
Tech. Officer: GRC/M ANDRO, GRC/E J PETRIK
CASE Category: 21 – MATHEMATICS

NAG 3 2556 **ELIZABETH CITY STATE UNIV**
 AIR TRAFFIC ANALYSIS AIR TRAFFIC ANALYSIS
 03/01/2001 - 02/28/2002 FY03: \$0 Total: \$35,000
Prin. Invest.: D PENDHARKAR
Tech. Officer: GRC/D C ROBINSON
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 3 2866 **ELIZABETH CITY STATE UNIV**
 APPLICATION OF CHAOS THEORY IN NASA'S ADVANCED COMMUNICA-
 TIONS SYSTEMS
 04/01/2003 - 08/31/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: D SENGUPTA
Tech. Officer: GRC/M ANDRO
CASE Category: 21 – MATHEMATICS

NAG 3 2883 **ELIZABETH CITY STATE UNIV**
 THE USE OF PROTEOMICS TO ANALYZE ANTIOXIDANT AND P HOSPHOI-
 NOSITOL SIGNAL TRANSDUCTION PATHWAY(S) IN
 06/12/2003 - 05/31/2006 FY03: \$81,691 Total: \$81,691
Prin. Invest.: C M OKPODU
Tech. Officer: GRC/D W GRIFFIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 9371 **ELIZABETH CITY STATE UNIV**
 MATHEMATICS OF THE GREAT DISMAL SWAMP
 04/06/2000 - 08/31/2003 FY03: \$625 Total: \$306,401
Prin. Invest.: L HAYDEN
Tech. Officer: GSFC/B MEESON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9372 **ELIZABETH CITY STATE UNIV**
 YOU BE THE SCIENTIST WITH SATELLITE IMAGERY IN EX/ EC COMMUNI-
 TITES
 04/06/2000 - 08/31/2003 FY03: \$0 Total: \$284,791
Prin. Invest.: L B HAYDEN
Tech. Officer: GSFC/B MEESON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12554 **ELIZABETH CITY STATE UNIV**
 CLONING, EXPRESSION AND GROWTH OF H.PYLORI PROTEIN CRYSTALS
 IN MICROGRAVITY.
 09/12/2002 - 09/30/2003 FY03: \$0 Total: \$10,000
Prin. Invest.: D BANERJEE
Tech. Officer: GSFC/J L HARRINGTON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 5 533 **ELIZABETH CITY STATE UNIV**
 ECSU - NRTS CONTINUATION/MUSPIN NRTS PROGRAM.
 02/01/2001 - 01/31/2004 FY03: \$350,000 Total: \$1,057,694
Prin. Invest.: L HAYDEN
Tech. Officer: GSFC/J HARRINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 02107 **FAYETTEVILLE STATE UNIV**
 PRE-COLLEGE PROGRAM - HUMAN SPACE FLIGHT INST
 07/25/2002 - 09/30/2002 FY03: -\$1,317 Total: \$18,683
Prin. Invest.: L EDWARDS
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 21 – MATHEMATICS

NAG 1 03006 **FAYETTEVILLE STATE UNIV**
 FESTIVAL OF FLIGHT
 11/20/2002 - 11/19/2003 FY03: \$100,000 Total: \$100,000
Prin. Invest.: L EDWARDS
Tech. Officer: LARC/RHATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 9155 **FAYETTEVILLE STATE UNIV**
 MATHEMATICS/SCIENCE EDUCATION CENTER PRECOLLEGE PROGRAM
 03/03/2000 - 05/31/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: L EDWARDS
Tech. Officer: GSFC/M STOUTSENBERGER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 03014 **FAYETTEVILLE STATE UNIV**
 PRE-SERVICE PROFESSIONAL DEVELOPMENT MODEL FOR PARTNERSHIP
 & CHANGE
 04/23/2003 - 04/22/2008 FY03: \$90,000 Total: \$90,000
Prin. Invest.: L EDWARDS
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 3 2300 **JOHNSON C. SMITH UNIV**
 THE DEVELOPMENT OF A PASSIVE MILLIMETER WAVE IMAGI NG SYSTEM
 WITH SUPER-RESOLUTION
 11/16/1999 - 06/30/2003 FY03: \$0 Total: \$195,192
Prin. Invest.: D E MILLER
Tech. Officer: GRC/D M BLANKSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2225 **NORTH CAROLINA A&T STATE UNIV**
 ACCESS TO SPACE THROUGH RESEARCH AND EDUCATION MY 1/2
 08/24/1999 - 12/31/2001 FY03: -\$86 Total: \$199,915
Prin. Invest.: F FERGUSON
Tech. Officer: LARC/R S CALLOWAY, LARC/B K OUTLAW
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02077 **NORTH CAROLINA A&T STATE UNIV**
 PERF EVAL & MODELING OF AFFORDABLE COMPOSITES MANUFACTURED
 USING STITCHING & Z-PINNING PROCESSES
 04/05/2002 - 04/04/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: A D KELKAR
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 2 1413 **NORTH CAROLINA A&T STATE UNIV**
 MOTION PLANNING IN A SOCIETY OF INTELLIGENT MOBILE AGENTS
 07/05/2000 - 06/14/2002 FY03: \$0 Total: \$120,416
Prin. Invest.: A C ESTERLINE
Tech. Officer: ARC/M G SHATTO
CASE Category: 22 – COMPUTER SCIENCE

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NASA'S UNIVERSITY PROGRAM

NAG 2 1469 **NORTH CAROLINA A&T STATE UNIV**
 EXAMINING THE PILOT & CONTROLLER PERFORMANCE DATA WHEN IN A
 FREE FLIGHT WITH WEATHER PHENOMENON
 04/12/2001 - 08/14/2002 FY03: \$0 Total: \$130,000
Prin. Invest.: C NTUEN
Tech. Officer: ARC/S LOZITO, ARC/R ASHFORD
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 211 **NORTH CAROLINA A&T STATE UNIV**
 DEVELOPMENT AND EVALUATION OF FAULT-TOLERANT FLIGHT CONTROL
 SYSTEMS
 06/26/2000 - 12/14/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: D D SONG
Tech. Officer: DFRC/K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 6028 **NORTH CAROLINA A&T STATE UNIV**
 RONALD E. MCNAIR GRADUATE RESEARCH FELLOWSHIP PROGRAM
 02/22/1999 - 05/14/2002 FY03: \$0 Total: \$970,500
Prin. Invest.: R M SALAMI, L SHARPE
Tech. Officer: ARC/A CARDENAS, ARC
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 7158 **NORTH CAROLINA A&T STATE UNIV**
 SELF-TIMED SYNCHRONOUS DIGITAL SYSTEM DESIGN
 03/11/1998 - 12/31/2002 FY03: \$0 Total: \$299,028
Prin. Invest.: A WALKER
Tech. Officer: GSFC/P CORONADO
CASE Category: 45 – ELECTRICAL ENGR

NAG 2 6061 **NORTH CAROLINA A&T STATE UNIV**
 NASA RONALD E MCNAIR GRADUATE RESEARCH FELLOWSHIP PROGRAM
 08/15/2002 - 12/31/2003 FY03: -\$245,300 Total: \$401,700
Prin. Invest.: J MONROE
Tech. Officer: ARC/A CARDENAS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9419 **NORTH CAROLINA A&T STATE UNIV**
 LOW-POWER RF SOI-CMOS TECHNOLOGY FOR DISTRIBUTED SENSOR
 NETWORKS
 04/11/2000 - 08/30/2003 FY03: \$1,352 Total: \$301,352
Prin. Invest.: N DOGAN
Tech. Officer: GSFC/J MALONE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2584 **NORTH CAROLINA A&T STATE UNIV**
 ADVANCED CROSS ENTERPRISE TECHNOLOGY
 04/05/2001 - 03/11/2004 FY03: \$290,000 Total: \$1,139,672
Prin. Invest.: D DOGAN
Tech. Officer: GRC/G FUJIKAWA
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 13097 **NORTH CAROLINA A&T STATE UNIV**
 CALIBRATION AND PROCESSING: SEAWIFS DATA COLLECTION
 NETWORKS
 03/26/2003 - 03/15/2005 FY03: \$50,000 Total: \$50,000
Prin. Invest.: J MORRISON
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 3 2650 **NORTH CAROLINA A&T STATE UNIV**
 CARBON FIBER REINFORCED CERAMIC COMPOSITES FOR PRO PULSION
 APPLICATION
 09/21/2001 - 10/31/2002 FY03: \$0 Total: \$80,000
Prin. Invest.: D N SHIVAKUMAR
Tech. Officer: GRC/M R FREEDMAN
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1865 **NORTH CAROLINA A&T STATE UNIV**
 INVESTIGATION OF THE NEXT-GENERATION DESIGN TOOL FOR AERO-
 SPACE NRA01OEOP
 05/29/2002 - 05/28/2005 FY03: \$83,040 Total: \$163,828
Prin. Invest.: S WANG
Tech. Officer: MSFC/W LOVE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2782 **NORTH CAROLINA A&T STATE UNIV**
 STUDY OF GAASSBN ALLOYS FOR SOLAR CELL APPLICATION S
 05/24/2002 - 06/23/2005 FY03: \$99,996 Total: \$199,986
Prin. Invest.: W COLLIS
Tech. Officer: GRC/R F LAWRENCE
CASE Category: 49 – ENGINEERING, OTHER

NAG 8 1897 **NORTH CAROLINA A&T STATE UNIV**
 CONTINUOUS SENSOR FOR FUEL TANK HEALTH MONITORING
 03/24/2003 - 03/23/2006 FY03: \$99,718 Total: \$99,718
Prin. Invest.: D PAI
Tech. Officer: MSFC/W LOVE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2834 **NORTH CAROLINA A&T STATE UNIV**
 DEVELOPING ULTRA-EFFICIENT ENGINE TECHNOLOGY THROUGH EDUCA-
 TION AND RESEARCH
 02/04/2003 - 01/27/2006 FY03: \$120,000 Total: \$120,000
Prin. Invest.: F FERGUSON
Tech. Officer: GRC/L MANTHEY
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1402 **NORTH CAROLINA A&T STATE UNIV**
 "ANALYTIC SOLUTION ALGORITHMS & SIMULATION FOR COMPRESSIBLE
 FLOW MODELS: COMPUTATIONAL BENCHMARKS"
 03/01/2002 - 02/28/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: D CLEMENCE
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 21 – MATHEMATICS

NAG 4 152 **NORTH CAROLINA A&T STATE UNIV**
 INVESTIGATION OF AERO SERVO STRUCTURAL INTERACTION IN AERO-
 SPACE APPLICATIONS
 03/23/1998 - 09/18/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: S CHANDRA
Tech. Officer: DFRC/J BRADEN, DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 9 1418 **NORTH CAROLINA A&T STATE UNIV**
 AUTONOMOUS LEARNING OF EFFECTIVE OPERATIONAL POLICIES FOR
 RESOURCE PLANNING & SCHEDULING
 01/08/2003 - 01/12/2004 FY03: \$0 Total: \$0
Prin. Invest.: C D GEIGER
Tech. Officer: KSC/L M ARMENDARIZ
CASE Category: 49 – ENGINEERING, OTHER

NAG10 317 **NORTH CAROLINA A&T STATE UNIV**
 A WIRELESS RADIO LOCATION SYSTEM FOR USE IN AN IND OOR ENVIRONMENT
 06/17/2002 - 06/13/2005 FY03: \$99,242 Total: \$198,784
Prin. Invest.: D DUNN
Tech. Officer: KSC/D ABRAHAM
CASE Category: 49 – ENGINEERING, OTHER

NAS 3 01197 **NORTH CAROLINA A&T STATE UNIV**
 8CM, AND 30CM CARBON-CARBON GRIDS, USING INNOVATIV E MANUFAC-
 TURING PROCESS
 08/14/2001 - 05/28/2004 FY03: \$0 Total: \$40,000
Prin. Invest.: K SHIVAKUMAR
Tech. Officer: GRC/T HAAG
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 255 **NORTH CAROLINA A&T STATE UNIV**
 THE CENTER FOR AEROSPACE RESEARCH: A NASA CENTER OF EXCEL-
 LENCE
 05/13/1997 - 06/30/2003 FY03: \$0 Total: \$5,900,000
Prin. Invest.: E O DOSE
Tech. Officer: LARC/W WHIGGLOW, JR.
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 01058 **NORTH CAROLINA A&T STATE UNIV**
 INTEGRATION OF NASA RESEARCHIN UNDERGRAD EDUCATION IN MATH-
 EMATICS, SCIENCE, ENGINEERING & TECHNOLOGY
 08/24/2001 - 12/31/2003 FY03: \$0 Total: \$1,091,248
Prin. Invest.: J D MONROE
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2804 **NORTH CAROLINA CENTRAL UNIV**
 INTEGRATION OF NANOTECHNOLOGY AND COMPUTATIONAL MO DELING
 NASA RELATED RESEARCH INTO THE UNDERGRADUA
 09/19/2002 - 09/22/2006 FY03: \$100,000 Total: \$400,000
Prin. Invest.: B V VIAHOVIC
Tech. Officer: GRC/R F LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12634 **NORTH CAROLINA CENTRAL UNIV**
 NCCU NASA CENTER OF EXCELLENCE
 10/23/2002 - 09/30/2005 FY03: \$499,771 Total: \$499,771
Prin. Invest.: K R HAREWOOD
Tech. Officer: HQ/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2216 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 ALGORITHMIC ENHANCEMENTS FOR THE VULCAN NAVIER- STOKES
 SOLVER
 08/09/1999 - 08/31/2002 FY03: -\$318 Total: \$59,683
Prin. Invest.: J R EDWARDS
Tech. Officer: LARC/J A WHITE, LARC/J P DRUMMOND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01041 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 MODEL DEVELOPMENT FOR HIGH PERFORMANCE PIEZO- CERAMIC-
 BASED ACTUATORS
 03/22/2001 - 08/28/2002 FY03: -\$675 Total: \$33,211
Prin. Invest.: R C SMITH
Tech. Officer: LARC/J S HARRISON
CASE Category: 21 – MATHEMATICS

NAG 1 01069 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 UNINHABITED AERIAL VEHICLES (UAV) FLIGHT CONTROL USING DISTRIB-
 UTED ACTUATION & SENSING
 05/18/2001 - 04/30/2004 FY03: \$77,719 Total: \$193,618
Prin. Invest.: N E CHOKANI, C E HALL
Tech. Officer: LARC/D L RANEY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01103 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 MULTISCALE MODELING OF NANOCOMPOSITES
 06/19/2001 - 06/30/2003 FY03: \$0 Total: \$19,993
Prin. Invest.: F G YUAN
Tech. Officer: LARC/E H GLASSGEN, LARC/E SAETHER
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 01111 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 A COMPUTATIONAL INTELLIGENT (CI) APPROACH TO THE PRECISION MARS
 LANDER PROBLEM
 08/09/2001 - 05/15/2002 FY03: -\$1,278 Total: \$34,135
Prin. Invest.: G D WALBERG
Tech. Officer: LARC/E M QUEEN, LARC/R W POWELL
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 1 01119 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 POST-STALL FLIGHT UNSTEADY AERODYNAMIC STUDY AND GAIN-
 SCHEDULED CONTROLLER DESIGN
 08/16/2001 - 08/31/2004 FY03: \$70,000 Total: \$170,000
Prin. Invest.: F WU
Tech. Officer: LARC/P C MURPHY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01128 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 ENHANCEMENT OF BUCKLING LOAD WITH THE USE OF ACTIVE MATERIALS
 09/27/2001 - 11/30/2002 FY03: \$0 Total: \$26,106
Prin. Invest.: F G YUAN
Tech. Officer: LARC/D R AMBER
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 02007 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 CHARACTERIZING PRETURBULENCE ENVIRONMT SENSOR DEV, NEW HAZ-
 ARD ALGORITHMS & EXPERIMENTAL FLT PLANNING
 11/30/2001 - 04/30/2003 FY03: \$0 Total: \$99,636
Prin. Invest.: M L KAPLAN
Tech. Officer: LARC/F H PROCTOR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02031 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 RESEARCH ON AERODYNAMIC HEATING AT HYPERSONIC SPEEDS USING
 UNSTRUCTURED GRIDS
 01/10/2002 - 09/30/2003 FY03: \$111,200 Total: \$284,714
Prin. Invest.: F R DEJARNETTE, K J WEILMUNSTER, H H HAMILTON
Tech. Officer: LARC/R A THOMPSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02052 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 SOLUTION ADAPTIVE SCHEMES FOR THE VULCAN NAVIER- STOKES
 SOLVER
 02/12/2002 - 02/11/2005 FY03: \$61,298 Total: \$110,536
Prin. Invest.: J R EDWARDS, D S MCRAE
Tech. Officer: LARC/J A WHITE
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

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NAG 1 02056 NORTH CAROLINA STATE UNIV. - RALEIGH
 AUTH IN ADAPTIVE AUTOMATION APPLIED TO VARIOUS STAGES OF
 HUMAN-MACHINE SYS INFORMATION PROCESSING
 02/25/2002 - 12/31/2002 FY03: \$0 Total: \$50,067
Prin. Invest.: D B KABER
Tech. Officer: LARC/L J PRINZEL, LARC/M D EUNKING
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 1 02080 NORTH CAROLINA STATE UNIV. - RALEIGH
 MODEL DEVELOPMENT FOR HIGHPERFORMANCE PIEZOCERAMIC -BASED
 ACUTATORS
 04/01/2002 - 09/30/2003 FY03: \$0 Total: \$36,982
Prin. Invest.: R C SMITH
Tech. Officer: LARC/J S HARRISON
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 02086 NORTH CAROLINA STATE UNIV. - RALEIGH
 LOAD TRANSFER AND FRACTURE OF CARBON NANOTUBES MY 1/3
 04/22/2002 - 06/30/2005 FY03: \$26,796 Total: \$51,796
Prin. Invest.: F G YUAN
Tech. Officer: LARC/E SAETHER, LARC/E H GLAESSGEN
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 02091 NORTH CAROLINA STATE UNIV. - RALEIGH
 CHITIN-BASED MECHANICAL PROPERTIES EVALUATION
 05/01/2002 - 05/15/2004 FY03: \$0 Total: \$39,498
Prin. Invest.: F G YUAN
Tech. Officer: LARC/R L SPELLMAN
CASE Category: 46 – MECHANICAL ENGR

NAG 1 03013 NORTH CAROLINA STATE UNIV. - RALEIGH
 RESEARCH CHARACTERIZING PRETURB ENVIRON FR SENSOR DEVELOP
 NEW HAZARD ALGORITHMS & NASA EXPR FLI PL
 01/10/2003 - 01/09/2004 FY03: \$109,982 Total: \$109,982
Prin. Invest.: M L KAPLAN, Y L LIN
Tech. Officer: LARC/F H PROCTOR, LARC/D W HAMILTON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 03022 NORTH CAROLINA STATE UNIV. - RALEIGH
 A SITUATION AWARENESS BASED APPROACH TO ADAPTIVE AUTOMATION
 01/30/2003 - 05/15/2004 FY03: \$100,000 Total: \$100,000
Prin. Invest.: D B KABER
Tech. Officer: LARC/L J PRINZEL, LARC/R COMSTOCK
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 1 03030 NORTH CAROLINA STATE UNIV. - RALEIGH
 MODELING TURBULENT COMBUSTION FOR VARIABLE PRANDTL AND
 SCHMIDT NUMBERS
 04/08/2003 - 04/07/2006 FY03: \$70,000 Total: \$70,000
Prin. Invest.: H A HASSAN, J R EDWARDS
Tech. Officer: LARC/R L GAFFNEY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03036 NORTH CAROLINA STATE UNIV. - RALEIGH
 ASPECTS OF BOUNDARY LAYER STABILITY AND TRANSITION
 03/27/2003 - 09/30/2003 FY03: \$29,843 Total: \$29,843
Prin. Invest.: N CHOKANI
Tech. Officer: LARC/F J CHEN, LARC/R A KING
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03043 NORTH CAROLINA STATE UNIV. - RALEIGH
 SIMULATING VIRUTAL TERMINAL AREA WEATHER DATABASES WAKE VOR-
 TEX AVOIDANCE SYSTEM PREDICTION ALGORITHM
 04/23/2003 - 04/22/2004 FY03: \$104,000 Total: \$104,000
Prin. Invest.: M L KAPLAN, Y L LIN
Tech. Officer: LARC/D K RUTISHAUSER, LARC/F H PROCTOR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1281 NORTH CAROLINA STATE UNIV. - RALEIGH
 VISUAL FACTORS AFFECTING PILOT'S JUDGEMENTS OF TRA JECTORY-TO-
 TOUCHDOWN DURING EMERGENCY LANDINGS
 01/11/1999 - 12/31/2001 FY03: -\$34 Total: \$185,965
Prin. Invest.: D H MERSHON, C M MAYER
Tech. Officer: ARC/I BARSHI
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 1502 NORTH CAROLINA STATE UNIV. - RALEIGH
 PHOSPHOINOSITIDE SIGNALING AND PLANT GRAVITROPISM: A TRANS-
 GENIC APPROACH
 07/16/2001 - 07/14/2004 FY03: \$146,568 Total: \$335,866
Prin. Invest.: I Y PERERA
Tech. Officer: ARC/G C JAHNS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1566 NORTH CAROLINA STATE UNIV. - RALEIGH
 A GENOMIC ANALYSIS OF PLANT GRAVITY SENSING AND RE SPONSE
 06/12/2002 - 12/31/2003 FY03: \$0 Total: \$400,000
Prin. Invest.: C BROWN
Tech. Officer: ARC/G C JAHNS, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2658 NORTH CAROLINA STATE UNIV. - RALEIGH
 THREE-DIMENSIONAL NUMERICAL SIMULATION OF ROCKET-B ASED
 COMBINED-CYCLE ENGINERESPONSE DURING MODE T
 01/25/2002 - 01/24/2005 FY03: \$78,481 Total: \$141,512
Prin. Invest.: J R EDWARDS
Tech. Officer: GRC/C J STEFFEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2706 NORTH CAROLINA STATE UNIV. - RALEIGH
 INVESTIGATION OF INTERACTIONS BETWEEN BIOCONVECTIO N AND
 NATURAL CONVECTION AND BIOFILM GROWTH IN PO
 02/12/2002 - 02/11/2006 FY03: \$31,379 Total: \$62,758
Prin. Invest.: A V KUZNETSOV
Tech. Officer: GRC/R D GREEN
CASE Category: 46 – MECHANICAL ENGR

NAG 5 3743 NORTH CAROLINA STATE UNIV. - RALEIGH
 NASA SPECIALIZED CENTER OF RESEARCH AND TRAINING I BIOLOGY
 03/19/1997 - 03/14/2003 FY03: \$0 Total: \$4,028,631
Prin. Invest.: E DAVIES
Tech. Officer: GSFC/D P LISKOWSKY
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 5 5411 NORTH CAROLINA STATE UNIV. - RALEIGH
 STUDY OF UV STABILIZER EFFICIENCY ON PBO AND OTHER HIGH
 STRENGTH FIBERS FIRSTYEAR FUNDING.
 04/04/2003 - 03/31/2005 FY03: \$66,198 Total: \$66,198
Prin. Invest.: A SEYAM
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 6586 NORTH CAROLINA STATE UNIV. - RALEIGH
REFINING REMOTE SENSING ESTIMATES OF NUTRIENT CONC ENTRA-
TIONS BASED ON TEMPERATURE
11/07/1997 - 10/31/2002 FY03: \$0 Total: \$189,527
Prin. Invest.: D KAMYKOWSKI
Tech. Officer: GSFC/C A TREES
CASE Category: 33 – OCEANOGRAPHY

NAG 5 8865 NORTH CAROLINA STATE UNIV. - RALEIGH
SEAWIFS DATA COLLECTION, CALIBRATION & PROCESSING FOR THE
INDIAN OCEAN
12/06/1999 - 12/31/2003 FY03: \$0 Total: \$165,884
Prin. Invest.: J MORRISON
Tech. Officer: GSFC/J MARRA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9490 NORTH CAROLINA STATE UNIV. - RALEIGH
SOFTWARE PACKAGE FOR ANALYSIS OF THERMAL X-RAY SPECTRA OF
SUPERNOVA REMNANTS
04/17/2000 - 04/14/2002 FY03: \$0 Total: \$87,400
Prin. Invest.: K J BORKOWSKI
Tech. Officer: GSFC/J BREDEKAMP
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10940 NORTH CAROLINA STATE UNIV. - RALEIGH
X-RAY EMISSION AND DYNAMICS OF SUPERNOVA REMNANTS (ATP 2000)
05/15/2001 - 05/14/2004 FY03: \$149,271 Total: \$432,198
Prin. Invest.: S P REYNOLDS
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11830 NORTH CAROLINA STATE UNIV. - RALEIGH
DRIVERS OF LANDCOVER AND LANDUSE CHANGE ASSOCIATED WITH
LAND RESTITUTION POLICIES IN GAU
02/28/2002 - 02/28/2003 FY03: \$0 Total: \$24,953
Prin. Invest.: S WALSH
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13092 NORTH CAROLINA STATE UNIV. - RALEIGH
COSMIC-RAY ACCELERATION IN SN 1006: SYNCHROTRON RADIATION &
NONTHERMAL BREMSSTRAHLUNG IN HARD
03/24/2003 - 03/31/2004 FY03: \$40,000 Total: \$40,000
Prin. Invest.: S P REYNOLDS
Tech. Officer: GSFC/B TEEGARADEN
CASE Category: 11 – ASTRONOMY

NAG 5 13375 NORTH CAROLINA STATE UNIV. - RALEIGH
HYDRODYNAMICS, PARTICLE ACCELERATION, AND PHOTON E MISSION IN
SUPERNOVA REMNANTS
04/16/2003 - 04/14/2006 FY03: \$73,957 Total: \$73,957
Prin. Invest.: D ELLISON
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13479 NORTH CAROLINA STATE UNIV. - RALEIGH
MICROBIAL ECOLOGY IN HIGH TEMPERATURE BIOTOPES
04/30/2003 - 04/30/2006 FY03: \$125,228 Total: \$125,228
Prin. Invest.: R KELLY
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13561 NORTH CAROLINA STATE UNIV. - RALEIGH
GRAVITATIONAL WAVES FROM BINARY BLACK HOLE MERGERS
08/15/2003 - 08/14/2004 FY03: \$30,971 Total: \$30,971
Prin. Invest.: J D BROWN
Tech. Officer: GSFC/J M CENTRELLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13641 NORTH CAROLINA STATE UNIV. - RALEIGH
MODERATELY SIZED MIDDLE AGED SUPERNOVA REMNANTS IN MAGEL-
LANIC CLOUDS
09/09/2003 - 09/14/2004 FY03: \$35,030 Total: \$35,030
Prin. Invest.: K J BORKOWSKI
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 13 – PHYSICS

NAG 8 1479 NORTH CAROLINA STATE UNIV. - RALEIGH
R/S GROWTH AND PROPERTIES OF CARBON
03/19/1998 - 04/30/2003 FY03: \$75,000 Total: \$500,000
Prin. Invest.: J BERNHOLC
Tech. Officer: MSFC/C TALLEY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1686 NORTH CAROLINA STATE UNIV. - RALEIGH
OPTICAL CHARACTERIZATION OF GAS PHASE CHEMISTRY AND SURFACE
CHEMISTRY DURING HIGH PRESSURE PROCESS
05/09/2000 - 12/31/2003 FY03: \$120,000 Total: \$404,000
Prin. Invest.: N DIETZ
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1817 NORTH CAROLINA STATE UNIV. - RALEIGH
MODELS OF MASS TRANSPORT DURING MICROGRAVITY CRYSTAL
GROWTH OF ALLOYED SEMICONDUCTORS
07/10/2001 - 11/30/2003 FY03: \$80,000 Total: \$236,000
Prin. Invest.: N MA
Tech. Officer: MSFC/P DOTY
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1087 NORTH CAROLINA STATE UNIV. - RALEIGH
INTEGRATED PRESSURE BLADDER-RESTRAINT STRUCTURE FOR AD-
VANCED EXTRAVEHICULAR MOBILITY UNIT
02/12/1999 - 02/11/2004 FY03: \$0 Total: \$81,144
Prin. Invest.: M H MOHAMAD
Tech. Officer: JSC/C H LIN
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 9 1423 NORTH CAROLINA STATE UNIV. - RALEIGH
DEVELOP SELF-CALIBRATING DISSOLVED OXYGEN MICROSENS OR ARRAY
06/13/2002 - 01/15/2004 FY03: \$0 Total: \$80,000
Prin. Invest.: C KIM
Tech. Officer: JSC/D JAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG10 308 NORTH CAROLINA STATE UNIV. - RALEIGH
CAPTURING SELECTED LECTURES FROM THE COURSE "SPACE BIOLOGY"
IN DIGITAL FORMAT: PHASE I
09/24/2001 - 09/16/2003 FY03: \$0 Total: \$38,338
Prin. Invest.: D S BROWN
Tech. Officer: KSC/J LETCHWORTH
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NORTH CAROLINA

NASA'S UNIVERSITY PROGRAM

NAS 1 01082 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 HEALTH MONITORING OF RLV AIRFRAME STRUCTURES
 05/30/2001 - 05/31/2003 FY03: \$0 Total: \$499,999
Prin. Invest.: F G YUAN, K PETERS
Tech. Officer: LARC/P H JOHNSTON
CASE Category: 41 – AERONAUTICAL ENGR

NAS 1 18944 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 SAGE III SCIENCE INVESTIGATION SUPPORT; P.I. PROFESSOR SAXENA
 10/06/1989 - 01/30/2003 FY03: -\$8,987 Total: \$666,504
Prin. Invest.: V SAXENA
Tech. Officer: LARC/G MADDREA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 1 01008 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 UAV (UNINHABITED AERIAL VEHICLE) FLIGHT TESTING 4 ADVANCED
 TECHNOLOGY CONCEPTS
 11/28/2000 - 11/30/2003 FY03: \$13,223 Total: \$133,140
Prin. Invest.: N CHOKANI, C E HALL, S N HEINZEN
Tech. Officer: LARC/A E WASHBURN
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 02040 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 DEVELOPMENT AND FLIGHT TEST VALIDATION OF A AUTO RETURN
 FUNCTION
 07/16/2002 - 07/15/2004 FY03: \$0 Total: \$45,895
Prin. Invest.: C E HALL, N CHOKANI, S NHEINZEN
Tech. Officer: LARC/E B JACKSON, LARC/D D VICROY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5506 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 VIRTUAL MOLECULAR DESIGN OF SMART NANOPOROUS MATERIALS
 INSPIRED BY NUEROFILAMENT STRUCTURE AND FUNC
 08/01/2002 - 11/30/2003 FY03: \$14,185 Total: \$32,935
Prin. Invest.: D W BRENNER
Tech. Officer: ARC/H PARTRIDGE, ARC/M MEYAPPAN
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 8 159 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 APPLICATION OF REMOTE SENSING TECHNOLOGIES IN THE FOREST
 SECTOR
 10/28/1998 - 10/27/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: R ABT
Tech. Officer: MSFC/J ARNOLD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 1 01004 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 05/16/2001 - 12/31/2002 FY03: \$0 Total: \$36,000
Prin. Invest.: D KABER
Tech. Officer: LARC/L J PRINZEL, III
CASE Category: 69 – PSYCHOLOGY, OTHER

NGT 1 01007 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/04/2001 - 06/30/2004 FY03: \$10,000 Total: \$46,000
Prin. Invest.: L SILVERBERG
Tech. Officer: LARC/D E COX
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 01032 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 06/22/2001 - 06/30/2003 FY03: \$10,000 Total: \$46,000
Prin. Invest.: H T BANKS
Tech. Officer: LARC/W P WINIFREE
CASE Category: 21 – MATHEMATICS

NGT 1 02004 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 06/06/2002 - 06/30/2005 FY03: \$34,000 Total: \$48,000
Prin. Invest.: H T BANKS, N L GIBSON
Tech. Officer: LARC/E R GENERAZIO
CASE Category: 21 – MATHEMATICS

NGT 1 02010 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 GRADUATE STUDENT RESEARCHERS PROGRAM / NEW AWARD
 06/06/2002 - 06/30/2005 FY03: \$10,000 Total: \$24,000
Prin. Invest.: H K KHACHATOORIAN, R N ORNAN
Tech. Officer: LARC/P TROUTMAN
CASE Category: 69 – PSYCHOLOGY, OTHER

NGT 1 02032 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 01/08/2002 - 12/31/2002 FY03: \$0 Total: \$22,000
Prin. Invest.: F R DEKARMETTE
Tech. Officer: LARC/R HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 03004 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 04/14/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: H T BANKS, B A BENEDICT
Tech. Officer: LARC/W B WINIFREE
CASE Category: 21 – MATHEMATICS

NGT 5 30192 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 WATER, HEAT AND SALT BUDGET IN THE NORTHERN INDIAN
 OCEAN/STUDENT: WEI SHI
 08/19/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: J M MORRISON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 40109 **NORTH CAROLINA STATE UNIV. - RALEIGH**
 NORTH CAROLINA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 03/02/2001 - 02/28/2005 FY03: \$382,000 Total: \$943,209
Prin. Invest.: F R DEJARNETTE
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01126 **SHAW UNIV**
 SCIENTISTS PLUS ALLIES CONTRIBUTING TO EDUCATION (SPACE)
 09/25/2001 - 08/31/2002 FY03: \$0 Total: \$99,364
Prin. Invest.: P PIERCE RAMSEY
Tech. Officer: LARC/R HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 9195 **SHAW UNIV**
 SHAW UNIV MSET PRE-COLLEGE EXPERIENCE
 03/10/2000 - 05/31/2003 FY03: \$0 Total: \$269,363
Prin. Invest.: K SATAGOPAN
Tech. Officer: GSFC/M STOUTSENBERGER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2301 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 CHEMICAL MODIFICATION OF NANOTUBES FOR COMPOSITES
 06/08/2000 - 05/31/2003 FY03: \$51,992 Total: \$309,041
Prin. Invest.: E T SAMULSKI
Tech. Officer: LARC/E J SIOCHI
CASE Category: 12 – CHEMISTRY

NAG 1 01061 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 SCIENCE AND TECHNOLOGY OF NEW CARBON NANOTUBE- BASED COM-
 POSITES
 04/17/2001 - 01/31/2004 FY03: \$411,887 Total: \$1,173,147
Prin. Invest.: N AVAILABLE
Tech. Officer: LARC/J SMITH, JR
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1188 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 BONE MATRIX CHANGES DURING SKELETAL UNLOADING & RE LOADING
 08/15/2000 - 10/31/2002 FY03: \$0 Total: \$509,761
Prin. Invest.: M YAMAUCHI, W J GRZESKI
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1596 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 MECHANISMS OF BONE LOSS INDUCED BY MICROGRAVITY
 11/15/2002 - 10/31/2005 FY03: \$286,751 Total: \$286,751
Prin. Invest.: M YAMAUCHI
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1599 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 APPLICATION OF PROTEOMICS TO STUDY SKELETAL MUSCLE ATROPHY
 RESULTING FROM EXPOSURE TO MICROGRAVITY
 11/25/2002 - 11/14/2003 FY03: \$226,181 Total: \$226,181
Prin. Invest.: L M GRAVES
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 5423 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 FUNDS FOR GRANT ENTITLED " DATA SYSTEM FOR MINI-UV AIRBORNE
 DIODE ARRAY SPECTROMETER". POP 3/31/04
 04/04/2003 - 03/31/2004 FY03: \$16,502 Total: \$16,502
Prin. Invest.: J BANE
Tech. Officer: GSFC/T MOISAN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 8924 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 LABORATORY STUDIES OF THE OPTICAL CONSTANTS & MICR OPHYSICAL
 PROPERTIES OF STRATOSPHERIC & UPPER TR
 01/06/2000 - 12/31/2002 FY03: \$0 Total: \$293,536
Prin. Invest.: R E MILLER
Tech. Officer: GSFC/P DECOLA
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11290 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 SIMULATING OF LAND USE DYNAMICS IN SE ASIA: A CELL ULAR AUTOMA-
 TION APPROACH
 08/21/2001 - 08/31/2004 FY03: \$184,191 Total: \$434,941
Prin. Invest.: R RINDFUSS
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12504 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 MOREHEAD PLANETARIUM AND SCIENCE CENTER
 08/21/2002 - 08/31/2004 FY03: \$0 Total: \$1,454,692
Prin. Invest.: R R GOLWALS
Tech. Officer: GSFC/L BILBROUGH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12809 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 LABORATORY STUDIES OF THE OPTICAL CONSTANTS AND MICROPHYSI-
 CAL PROPERTIES OF STRATOSPHERIC AND UPPER
 01/29/2003 - 01/31/2004 FY03: \$36,375 Total: \$36,375
Prin. Invest.: R E MILLER
Tech. Officer: GSFC/M KURYLO
CASE Category: 12 – CHEMISTRY

NAG 8 1580 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 QUANTITATIVE, MULVARIATE METHOD/PRE-FLIGHT OPTI- MIATION, & POST-
 FLIGHT EVAL. MACR CRYSTAL GROWTH.
 02/04/1999 - 11/30/2003 FY03: \$0 Total: \$695,675
Prin. Invest.: C W CARTER, JR.
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5372 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 NOVEL PROPERTIES OF CARBON NANOTUBES AND RELATED NANO-
 STRUCTURES
 03/23/2000 - 09/14/2002 FY03: \$0 Total: \$184,994
Prin. Invest.: J LU
Tech. Officer: ARC/M MEYYPAN
CASE Category: 13 – PHYSICS

NCC 2 5499 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 LOW DIMENSION NANOSTRUCTURES & SYSTEMS FOR DEVICES AND
 SENSORS
 07/09/2002 - 06/30/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: J LU
Tech. Officer: ARC/H PARTRIDGE, ARC/M MEYYPAN
CASE Category: 13 – PHYSICS

NCC 5 295 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 AGRICULTURAL COLONIZATION ON THE ECUADORIAN AMAZON : POPULA-
 TION, BIOPHYSICAL AND GEOGRAPHICAL FACTOR
 06/12/1998 - 02/28/2003 FY03: \$0 Total: \$971,882
Prin. Invest.: R BILSBORROW
Tech. Officer: GSFC/D DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 337 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 RADON-222 AND STABLE CARBON ISOTOPE TRACING OF CAR BON
 EXCHANGE AND TRACE GAS FLUXES IN OLD GROWTH A
 06/17/1998 - 12/31/2003 FY03: \$0 Total: \$975,991
Prin. Invest.: C S MARTENS
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 699 **UNIV OF NORTH CAROLINA - CHAPEL HILL**
 MODELING THE SCALE DEPENDENT DRIVERS OF LCLU DYNAMICS IN
 NORTHEASTERN ECUADOR
 01/28/2003 - 01/31/2006 FY03: \$199,183 Total: \$199,183
Prin. Invest.: S J WALSH
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NORTH DAKOTA

NASA'S UNIVERSITY PROGRAM

NCC 5 713 UNIV OF NORTH CAROLINA - CHAPEL HILL
 RADON-222 AND STABLE CARBON ISOTOPE TRACING OF CARBON EX-
 CHANGE AND TRACE GAS FLUXES IN OLD GROWTH
 03/28/2003 - 03/31/2006 FY03: \$120,000 Total: \$120,000
Prin. Invest.: C S MARTENS
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30177 UNIV OF NORTH CAROLINA - CHAPEL HILL
 THE MIGRATION ORIGINS OF DEFORESTATION IN A PROTEC TED AREA:
 COLONIZATION CLEAR-CUTTING, AND CORN IN
 08/12/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: T M WHITMORE
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30389 UNIV OF NORTH CAROLINA - CHAPEL HILL
 WIND DRIVEN TRANSPORT PROCESSES OFF THE OREGON COA ST:
 DIRECT AND REMOTE SENSING OF COASTAL OCEAN PR
 08/14/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J BANE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30390 UNIV OF NORTH CAROLINA - CHAPEL HILL
 DISTRIBUTED HYDROLOGICAL MODELING OF URBANIZING EC OSYSTEMS:
 INVESTIGATING THE IMPACT OF URBANIZAT
 08/14/2001 - 08/31/2004 FY03: \$23,987 Total: \$68,261
Prin. Invest.: L BAND
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30512 UNIV OF NORTH CAROLINA - CHAPEL HILL
 CARBON SINK DUE TO WOODY ENCROACHMENT IN NON- FOREST AREAS
 IN THE WESTERN U.S. & IMPACTS OF FIRE
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: A MOODY
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50311 UNIV OF NORTH CAROLINA - CHAPEL HILL
 MONOLAYER-PROTECTED CLUSTERS: NEW AND UNUSUAL NANO METER-
 SCALE ELECTRONICS MATERIALS/STUDENT W. WUEL
 07/07/2000 - 09/30/2001 FY03: -\$8,269 Total: \$13,731
Prin. Invest.: R W MURRAY
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12537 UNIV OF NORTH CAROLINA, CHARLOTTE
 DEVELOPING MODEL INSTRUCTIONAL LABORATORIES TO DEC REASE THE
 SHORTAGE AND INCREASE THE RETENTION OF S
 09/11/2002 - 09/14/2003 FY03: \$0 Total: \$498,900
Prin. Invest.: W R VEAL
Tech. Officer: GSFC/L BILLBROUGH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52901 UNIV OF NORTH CAROLINA, CHARLOTTE
 CHARACTERIZATION OF X-RAY OPTICS MANUFACTURE AND ITS APPLICA-
 TION TO WOLTERMICROSCOPE OPTICS.
 05/25/2001 - 08/01/2002 FY03: -\$3,957 Total: \$18,043
Prin. Invest.: S SMITH
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NAG 2 1203 WAKE FOREST UNIV
 FUCUS AS A MODEL SYSTEM TO STUDY THE ROLE OF SUXIN TRANSPORT
 & THE ACTIN CYTOSKELETON IN GRAVITY...
 04/06/1998 - 04/30/2003 FY03: \$0 Total: \$399,796
Prin. Invest.: G K MUDAAY
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1507 WAKE FOREST UNIV
 REGULATION OF AUXIN TRANSPORT BY PHOSPHORYLATION A ND FLA-
 VONOIDS DURING GRAVITROPISM IN ARABIDOPSIS
 07/20/2001 - 07/31/2004 FY03: \$166,925 Total: \$384,692
Prin. Invest.: G K MUDAY
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2515 WINSTON-SALEM STATE UNIV
 GENERIC DIVIDE AND CONQUER INTERNET-BASED GENERIC DIVIDE AND
 CONQUER INTERNET-BASED
 12/22/2000 - 12/21/2003 FY03: \$0 Total: \$51,839
Prin. Invest.: D RADENSKI
Tech. Officer: GRC/G J FOLLEN
CASE Category: 22 – COMPUTER SCIENCE

NORTH DAKOTA

NAG 5 12592 CANDESKA CIKANA COMM COLLEGE
 CANKDESKA CIKANA COMM COLLEGE CHALLENGE: ROBO TICS, PHYSICS,
 REMOTE SENSING, AND RESEARCH PROJE
 10/21/2002 - 09/30/2005 FY03: \$200,000 Total: \$200,000
Prin. Invest.: C PELTIER
Tech. Officer: GSFC/D MENCHAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG13 02007 NORTH DAKOTA STATE UNIV
 NASA SPACE GRANT/LAND GRANT EXTENSION GEOSPATIAL E DUCATION
 PROGRAM
 11/29/2001 - 09/15/2004 FY03: \$0 Total: \$440,290
Prin. Invest.: J NOWATZKI
Tech. Officer: SSC/A PEEK
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 1 03047 SITTING BULL COLLEGE
 PRE SERVICE TEACHER INST
 05/01/2003 - 04/30/2004 FY03: \$54,813 Total: \$54,813
Prin. Invest.: B LARSON
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 21 – MATHEMATICS

NAG 9 1413 TURTLE MOUNTAIN COMM COLLEGE
 A RESERVATION COLLABORATION INITIATIVE FOR PRE- COLLEGE
 09/04/2002 - 09/08/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: C DAVIS
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 02035 TURTLE MOUNTAIN COMM COLLEGE
 NASA-NORTH DAKOTA CONNECTION - A TRIBAL SCHOOL DIS TANCE
 LEARNING INITIATIVE TURTLE MOUNTAIN COMMUNI
 07/01/2002 - 06/30/2003 FY03: \$0 Total: \$143,640
Prin. Invest.: L J HENRY
Tech. Officer: LARC/R M STARR
CASE Category: 21 – MATHEMATICS

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NCC 1 03034 **TURTLE MOUNTAIN COMM COLLEGE**
 A TRIBAL SCHOOL DISTANCE LEARNING INITIATIVE TURTLE MOUNTAIN
 COMM COLLEGE
 09/29/2003 - 09/25/2004 FY03: \$54,000 Total: \$54,000
Prin. Invest.: C DAVIS
Tech. Officer: LARC/R M STARR
CASE Category: 76 – SOCIOLOGY

NAG 1 03011 **UNIV OF NORTH DAKOTA**
 VALIDATION OF VIRS AND MODUS CLOUD PROPERTIES USING DOR ARM
 GROUND-BASED MEASUREMENTS
 01/13/2003 - 10/12/2003 FY03: \$123,003 Total: \$123,003
Prin. Invest.: X DONG
Tech. Officer: LARC/P MINNIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 3616 **UNIV OF NORTH DAKOTA**
 A PUBLIC ACCESS RESOURCE CENTER (PARC) EMPOWERING TO USE
 EOSDI -IMPLEMENTATION PHASE
 11/22/1996 - 06/30/2003 FY03: \$0 Total: \$5,167,000
Prin. Invest.: G A SEIELSTAD
Tech. Officer: GSFC/J J COLLIER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5340 **UNIV OF NORTH DAKOTA**
 EVALUATION OF NASA POLARIMETRIC (NPOL) RADAR OBSERVATIONS
 COLLECTED DURING THE KEYS AREA MICROPHYSIC
 07/16/2001 - 12/31/2003 FY03: \$0 Total: \$74,217
Prin. Invest.: P KUCERA
Tech. Officer: WFF/J GERLACH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7950 **UNIV OF NORTH DAKOTA**
 CO2 BUDGET AND RECTIFICATION AIRBORNE STUDY--NORTH AMERICA
 (COBRA--NA)
 12/21/1998 - 12/14/2002 FY03: \$0 Total: \$180,250
Prin. Invest.: C A GRAINGER
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9656 **UNIV OF NORTH DAKOTA**
 MICROPHYSICAL CHARACTERISTICS OF CLOUDS DURING THE TRMM
 FIELD CAMPAIGNS
 06/05/2000 - 05/31/2003 FY03: \$0 Total: \$101,655
Prin. Invest.: C A GRAINGER
Tech. Officer: HQ/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11509 **UNIV OF NORTH DAKOTA**
 AIRBORNE MEASUREMENTS IN SUPPORT OF CRYSTAL-FACE
 01/02/2002 - 12/31/2003 FY03: \$101,190 Total: \$352,815
Prin. Invest.: M POELLOT
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12054 **UNIV OF NORTH DAKOTA**
 A PUBLIC ACCESS RESOURCE CENTER (PARC) EMPOWERING THE GEN-
 ERAL PUBLIC TO USE EOSDIS - IMPLEMENTATION
 04/22/2002 - 04/30/2004 FY03: \$350,076 Total: \$1,000,000
Prin. Invest.: G SEIELSTAD
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13792 **UNIV OF NORTH DAKOTA**
 CHARACTERIZATIONS OF ASTEROIDS
 09/30/2003 - 08/31/2004 FY03: \$51,600 Total: \$51,600
Prin. Invest.: M GAFFEY
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 11 – ASTRONOMY

NAG10 283 **UNIV OF NORTH DAKOTA**
 CLOUD ELECTRIC FIELDS AND MICROPHYSICS STUDIES CLOUD ELECTRIC
 FIELDS AND MICROPHYSICS STUDIES
 05/23/2000 - 06/03/2003 FY03: \$27,069 Total: \$848,123
Prin. Invest.: D GRAINGER
Tech. Officer: KSC/F J MERCERET
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG13 01006 **UNIV OF NORTH DAKOTA**
 NORTHERN GREAT PLAINS CENTER OF PEOPLE AND THE ENVIRONMENT
 07/30/2001 - 04/30/2003 FY03: \$0 Total: \$1,496,700
Prin. Invest.: G A SEIESTAD
Tech. Officer: SSC/B A SPIERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 02047 **UNIV OF NORTH DAKOTA**
 NORTHERN GREAT PLAINS CENTER FOR PEOPLE AND THE ENVIRONMENT
 07/11/2002 - 06/30/2004 FY03: -\$4,000 Total: \$1,996,000
Prin. Invest.: G SEIELSTAD
Tech. Officer: SSC/J ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 03024 **UNIV OF NORTH DAKOTA**
 NORTHERN GREAT PLAINS CENTER FOR PEOPLE AND THE ENVIRONMENT
 09/15/2003 - 09/14/2004 FY03: \$2,682,000 Total: \$2,682,000
Prin. Invest.: G A SEIELSTAD, G E JOHNSON
Tech. Officer: SSC/R MCKELLIP
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 99006 **UNIV OF NORTH DAKOTA**
 NORTHERN GREAT PLAINS REGIONAL EARTH SCIENCE APPLICATIONS
 CENTER
 03/01/1999 - 02/28/2003 FY03: \$0 Total: \$1,720,000
Prin. Invest.: P R ZIMMERMAN
Tech. Officer: SSC/C HILL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 310 **UNIV OF NORTH DAKOTA**
 A PUBLIC ACCESS RESOURCE CTR(PARC)EMPOWERING THE GENERAL
 PUBLIC TO USE EOSDIS(PHASE III-OPERATIONS)
 04/11/1998 - 03/01/2004 FY03: \$450,000 Total: \$3,102,300
Prin. Invest.: G SEIELSTAD
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 399 **UNIV OF NORTH DAKOTA**
 NASA EPSCOR: PREPARATORY GRANT PROPOSAL
 05/14/1999 - 04/30/2002 FY03: -\$1 Total: \$449,999
Prin. Invest.: C WOOD
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 503 **UNIV OF NORTH DAKOTA**
 A MULTI-USE AIRBORNE RESEARCH FACILITY
 06/20/2000 - 06/30/2003 FY03: \$80,000 Total: \$349,798
Prin. Invest.: M POELLET
Tech. Officer: GSFC/C YUHAS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 582 **UNIV OF NORTH DAKOTA**
 NORTH DAKOTA NASA EPSCOR PROGRAM
 08/16/2001 - 08/14/2004 FY03: \$125,000 Total: \$250,000
Prin. Invest.: S L DE SILVA
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40117 **UNIV OF NORTH DAKOTA**
 NORTH DAKOTA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 03/08/2001 - 02/28/2005 FY03: \$448,437 Total: \$1,045,561
Prin. Invest.: R ANDRES
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

OHIO

NAG 3 2790 **BOWLING GREEN STATE UNIV**
 HYBRID DIESEL VEHICLE PROJECT HYBRID DIESEL VEHICLE PROJECT
 07/01/2002 - 09/14/2004 FY03: \$447,075 Total: \$1,397,075
Prin. Invest.: B D PIERSON
Tech. Officer: GRC/S RIDDLEBAUGH
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1093 **BOWLING GREEN STATE UNIV**
 FIELD AND LAB SUPPORT FOR NASA MARS EVA PROTOTYPE PHASE 1
 EARTH ANALOGS FOR HUMAN EXPLORATION MARS
 09/24/2003 - 10/17/2004 FY03: \$29,998 Total: \$29,998
Prin. Invest.: R K VINCENT
Tech. Officer: GRC/T M SCOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 2 1333 **CASE WESTERN RESERVE UNIV**
 DISCRETE FILEDS FOR AIR TRAFFIC MANAGEMENT
 07/01/1999 - 01/31/2003 FY03: \$0 Total: \$120,943
Prin. Invest.: M S BRANICKY
Tech. Officer: ARC/G MEYER
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1356 **CASE WESTERN RESERVE UNIV**
 EFFECTS OF MICROGRAVITY ON ZEBRAFISH VESTIBULAR DEVELOPMENT
 07/23/1999 - 04/30/2002 FY03: \$0 Total: \$326,947
Prin. Invest.: S J MOORMAN
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1598 **CASE WESTERN RESERVE UNIV**
 ADAPTION OF MYOCARDIAL CONTRACTILE PROTEINS IN MICROGRAVITY
 11/22/2002 - 10/31/2005 FY03: \$227,098 Total: \$227,098
Prin. Invest.: J P JIN
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2210 **CASE WESTERN RESERVE UNIV**
 THE FEASIBILITY OF APPLYING TOMOGRAPHIC TECHNIQUES IN THE ICING
 RESEARCH WIND TUNNEL
 11/19/1998 - 10/18/2003 FY03: \$0 Total: \$224,963
Prin. Invest.: S H IZEN
Tech. Officer: GRC/C R MERCER
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 3 2243 **CASE WESTERN RESERVE UNIV**
 ADVANCEMENT OR TRANSDUCER SENSOR SYSTEM FOR CRACK CON-
 TAMINATION DETECTION
 03/12/1999 - 07/30/2002 FY03: \$0 Total: \$100,000
Prin. Invest.: D HAZONY
Tech. Officer: GRC/D NG
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2331 **CASE WESTERN RESERVE UNIV**
 CANDLE FLAMES IN MICROGRAVITY CANDLE FLAMES IN MICROGRAVITY
 02/10/2000 - 04/30/2003 FY03: \$43,000 Total: \$110,833
Prin. Invest.: J S TIEN
Tech. Officer: GRC/D L KIETRICH
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2504 **CASE WESTERN RESERVE UNIV**
 INSITU MONITORING OF BIOLOGICAL MATERIAL USING LOW-COHERENCE
 INTERFEROMETRIC SENSORS
 11/13/2000 - 12/31/2002 FY03: \$70,886 Total: \$323,886
Prin. Invest.: B OVRYN
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2578 **CASE WESTERN RESERVE UNIV**
 RESEARCH INITIATIVE IN SPACE COMMUNICATIONS AND NETWORKS
 03/30/2001 - 09/30/2002 FY03: \$0 Total: \$390,000
Prin. Invest.: F L MERAT
Tech. Officer: GRC/K BHASIN
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2581 **CASE WESTERN RESERVE UNIV**
 ANALYSIS OF DROPLET SPLASHING IN AIRCRAFT ICING CONDITIONS
 04/02/2001 - 08/31/2002 FY03: \$0 Total: \$47,774
Prin. Invest.: J D ALEXANDER
Tech. Officer: GRC/M G POTAPCZUK
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2620 **CASE WESTERN RESERVE UNIV**
 INVESTIGATION OF ROTARY BLOOD PUMP FLOW USING PIV INVESTIGA-
 TION OF ROTARY BLOOD PUMP FLOW USING PIV
 06/29/2001 - 08/31/2004 FY03: \$40,499 Total: \$165,905
Prin. Invest.: J R KADAMBI
Tech. Officer: GRC/J M SANKOVIC
CASE Category: 56 – MEDICAL

NAG 3 2644 **CASE WESTERN RESERVE UNIV**
 INKJET METHODOLOGIES FOR THE FABRICATION OF SECONDARY
 LITHIUM-ION MICROBATTERIES INCORPORATING NANO
 08/17/2001 - 12/31/2003 FY03: \$61,973 Total: \$202,055
Prin. Invest.: D A SCHERSON
Tech. Officer: GRC/D L BRITTON
CASE Category: 12 – CHEMISTRY

NAG 3 2677 **CASE WESTERN RESERVE UNIV**
 ULTRA-SAFE PROPULSION: MODELING HIGH STRAIN RATE DEFORMATION,
 FRACTURE, AND IMPACT BEHAVIOR OF ADVANCED
 01/22/2002 - 12/14/2004 FY03: \$94,330 Total: \$186,212
Prin. Invest.: V PRAKASH
Tech. Officer: GRC/J M PEREIRA
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2742 **CASE WESTERN RESERVE UNIV**
 FLOW AND DISTRIBUTION OF FLUID PHASES THROUGH POROUS PLANT
 GROWTH MEDIA IN MICROGRAVITY
 03/19/2002 - 12/31/2004 FY03: \$104,592 Total: \$201,496
Prin. Invest.: J ALEXANDER
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2794 **CASE WESTERN RESERVE UNIV**
 MODELING OF BALLISTIC IMPACT BEHAVIOR OF INCONEL 718 ALLOYS
 WITH APPLICATIONS TO ENGINE BLADE CONTACT
 07/30/2002 - 07/09/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: V PRAKASH
Tech. Officer: GRC/J PEREIRA
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2799 **CASE WESTERN RESERVE UNIV**
 WIRELESS PROXIMITY NETWORKS FOR NASA APPLICATIONS WIRELESS
 PROXIMITY NETWORKS FOR NASA APPLICATIONS
 08/13/2002 - 03/31/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: F L MERAT
Tech. Officer: GRC/K BHASIN
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2807 **CASE WESTERN RESERVE UNIV**
 MICROMINIATURE MONITOR FOR VITAL ELECTROLYTE AND METABOLITE
 LEVELS OF ASTRONAUTS
 09/12/2002 - 07/31/2005 FY03: \$227,462 Total: \$411,658
Prin. Invest.: D GRATZI
Tech. Officer: GRC/M NALL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2808 **CASE WESTERN RESERVE UNIV**
 IN VIVO BIOLUMINESCENT MOLECULAR IMAGING WITH APPLICATION TO
 THE STUDY OF SECRETORY CLUSTERIN, A PROTEIN
 09/19/2002 - 07/31/2005 FY03: \$245,751 Total: \$379,447
Prin. Invest.: D L WILSON
Tech. Officer: GRC/M NALL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2910 **CASE WESTERN RESERVE UNIV**
 SIMULATED MICROGRAVITY MEASUREMENT TECHNIQUES FOR THE
 STUDY OF DYNAMIC EFFECTS IN PHOSPHOLIPID SURFACES
 06/02/2003 - 05/30/2006 FY03: \$92,000 Total: \$92,000
Prin. Invest.: C S ROSENBLATT
Tech. Officer: GRC/M M HANSEN
CASE Category: 49 – ENGINEERING, OTHER

NAG 4 222 **CASE WESTERN RESERVE UNIV**
 STABILITY AND PERFORMANCE EVALUATION OF LEARNING IN NEURAL
 NETWORKS
 03/27/2002 - 03/31/2005 FY03: \$75,000 Total: \$125,000
Prin. Invest.: K LOPARO
Tech. Officer: DFRC/D MACKALL
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 7019 **CASE WESTERN RESERVE UNIV**
 THE EVOLUTION OF GALAXIES HARBORING CENTRAL MASSIVE BLACK
 HOLES - ATP
 02/19/1998 - 02/14/2003 FY03: \$0 Total: \$260,505
Prin. Invest.: C MIHOS
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 11059 **CASE WESTERN RESERVE UNIV**
 FEASIBILITY STUDY OF PLANS TO USE THE SUN AS A GRAVITATIONAL
 LENS FOR ASTRONOMY
 06/27/2001 - 06/30/2003 FY03: \$0 Total: \$99,995
Prin. Invest.: G STARKMAN
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11122 **CASE WESTERN RESERVE UNIV**
 RECOVERY AND STUDY OF ANTARCTIC MARTIAN METEORITES
 07/18/2001 - 07/14/2004 FY03: \$246,738 Total: \$624,633
Prin. Invest.: R HARVEY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12638 **CASE WESTERN RESERVE UNIV**
 BALLOON BORNE OBSERVATIONS OF THE POLARIZATION OF THE COSMIC
 MICROWAVE BACKGROUND
 10/10/2002 - 08/31/2004 FY03: \$243,960 Total: \$243,960
Prin. Invest.: J E RUHL
Tech. Officer: GSFC/J FROGEL
CASE Category: 11 – ASTRONOMY

NAG 5 12722 **CASE WESTERN RESERVE UNIV**
 POLARIZATION AND FREQUENCY SELECTIVE BOLOMETERS
 01/08/2003 - 01/31/2006 FY03: \$180,000 Total: \$180,000
Prin. Invest.: J RUHL
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12723 **CASE WESTERN RESERVE UNIV**
 MEASUREMENTS OF THE CMB WITH BOOMERANG
 01/10/2003 - 03/31/2006 FY03: \$225,000 Total: \$225,000
Prin. Invest.: J RUHL
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12831 **CASE WESTERN RESERVE UNIV**
 EXPERIMENTAL STUDIES OF CARBON IN THE FORMATION & EVOLUTION
 OF PLANETARY CORES
 02/03/2003 - 06/30/2006 FY03: \$38,000 Total: \$38,000
Prin. Invest.: N CHABOT
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 8 1727 **CASE WESTERN RESERVE UNIV**
 PROPOSAL "VIBRATION AND G-JITTER: TRANSPORT DISTURBANCES DUE
 TO RESIDUAL ACCELERATION/LOW GRAVITY."
 06/19/2000 - 11/28/2003 FY03: \$99,990 Total: \$339,827
Prin. Invest.: J I ALEXANDER
Tech. Officer: MSFC/P DOTY
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 8 1779 **CASE WESTERN RESERVE UNIV**
 SIMULATED MICROGRAVITY MEASUREMENT TECHNIQUES FOR THE
 STUDY OF DYNAMIC EFFECTS IN PHOSPHOLIPID SURFACES
 04/24/2001 - 04/30/2005 FY03: \$0 Total: \$170,000
Prin. Invest.: C ROSENBLATT, P L TAYLOR
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCA 3 201 **CASE WESTERN RESERVE UNIV**
 GLENNAN MICROSYSTEMS INITIATIVE FY00 PROJECTS GLENNAN MICRO-
 SYSTEMS INITIATIVE FY00PROJECTS
 05/12/2000 - 02/28/2004 FY03: \$404,997 Total: \$3,432,468
Prin. Invest.: M MEHREGANY, C LIU
Tech. Officer: GRC/M V ZELLER
CASE Category: 45 – ELECTRICAL ENGR

NCC 2 1204 **CASE WESTERN RESERVE UNIV**
 EFFECTS OF MICROGRAVITY DURING THE CRITICAL PERIOD OF ZEBRAFISH VESTIBULAR DEVELOPMENT
 09/29/2000 - 12/31/2001 FY03: \$0 Total: \$30,000
Prin. Invest.: S J MOORMAN
Tech. Officer: ARC/D REISS-BUBENHEIM, ARC/R W BERTHOLD
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 3 587 **CASE WESTERN RESERVE UNIV**
 TIME DEPENDENT NUMERICAL SIMULATIONS OF SOLIDIFICATION PROCESSES
 01/01/1998 - 12/31/2003 FY03: \$0 Total: \$439,490
Prin. Invest.: P L TAYLOR
Tech. Officer: GRC/A CHIT
CASE Category: 13 – PHYSICS

NCC 3 633 **CASE WESTERN RESERVE UNIV**
 COMBUSTION OF SOLID FUEL IN VERY LOW SPEED OXYGEN STREAMS
 06/30/1998 - 03/31/2004 FY03: \$208,000 Total: \$884,012
Prin. Invest.: J S TIEN
Tech. Officer: GRC/K SACKSTEDER
CASE Category: 46 – MECHANICAL ENGR

NCC 3 653 **CASE WESTERN RESERVE UNIV**
 A STUDY OF THE TIME-DEPENDENT RESPONSE OF CERAMIC MATERIALS
 11/23/1998 - 11/30/2003 FY03: \$94,497 Total: \$513,210
Prin. Invest.: D A GASPARINI
Tech. Officer: GRC/N N NEMETH
CASE Category: 46 – MECHANICAL ENGR

NCC 3 658 **CASE WESTERN RESERVE UNIV**
 LOW STRETCH DIFFUSION FLAMES LOW STRETCH DIFFUSION FLAMES
 01/12/1999 - 12/08/2003 FY03: \$12,927 Total: \$244,764
Prin. Invest.: J S TIEN
Tech. Officer: GRC/S L OLSON
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 669 **CASE WESTERN RESERVE UNIV**
 FLAME SPREADING IN PARTIAL GRAVITY FLAME SPREADING IN PARTIAL GRAVITY
 02/03/1999 - 01/03/2004 FY03: \$0 Total: \$180,772
Prin. Invest.: J S TIEN
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 679 **CASE WESTERN RESERVE UNIV**
 DEVELOPMENT OF ADVANCED SENSORS FOR BANTAM VEHICLE APPLICATIONS
 02/24/1999 - 01/31/2002 FY03: \$0 Total: \$220,000
Prin. Invest.: C LUI
Tech. Officer: GRC/G W HUNTER
CASE Category: 43 – CHEMICAL ENGR

NCC 3 701 **CASE WESTERN RESERVE UNIV**
 DENTRITIC GROWTH AND COARSENING PHENOMENA IN SOLIDIFICATION
 04/20/1999 - 05/31/2003 FY03: \$0 Total: \$373,637
Prin. Invest.: P L TAYLOR
Tech. Officer: GRC/A CHAIT
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 766 **CASE WESTERN RESERVE UNIV**
 LONG TERM DURABILITY OF MATERIALS FOR AEROSPACE APPLICATIONS
 01/24/2000 - 12/11/2003 FY03: \$175,231 Total: \$601,415
Prin. Invest.: I E LOCCI
Tech. Officer: GRC/M V NATHAL
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 823 **CASE WESTERN RESERVE UNIV**
 GAS EVOLUTION EFFECT ON MASS TRANSFER IN ROTATING ELECTRO-CHEMICAL CELLS UNDER MICROGRAVITY CONDITION
 08/17/2000 - 11/30/2003 FY03: \$90,649 Total: \$274,764
Prin. Invest.: Y KAMOTANI
Tech. Officer: GRC/D GREEN
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 830 **CASE WESTERN RESERVE UNIV**
 ADVANCED COPPER ALLOYS FOR REGENERATIVELY COOLED ROCKET ENGINE COMBUSTION CHAMBERLINERS
 12/08/2000 - 12/13/2003 FY03: \$228,500 Total: \$634,669
Prin. Invest.: D L ELLIS
Tech. Officer: GRC/M NATHAL
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 838 **CASE WESTERN RESERVE UNIV**
 SOOT FORMATION IN PURELY CURVED PREMIXED FLAMES & LAMINAR FLAME SPEEDS OF SOOT FORMING FLAMES
 01/16/2001 - 11/30/2004 FY03: \$70,000 Total: \$184,500
Prin. Invest.: C SUNG
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 850 **CASE WESTERN RESERVE UNIV**
 NOVEL STRUCTURAL AND FUNCTIONAL CERAMICS
 01/17/2001 - 10/31/2003 FY03: \$366,683 Total: \$1,130,843
Prin. Invest.: S SAYIR
Tech. Officer: GRC/S C FARMER
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 895 **CASE WESTERN RESERVE UNIV**
 THERMALLY STABLE OHMIC CONTACTS ON 6H-SiC THERMALLY STABLE OHMIC CONTACTS ON 6H-SiC
 06/01/2001 - 07/31/2004 FY03: \$60,019 Total: \$179,419
Prin. Invest.: P PIROUZ
Tech. Officer: GRC/R OKOJIE
CASE Category: 13 – PHYSICS

NCC 3 898 **CASE WESTERN RESERVE UNIV**
 CERAMIC CANTED COIL SPRINGS FOR AEROSPACE SEALING APPLICATIONS
 07/31/2001 - 10/02/2002 FY03: \$0 Total: \$183,211
Prin. Invest.: J D CAWLEY
Tech. Officer: GRC/P DUNLAP
CASE Category: 46 – MECHANICAL ENGR

NCC 3 915 **CASE WESTERN RESERVE UNIV**
 FABRICATION OF SILICON CARBIDE-BASED MICROMIRROR DEVICES FOR
 OPTICAL APPLICATIONS
 09/18/2001 - 07/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: C A ZORMAN
Tech. Officer: GRC/K MIYOSHI
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 927 **CASE WESTERN RESERVE UNIV**
 MICROCHEMICAL AND GASEOUS SENSORS USING CARBON NANOTUBES
 AND MEMS FABRICATION TECHNOLOGY
 01/03/2002 - 09/30/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: C LIU
Tech. Officer: GRC/J D WRBANEK
CASE Category: 43 – CHEMICAL ENGR

NCC 3 941 **CASE WESTERN RESERVE UNIV**
 THE DEVELOPMENT OF SOLID STATE CO AND CO₂ SENSOR FOR FIRE
 PROTECTION APPLICATIONS
 02/20/2002 - 10/31/2002 FY03: -\$6,039 Total: \$113,961
Prin. Invest.: C LIU
Tech. Officer: GRC/G W HUNTER
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 944 **CASE WESTERN RESERVE UNIV**
 DEVELOPMENT OF ADVANCED SENSORS FOR SECOND GENERATION
 VEHICLE APPLICATIONS
 03/11/2002 - 10/31/2002 FY03: -\$4,588 Total: \$85,412
Prin. Invest.: C LIU
Tech. Officer: GRC/G W HUNTER
CASE Category: 43 – CHEMICAL ENGR

NCC 3 955 **CASE WESTERN RESERVE UNIV**
 RAPID MANUFACTURING MONOLITHIC SILICON NITRIDE THRUSTOR
 CELLS
 05/09/2002 - 05/05/2004 FY03: \$250,303 Total: \$512,160
Prin. Invest.: J D CAWLEY
Tech. Officer: GRC/J LANG
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 969 **CASE WESTERN RESERVE UNIV**
 DENDRITIC FORMATION AND CLOUD MICROPHYSICS PHENOMENA
 06/03/2002 - 05/31/2005 FY03: \$128,124 Total: \$214,124
Prin. Invest.: P L TAYLOR
Tech. Officer: GRC/A CHAIT
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 976 **CASE WESTERN RESERVE UNIV**
 REGENERATIVE ADAPTIVE SEAL TECHNOLOGY REGENERATIVE ADAPTIVE
 SEAL TECHNOLOGY
 06/28/2002 - 09/30/2002 FY03: \$0 Total: \$56,192
Prin. Invest.: J CRAWLEY
Tech. Officer: GRC/B M STEINETZ
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 983 **CASE WESTERN RESERVE UNIV**
 THE DEVELOPMENT OF CHEMICAL SENSORS FOR BIOMEDICAL AND
 ENVIRONMENTAL APPLICATIONS
 07/25/2002 - 01/09/2003 FY03: -\$1,027 Total: \$88,974
Prin. Invest.: C LIU
Tech. Officer: GRC/G W HUNTER
CASE Category: 43 – CHEMICAL ENGR

NCC 3 984 **CASE WESTERN RESERVE UNIV**
 CONTROLLED-RELEASE MICROSYSTEMS FOR PHARMACOLOGICAL
 AGENT DELIVERY
 09/12/2002 - 07/31/2005 FY03: \$55,100 Total: \$79,739
Prin. Invest.: C ZORMAN
Tech. Officer: GRC/M M NALL
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 985 **CASE WESTERN RESERVE UNIV**
 ACOUSTICALLY INDUCED MICRODAMAGE TO PREVENT BONE LOSS
 09/12/2002 - 07/31/2005 FY03: \$85,269 Total: \$119,760
Prin. Invest.: D DAVY
Tech. Officer: GRC/J MYERS
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 987 **CASE WESTERN RESERVE UNIV**
 RAPID DESIGN AND SIMULATION TOOLS FOR SPACE-BOUND BIOCHIP
 DEVICES
 07/18/2003 - 08/31/2003 FY03: \$20,000 Total: \$20,000
Prin. Invest.: M ZLATKOWSKI
Tech. Officer: GRC/A CHAIT
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 988 **CASE WESTERN RESERVE UNIV**
 INTEGRATING NON-INVASIVE TECHNOLOGIES TO ENABLE EFFECTIVE
 COUNTERMEASURES DURING PROLONGED SPACE TRAVEL
 11/13/2002 - 07/31/2005 FY03: \$8,113 Total: \$8,113
Prin. Invest.: M CABRERA
Tech. Officer: GRC/M M NALL
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 999 **CASE WESTERN RESERVE UNIV**
 DEVELOPMENT OF ADVANCED OIL-FREE TURBOMACHINERY PERFORMANCE
 CHARACTERISTICS OF AIR-LUBRICATED COMPRESSORS
 09/13/2002 - 08/31/2003 FY03: \$124,374 Total: \$149,374
Prin. Invest.: J M PRAHL
Tech. Officer: GRC/J M LUCERO
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1001 **CASE WESTERN RESERVE UNIV**
 REMOTE AND ON-BOARD DETECTION, DIAGNOSIS AND TREATMENT OF
 SERIOUS CARDIAC DYSRHYTHMIAS
 09/23/2002 - 02/22/2006 FY03: \$95,750 Total: \$125,296
Prin. Invest.: D S ROSENBAUM
Tech. Officer: GRC/D W YORK
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1004 **CASE WESTERN RESERVE UNIV**
 THE PACKAGING OF HIGH TEMPERATURE SILICON CARBIDE (SiC) BASED
 ELECTRONICS
 09/16/2002 - 12/15/2002 FY03: \$0 Total: \$10,000
Prin. Invest.: C LIU
Tech. Officer: GRC/G W HUNTER
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1005 **CASE WESTERN RESERVE UNIV**
 SLURRY INFILTRATION DURING THE PROCESSING OF FIBER-WEAVED
 CERAMIC MATRIX COMPOSITES: EXPERIMENTAL ANALYSIS
 09/18/2002 - 08/31/2004 FY03: \$20,058 Total: \$59,596
Prin. Invest.: J D ALEXANDER
Tech. Officer: GRC/F HURWITZ
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1013 **CASE WESTERN RESERVE UNIV**
DEVELOPMENT OF A PORTABLE UNIT FOR METABOLIC ANALY SIS
11/13/2002 - 07/31/2005 FY03: \$80,766 Total: \$80,766
Prin. Invest.: M CABRERA
Tech. Officer: GRC/D L DIETRICH
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1028 **CASE WESTERN RESERVE UNIV**
NUMERICAL SIMULATIONS FOR PHASE TRANSITION PHENOME NA AND
BIOCHIPS
01/16/2003 - 01/07/2006 FY03: \$99,060 Total: \$99,060
Prin. Invest.: P L TAYLOR
Tech. Officer: GRC/A CHAIT
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1036 **CASE WESTERN RESERVE UNIV**
SOLID STATE SENSORS FOR FIRE PROTECTION APPLICATIO N
02/10/2003 - 10/31/2003 FY03: \$125,000 Total: \$125,000
Prin. Invest.: C LIU
Tech. Officer: GRC/G W HUNTER
CASE Category: 43 – CHEMICAL ENGR

NCC 3 1038 **CASE WESTERN RESERVE UNIV**
THE DEVELOPMENT OF MICRO-SENSORS FOR POTENTIAL LEA K DETEC-
TION IN AEROSPACE AND CIVILIAN APPLICATION
02/12/2003 - 10/31/2003 FY03: \$90,000 Total: \$90,000
Prin. Invest.: C LIU
Tech. Officer: GRC/G W HUNTER
CASE Category: 43 – CHEMICAL ENGR

NCC 3 1082 **CASE WESTERN RESERVE UNIV**
DEVELOPMENT OF AMBIENT OXYGEN SENSOR & A METAL OXI DE
NANOTUBE BASED SENSOR
07/17/2003 - 09/30/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: C LIU
Tech. Officer: GRC/G W HUNTER
CASE Category: 49 – ENGINEERING, OTHER

NCC 8 152 **CASE WESTERN RESERVE UNIV**
DIFFUSION PROCESSES IN MOLTEN SEMICONDUCTORS
06/12/1998 - 10/31/2003 FY03: \$107,593 Total: \$2,041,090
Prin. Invest.: D H MATTHIESEN
Tech. Officer: MSFC/J BRUNSON
CASE Category: 13 – PHYSICS

NGT 5 50274 **CASE WESTERN RESERVE UNIV**
A MANTIS-LIKE ROBOT FOR AGILE OPERATION IN EXTREME
ENVIRONMENTS/STUDENT: DANIEL KINGSLEY
06/15/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: R QUINN
Tech. Officer: GSFC/K BLANDING
CASE Category: 46 – MECHANICAL ENGR

NGT 5 50369 **CASE WESTERN RESERVE UNIV**
COMBUSTION OF BLACK LIQUOR DEPOSITS
06/13/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J T' IEN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50413 **CASE WESTERN RESERVE UNIV**
TRI MODAL LOCOMOTION FOR A HEXAPOD LEGGED ROBOT STUDENT:
THOMAS ALLEN
08/06/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R QUINN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 3 996 **CENTRAL STATE UNIV - OHIO**
ANALYSIS AND DEVELOPMENT OF A SIC PIEZORESISTIVE P ROBE FOR
MEASURING TURBULENT INTENSITY IN A HIGH
09/10/2002 - 08/05/2004 FY03: \$101,445 Total: \$151,445
Prin. Invest.: T V REID
Tech. Officer: GRC/G FRALICK
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2075 **CLEVELAND STATE UNIV**
MINORITY ENGINEERING PROGRAM PIPELINE
09/17/1997 - 02/03/2004 FY03: \$21,266 Total: \$108,558
Prin. Invest.: P CHARITY
Tech. Officer: GRC/M L BOROWSKI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2326 **CLEVELAND STATE UNIV**
DEVELOPMENT OF A FAST ANALYSIS TOOL FOR THE INTERN ATIONAL
SPACE STATION (ISS) USING SOFT COMPUTING
02/04/2000 - 07/31/2003 FY03: \$0 Total: \$140,150
Prin. Invest.: P P LIN
Tech. Officer: GRC/K JULES
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2482 **CLEVELAND STATE UNIV**
DEVELOPMENT OF A MULTI-DIMENSIONAL STIRLING ENGINE CODE FOR
THERMODYNAMICS PERFORMANCE
08/02/2000 - 07/31/2004 FY03: \$177,786 Total: \$582,414
Prin. Invest.: D IBRAHIM
Tech. Officer: GRC/L THIEMENE
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2514 **CLEVELAND STATE UNIV**
STRUCTURAL MODELING OF ENGINE COMPONENTS AND MATER IAL
PROCESSES
12/18/2000 - 12/31/2003 FY03: \$138,635 Total: \$419,862
Prin. Invest.: J HEMANN
Tech. Officer: GRC/H E KAUTZ
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2531 **CLEVELAND STATE UNIV**
POWER EFFICIENT REFLECTARRAY COMMUNICATIONS SYSTEM MODULA-
TION
01/23/2001 - 06/30/2003 FY03: \$0 Total: \$101,678
Prin. Invest.: F XIONG
Tech. Officer: GRC/R R ROMANOF SKY
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2573 **CLEVELAND STATE UNIV**
ROTODYNAMIC ANALYSIS AND FEASIBILITY STUDY OF A DI SK SPIN
FACILITY
03/22/2001 - 02/28/2004 FY03: \$64,188 Total: \$138,688
Prin. Invest.: J T SAWICKI
Tech. Officer: GRC/H KAUTZ
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2619 **CLEVELAND STATE UNIV**
 ROBUST TIMING SYNCHRONIZATION IN AERONAUTICAL MOBILE COMMUNICATIONS SYSTEMS
 05/23/2001 - 11/20/2003 FY03: \$30,000 Total: \$58,000
Prin. Invest.: F XIONG
Tech. Officer: GSFC/K CHUN
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2672 **CLEVELAND STATE UNIV**
 TRANSITIONING ACOUSTO-ULTRASONICS TO NEW PRACTITIONERS
 12/11/2001 - 06/30/2003 FY03: \$0 Total: \$19,980
Prin. Invest.: J HEMANN
Tech. Officer: GRC/G Y BAAKLINI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2683 **CLEVELAND STATE UNIV**
 X-RAY TOMOGRAPHY AND ULTRASONIC SPECTROSCOPY BASED RESEARCH FOR AEROSPACE MATERIALS
 01/04/2002 - 12/31/2003 FY03: \$179,187 Total: \$345,754
Prin. Invest.: J HEMANN
Tech. Officer: GRC/G Y BAAKLINI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2684 **CLEVELAND STATE UNIV**
 THERMOGRAPHIC AND ULTRASONIC RESEARCH ON AEROSPACE MATERIALS
 01/04/2002 - 12/31/2003 FY03: \$217,554 Total: \$410,037
Prin. Invest.: J HEMANN
Tech. Officer: GRC/G Y BAAKLINI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2699 **CLEVELAND STATE UNIV**
 OPTIMAL FILTERING FOR TURBOFAN HEALTH ESTIMATION OPTIMAL FILTERING FOR TURBOFAN HEALTH ESTIMATION
 01/29/2002 - 09/30/2004 FY03: \$53,030 Total: \$87,488
Prin. Invest.: D SIMON
Tech. Officer: GRC/N AVAILABLE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2745 **CLEVELAND STATE UNIV**
 UNSTEADY PROBABILISTIC ANALYSIS OF TURBOMACHINERY UNSTEADY PROBABILISTIC ANALYSIS OF TURBOMACHINERY
 04/17/2002 - 08/07/2004 FY03: \$20,000 Total: \$95,000
Prin. Invest.: R GORLA
Tech. Officer: GRC/J J RUSICK
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2774 **CLEVELAND STATE UNIV**
 A THEORETICAL LIGHT SCATTERING MODEL OF NANOPARTICLE LASER TWEEZERS
 05/01/2002 - 05/31/2003 FY03: \$8,000 Total: \$20,000
Prin. Invest.: J LOCK
Tech. Officer: GRC/A DECKER
CASE Category: 13 – PHYSICS

NAG 3 2802 **CLEVELAND STATE UNIV**
 MATERIALS ENABLED TECHNOLOGIES FOR USE IN POWER DEVICES FOR AEROSPACE APPLICATIONS
 09/16/2002 - 06/30/2005 FY03: \$0 Total: \$35,000
Prin. Invest.: D HEHEMANN
Tech. Officer: GRC/S G BAILEY
CASE Category: 12 – CHEMISTRY

NAG 3 2819 **CLEVELAND STATE UNIV**
 2ND LAW ANALYSIS OF SAGE AND CFD-ACE MODELS OF MIT GAS SPRING AND "TWO-SPACE" TEST RIGS
 12/20/2002 - 11/30/2004 FY03: \$38,250 Total: \$38,250
Prin. Invest.: A B EBIANA
Tech. Officer: GRC/R C TEW
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2947 **CLEVELAND STATE UNIV**
 PERFORMANCE STUDY OF FLUID-FILM JOURNAL BEARING FOR AIRCRAFT GEARBOX APPLICATIONS
 09/30/2003 - 12/31/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: J T SAWICKI
Tech. Officer: GRC/R F HANDSCHUH
CASE Category: 46 – MECHANICAL ENGR

NAG 8 1584 **CLEVELAND STATE UNIV**
 R/S ACOUSTICALLY ASSISTED BIOREACTOR FOR TERRESTRIAL AND MICROGRAVITY APPLICATIONS.
 01/14/1999 - 11/30/2003 FY03: \$0 Total: \$421,850
Prin. Invest.: J M BELOVICH
Tech. Officer: MSFC/B GUYNES
CASE Category: 61 – PSYCHOLOGY BIOLOGY

NAS 3 03124 **CLEVELAND STATE UNIV**
 THE NEXT GENERATION STIRLING ENGINE REGENERATOR
 07/16/2003 - 07/16/2004 FY03: \$315,170 Total: \$315,170
Prin. Invest.: M IBRAHIM, K WATKINS
Tech. Officer: GRC/R C TEW
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NASW 02023 **CLEVELAND STATE UNIV**
 CONTRACTOR WILL PROVIDE SERVICES FOR THE NASA ENGINEERING AND TRAINING PROGRAM
 06/27/2002 - 08/31/2003 FY03: \$0 Total: \$250,000
Prin. Invest.: A LIU
Tech. Officer: HQ/J MATURO
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 581 **CLEVELAND STATE UNIV**
 ULTRASONIC SCANNER CONTROL AND DATA ACQUISITION
 12/09/1997 - 12/31/2002 FY03: \$0 Total: \$537,242
Prin. Invest.: J HEMANN
Tech. Officer: GRC/H KAUTZ
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 595 **CLEVELAND STATE UNIV**
 SIMULATION AND PERFORMANCE ANALYSIS OF HYBRID SATELLITE-TERRESTRIAL NETWORKS
 01/12/1998 - 02/27/2004 FY03: \$27,000 Total: \$527,168
Prin. Invest.: V K KONANGI
Tech. Officer: GRC/T M WALLETT, GRC/K B BHASIN
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 740 **CLEVELAND STATE UNIV**
 PHYSICAL PROPERTIES AND DURABILITY OF NEW MATERIALS FOR SPACE AND COMMERCIAL APPLICATIONS
 10/21/1999 - 01/15/2003 FY03: \$0 Total: \$207,873
Prin. Invest.: P HAMBOURGER
Tech. Officer: GRC/S K RUTLEDGE
CASE Category: 13 – PHYSICS

NCC 3 749 **CLEVELAND STATE UNIV**
 ADVANCED MATERIALS DEVELOPMENT, EVALUATION, AND MODELING
 FOR PROPULSION APPLICATIONS
 02/14/2000 - 01/31/2004 FY03: \$177,167 Total: \$545,342
Prin. Invest.: S N TEWARI
Tech. Officer: GRC/M NATHAL
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 759 **CLEVELAND STATE UNIV**
 EPR INVESTIGATIONS OF SILANE POLYMERIZATIONS EPR INVESTIGA-
 TIONS OF SILANE POLYMERIZATIONS
 12/30/1999 - 11/30/2002 FY03: \$0 Total: \$198,279
Prin. Invest.: J MASNOVI
Tech. Officer: GRC/S R LEVINE
CASE Category: 43 – CHEMICAL ENGR

NCC 3 764 **CLEVELAND STATE UNIV**
 SIMULATION AND PERFORMANCE ANALYSIS OF THE AERONAUTICAL
 TELECOMMUNICATION NETWORK
 01/14/2000 - 03/14/2004 FY03: \$125,748 Total: \$375,532
Prin. Invest.: V K KONANGI
Tech. Officer: GRC/R KERCZEWSKI
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 853 **CLEVELAND STATE UNIV**
 DEVELOPMENT OF HIGH TEMPERATURE LOW THERMAL CONDUCTIVITY
 ENVIRONMENTAL & THERMAL BARRIER COATING
 01/23/2001 - 12/23/2003 FY03: \$153,467 Total: \$453,646
Prin. Invest.: S N TEWARI
Tech. Officer: GRC/L GREENBAUER-SENG
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 862 **CLEVELAND STATE UNIV**
 ENVIRONMENTAL DURABILITY OF MATERIALS FOR SPACE TRANSPORTA-
 TION
 02/14/2001 - 11/19/2003 FY03: \$113,457 Total: \$393,143
Prin. Invest.: S TEWARI
Tech. Officer: GRC/L A GREENBAUER-SENG
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 869 **CLEVELAND STATE UNIV**
 DYE-SENSITIZED SOLAR CELLS FOR SPACE POWER DYE-SENSITIZED
 SOLAR CELLS FOR SPACE POWER
 02/27/2001 - 12/31/2003 FY03: \$0 Total: \$140,000
Prin. Invest.: J D HARRIS
Tech. Officer: GRC/S G BAILEY
CASE Category: 12 – CHEMISTRY

NCC 3 883 **CLEVELAND STATE UNIV**
 ANALYSIS & CHARACTERIZATION OF ADVANCED MATERIALS FOR AERO-
 SPACE APPLICATIONS
 03/29/2001 - 03/31/2003 FY03: \$0 Total: \$238,468
Prin. Invest.: D G NEHEMANN
Tech. Officer: GRC/S G BAILEY
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 908 **CLEVELAND STATE UNIV**
 INVESTIGATION OF THE UTILIZATION OF MODERN INDUSTRIAL METHODS,
 PROCESSES, ERGONOMICS, AND THE INTER
 08/13/2001 - 09/30/2004 FY03: \$0 Total: \$139,153
Prin. Invest.: G L KRAMERICH
Tech. Officer: GRC/J MULLINS
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 909 **CLEVELAND STATE UNIV**
 REFLECTIVITY FREQUENCY RESPONSE OF IN-FIBER BRAGG GRATINGS
 08/16/2001 - 12/31/2003 FY03: \$12,000 Total: \$27,000
Prin. Invest.: J A LOCK
Tech. Officer: GRC/G ADAMOVSKY
CASE Category: 13 – PHYSICS

NCC 3 914 **CLEVELAND STATE UNIV**
 THERMAL TESTING OF FIBER OPTIC BRAGG GRATINGS UNDER DYNAMIC
 EXCITATION
 09/18/2001 - 12/30/2002 FY03: -\$9,095 Total: \$8,000
Prin. Invest.: D FLANAGAN
Tech. Officer: GRC/D ADAMOVSKY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 3 931 **CLEVELAND STATE UNIV**
 ADVANCED DIGITAL CONTROL TECHNOLOGY FOR POWER MANAGEMENT
 AND DISTRIBUTION SYSTEMS
 01/16/2002 - 12/18/2004 FY03: \$289,759 Total: \$489,760
Prin. Invest.: Z GAO
Tech. Officer: GRC/J F SOEDER
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 939 **CLEVELAND STATE UNIV**
 DAMPING CONCEPTS FOR ROTATING BLADES AND ROTORDYNAMICS
 02/13/2002 - 01/31/2004 FY03: \$65,988 Total: \$125,752
Prin. Invest.: S N TEWARI
Tech. Officer: GRC/R V MINER
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 971 **CLEVELAND STATE UNIV**
 STUDY OF HOMOGENEOUS CATALYTIC EFFECTS IN ORGANIC SOLUTIONS
 OF PHOSPHATES AND TRANSITION METALS
 06/17/2002 - 06/11/2003 FY03: \$0 Total: \$31,992
Prin. Invest.: J E GATICA
Tech. Officer: GRC/W MORALES
CASE Category: 43 – CHEMICAL ENGR

NCC 3 1011 **CLEVELAND STATE UNIV**
 PERFORMANCE STUDY OF FLUID-FILM JOURNAL BEARING FOR AIRCRAFT
 GEARBOX APPLICATION
 11/07/2002 - 01/31/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: J T SAWICKI
Tech. Officer: GRC/R HANDSCHUH
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1023 **CLEVELAND STATE UNIV**
 ELECTRICAL PROPERTIES & MANUFACTURABILITY OF ITO-MGF2 AND
 RELATED TRANSPARENT AREPROOF SPACECRAFT
 12/31/2002 - 04/30/2003 FY03: \$6,000 Total: \$6,000
Prin. Invest.: P HAMBOURGER
Tech. Officer: GRC/S K MILLER
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 1033 **CLEVELAND STATE UNIV**
 PHYSICAL PROPERTIES AND ENVIRONMENTAL DURABILITY OF NEW
 MATERIALS FOR SPACE APPLICATIONS
 02/05/2003 - 01/14/2006 FY03: \$62,642 Total: \$62,642
Prin. Invest.: P HAMBOURGER
Tech. Officer: GRC/S K MILLER
CASE Category: 13 – PHYSICS

NCC 3 1065 **CLEVELAND STATE UNIV**
 PROCESS CONTROL METHODS FOR DEPOSITION OF ITO-MGF2 TRANS-
 PARENT ARCPROOF COATINGS
 05/23/2003 - 12/31/2003 FY03: \$14,961 Total: \$14,961
Prin. Invest.: P HAMBOURGER
Tech. Officer: GRC/S K MILLER
CASE Category: 13 – PHYSICS

NCC 3 1081 **CLEVELAND STATE UNIV**
 CREATING A CENTER OF EXCELLENCE FOR MORE AEROSPACE ELECTRIC
 TECHNOLOGY
 07/18/2003 - 01/31/2005 FY03: \$1,150,784 Total: \$1,150,784
Prin. Invest.: C K ALEXANDER
Tech. Officer: GRC/Z B MORGAN
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 1095 **CLEVELAND STATE UNIV**
 DEPOSITION AND CHARACTERIZATION OF THIN FILMS ON METALLIC
 SUBSTRATES
 09/09/2003 - 09/08/2004 FY03: \$20,600 Total: \$20,600
Prin. Invest.: J E GATICA
Tech. Officer: GRC/W MORALES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NGT 3 52387 **CLEVELAND STATE UNIV**
 GRADUATE STUDY RESEARCH - DEVELOPMENT OF A NONLINE AR MULTI-
 VARIABLE CONTROL STRUCTURE FOR ADVANCED P
 08/19/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: Z GAO
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 45 – ELECTRICAL ENGR

NAG 8 1433 **COLLEGE OF WOOSTER**
 TURBIDITY AND UNIVERSALITY AROUND A LIQUID-LIQUID CRITICAL POINT
 02/06/1998 - 01/31/2003 FY03: \$0 Total: \$199,500
Prin. Invest.: D T JACOBS
Tech. Officer: MSFC/J W POE
CASE Category: 13 – PHYSICS

NAG 3 2663 **CUYAHOGA COMM COLLEGE**
 NASA/CCC SCHOLARSHIP PROGRAM NASA/CCC SCHOLARSHIP PROGRAM
 10/23/2001 - 11/26/2004 FY03: \$20,000 Total: \$30,000
Prin. Invest.: T L BUTLER
Tech. Officer: GRC/R ROMERO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2847 **CUYAHOGA COMM COLLEGE**
 CUYAHOGA COMM COLLEGE/NASA MENTOR INTERNSHIP PARTNERSHIP
 02/07/2003 - 06/30/2003 FY03: \$25,000 Total: \$25,000
Prin. Invest.: B CANEPARI
Tech. Officer: GRC/D A PETRARCA
CASE Category: 46 – MECHANICAL ENGR

NAG 5 12154 **CUYAHOGA COMM COLLEGE**
 HIGH TECH ACADEMY
 05/23/2002 - 06/30/2005 FY03: \$0 Total: \$500,000
Prin. Invest.: A JOHNSON
Tech. Officer: GSFC/C HOLLINGSWORTH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 02059 **CUYAHOGA COMM COLLEGE**
 PRESERVING FINGER LAKES FOR THE FUTURE
 09/27/2002 - 09/25/2004 FY03: \$0 Total: \$1,425,000
Prin. Invest.: R BROWER
Tech. Officer: SSC/M MICK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11966 **DENISON UNIV**
 LAB SPECTROSCOPY OF CH4,H2 AND H2O
 04/04/2002 - 03/31/2004 FY03: \$20,540 Total: \$49,233
Prin. Invest.: M E MICKELSON
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2768 **HEIDELBERG COLLEGE**
 SCIENCE FACILITIES INITIATIVE SCIENCE FACILITIES INITIATIVE
 04/24/2002 - 10/01/2004 FY03: \$0 Total: \$998,000
Prin. Invest.: D A KRIEGER
Tech. Officer: GRC/F SAVINO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 3 945 **JOHN CARROLL UNIV**
 LIGHTING INNOVATIONS INST SUPPORT OF THE MEMS INCANDESCENT
 LIGHT SOURCE PROJECT IN 2002.
 03/15/2002 - 02/06/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: R L HANSLER
Tech. Officer: GRC/M L TUMA
CASE Category: 13 – PHYSICS

NCC 3 948 **JOHN CARROLL UNIV**
 DEVELOPMENT OF MEMS WHITELIGHT SOURCE DEVELOPMENT OF MEMS
 WHITELIGHT SOURCE
 05/02/2002 - 12/31/2002 FY03: \$0 Total: \$10,000
Prin. Invest.: R HANSLER
Tech. Officer: GRC/M L TUMA
CASE Category: 13 – PHYSICS

NAG 2 1497 **KENT STATE UNIV**
 THE EFFECTS OF MICROGRAVITY ON THE ECOLOGY OF BIOFILM
 BACTERIA
 07/05/2001 - 06/30/2004 FY03: \$123,585 Total: \$333,719
Prin. Invest.: L G LEFF
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2539 **KENT STATE UNIV**
 LIQUID CRYSTAL BASED BEAM STEERING DEVICE AND OPTI CAL TELE-
 SCOPES
 02/08/2001 - 01/15/2004 FY03: \$279,313 Total: \$654,066
Prin. Invest.: P BROS
Tech. Officer: GRC/J POUCH
CASE Category: 13 – PHYSICS

NAG 5 11266 **KENT STATE UNIV**
 HYDRODYNAMIC INSTABILITIES AND EDDY-MEAN FLOW INTE RACTION IN
 THE SOUTHERN OCEAN
 09/10/2001 - 07/14/2004 FY03: \$0 Total: \$165,400
Prin. Invest.: D L WITTER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 9 1389 **KENT STATE UNIV**
 BED REST & NUEROVASCULAR FUNCTION
 11/23/2001 - 10/31/2003 FY03: \$201,439 Total: \$560,573
Prin. Invest.: D D MACLEAN, M D LAWRENCE
Tech. Officer: JSC/C LLOYD
CASE Category: 56 – MEDICL

NCC 3 721 **KENT STATE UNIV**
 E-BEAM SENSITIVE POLYIMIDES E-BEAM SENSITIVE POLYIMIDES
 07/02/1999 - 09/21/2003 FY03: \$0 Total: \$348,263
Prin. Invest.: R J TWIEG
Tech. Officer: GRC/M A MEADOR
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 2 1200 **MIAMI UNIV**
 ANALYSIS OF A NOVEL SENSORY MECHANISM IN ROOT PHOT OTROPISM
 09/05/2000 - 07/31/2004 FY03: \$183,033 Total: \$496,441
Prin. Invest.: J Z KISS
Tech. Officer: ARC/D REISS-BUBENHEIM, ARC/R W BERTHLOD
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 5 50480 **MIAMI UNIV**
 THE ROLE OF THE ACTIN CYTOSKELETON IN GRAVITROPIC SIGNAL
 TRANSDUCTION INARABIDOPSIS THALIANA (STUDEN
 05/12/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J KISS
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 7789 **NORTHEASTERN OHIO UNIV COL OF MEDICINE**
 THE EFFECT OF HYPERGRAVITY ON BONE CELL CULTURES
 11/16/1998 - 07/31/2002 FY03: \$0 Total: \$374,743
Prin. Invest.: W J LANDIS
Tech. Officer: GSFC/M M AVERNER
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 1 02066 **OHIO STATE UNIV**
 MODELING FOR ULTRASONIC HEALTH MONITORING OF FOAMS WITH
 EMBEDDED SENSORS
 03/14/2002 - 03/13/2005 FY03: \$0 Total: \$40,000
Prin. Invest.: S I ROKHLIN
Tech. Officer: LARC/W T YOST
CASE Category: 13 – PHYSICS

NAG 2 1411 **OHIO STATE UNIV**
 ANALYSIS OF THE INTERACTION OF ENVIRONMENTAL SIGNAL TRANSDUC-
 TION PATHWAYS USING TRASDUCTION
 06/21/2000 - 12/31/2003 FY03: \$81,689 Total: \$494,985
Prin. Invest.: M L EVANS
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2138 **OHIO STATE UNIV**
 ULTRASOUND THERMAL FIELD IMAGING OF OPAQUE FLUIDS ULTRA
 SOUND THERMAL FIELD IMAGING OF OPAQUE FLUIDS
 03/06/1998 - 09/30/2003 FY03: \$0 Total: \$332,700
Prin. Invest.: C D ANDERECK
Tech. Officer: GRC/D W GRIFFIN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 3 2316 **OHIO STATE UNIV**
 MAGNETIC NOZZLE STUDIES FOR ADVANCED ROCKET PROPULSION
 01/07/2000 - 06/21/2002 FY03: \$0 Total: \$129,998
Prin. Invest.: P J TURCHI
Tech. Officer: GRC/C H WILLIAMS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2339 **OHIO STATE UNIV**
 COMPUTATIONAL NONEQUILIBRIUM PLASMA DYNAMICS COMPUTATIONAL
 NONEQUILIBRIUM PLASMA DYNAMICS
 02/23/2000 - 06/30/2002 FY03: \$0 Total: \$80,000
Prin. Invest.: I ADAMOVIICH
Tech. Officer: GRC/S J SCHNEIDER
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2675 **OHIO STATE UNIV**
 ATOMIC SCALE MODELING OF THE STRUCTURE & DYNAMICS OF DISLO-
 CATIONS IN COMPLEX ALLOYS AT HIGH TEMPERA
 12/14/2001 - 12/14/2004 FY03: \$98,489 Total: \$197,625
Prin. Invest.: M J MILLS
Tech. Officer: GRC/R D NOEBE
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2700 **OHIO STATE UNIV**
 DENDRITIC CRYSTAL GROWTH DENDRITIC CRYSTAL GROWTH
 01/29/2002 - 01/17/2006 FY03: \$88,022 Total: \$167,971
Prin. Invest.: S TANVEER
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2748 **OHIO STATE UNIV**
 STUDY OF HIGH STRAIN RATE RESPONSE OF COMPOSITES STUDY OF
 HIGH STRAIN RATE RESPONSE OF COMPOSITES
 03/21/2002 - 02/28/2003 FY03: \$0 Total: \$46,931
Prin. Invest.: A GILAT
Tech. Officer: GRC/R GOLDBERG
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2788 **OHIO STATE UNIV**
 MAGNETOGASDYNAMIC POWER EXTRACTION AND FLOW CONDIT IONING
 FOR A GAS TURBINE ENGINEERING EVALUATION S
 06/10/2002 - 12/31/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: I V ADAMOVIICH
Tech. Officer: GRC/S J SCHNEIDER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2916 **OHIO STATE UNIV**
 QUANTUM GASES IN NOVEL ENVIRONMENT: OPTICAL LATTICES AND
 RAPIDLY ROTATING POTENTIALS
 06/11/2003 - 12/01/2004 FY03: \$67,000 Total: \$67,000
Prin. Invest.: T HO
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2929 **OHIO STATE UNIV**
 STATIC AND DYNAMIC CHARACTERIZATION OF SI POWER MOSFETS, SI
 RECTIFIER DIODES, AND SI/SIC SCHOTTKY D
 07/31/2003 - 01/31/2004 FY03: \$95,891 Total: \$95,891
Prin. Invest.: T E BLUE
Tech. Officer: GRC/J V SOLTIS
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 3525 **OHIO STATE UNIV**
 QUASAR ABSORPTION IN THE UV: PROBING THE INTERGLA
 11/13/1996 - 03/14/2003 FY03: \$0 Total: \$552,600
Prin. Invest.: D H WEINBERG
Tech. Officer: GSFC/R K OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 3983 **OHIO STATE UNIV**
 MILLIMETER AND SUBMILLIMETER SPECTROSCOPY OF MOLECULAR
 03/03/1997 - 06/30/2003 FY03: \$0 Total: \$756,089
Prin. Invest.: F C DEELUCIA
Tech. Officer: GSFC/M J KURYLO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7150 **OHIO STATE UNIV**
 STANDARD & NONSTANDARD STELLAR MODELS: IMPLICATIONS FOR
 CLUSTER AGES AND LATE EVOLUTIONARY STAGES
 04/02/1998 - 09/14/2002 FY03: \$0 Total: \$300,142
Prin. Invest.: M H PINSONNEAULT
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7252 **OHIO STATE UNIV**
 SUBMILLIMETER LABORATORY INVESTIGATIONS: SPECTROSCOPY & COLLISIONS
 05/07/1998 - 04/30/2002 FY03: -\$390 Total: \$149,970
Prin. Invest.: E HERBST
Tech. Officer: GSFC/H THRONSON
CASE Category: 11 – ASTRONOMY

NAG 5 7286 **OHIO STATE UNIV**
 SHIFTING BOUNDARIES OF THE ANTARCTIC ICE SHEET
 10/19/1998 - 10/31/2002 FY03: \$0 Total: \$278,474
Prin. Invest.: K C JEZEK
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7574 **OHIO STATE UNIV**
 FUNDING FOR GRAVITY & TIME VARYING GRAVITY FIELD RECOVERY
 (SENH98-0144)
 08/04/1998 - 07/31/2002 FY03: -\$59 Total: \$299,941
Prin. Invest.: C K SHUM
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7685 **OHIO STATE UNIV**
 EDUCATIONAL OUTREACH FOR THE LANDSAT-7 MISSION SCIENCE OFFICE
 09/11/1998 - 06/30/2002 FY03: -\$826 Total: \$76,599
Prin. Invest.: C MERRY
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7750 **OHIO STATE UNIV**
 MODELING AND OBSERVATIONAL STUDY OF THE GLOBAL ATMOSPHERIC
 IMPACTS OF ANTARCTIC SEA ICE ANOMALIES
 10/20/1998 - 12/31/2002 FY03: \$0 Total: \$245,536
Prin. Invest.: D H BROMWICH
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7848 **OHIO STATE UNIV**
 THE GLACIER DYNAMICS AND MASS FLUX OF ANTARCTIC ICE STREAMS
 FROM RADARSAT INSAR
 11/23/1998 - 12/31/2002 FY03: \$0 Total: \$130,318
Prin. Invest.: R R FORSTER
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7903 **OHIO STATE UNIV**
 RADIATIVE AND COLLISIONAL ATOMIC DATA FOR UV AND OPTICAL
 ASTRONOMY
 12/10/1998 - 12/31/2002 FY03: \$0 Total: \$157,868
Prin. Invest.: D K PRADHAN
Tech. Officer: GSFC/H HASAN
CASE Category: 11 – ASTRONOMY

NAG 5 8397 **OHIO STATE UNIV**
 PROBING THE PHYSICS OF VARIABLE ACTIVE GALACTIC NUCLEI
 04/16/1999 - 10/31/2003 FY03: \$0 Total: \$248,500
Prin. Invest.: B M PETERSON
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8423 **OHIO STATE UNIV**
 ATOMIC PROCESSES IN X-RAY ASTROPHYSICS (ATP 98)
 04/15/1999 - 04/14/2003 FY03: \$0 Total: \$189,346
Prin. Invest.: A K PRADHAN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8455 **OHIO STATE UNIV**
 BAYESIAN HIERARCHICAL AIR-SEA INTERACTION MODELING : DEVELOPMENT AND APPLICATION TO THE LABR
 04/12/1999 - 05/31/2003 FY03: \$0 Total: \$49,620
Prin. Invest.: K N BERLINER
Tech. Officer: GSFC/E LIDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8913 **OHIO STATE UNIV**
 ABSORBING OUTFLOWS IN AGN PION TRANSFER FROM SAO
 06/22/2000 - 09/30/2001 FY03: -\$174 Total: \$217,140
Prin. Invest.: S MATHUR
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 21 – MATHEMATICS

NAG 5 9335 **OHIO STATE UNIV**
 A GEOPHYSICAL APPROACH TO STUDY THE ROLE OF ICE SHEET MASS
 BALANCE IN GLOBAL SEA LEVEL CHANGE
 03/30/2000 - 04/30/2004 FY03: \$187,390 Total: \$544,911
Prin. Invest.: C K SHUM
Tech. Officer: GSFC/K PARTINGTON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9518 **OHIO STATE UNIV**
 REGIONAL SCALE METEOROLOGICAL ANALYSIS & PREDICTION USING GPS
 OCCULTATION & EOS DATA
 05/10/2000 - 04/30/2004 FY03: \$89,019 Total: \$784,974
Prin. Invest.: D BROMWICH
Tech. Officer: GSFC/R KAKAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9538 **OHIO STATE UNIV**
 RADARSAT ANTARCTIC MAPPING PROJECT: ANTARCTIC IMAGING CAMPAIGN 2
 05/23/2000 - 05/31/2005 FY03: \$484,376 Total: \$2,438,633
Prin. Invest.: K JEZEK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9596 **OHIO STATE UNIV**
 A REGIONAL INTEGRATED MONITORING SYSTEM FOR THE HYDROLOGY OF THE PAN-ARCTIC LAND MASS
 05/11/2000 - 12/31/2003 FY03: \$0 Total: \$127,204
Prin. Invest.: D BROMWICH
Tech. Officer: GSFC/P HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9883 **OHIO STATE UNIV**
 LITHOSPHERIC ANALYSIS OF SATELLITE MAGNETOMETER OBSERVATION
 08/24/2000 - 08/31/2002 FY03: -\$93 Total: \$24,907
Prin. Invest.: R R VON FRESE
Tech. Officer: GSFC/P TAYLOR
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9936 **OHIO STATE UNIV**
 LIFTING THE SHROUD AROUND BROAD ABSORPTION LINE QUASARS WITH XMM
 09/06/2000 - 09/14/2002 FY03: \$0 Total: \$37,300
Prin. Invest.: S MATHUR
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9937 **OHIO STATE UNIV**
 X-RAY SPECTRA OF Z>4 QUASARS
 09/06/2000 - 09/14/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: S MATHUR
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10112 **OHIO STATE UNIV**
 MAPPING ANTARCTIC ICE SHEET MARGINS AND SNOW MELT ZONES OVER DECADEAL TIME SCALES FOR UNDERSTANDING
 11/21/2000 - 05/14/2004 FY03: \$100,343 Total: \$283,073
Prin. Invest.: K JEZEK
Tech. Officer: GSFC/K PARTINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10160 **OHIO STATE UNIV**
 SATELLITE AND MODEL ANALYSIS OF THE ATMOSPHERIC MOISTURE BUDGET IN HIGH LATITUDES
 12/20/2000 - 03/31/2002 FY03: \$0 Total: \$78,767
Prin. Invest.: D BROMWICH
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10199 **OHIO STATE UNIV**
 AIRBORNE GEOPHYSICS AND REMOTE SENSING APPLIED TO STUDY GREENLAND ICE DYNAMICS
 12/21/2000 - 12/31/2001 FY03: -\$166 Total: \$63,438
Prin. Invest.: B CSATHO
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10207 **OHIO STATE UNIV**
 SUBMILLIMETER LABORATORY INVESTIGATIONS: SPECTROSCOPY & COLLISIONS
 01/03/2001 - 12/31/2003 FY03: \$85,000 Total: \$250,000
Prin. Invest.: E HERBST
Tech. Officer: GSFC/G STRINGFELLO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10266 **OHIO STATE UNIV**
 SPATIAL AND TEMPORAL VARIABILITY OF GREENLAND ACCUMULATION AND CLIMATE FROM THE PARCA CORES
 01/09/2001 - 12/31/2001 FY03: -\$112 Total: \$70,105
Prin. Invest.: E MOSLEY-THOMPSON
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10275 **OHIO STATE UNIV**
 DETERMINING ICE SHEET ACCUMULATION RATES FROM RADAR REMOTE SENSING
 01/12/2001 - 01/14/2002 FY03: -\$17 Total: \$54,886
Prin. Invest.: K JEZEK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10320 **OHIO STATE UNIV**
 FUV SPECTROSCOPY OF NARROW LINE SEYFERT 1 GALAXIES FUSE 2000
 01/30/2001 - 01/31/2004 FY03: \$0 Total: \$83,900
Prin. Invest.: S MATHUR
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10619 **OHIO STATE UNIV**
 NEAR REAL-TIME GPS/LEO PRECISION ORBIT DETERMINATION FOR OPERATIONAL WEATHER FORECASTING WITH GPS
 03/19/2001 - 03/31/2004 FY03: \$109,187 Total: \$332,461
Prin. Invest.: D BRZEZINSKA
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10678 **OHIO STATE UNIV**
 SEARCHING FOR EXTRA-SOLAR SYSTEM PLANETS USING GRAVITATIONAL MICROLensing
 04/24/2001 - 04/30/2004 FY03: \$45,000 Total: \$135,000
Prin. Invest.: D DEPOY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10978 **OHIO STATE UNIV**
 MODELLING GREENLAND OUTLET GLACIERS
 05/29/2001 - 05/31/2004 FY03: \$0 Total: \$81,805
Prin. Invest.: C V DER VEEN
Tech. Officer: GSFC/W ABDALATI
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11383 **OHIO STATE UNIV**
 MOBILE SENSOR WEB FOR POLAR ICE SHEET MEASUREMENTS
 11/01/2001 - 10/31/2006 FY03: \$78,750 Total: \$153,750
Prin. Invest.: K JEZEK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11462 **OHIO STATE UNIV**
 ATOMIC DATA FOR MULTI-WAVELENGTH SPECTRAL FORMATION
 12/10/2001 - 12/31/2004 FY03: \$61,000 Total: \$119,000
Prin. Invest.: A K PRADHAN
Tech. Officer: GSFC/H HASAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11749 **OHIO STATE UNIV**
 "UNDERSTANDING RECENT MASS CHANGES OF THE GREENLAND ICE SHEET"
 02/12/2002 - 02/14/2005 FY03: \$190,000 Total: \$380,000
Prin. Invest.: C J VAN DER VEEN
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11794 **OHIO STATE UNIV**
 SATELLITE AND MODEL ANALYSIS OF THE ATMOSPHERIC MOISTURE BUDGET IN HIGH LATITUDES - BRIDGE FUNDING
 02/28/2002 - 02/28/2003 FY03: \$0 Total: \$55,047
Prin. Invest.: D BROMWICH
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11984 **OHIO STATE UNIV**
 THEORETICAL X-RAY ATOMIC ASTROPHYSICS AND SPECTROSCOPY: THE RMAX NETWORK
 04/12/2002 - 04/14/2004 FY03: \$54,750 Total: \$129,750
Prin. Invest.: A K PRADHAN
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12290 **OHIO STATE UNIV**
 COMPUTER HARDWARE UPGRADES IN SUPPORT OF ICE SHEET DATA PROCESSING AND ANALYSIS
 06/20/2002 - 06/14/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: K JEZEK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12407 **OHIO STATE UNIV**
 MODELING MASS BALANCE GREENLAND AND ANTARCTIC ICE SHEET
 08/01/2002 - 07/31/2004 FY03: \$0 Total: \$99,571
Prin. Invest.: D BROMWICH
Tech. Officer: GSFC/W ABDALATI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12585 **OHIO STATE UNIV**
 DETERMINATION AND CHARACTERIZATION OF 20TH CENTURY GLOBAL SEA LEVEL RISE
 09/17/2002 - 09/30/2005 FY03: -\$30,000 Total: \$105,000
Prin. Invest.: C K SHUM
Tech. Officer: GSFC/W ABDALATI
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12715 **OHIO STATE UNIV**
 MILLIMETER AND SUBMILLIMETER SPECTROSCOPY OF MOLECULES OF ATMOSPHERIC IMPORTANCE
 12/30/2002 - 12/31/2005 FY03: \$153,693 Total: \$153,693
Prin. Invest.: F C ELUCIA
Tech. Officer: GSFC/M KURYLO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13129 **OHIO STATE UNIV**
 SURVEY FOR TRANSITING EXTRA-SOLAR SYSTEM PLANETS IN STELLAR SYSTEM
 03/18/2003 - 03/14/2006 FY03: \$55,000 Total: \$55,000
Prin. Invest.: D DEPOY
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13308 **OHIO STATE UNIV**
 THE CORE PROBLEMS OF GALAXY FORMATION
 04/21/2003 - 06/30/2006 FY03: \$50,000 Total: \$50,000
Prin. Invest.: D WEINBERG
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13542 **OHIO STATE UNIV**
 X-RAY SPECTRA OF HIGH REDSHIFT (Z>4) QUASARS
 07/29/2003 - 07/31/2004 FY03: \$42,982 Total: \$42,982
Prin. Invest.: S MATHUR
Tech. Officer: GSFC/R F MUSOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13614 **OHIO STATE UNIV**
 INVESTIGATING LONG TERM BEHAVIOR OF OUTLET GLACIER IN GREENLAND: PILOT STUDY FOR USING REMOTE SENSING
 08/20/2003 - 08/31/2004 FY03: \$66,630 Total: \$66,630
Prin. Invest.: B CSATHO
Tech. Officer: GSFC/W ABDALATI
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 13665 **OHIO STATE UNIV**
 COUPLED GRAVITY AND ELEVATION MEASUREMENTS OF ICE SHEET MASS CHANGE
 09/17/2003 - 09/30/2004 FY03: \$21,049 Total: \$21,049
Prin. Invest.: K C JEZEK
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1441 **OHIO STATE UNIV**
 GRAVITATIONAL EFFECTS IN BOSE-EINSTEIN CONDENSATE OF ATOMIC GASES
 03/06/1998 - 01/31/2003 FY03: \$0 Total: \$313,250
Prin. Invest.: T HO
Tech. Officer: MSFC/D HUBBARD
CASE Category: 13 – PHYSICS

NAG 8 1470 **OHIO STATE UNIV**
 R/S INTERDIFFUSION IN THE PRESENCE OF FREE CONVECTION
 03/26/1998 - 01/31/2003 FY03: \$0 Total: \$262,500
Prin. Invest.: P K GUPTA
Tech. Officer: MSFC/C TALLEY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1670 **OHIO STATE UNIV**
 FUNDAMENTAL STUDIES OF CRYSTAL GROWTH OF MICROPOROUS MATERIALS
 06/05/2000 - 11/30/2003 FY03: \$138,000 Total: \$466,417
Prin. Invest.: P K DUTTA
Tech. Officer: MSFC/P DOTY
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1765 **OHIO STATE UNIV**
 QUANTUM GASES IN NOVEL ENVIRONMENTS: OPTICAL LATTICES AND
 RAPIDLY ROTATING POTENTIALS
 05/01/2001 - 04/30/2004 FY03: \$0 Total: \$25,000
Prin. Invest.: T L HO
Tech. Officer: MSFC/D HUBBARD
CASE Category: 13 – PHYSICS

NAG 8 1940 **OHIO STATE UNIV**
 RESEARCH ENTITLED "BIOINSPIRED ZEOLITE ASSEMBLES AS ARTIFICIAL
 ..." REPLACES NAG 8 1920
 07/01/2003 - 11/30/2006 FY03: \$158,882 Total: \$158,882
Prin. Invest.: P K DUTTA
Tech. Officer: MSFC/B V GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1460 **OHIO STATE UNIV**
 SCENARIO BASED EVALUATION OF DISTRIBUTED CREW INTERACTION
 09/25/2002 - 09/20/2004 FY03: \$45,045 Total: \$45,045
Prin. Invest.: D D WOODS
Tech. Officer: JSC/C L FARMER
CASE Category: 22 – COMPUTER SCIENCE

NAG 9 1508 **OHIO STATE UNIV**
 REHEATING & STERILIZATION FOR FOOD, WASTE & H2O
 05/16/2003 - 09/30/2006 FY03: \$73,000 Total: \$73,000
Prin. Invest.: S K SASTRY
Tech. Officer: JSC/V KLOERIS
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG10 263 **OHIO STATE UNIV**
 DEVELOPMENT OF GRAVITY SENSITIVE PLANT CELLS CERATODON IN
 MICROGRAVITY
 07/14/1999 - 09/30/2003 FY03: \$145,000 Total: \$615,354
Prin. Invest.: F SACK
Tech. Officer: KSC/G ETHERIDGE
CASE Category: 55 – AGRICULTURE

NAG10 320 **OHIO STATE UNIV**
 ROBOTIC TOMATO HARVESTER ROBOTIC TOMATO HARVESTER
 07/25/2002 - 10/31/2003 FY03: \$0 Total: \$99,998
Prin. Invest.: P LING
Tech. Officer: KSC/J C SAGER
CASE Category: 55 – AGRICULTURE

NAS 3 02116 **OHIO STATE UNIV**
 ACTIVE NOISE CONTROL IN SUPERSONIC JETS USING PLASMA ACTUA-
 TORS NRA PHASE I
 03/08/2002 - 03/31/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: M SAMIMY
Tech. Officer: GRC/J E BRIDGES, GRC/J E GRADY
CASE Category: 41 – AERONAUTICAL ENGR

NAS 5 02001 **OHIO STATE UNIV**
 DEVELOP, FABRICATE, TEST LABORATORY PROTOTYPE DIGITAL RE-
 CEIVER.
 03/11/2002 - 11/30/2003 FY03: \$294,407 Total: \$554,912
Prin. Invest.: J T JOHNSON
Tech. Officer: GSFC/F PERI
CASE Category: 45 – ELECTRICAL ENGR

NCA 3 206 **OHIO STATE UNIV**
 GLENNAN MICROSYSTEMS INIATIVE FY 01 PROJECTS
 02/26/2001 - 03/31/2003 FY03: \$115,000 Total: \$405,000
Prin. Invest.: P DUTTA
Tech. Officer: GRC/M V ZELLER
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 2 1261 **OHIO STATE UNIV**
 VISUALIZING TIME-VARYING DATA DISTRIBUTIONS IN EOS APPLICATIONS
 04/26/2001 - 02/28/2004 FY03: \$85,807 Total: \$199,946
Prin. Invest.: H SHEN
Tech. Officer: ARC/D L KAO, ARC/V R WATSON
CASE Category: 22 – COMPUTER SCIENCE

NCC 3 899 **OHIO STATE UNIV**
 DEVELOPMENT OF ADVANCED SOLAR CELL TECHNOLOGY DEVELOPMENT
 OF ADVANCED SOLAR CELL TECHNOLOGY
 06/20/2001 - 06/30/2002 FY03: \$0 Total: \$30,000
Prin. Invest.: S A RINGEL
Tech. Officer: GRC/E B CLARK
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 949 **OHIO STATE UNIV**
 THERMALLY STABLE OHMIC CONTACTS ON SiH AND 6H-SiC M ICRODE-
 VICES FOR HIGH TEMPERATURE APPLICATIONS
 03/29/2002 - 05/31/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: L BRILLSON
Tech. Officer: GRC/R S OKOJIE
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 974 **OHIO STATE UNIV**
 ADVANCED III-V SPACE PHOTOVOLTAICS ON LATTICE-ENGINNEERED SUB-
 STRATES
 06/27/2002 - 02/28/2004 FY03: \$65,000 Total: \$80,000
Prin. Invest.: S A RINGEL
Tech. Officer: GRC/E CLARK
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 1017 **OHIO STATE UNIV**
 DEVELOPMENT AND AUGMENTATION OF MHZ RATE BURST MOD E LASER
 SYSTEM
 12/17/2002 - 09/30/2003 FY03: \$29,997 Total: \$29,997
Prin. Invest.: W R LEMPET
Tech. Officer: GRC/M P WERNET
CASE Category: 13 – PHYSICS

NCC 3 1027 **OHIO STATE UNIV**
 HIGH STRAIN-RATE AND TEMPERATURE EFFECTS ON THE RE SPONSE OF
 COMPOSITES
 01/16/2003 - 02/28/2004 FY03: \$60,000 Total: \$60,000
Prin. Invest.: A GILAT
Tech. Officer: GRC/R GOLDBERG
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 1086 **OHIO STATE UNIV**
 INTELLIGENT PROPULSION SYSTEM FOUNDATION TECHNOLOGY
 09/03/2003 - 04/30/2004 FY03: \$4,892,000 Total: \$4,892,000
Prin. Invest.: J WILLIAMS
Tech. Officer: GRC/C R MERCER
CASE Category: 41 – AERONAUTICAL ENGR

<p>NGT 3 52363 GRADUATE STUDENT RESEARCH PROGRAM GRADUATE STUDENT RESEARCH PROGRAM 06/12/2000 - 09/18/2003 FY03: \$0 Total: \$68,000 <i>Prin. Invest.:</i> P K DUTTA <i>Tech. Officer:</i> GRC/F J MONTEGANI <i>CASE Category:</i> 43 – CHEMICAL ENGR</p>	<p>OHIO STATE UNIV</p>	<p>NAG 3 2612 FLIGHT DEMONSTRATION OF A 3-DIMENSIONAL COCKPIT DISPLAY OF TRAFFIC INFORMATION 07/31/2001 - 09/23/2003 FY03: \$0 Total: \$72,043 <i>Prin. Invest.:</i> J RANKIN <i>Tech. Officer:</i> GRC/B BREM <i>CASE Category:</i> 41 – AERONAUTICAL ENGR</p>	<p>OHIO UNIV</p>
<p>NGT 3 52373 GRADUATE STUDENT RESEARCH 06/07/2001 - 08/31/2002 FY03: -\$5,361 Total: \$16,639 <i>Prin. Invest.:</i> V V SUBRAMANIAM <i>Tech. Officer:</i> GRC/F J MONTEGANI <i>CASE Category:</i> 46 – MECHANICAL ENGR</p>	<p>OHIO STATE UNIV</p>	<p>NAG 3 2815 AIRBORNE INTERNET: ALTERNATE SPECTRUM FEASIBILITY STUDY 11/13/2002 - 10/31/2003 FY03: \$69,903 Total: \$69,903 <i>Prin. Invest.:</i> J RANKIN <i>Tech. Officer:</i> GRC/K MARTZAKIS <i>CASE Category:</i> 45 – ELECTRICAL ENGR</p>	<p>OHIO UNIV</p>
<p>NGT 5 131 THE ROLE OF THE OCEAN IN CONVECTIVE BURST INITIATION & MAINTENANCE: IMPLICATIONS FOR TROPICAL CYCLES 06/06/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000 <i>Prin. Invest.:</i> J HOBGOOD <i>Tech. Officer:</i> GSFC/M S BURRELL <i>CASE Category:</i> 31 – ATMOSPHERIC SCIENCE</p>	<p>OHIO STATE UNIV</p>	<p>NAG 5 7645 FUNDING FOR 'ANALYSIS OF POLAR OERSTED, SUNSAT, MA DSAT, AND POGO DATA' (SENH98-0063) 08/27/1998 - 12/31/2002 FY03: \$0 Total: \$224,500 <i>Prin. Invest.:</i> R R VON FRESE <i>Tech. Officer:</i> GSFC/H V FREY <i>CASE Category:</i> 32 – GEOLOGICAL SCIENCE</p>	<p>OHIO UNIV</p>
<p>NGT 5 30178 METEOROLOGICAL PROCESSES CONTROLLING THE SPATIAL & TEMPORAL VARIABILITY OF NET ANNUAL ACCUMULATION: 08/12/1999 - 08/31/2003 FY03: \$0 Total: \$66,000 <i>Prin. Invest.:</i> E MOSLEY-THOMPSON <i>Tech. Officer:</i> GSFC/L SMITH <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>	<p>OHIO STATE UNIV</p>	<p>NAG 5 10349 PROPOSAL #537 DEVELOP A DYNAMIC RESOURCE MANAGEMENT APPROACH FOR ADAPTIVE AGENT-BASED REAL-TIME 02/05/2001 - 06/14/2003 FY03: \$0 Total: \$393,388 <i>Prin. Invest.:</i> L WELCH <i>Tech. Officer:</i> GSFC/B B PFARR <i>CASE Category:</i> 22 – COMPUTER SCIENCE</p>	<p>OHIO UNIV</p>
<p>NGT 5 30533 VARIABILITY IN THE VELOCITY FIELD AND FLOW REGIME OF THE ANTARCTIC ICE SHEET STUDENT: JAN WUITE 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000 <i>Prin. Invest.:</i> K JEZEK <i>Tech. Officer:</i> GSFC/M WEI <i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER</p>	<p>OHIO STATE UNIV</p>	<p>NAG 5 11025 COOLING FLOWS AND RADIO GALAXIES: THE CHANDRA ERA (LTSA 2000) 06/13/2001 - 06/14/2005 FY03: \$6,139 Total: \$209,139 <i>Prin. Invest.:</i> B MCNAMARA <i>Tech. Officer:</i> GSFC/R J OLIVERSEN <i>CASE Category:</i> 11 – ASTRONOMY</p>	<p>OHIO UNIV</p>
<p>NGT 9 51 ACID SULFATE DRAINAGE: A MODEL SYSTEM FOR UNDERSTANDING POTENTIAL BIOMINERALIZATION PROCESSES ON MARS 07/11/2000 - 08/31/2003 FY03: \$24,000 Total: \$68,000 <i>Prin. Invest.:</i> J BIGHAM <i>Tech. Officer:</i> JSC/R MORRIS <i>CASE Category:</i> 59 – LIFE SCIENCE, OTHER</p>	<p>OHIO STATE UNIV</p>	<p>NAG 5 13205 THE PHYSICS OF AGN, A DEEP UNDERSTANDING OF THE QUASAR 3C 273. 04/01/2003 - 03/31/2004 FY03: \$11,154 Total: \$11,154 <i>Prin. Invest.:</i> M BOETTCHER <i>Tech. Officer:</i> GSFC/B TEEGARDEN <i>CASE Category:</i> 11 – ASTRONOMY</p>	<p>OHIO UNIV</p>
<p>NAG 1 01094 HAPTICS-AUGMENTED EDUCATION 06/01/2001 - 05/31/2004 FY03: \$45,000 Total: \$98,975 <i>Prin. Invest.:</i> R L WILLIAMS <i>Tech. Officer:</i> LARC/J M SEATON <i>CASE Category:</i> 29 – MATH/COMPUTER SCI, OTHER</p>	<p>OHIO UNIV</p>	<p>NAG 5 13684 THE HARD X-RAY AND CORRELATED MULTIFREQUENCY PROPERTIES OF THE BLAZAR 3C 279 09/23/2003 - 09/14/2004 FY03: \$7,200 Total: \$7,200 <i>Prin. Invest.:</i> M BOETTCHER <i>Tech. Officer:</i> GSFC/B J TEEGARDEN <i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER</p>	<p>OHIO UNIV</p>
<p>NAG 2 1608 MOLECULAR CLONING AND CHARACTERIZATION OF THE GPS MUTANT OF ARABIDOPSIS 12/23/2002 - 12/14/2003 FY03: \$159,361 Total: \$159,361 <i>Prin. Invest.:</i> S E WYATT <i>Tech. Officer:</i> ARC/G C JAHNS, ARC/R MACELROY <i>CASE Category:</i> 51 – BIOLOGY (EXCLUDING ENVIR)</p>	<p>OHIO UNIV</p>	<p>NAG 8 1789 FUTURE IMPROVEMENT OF A TRAJECTORY LINERIZATION FLIGHT CONTROLLER FOR X-33 03/06/2001 - 12/31/2002 FY03: \$0 Total: \$34,833 <i>Prin. Invest.:</i> J J ZHU <i>Tech. Officer:</i> MSFC/D R KRUPP <i>CASE Category:</i> 42 – ASTRONAUTICAL ENGR</p>	<p>OHIO UNIV</p>

NAS 5 00185 **OHIO UNIV**
 ADAPTIVE MANAGEMENT OF COMPUTING & NETWORK RESOURCES FOR
 REAL-TIME SENSOR WEBS.
 08/31/2000 - 12/31/2002 FY03: \$0 Total: \$342,988
Prin. Invest.: L WELCH
Tech. Officer: GSFC/B PFAR
CASE Category: 22 – COMPUTER SCIENCE

NAS 8 01105 **OHIO UNIV**
 THEORETICAL VALIDATION, FEV & IMPLEMENTATION OF ALGORITHMS, &
 PREFORMING SIMULATION TESTING
 05/18/2001 - 10/30/2003 FY03: \$637,531 Total: \$1,989,236
Prin. Invest.: J ZHU, D A LAWRENCE
Tech. Officer: MSFC/J M RANKIN
CASE Category: 49 – ENGINEERING, OTHER

NCC 1 351 **OHIO UNIV**
 A DTED TERRAIN AVOIDANCE SYS UTILIZING GPS AND RADAR ALTIMETER
 MONITORING, RE NRA 98-LARC-10
 09/01/1999 - 09/30/2003 FY03: \$301,588 Total: \$1,744,588
Prin. Invest.: J M RANKIN, D DIGGLE, M U DE HAAG
Tech. Officer: LARC/R M HUESCHEN, LARC/R V PARRISH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2645 **OHIO WESLEYAN UNINERITY**
 IMPROVEMENTS TO CAMPUS INFRASTRUCTURE AT OHIO WESL EYAN UNIV
 10/23/2001 - 08/11/2003 FY03: \$0 Total: \$1,497,000
Prin. Invest.: W C LOUTHAN
Tech. Officer: GRC/F SAVINO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 02003 **UNIV OF AKRON**
 CHARACTERIZATION OF DURABILITY OF POLYMER MATRIX COMPOSITES &
 ADHESIVE JOINTS IN CRYOTANK ENVIRONMT
 11/14/2001 - 11/13/2004 FY03: \$103,600 Total: \$209,411
Prin. Invest.: R B PIPES
Tech. Officer: LARC/E S WEISER
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 02035 **UNIV OF AKRON**
 POLYIMIDE/CARBON NANOCOMPOSITES
 01/15/2002 - 06/30/2003 FY03: \$8,326 Total: \$66,612
Prin. Invest.: F W HARRIS, L DAI
Tech. Officer: LARC/J W CONNELL
CASE Category: 12 – CHEMISTRY

NAG 3 2420 **UNIV OF AKRON**
 A NEW FINITE ELEMENT FORMULATION ANALYSIS OF AEROS PACE
 STRUCTURES
 05/11/2000 - 08/25/2003 FY03: \$0 Total: \$120,032
Prin. Invest.: S N PATNAIK
Tech. Officer: GRC/G R HALFORD
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2442 **UNIV OF AKRON**
 STEREO IMAGING VELOCIMETRY OF MIXING DRIVEN BY BUOYANCY
 INDUCED FLOW FIELDS
 05/23/2000 - 11/30/2003 FY03: \$37,433 Total: \$145,988
Prin. Invest.: C BATUR
Tech. Officer: GRC/W B DUVAL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2512 **UNIV OF AKRON**
 GRAVITATIONAL INFLUENCES ON FLAME PROPAGATION THRO UGH NON-
 UNIFORM PRE-MIXED GAS SYSTEMS
 12/08/2000 - 11/30/2004 FY03: \$7,249 Total: \$39,304
Prin. Invest.: D PERRY
Tech. Officer: GRC/K R SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2537 **UNIV OF AKRON**
 APPLICATION OF PERIODIC BOUNDARY CONDITIONS IN THE AEROACOUS-
 TICS OF TURBOMACHINERY
 02/08/2001 - 01/31/2004 FY03: \$25,141 Total: \$65,218
Prin. Invest.: S SAWYER
Tech. Officer: GRC/E ENVIA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2566 **UNIV OF AKRON**
 INFRASTRUCTURE ADDITIONS FOR A POLYMER NATECHNOLOGYCENTER AT
 THE UNIV OF AKRON
 03/16/2001 - 12/31/2002 FY03: \$0 Total: \$998,000
Prin. Invest.: F N KELLEY
Tech. Officer: GRC/M A MEADOR
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2572 **UNIV OF AKRON**
 LOW MELT VISCOSITY RESINS FOR RESIN TRANSFER MOLDI NG
 03/22/2001 - 01/31/2002 FY03: -\$15 Total: \$44,622
Prin. Invest.: F W HARRIS
Tech. Officer: GRC/C CHUANG
CASE Category: 12 – CHEMISTRY

NAG 3 2632 **UNIV OF AKRON**
 DEVELOPMENT OF AN OPTICAL REAL-TIME POLARIMETRIC I MAGING
 SYSTEM FOR AEROSPACE APPLICATIONS
 06/07/2001 - 05/31/2002 FY03: -\$3,187 Total: \$61,763
Prin. Invest.: G C GIAKOS
Tech. Officer: GRC/D NG
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 3 2777 **UNIV OF AKRON**
 PERFORMANCE OF FORCE AND DISPLACEMENT METHODS IN T HE
 DESIGN OPTIMIZATION OF FLEXURAL STRUCTURES
 05/06/2002 - 03/31/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: S N PATNAIK
Tech. Officer: GRC/G R HALFORD
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2848 **UNIV OF AKRON**
 REPRESENTATION OF ICE GEOMETRY BY PARAMETRIC FUNCT IONS:
 CONSTRUCTION OF APPROXIMATING NURBS CURVES
 02/05/2003 - 11/30/2003 FY03: \$45,376 Total: \$45,376
Prin. Invest.: L H DILL
Tech. Officer: GRC/Y CHOO
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 3 2915 **UNIV OF AKRON**
 ASSESSMENT OF FORCE AND DISPLACEMENT METHODS IN TH EDESIGN
 OPTIMIZATION OF FLEXURAL STRUCTURES
 06/10/2003 - 01/31/2004 FY03: \$34,846 Total: \$34,846
Prin. Invest.: S N PATNAIK
Tech. Officer: GRC/G R HALFORD
CASE Category: 46 – MECHANICAL ENGR

NCC 1 02002 **UNIV OF AKRON**
 CYBER SIMULATION FOR COMPOSITE MATERIALS AND STRUCTURES IN
 AERONAUTICS AND AEROSPACE
 12/05/2001 - 12/31/2004 FY03: \$139,000 Total: \$277,334
Prin. Invest.: B R PIPES
Tech. Officer: LARC/J H STARNES, JR
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 02003 **UNIV OF AKRON**
 EXPERIMENTS AND MODELS FOR POLYMERIC MICROSPHERE FOAMS
 12/18/2001 - 12/31/2004 FY03: \$75,000 Total: \$162,252
Prin. Invest.: R B PIPES
Tech. Officer: LARC/E S WEISER
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 2 1325 **UNIV OF AKRON**
 LEXICAL ACCESS AND DUAL TASK PERFORMANCE DETERMINING THE
 LOCUS OF THE BOTTLENECK
 03/13/2002 - 08/31/2005 FY03: \$41,441 Total: \$65,365
Prin. Invest.: P ALLEN
Tech. Officer: ARC/E RUTHRUFF, ARC/R W REMINGTON
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 3 578 **UNIV OF AKRON**
 ENHANCEMENTS TO NURBS-BASED FEA AIRFOIL MODLER-SABER
 10/24/1997 - 01/31/2003 FY03: -\$1,757 Total: \$305,909
Prin. Invest.: A F SALEEB, D A TROWBRIDGE
Tech. Officer: GRC/S A THORP
CASE Category: 46 – MECHANICAL ENGR

NCC 3 716 **UNIV OF AKRON**
 THEORY, MODELING, SOFTWARE AND HARDWARE DEVELOPMENT IN
 COMPUTATIONAL MATERIALS SCIENCE
 06/25/1999 - 07/06/2004 FY03: \$67,072 Total: \$590,492
Prin. Invest.: G W YOUNG
Tech. Officer: GRC/A CHAIT
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 765 **UNIV OF AKRON**
 DEVELOPMENT OF EFFICIENT NUMERICAL ALGORITHMS FOR PREDIC-
 TION OF FAR-FIELD ACOUSTIC NOISE
 02/07/2000 - 01/02/2002 FY03: -\$3 Total: \$59,997
Prin. Invest.: K KREIDER
Tech. Officer: GRC/J SCOTT
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 768 **UNIV OF AKRON**
 ADVANCED STRUCTURAL, IMPACT AND LIFE ANALYSES OF AEROSPACE
 COMPONENTS
 02/02/2000 - 02/28/2003 FY03: \$0 Total: \$494,419
Prin. Invest.: V K ARYA
Tech. Officer: GRC/G R HALFORD
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 788 **UNIV OF AKRON**
 DEFORMATION AND LIFE OF POLYMER MATRIX COMPOSITE (PMC)
 FLYWHEEL ROTORS
 03/27/2000 - 08/28/2002 FY03: -\$2,683 Total: \$110,582
Prin. Invest.: D F SALEEB
Tech. Officer: GRC/A ARNOLD
CASE Category: 46 – MECHANICAL ENGR

NCC 3 794 **UNIV OF AKRON**
 HOMOPOLYROTAXANES AND HOMOPOLYROTAXAND NETWORKS OF PEO
 04/20/2000 - 04/30/2004 FY03: \$40,387 Total: \$297,580
Prin. Invest.: C PUGH
Tech. Officer: GRC/M MEADOR
CASE Category: 12 – CHEMISTRY

NCC 3 802 **UNIV OF AKRON**
 POLYMER SOLID ELECTROLYTES FOR RECHARGEABLE BATTERIES
 05/23/2000 - 03/31/2004 FY03: \$55,154 Total: \$311,767
Prin. Invest.: F W HARRIS
Tech. Officer: GRC/M MEADOR
CASE Category: 12 – CHEMISTRY

NCC 3 808 **UNIV OF AKRON**
 DEFECT DETECTION SCHEMES AND ALGORITHMIC DEVELOPMENT FOR
 LARGE-SCALE SIMULATIONS OF DAMAGING VISCO-
 06/16/2000 - 03/14/2004 FY03: \$140,000 Total: \$763,034
Prin. Invest.: A F SALEEB
Tech. Officer: GRC/S M ARNOLD
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 820 **UNIV OF AKRON**
 MODEL-BASED CONTROL OF BATTERIES AND FUEL CELLS FOR LONGER
 LIFE
 08/09/2000 - 02/28/2002 FY03: \$0 Total: \$112,644
Prin. Invest.: D T HARTLEY
Tech. Officer: GRC/M MANZO
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 831 **UNIV OF AKRON**
 DESIGN OPTIMIZATION OF STRUCTURAL PANELS WITH ANALYSIS AP-
 PROXIMATORS AT THE SUBPROBLEM LEVEL
 12/12/2000 - 02/28/2004 FY03: \$92,190 Total: \$265,230
Prin. Invest.: S N PATNAIK
Tech. Officer: GRC/D HOPKINS
CASE Category: 46 – MECHANICAL ENGR

NCC 3 839 **UNIV OF AKRON**
 RESEARCH IN INNOVATIVE USE OF SMART MATERIALS IN PROPELLSION
 SYSTEM COMPONENTS-CONTROL AND EXPERIMENT
 12/20/2000 - 12/31/2002 FY03: -\$142 Total: \$152,091
Prin. Invest.: G SONG
Tech. Officer: GRC/H LEE
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 877 **UNIV OF AKRON**
 HIGH TEMPERATURE FUEL CELLS
 03/14/2001 - 11/30/2003 FY03: \$221,398 Total: \$625,732
Prin. Invest.: R K EBY
Tech. Officer: GRC/M A MEADOR
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 929 **UNIV OF AKRON**
 NON-CONTRACTING PASSIVE-ADAPTIVE TURBINE FINGER SEAL DEVELOP-
 MENT
 01/03/2002 - 09/30/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: M J BRAUN
Tech. Officer: GRC/M P PROCTOR
CASE Category: 46 – MECHANICAL ENGR

NCC 3 932 **UNIV OF AKRON**
 FEA STUDY OF IMPACT-PENETRATION FOR LIGHTWEIGHT JE T ENGINE
 CONTAINMENT
 12/28/2001 - 01/18/2004 FY03: \$148,626 Total: \$263,665
Prin. Invest.: W K BINIENDA
Tech. Officer: GRC/G D ROBERTS
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 968 **UNIV OF AKRON**
 POLYIMIDE AND EPOXY BASED NANOCOMPOSITES WITH NANO FIBERS
 AND EXFOLIATED CLAY
 05/31/2002 - 10/06/2004 FY03: \$50,000 Total: \$100,000
Prin. Invest.: D H RENEKER
Tech. Officer: GRC/M A MEADOR
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 992 **UNIV OF AKRON**
 EXTEND THE BASE CAPABILITIES OF "COMPARE" TO INCLU DE DAMAGE
 MODELING
 07/30/2002 - 07/31/2003 FY03: \$0 Total: \$73,000
Prin. Invest.: A SALEEB
Tech. Officer: GRC/S M ARNOLD
CASE Category: 22 – COMPUTER SCIENCE

NCC 3 998 **UNIV OF AKRON**
 MODEL-BASED CONTROL OF BATTERIES AND FUEL CELLS FO R LONGER
 LIFE
 09/06/2002 - 09/07/2004 FY03: \$58,517 Total: \$88,839
Prin. Invest.: T T HARTLEY
Tech. Officer: GRC/T B MILLER
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 1067 **UNIV OF AKRON**
 NUMERICAL ANALYSIS AND MODELING FOR ADVANCED STRUC TURAL AND
 LIFE ANALYSES OF AEROSPACE COMPONENTS
 05/29/2003 - 01/31/2006 FY03: \$156,996 Total: \$156,996
Prin. Invest.: V K ARYA
Tech. Officer: GRC/G R HALFORD
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1094 **UNIV OF AKRON**
 THEORY, MODELING, SOFTWARE AND HARDWARE DEVELOP- MENT IN
 COMPUTATIONAL MATERIALS SCIENCE
 09/25/2003 - 02/28/2004 FY03: \$64,000 Total: \$64,000
Prin. Invest.: G W YOUNG
Tech. Officer: GRC/A CHAIT
CASE Category: 49 – ENGINEERING, OTHER

NGT 3 52364 **UNIV OF AKRON**
 GRADUATE STUDENT RESEARCH PROGRAM GRADUATE STUDENT RE-
 SEARCH PROGRAM
 06/13/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D PERRY
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 12 – CHEMISTRY

NGT 3 52388 **UNIV OF AKRON**
 GRADUATE STUDENT RESEARCH PROGRAM GRADUATE STUDENT RE-
 SEARCH PROGRAM
 06/23/2003 - 08/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S C JANA
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 2 1581 **UNIV OF CINCINNATI**
 AIRCRAFT AND AIRSPACE MODELING APPROACHES TO CAPAC ITY EN-
 HANCEMENT IN AIR MANAGEMENT
 09/20/2002 - 12/31/2003 FY03: \$59,694 Total: \$75,000
Prin. Invest.: G L SLATER
Tech. Officer: ARC/T J DAVIS, ARC/T FARLEY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2451 **UNIV OF CINCINNATI**
 MICROSCOPIC FLOW VISUALIZATION IN DE-MIXING FLUIDS DURING POLY-
 MERIC MEMBRANE FORMATION IN LOW-G
 06/01/2000 - 11/30/2003 FY03: \$100,000 Total: \$340,000
Prin. Invest.: W B KRANTZ
Tech. Officer: GRC/H C DEGROH
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2462 **UNIV OF CINCINNATI**
 INTEGRATED ATOMIZER/SWIRLER FOR LEAN DIRECT INJECT ION COMBUS-
 TION
 06/14/2000 - 12/31/2003 FY03: \$0 Total: \$279,000
Prin. Invest.: S JENG
Tech. Officer: GRC/R R TACINA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2487 **UNIV OF CINCINNATI**
 A SIMULATION STUDY OF SIGE HBTS FOR POWER APPLICAT IONS AT
 MICROWAVE FREQUENCIES
 09/27/2000 - 09/07/2003 FY03: \$0 Total: \$147,693
Prin. Invest.: K P ROENKER
Tech. Officer: GRC/G E PONCHAK
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2669 **UNIV OF CINCINNATI**
 EFFECTS OF EXIT BOUNDARY CONDITIONS ON PULSE DETON ATION
 ENGINE PERFORMANCE
 11/30/2001 - 11/16/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: E J GUTMARK
Tech. Officer: GRC/H D PERKINS
CASE Category: 46 – MECHANICAL ENGR

NAG 5 8986 **UNIV OF CINCINNATI**
 ULTRA-HOT WINDS FROM DO WHITE DWARFS - FUSE
 01/27/2000 - 01/31/2003 FY03: \$0 Total: \$10,600
Prin. Invest.: M L SITKO
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9418 **UNIV OF CINCINNATI**
 ORDOVICIAN BIODIVERSITY: GEOGRAPHY AND ENVIRONMENT
 04/11/2000 - 06/30/2003 FY03: \$0 Total: \$149,748
Prin. Invest.: A I MILLER
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 9475 **UNIV OF CINCINNATI**
 IR SPECTROSCOPY OF DUSTY PROTOSTELLAR DISKS
 04/20/2000 - 04/30/2004 FY03: \$0 Total: \$180,000
Prin. Invest.: M SITKO
Tech. Officer: GSFC/J BOYCE
CASE Category: 13 – PHYSICS

NAG 5 10384 **UNIV OF CINCINNATI**
 DYNAMICS AND CONTROL OF DISTRIBUTED SPACECRAFT.
 02/07/2001 - 02/14/2004 FY03: \$111,307 Total: \$308,456
Prin. Invest.: T WILLIAMS
Tech. Officer: GSFC/D FOLTA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 11684 **UNIV OF CINCINNATI**
 "A DIAGNOSTIC STUDY OF POSSIBLE ENHANCEMENT OF THE HYDRO-
 LOGIC CYCLE"
 02/07/2002 - 02/14/2005 FY03: \$90,000 Total: \$180,000
Prin. Invest.: S ISLAM
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13242 **UNIV OF CINCINNATI**
 EVOLUTION OF DUSTY PROTOSTELLAR DISKS
 04/03/2003 - 04/30/2004 FY03: \$49,999 Total: \$49,999
Prin. Invest.: M SITKO
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13426 **UNIV OF CINCINNATI**
 PHANEROZOIC BIODIVERSITY: GEOGRAPHY AND ENVIRONMENT
 04/26/2003 - 06/30/2006 FY03: \$64,722 Total: \$64,722
Prin. Invest.: A MILLER
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 01475 **UNIV OF CINCINNATI**
 HIGH PERFORMANCE TiO2 PHOTOCATALYTIC COATINGS
 01/13/2003 - 01/12/2006 FY03: \$119,050 Total: \$119,050
Prin. Invest.: D DIONYSIOU
Tech. Officer: JSC/K DAUES
CASE Category: 59 – LIFE SCIENCE, OTHER

NAS 3 01120 **UNIV OF CINCINNATI**
 DEVELOPMENT OF AN INTEGRATED LOOP HEAT PIPE, USING COHERENT
 POROUS SILICON AS A WICK
 03/21/2001 - 12/31/2002 FY03: \$0 Total: \$229,999
Prin. Invest.: T HENSEN
Tech. Officer: GRC/E GOLLIHER
CASE Category: 46 – MECHANICAL ENGR

NAS 3 02113 **UNIV OF CINCINNATI**
 NRA INTERGRATION OF PULSE DETONATION ENGINE (PDE) WITH AIR-
 FRAME FOR POWER LIFT
 04/15/2002 - 03/15/2003 FY03: \$0 Total: \$99,994
Prin. Invest.: E J GUTMARK
Tech. Officer: GRC/L S HULTGREN, GRC/D ERCEGOVIC
CASE Category: 41 – AERONAUTICAL ENGR

NAS 3 02130 **UNIV OF CINCINNATI**
 NRA AWARD FOR STUDY "ADVANCED POROUS ACOUSTIC LINE FOR
 EFFECTIVE FAN AND TURBINE NOISE SUPPRESSION
 04/16/2002 - 03/16/2003 FY03: \$0 Total: \$99,994
Prin. Invest.: E J GUTMARK
Tech. Officer: GRC/C QUINN, GRC/J E GRADY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1139 **UNIV OF CINCINNATI**
 ADVANCED TRAJECTORY ANALYSIS WITH APPLICATION TO AIR TRAFFIC
 CONTROL
 09/03/1999 - 07/31/2002 FY03: \$0 Total: \$142,203
Prin. Invest.: G L SLATER
Tech. Officer: ARC/T J DAVIS, ARC/D R ISAACSON
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 981 **UNIV OF CINCINNATI**
 MARS EXTRA-VEHICULAR ACTIVITY (EVA) MARS EXTRA-VEHICULAR ACTIV-
 ITY (EVA)
 07/17/2002 - 07/07/2004 FY03: \$0 Total: \$88,966
Prin. Invest.: R BECK
Tech. Officer: GRC/C T RAMOS
CASE Category: 32 – GEOLOGICAL SCIENCE

NCC 3 1083 **UNIV OF CINCINNATI**
 LUNAR AND PLANETARY SCIENCE MODULE - PHASE 2 LUNAR AND
 PLANETARY SCIENCE MODULE -- PHASE 2
 08/06/2003 - 09/30/2003 FY03: \$14,998 Total: \$14,998
Prin. Invest.: R BECK
Tech. Officer: GRC/T M SCOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NCC 5 728 **UNIV OF CINCINNATI**
 COLLISION AVOIDANCE AND SAFE MODE FOR SATELLITE FORMATIONS
 04/15/2003 - 06/30/2006 FY03: \$59,929 Total: \$59,929
Prin. Invest.: T WILLIAMS
Tech. Officer: GSFC/R CARPENTER
CASE Category: 42 – ASTRONAUTICAL ENGR

NGT 3 52383 **UNIV OF CINCINNATI**
 GRADUATE STUDENT RESEARCHERS PROGRAM - NANOWIRES F OR
 PHOTOVOLTAIC AND NANO-ELECTRIC DEVICES
 08/15/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C BURDA
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 12 – CHEMISTRY

NGT 5 30453 **UNIV OF CINCINNATI**
 A DIAGNOSTIC STUDY OF A POSSIBLE ACCELERATION OF THE HYDRO-
 LOGIC CYCLE. STUDENT: DAVID L. SMALL
 08/20/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: S ISLAM
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9804 **UNIV OF DAYTON**
 STUDIES WITH SYNTHETIC INTERSTELLAR DIAMOND: RARE GAS INCOR-
 PORATION AND PHASE STABILITY
 07/14/2000 - 07/14/2003 FY03: \$0 Total: \$92,000
Prin. Invest.: A PHELPS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 9808 **UNIV OF DAYTON**
 FE-MG CARBONATES AS A MONITOR PHASE OF CARBON DIOXIDE AND
 OXYGEN FUGACITY ON MARS
 07/17/2000 - 06/30/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: A M KOZIOL
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAS 1 99148 **UNIV OF DAYTON**
 OPERATIONS AND MODELING ANALYSIS
 09/27/1999 - 07/30/2004 FY03: \$49,922 Total: \$344,113
Prin. Invest.: C E EBELING
Tech. Officer: LARC/W D MORRIS
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 3 882 **UNIV OF DAYTON**
 DESIGN OF FREQUENCY AGILE COMPONENTS USING PATTERN ED FER-
 ROELECTRIC FILMS FOR K- AND KA-BAND APPLICA
 04/18/2001 - 12/04/2001 FY03: \$0 Total: \$22,633
Prin. Invest.: G SUBRAMANYAN
Tech. Officer: GRC/F A MIRANDA
CASE Category: 45 – ELECTRICAL ENGR

NGT 3 52351 **UNIV OF DAYTON**
 GRADUATE STUDENT RESEARCH PROGRAM GRADUATE STUDENT RE-
 SEARCH PROGRAM
 06/23/1999 - 07/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: V JAIN
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2269 **UNIV OF TOLEDO**
 DEVELOPMENT OF NOVEL METHODS FOR THE REDUCTION OF NOISE AND
 WEIGHT IN HELICOPTER TRANSMISSIONS
 06/29/1999 - 06/30/2002 FY03: \$0 Total: \$320,052
Prin. Invest.: T G KEITH
Tech. Officer: GRC/T L KRANTZ
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2338 **UNIV OF TOLEDO**
 CHEMISTRY OF AVIATION FUELS CHEMISTRY OF AVIATION FUELS
 02/23/2000 - 04/03/2004 FY03: \$85,598 Total: \$530,637
Prin. Invest.: K L DEWITT
Tech. Officer: GRC/M RABINOWITZ
CASE Category: 43 – CHEMICAL ENGR

NAG 3 2408 **UNIV OF TOLEDO**
 INVESTIGATION OF PRESSURIZED WAVE BEARING INVESTIGATION OF
 PRESSURIZED WAVE BEARING
 05/01/2000 - 12/31/2002 FY03: \$0 Total: \$141,138
Prin. Invest.: T G KEITH
Tech. Officer: GRC/D P FLEMING
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2409 **UNIV OF TOLEDO**
 DISSEMINATION OF REMOTE SENSING TECHNOLOGY IN NORT HWEST
 OHIO THROUGH EDUCATIONAL AND COMM OUTR
 05/04/2000 - 09/30/2001 FY03: \$0 Total: \$105,000
Prin. Invest.: D P CZAJKOWSKI
Tech. Officer: GRC/T M SCOTT
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 3 2502 **UNIV OF TOLEDO**
 DEVELOPMENT OF COMPUTATIONAL AEROACOUSTICS CODE FO R JET
 AND FAN NOISE AND FLOW PREDICTION
 11/07/2000 - 10/31/2002 FY03: \$0 Total: \$261,903
Prin. Invest.: T G KEITH
Tech. Officer: GRC/E ENVIA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2505 **UNIV OF TOLEDO**
 CFD SIMULATION OF CASING TREATMENT OF AXIAL FLOW C OMPRES-
 SORS
 11/13/2000 - 12/30/2003 FY03: \$185,263 Total: \$458,459
Prin. Invest.: T G KEITH
Tech. Officer: GRC/J ADMACZYK
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2507 **UNIV OF TOLEDO**
 DEVELOPMENT OF ADVANCED CASING TREATMENTS FOR FLOW CON-
 TROL
 11/20/2000 - 11/05/2001 FY03: \$0 Total: \$119,190
Prin. Invest.: T G KEITH, JR.
Tech. Officer: GRC/M D HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2508 **UNIV OF TOLEDO**
 ESTABLISHMENT OF A DATA EXCHANGE MECHANISM FOR ZOO MING IN
 THE NPSS ARCHITECTURE
 11/29/2000 - 11/15/2001 FY03: \$0 Total: \$60,014
Prin. Invest.: A A AFJEH
Tech. Officer: GRC/G J FOLLEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2565 **UNIV OF TOLEDO**
 CRYOGENIC NANO-ELECTRONICS FOR SPACE BORNE POWER SYSTEMS
 03/14/2001 - 09/14/2003 FY03: \$0 Total: \$67,473
Prin. Invest.: V J KAPOOR
Tech. Officer: GRC/R L PATTERSON
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2594 **UNIV OF TOLEDO**
 SIMULATION OF COORDINATED STATELITE OPERATION
 04/17/2001 - 04/02/2004 FY03: \$31,000 Total: \$155,999
Prin. Invest.: D D JOHNSON
Tech. Officer: GRC/J D STEGEMAN
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 3 2641 **UNIV OF TOLEDO**
 INVESTIGATION OF DYNAMIC FORCE/VIBRATION TRANSMISS ION CHAR-
 ACTERISTICS OF FOUR-SQUARE TYPE GEAR DURA
 07/16/2001 - 03/31/2002 FY03: \$0 Total: \$31,295
Prin. Invest.: A KAHRAMAN
Tech. Officer: GRC/R HANDSCHUH
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2646 **UNIV OF TOLEDO**
 ADVANCED CONCEPTS RESEARCH FOR FLYWHEEL TECHNOLOGY APPLI-
 CATIONS
 08/30/2001 - 05/11/2004 FY03: \$155,734 Total: \$333,381
Prin. Invest.: T G KEITH
Tech. Officer: GRC/R F BEACH
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2673 **UNIV OF TOLEDO**
 REVIEW OF NASA-GLENN COMPRESSOR RESEARCH REVIEW OF NASA-
 GLENN COMPRESSOR RESEARCH
 12/11/2001 - 06/30/2002 FY03: \$0 Total: \$19,661
Prin. Invest.: T G KEITH
Tech. Officer: GRC/A J STRAZISAR
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2674 **UNIV OF TOLEDO**
 SULFUR OXIDATION AND CONTRAIL PRECURSOR CHEMISTRY SULFUR
 OXIDATION AND CONTRAIL PRECURSOR CHEMISTRY
 12/14/2001 - 10/14/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: K DEWITT
Tech. Officer: GRC/M J RABINOWITZ
CASE Category: 12 – CHEMISTRY

NAG 3 2756 **UNIV OF TOLEDO**
 RESEARCH INITIATIVES INVOLVING ADVANCED ELECTRO MECHANICAL
 COMPONENTS
 03/28/2002 - 03/20/2004 FY03: \$120,618 Total: \$246,852
Prin. Invest.: T G KEITH
Tech. Officer: GRC/A F KASCAK
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2859 **UNIV OF TOLEDO**
 FURTHER DEVELOPMENT OF COMPUTATIONAL AEROACOUSTICS CODE
 FOR JET NOISE AND FLOW PREDICTION
 03/07/2003 - 11/30/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: D HIXON
Tech. Officer: GRC/E ENVIA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 4957 **UNIV OF TOLEDO**
 THE EVOLUTION OF INTERSTELLAR GAS - MASSIVE STARS
 06/27/1997 - 06/30/2003 FY03: \$0 Total: \$420,154
Prin. Invest.: S R FEDERMAN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8054 **UNIV OF TOLEDO**
 CIRCUMSTELLAR ENVIRONMENTS OF HIGH- AND INTERMEDIA TE-MASS
 STARS: FROM THE PRE-MAIN-SEQUENCE TO LB
 01/19/1999 - 01/14/2004 FY03: \$102,326 Total: \$487,508
Prin. Invest.: K S BJORKMAN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8183 **UNIV OF TOLEDO**
 DUST AND CONDENSATE CLOUDS IN THE MARTIAN POLAR RE GIONS
 02/16/1999 - 08/31/2003 FY03: \$0 Total: \$178,600
Prin. Invest.: P B JAMES
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8671 **UNIV OF TOLEDO**
 USE OF THERMAL INFRARED SATELLITE DATA IN CLIMATE CHANGE
 STUDIES
 07/08/1999 - 07/14/2003 FY03: \$0 Total: \$334,317
Prin. Invest.: K P CZAJKOWSKI
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8794 **UNIV OF TOLEDO**
 THE GEOMETRY AND EVOLUTION OF LOW-MASS STAR FORMAT ION (ATP
 98)
 09/07/1999 - 09/14/2003 FY03: \$0 Total: \$61,782
Prin. Invest.: J E BJORKMAN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 9202 **UNIV OF TOLEDO**
 MOVING BEYOND THE STANDARD PARADIGM: THE IMPORTANC E OF
 INTERSTELLAR DUST FROM THE MILKY WAY TO HIGH
 03/14/2000 - 03/14/2004 FY03: \$0 Total: \$101,190
Prin. Invest.: A WITT
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9376 **UNIV OF TOLEDO**
 INTERSTELLAR DUST IN GALAXIES (LTSA - 99)
 04/11/2000 - 04/14/2005 FY03: \$113,296 Total: \$397,595
Prin. Invest.: A N WITT
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11440 **UNIV OF TOLEDO**
 OSCILLATOR STRENGTHS FOR ULTRAVIOLET ATOMIC AND MOLECULAR
 TRANSITIONS
 12/04/2001 - 12/31/2004 FY03: \$89,356 Total: \$167,356
Prin. Invest.: S R FEDERMAN
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12186 **UNIV OF TOLEDO**
 CONDENSATES AND DUST IN THE POLAR REGIONS OF MARS: MOC WIDE
 ANGLE DATA
 05/13/2002 - 05/14/2005 FY03: \$73,233 Total: \$146,466
Prin. Invest.: P JAMES
Tech. Officer: GSFC/J BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12320 **UNIV OF TOLEDO**
 MASS LOSS IN DENE B (FUSE 2001)
 08/06/2002 - 08/14/2004 FY03: \$14,441 Total: \$38,141
Prin. Invest.: N D MORRISON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12629 **UNIV OF TOLEDO**
 INTERNATIONAL SYMPOSIUM ON ASTROPHYSICS OF DUST
 10/07/2002 - 10/14/2003 FY03: \$15,000 Total: \$15,000
Prin. Invest.: A WITT
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1578 **UNIV OF TOLEDO**
 INFLUENCE OF IMPURITIES ON PROTEIN CRYSTAL GROWTH
 01/28/1999 - 11/30/2002 FY03: \$0 Total: \$421,600
Prin. Invest.: C A SCHALL
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1825 **UNIV OF TOLEDO**
 SEARCHING FOR THE BEST PROTEIN CRYSTALS; INTE- GRATION OF
 SYNCHRONTRON-BASED CRYSTAL MEASUREMENTS
 08/29/2001 - 10/11/2002 FY03: -\$212,979 Total: \$242,021
Prin. Invest.: G E BORGSTAHL
Tech. Officer: MSFC/B GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1838 **UNIV OF TOLEDO**
 OPTIMIZATION OF CRYOGENIC COOLING OF PROTEIN CRYSTALS
 10/04/2001 - 11/30/2004 FY03: \$105,000 Total: \$418,000
Prin. Invest.: C SCHALL
Tech. Officer: MSFC/B GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 3 01116 **UNIV OF TOLEDO**
 AEROELASTIC MODELING AND ANALYSIS OF UEET FAN AND COMPRESSOR DESIGN
 06/18/2001 - 12/21/2004 FY03: \$270,000 Total: \$602,500
Prin. Invest.: T KEITH
Tech. Officer: GRC/J MINNS
CASE Category: 46 – MECHANICAL ENGR

NCC 3 524 **UNIV OF TOLEDO**
 COMPUTATIONAL SIMULATION OF COMPOSITE BEHAVIOR
 12/26/1996 - 12/11/2003 FY03: \$144,786 Total: \$871,316
Prin. Invest.: T G KEITH
Tech. Officer: GRC/P MURTHY
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 605 **UNIV OF TOLEDO**
 AEROELASTIC STABILITY AND RESPONSE OF ROTATING STRUCTURES
 04/03/1998 - 12/31/2003 FY03: \$148,970 Total: \$667,729
Prin. Invest.: T KEITH
Tech. Officer: GRC/O MEHMED
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 717 **UNIV OF TOLEDO**
 MULTI-STAGE AEROELASTIC ANALYSIS FOR PROPULSION MULTI-STAGE AEROELASTIC ANALYSIS FOR PROPULSION
 06/29/1999 - 11/19/2001 FY03: \$0 Total: \$127,731
Prin. Invest.: T G KEITH, JR.
Tech. Officer: GRC/O MEHMED
CASE Category: 46 – MECHANICAL ENGR

NCC 3 719 **UNIV OF TOLEDO**
 CENTRIFUGAL COMPRESSOR AEROELASTIC ANALYSIS CODEE CENTRIFUGAL COMPRESSOR AEROELASTIC ANALYSIS CODEE
 06/24/1999 - 02/15/2002 FY03: \$0 Total: \$168,730
Prin. Invest.: T G KEITH
Tech. Officer: GRC/D C JANETZKE
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 774 **UNIV OF TOLEDO**
 ACTIVE CONTROL ANALYSIS FOR AEROELASTIC INSTABILITIES IN TURBOMACHINES
 02/14/2000 - 11/01/2001 FY03: \$0 Total: \$115,916
Prin. Invest.: T KEITH
Tech. Officer: GRC/D JANETZKE
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 855 **UNIV OF TOLEDO**
 NEXT GENERATION OF HALL THRUSTERS FOR SPACE PROPULSION
 01/25/2001 - 12/18/2003 FY03: \$142,488 Total: \$404,198
Prin. Invest.: T G KEITH
Tech. Officer: GRC/D REDDY
CASE Category: 13 – PHYSICS

NCC 3 881 **UNIV OF TOLEDO**
 MICROWAVE LOW NOISE AMPLIFIER USING SILICON GERMANIUM NANOTECHNOLOGY
 03/26/2001 - 10/15/2003 FY03: \$0 Total: \$104,632
Prin. Invest.: V J KAPOOR
Tech. Officer: GRC/G E PONCHAK
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 907 **UNIV OF TOLEDO**
 NOVEL DAMPING CONCEPTS FOR MECHANICAL BACKUP BEARINGS AND PASSIVE MAGNETICALLY SUSPENDED ROTORS
 08/02/2001 - 10/31/2002 FY03: \$0 Total: \$104,244
Prin. Invest.: T G KEITH
Tech. Officer: GRC/K MCLALLIN
CASE Category: 46 – MECHANICAL ENGR

NCC 3 916 **UNIV OF TOLEDO**
 TECHNOLOGY VALIDATION AND RISK REDUCTION RESEARCH FOR FLYWHEEL TECHNOLOGY
 09/20/2001 - 11/30/2003 FY03: \$151,205 Total: \$319,624
Prin. Invest.: T G KEITH
Tech. Officer: GRC/R BEACH
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 922 **UNIV OF TOLEDO**
 ANALYSIS AND OPTIMIZATION OF MIXING ENHANCEMENT DEVICES
 10/25/2001 - 12/15/2003 FY03: \$102,910 Total: \$196,093
Prin. Invest.: T G KEITH
Tech. Officer: GRC/N J GEORGIADIS
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 923 **UNIV OF TOLEDO**
 TURBOMACHINERY HEAT TRANSFER AND LOSS MODELING FOR 3D NAVIER-STOKES CODES
 11/29/2001 - 09/30/2004 FY03: \$267,251 Total: \$415,381
Prin. Invest.: T G KEITH
Tech. Officer: GRC/R E GAUGLER
CASE Category: 46 – MECHANICAL ENGR

NCC 3 924 **UNIV OF TOLEDO**
 RESEARCH IN CONTROLS FOR FLYWHEEL TECHNOLOGY APPLICATIONS
 12/10/2001 - 11/30/2003 FY03: \$106,046 Total: \$213,415
Prin. Invest.: T G KEITH
Tech. Officer: GRC/F R BEACH
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 925 **UNIV OF TOLEDO**
 VALIDATION AND ENHANCEMENT OF COMPREHENSIVE COMBUSTION MODELING AND SIMULATION
 12/10/2001 - 12/31/2003 FY03: \$152,689 Total: \$292,689
Prin. Invest.: T G KEITH
Tech. Officer: GRC/N LIU
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 926 **UNIV OF TOLEDO**
 TURBINE INTERNAL AND FILM COOLING MODELING FOR 3D NAVIER-STOKES CODES
 12/10/2001 - 09/30/2004 FY03: \$232,293 Total: \$413,551
Prin. Invest.: T G KEITH
Tech. Officer: GRC/R E GAUGLER
CASE Category: 46 – MECHANICAL ENGR

NCC 3 943 **UNIV OF TOLEDO**
 DYNAMIC ENGINE SIMULATOR RIG USING MAGNETIC BEARING GS
 03/12/2002 - 12/31/2003 FY03: \$87,754 Total: \$133,279
Prin. Invest.: T G KEITH
Tech. Officer: GRC/G MONTAGUE
CASE Category: 46 – MECHANICAL ENGR

NCC 3 954 **UNIV OF TOLEDO**
 EXPERIMENTAL STUDY OF TRACTION DRIVES EXPERIMENTAL STUDY OF
 TRACTION DRIVES
 04/16/2002 - 04/02/2004 FY03: \$78,580 Total: \$156,580
Prin. Invest.: T G KEITH
Tech. Officer: GRC/W MORALES
CASE Category: 46 – MECHANICAL ENGR

NCC 3 995 **UNIV OF TOLEDO**
 MICROSTRUCTURAL ANALYSIS OF ADVANCED TURBINE MATERIALS
 08/15/2002 - 09/30/2003 FY03: \$145,084 Total: \$175,084
Prin. Invest.: T G KEITH
Tech. Officer: GRC/M V NATHAL
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 1012 **UNIV OF TOLEDO**
 INVESTIGATION OF A JOURNAL BEARING FOR APPLICATION IN THE GEAR
 BOX OF A GEARED FAN
 11/13/2002 - 02/03/2004 FY03: \$199,322 Total: \$199,322
Prin. Invest.: T G KEITH
Tech. Officer: GRC/R HANDSCHUH
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1018 **UNIV OF TOLEDO**
 ELEVATED TEMPERATURE STRUCTURAL SEAL DEVELOPMENT
 12/30/2002 - 11/30/2005 FY03: \$102,274 Total: \$102,274
Prin. Invest.: T G KEITH
Tech. Officer: GRC/P DUNLAP
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1022 **UNIV OF TOLEDO**
 HEAT TRANSFER & THERMAL INSTABILITY RESEARCH FOR ADVANCED
 HYDROCARBON FUEL TECHNOLOGIES
 12/30/2002 - 11/30/2003 FY03: \$94,746 Total: \$94,746
Prin. Invest.: T G KEITH
Tech. Officer: GRC/M L MEYER
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1046 **UNIV OF TOLEDO**
 CONICAL MAGNETIC BEARING TESTING OF EXTREME TEMPERATURE
 ENVIRONMENTS
 03/21/2003 - 12/03/2003 FY03: \$88,432 Total: \$88,432
Prin. Invest.: T G KEITH
Tech. Officer: GRC/G T MONTAGUE
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1055 **UNIV OF TOLEDO**
 DEVELOPMENT OF PARTICULATES AND AEROSOLS RESEARCH DEVELOP-
 MENT OF PARTICULATES AND AEROSOLS RESEARCH
 04/14/2003 - 01/14/2004 FY03: \$94,131 Total: \$94,131
Prin. Invest.: T G KEITH
Tech. Officer: GRC/P F PENKO
CASE Category: 43 – CHEMICAL ENGR

NCC 3 1061 **UNIV OF TOLEDO**
 FAULT TOLERANT MAGNETIC BEARING AND CONICAL MAGNETIC BEARING
 DEVELOPMENT FOR EXTREME TEMPERATURE EN
 05/13/2003 - 10/31/2003 FY03: \$26,235 Total: \$26,235
Prin. Invest.: T G KEITH
Tech. Officer: GRC/G T MONTAGUE
CASE Category: 46 – MECHANICAL ENGR

NCC 3 1068 **UNIV OF TOLEDO**
 ADVANCED AEROELASTIC TECHNOLOGIES FOR TURBOMACHINE APPLI-
 CATION
 06/02/2003 - 12/31/2003 FY03: \$15,000 Total: \$15,000
Prin. Invest.: T G KEITH
Tech. Officer: GRC/A P KURKOV
CASE Category: 46 – MECHANICAL ENGR

NCC 5 673 **UNIV OF TOLEDO**
 OH PROMPT EMISSION IN COMETS.
 10/29/2002 - 10/31/2005 FY03: \$28,081 Total: \$28,081
Prin. Invest.: P B JAMES
Tech. Officer: GSFC/MJ MUMMA
CASE Category: 13 – PHYSICS

NGT 3 52375 **UNIV OF TOLEDO**
 GRADUATE STUDENT RESEARCH
 06/07/2001 - 06/30/2003 FY03: \$24,000 Total: \$70,000
Prin. Invest.: V J KAPOOR
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 50469 **UNIV OF TOLEDO**
 EFFECTS OF AGE AND METALLICITY ON DISK FORMATION (STUDENT:
 JOHN WISNIEWSKI)
 05/01/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: K BJORKMAN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1529 **WRIGHT STATE UNIV**
 HUMAN CENTERED SUPPORT FOR TELEOPERATED PLANETARY EXPLORA-
 TION II
 11/19/2001 - 11/14/2002 FY03: \$0 Total: \$70,000
Prin. Invest.: V L SHALIN
Tech. Officer: ARC/J TRIMBLE
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2637 **WRIGHT STATE UNIV**
 DEFECTS IN AIGAN/GAN HEMT DEVICES DEFECTS IN AIGAN/GAN HEMT
 DEVICES
 06/18/2001 - 06/30/2002 FY03: \$0 Total: \$119,269
Prin. Invest.: D C LOOK
Tech. Officer: GRC/J FREEMAN
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2907 **WRIGHT STATE UNIV**
 COMPUTER MODELING OF THE DISCHARGE CHAMBER OF AN ION ENGINE
 05/23/2003 - 04/02/2004 FY03: \$49,918 Total: \$49,918
Prin. Invest.: J A MENART
Tech. Officer: GRC/M J PATTERON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

OKLAHOMA

NASA'S UNIVERSITY PROGRAM

NAG 5 4188 **WRIGHT STATE UNIV**
 MODEL STUDIES OF EXCITED STATES OF N2 AND N2+ IN T IONOSPHERE
 03/27/1997 - 03/31/2003 FY03: \$0 Total: \$209,608
Prin. Invest.: D L FOX
Tech. Officer: GSFC/M M MELLOTT, SR
CASE Category: 13 – PHYSICS

NAG 5 12755 **WRIGHT STATE UNIV**
 COUPLED MODELS OF PLANETARY THERMOSPHERES/IONO- SPHERES
 01/15/2003 - 09/30/2005 FY03: \$101,213 Total: \$101,213
Prin. Invest.: J L FOX
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13313 **WRIGHT STATE UNIV**
 STUDIES OF THE MARS GLOBAL SURVEYOR RADIO SCIENCE ELECTRON
 DENSITY PROFILES
 04/08/2003 - 04/14/2006 FY03: \$75,085 Total: \$75,085
Prin. Invest.: J FOX
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1203 **WRIGHT STATE UNIV**
 ROLES FOR TECHNOLOGY IN THE FACILITATION OF DISTRI BUTED WORK
 IN COMPLEX DYNAMIC DOMAINS
 09/15/2000 - 03/31/2003 FY03: \$0 Total: \$167,250
Prin. Invest.: V L SHALIN
Tech. Officer: ARC/W J CLANCEY
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1351 **WRIGHT STATE UNIV**
 ROLES FOR TECHNOLOGY IN THE FACILITATION OF DISTRI BUTED WORK
 IN COMPLEX DYNAMIC DOMAINS AN ANALYSIS
 06/25/2002 - 09/30/2002 FY03: \$0 Total: \$30,669
Prin. Invest.: V SHALIN
Tech. Officer: ARC/J ORASANU, ARC/M CONNORS
CASE Category: 74 – LINGUISTICS

NCC 2 1411 **WRIGHT STATE UNIV**
 PARTICIPANT OBSERVATION OF MER DESIGN AND DEVELOPM ENT: IMPLI-
 CATIONS FOR THE RELATIONSHIP BETWEEN TO
 06/25/2003 - 10/31/2003 FY03: \$23,205 Total: \$23,205
Prin. Invest.: V L SHALIN
Tech. Officer: ARC/W J CLANCEY
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 30428 **WRIGHT STATE UNIV**
 "CENTURY 21"VISION: NASA TRAINING BY THE RESIDENCY IN AEROSPACE
 MEDICINE"
 04/26/2002 - 12/31/2006 FY03: \$600,000 Total: \$1,200,000
Prin. Invest.: S MOHLER
Tech. Officer: GSFC/R S WILLIAMS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

OKLAHOMA

NAG 1 02016 **OKLAHOMA STATE UNIV**
 MODELING INTERACTION BETW PERMEABILITY & DAMAGE IN PMC LAMI-
 NATES FOR THE NASA REUSABLE LAUNCH VEH
 12/11/2001 - 12/10/2004 FY03: \$82,322 Total: \$162,434
Prin. Invest.: S ROY
Tech. Officer: LARC/T S GATES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2780 **OKLAHOMA STATE UNIV**
 CHARACTERIZATION OF ENVIRONMENTAL DURABILITY OF PO LYMER
 MATRIX COMPOSITE
 05/24/2002 - 06/23/2004 FY03: \$0 Total: \$31,660
Prin. Invest.: S ROY
Tech. Officer: LARC/M A MEADOR
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 7451 **OKLAHOMA STATE UNIV**
 TERRESTRIAL ENVIRONMENTAL VARIABLES DERIVED FROM E OS PLAT-
 FORM SENSORS
 07/09/1998 - 12/31/2001 FY03: -\$127 Total: \$47,099
Prin. Invest.: S J STADLER
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 9 1332 **OKLAHOMA STATE UNIV**
 MONOLITHIC INTERGRATED RADIATION_SENSOR USING STIMULATED LU-
 MINESCENSE FROM ALUMINA
 07/17/2001 - 07/13/2004 FY03: \$254,164 Total: \$997,420
Prin. Invest.: S MCKEEVER
Tech. Officer: JSC/M GOLIGHTLY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 903 **OKLAHOMA STATE UNIV**
 INFRARED AVIONICS SIGNAL DISTRIBUTION: (PHASE 2: EXPERIMENT
 SETUP AND VERIFICATION)
 07/13/2001 - 07/19/2002 FY03: \$0 Total: \$29,882
Prin. Invest.: M ATIQUZZAMAN
Tech. Officer: GRC/D NGO
CASE Category: 45 – ELECTRICAL ENGR

NCC 5 185 **OKLAHOMA STATE UNIV**
 TEACHING FROM SPACE PROGRAM
 04/03/1997 - 01/31/2002 FY03: \$0 Total: \$3,984,243
Prin. Invest.: S K MARKS
Tech. Officer: GSFC/L L BILBROUGH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 561 **OKLAHOMA STATE UNIV**
 AEROSPACE EDUCATION SERVICES PROGRAM
 06/28/2001 - 05/31/2006 FY03: \$14,884,511 Total: \$27,653,259
Prin. Invest.: T COLLINS
Tech. Officer: GSFC/L BILLBROUGH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 629 **OKLAHOMA STATE UNIV**
 TEACHING FROM SPACE
 02/27/2002 - 01/31/2007 FY03: \$1,456,418 Total: \$2,304,589
Prin. Invest.: S MARKS
Tech. Officer: GSFC/L BILBROUGH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC13 02002 **OKLAHOMA STATE UNIV**
 FIELD TESTING OF A SENSOR-BASED APPLICATOR FOR NITROGEN AND
 PHOSPHORUS FERTILIZATION
 01/25/2002 - 01/24/2005 FY03: \$385,399 Total: \$575,000
Prin. Invest.: G JOHSON
Tech. Officer: SSC/R MCKELLIP
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 4 52425 **OKLAHOMA STATE UNIV**
 (GSRP) OPEN PORT STABILIZED SENSOR SYSTEM AEROSERV OELASTIC
 PREDICTION WITH COMPARISONS TO FLIGHT TE
 07/16/2001 - 06/30/2003 FY03: \$0 Total: \$46,000
Prin. Invest.: D S ARENA
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 4 52436 **OKLAHOMA STATE UNIV**
 GSRP - EXPERIMENTAL INVESTIGATION OF AIR FLOW WITH IN PARTIALLY
 BLOCKED CAVITIES WITH EMPHASIS ON FO
 06/26/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: A S ARENA
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 50420 **OKLAHOMA STATE UNIV**
 TECHNIQUES AND INSTRUMENTS FOR IN-SITU DATING OF M ARTIAN
 SEDIMENTS STUDENT: MICHAEL BLAIR
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: S MCKEEVERS
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2178 **UNIV OF OKLAHOMA - NORMAN**
 A STUDY ON EMBEDDED HIGH-SPEED WIRELESS TELEMETRY SYSTEMS
 FOR WIND TUNNEL APPLICATIONS, PHASE II
 03/31/1999 - 12/31/2001 FY03: -\$84 Total: \$221,134
Prin. Invest.: J R CRUZ
Tech. Officer: LARC/S K KAHNG
CASE Category: 45 – ELECTRICAL ENGR

NAG 2 1427 **UNIV OF OKLAHOMA - NORMAN**
 EFFECT OF HYPERGRAVITY, VIBRATION, & RADIATION ON GENETIC &
 DEVELOPMENTAL STABILITY IN DROSOPHILIA..
 08/03/2000 - 01/31/2004 FY03: \$0 Total: \$777,078
Prin. Invest.: J T THOMPSON, JR
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1648 **UNIV OF OKLAHOMA - NORMAN**
 ROCK ABRASION TOOL (RAT) REDESIGN
 09/17/2003 - 03/14/2004 FY03: \$23,231 Total: \$23,231
Prin. Invest.: D MILLER
Tech. Officer: ARC/M BUALAT, ARC/J BRASINA
CASE Category: 46 – MECHANICAL ENGR

NAG 3 2388 **UNIV OF OKLAHOMA - NORMAN**
 GRAVITATIONAL EFFECTS ON FLOW INSTABILITY AND TRAN SITION IN LOW
 DENSITY JETS
 04/10/2000 - 08/31/2004 FY03: \$100,000 Total: \$335,250
Prin. Invest.: A K AGRAWAL
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2922 **UNIV OF OKLAHOMA - NORMAN**
 SEAMLESS HANDOVER IN SPACE NETWORKS SEAMLESS HANDOVER IN
 SPACE NETWORKS
 07/07/2003 - 04/30/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: M ATIQUZZAMAN
Tech. Officer: GRC/W D IVANCIC
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 9165 **UNIV OF OKLAHOMA - NORMAN**
 COMPREHENSIVE SUPERNOVA SPECTROSCOPY - ADP - 99
 03/31/2000 - 03/31/2002 FY03: \$0 Total: \$90,000
Prin. Invest.: D BRANCH
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9745 **UNIV OF OKLAHOMA - NORMAN**
 X-RAY SPECTRAL & VARIABILITY STUDIES OF AGN ADP 99
 06/29/2000 - 08/14/2002 FY03: \$0 Total: \$50,440
Prin. Invest.: K M LEIGHLY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9991 **UNIV OF OKLAHOMA - NORMAN**
 NGC 6300: A NEW, BRIGHT, COMPTON-THICK SEYFERT 2 GALAXY
 09/14/2000 - 08/31/2003 FY03: \$0 Total: \$25,433
Prin. Invest.: K M LEIGHLY
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10048 **UNIV OF OKLAHOMA - NORMAN**
 FAR UV SPECTROSCOPY OF NARROW-LINE SEYFERT 1 GALAXY RE
 1034+39
 10/04/2000 - 08/15/2002 FY03: \$0 Total: \$35,500
Prin. Invest.: K LEIGHLY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10171 **UNIV OF OKLAHOMA - NORMAN**
 NARROW-LINE SEYFERT 1 GALAXIES (LTSA 98)
 12/18/2000 - 03/31/2004 FY03: \$81,549 Total: \$243,203
Prin. Invest.: K M LEIGHLY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10366 **UNIV OF OKLAHOMA - NORMAN**
 WIND EMISSION IN NARROW-LINE SEYFERT 1 GALAXIES (FUSE 00)
 02/05/2001 - 02/14/2004 FY03: \$0 Total: \$70,000
Prin. Invest.: K M LEIGHLY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12127 **UNIV OF OKLAHOMA - NORMAN**
 RADIATIVE TRANSFER IN 3-D MOVING FLOWS: UNDERSTAND ING STARS,
 SUPERNOVAE, AND COSMOLOGY
 04/29/2002 - 04/30/2005 FY03: \$99,469 Total: \$245,101
Prin. Invest.: E BARON
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 13110 **UNIV OF OKLAHOMA - NORMAN**
 TESTING FOR X-RAY PERIODICITIES IN ACTIVE GALAXIES
 03/14/2003 - 03/14/2004 FY03: \$25,009 Total: \$25,009
Prin. Invest.: K LEIGHLY
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13140 **UNIV OF OKLAHOMA - NORMAN**
 STUDY OF THE UV-X-RAY PROPERTIES OF LUMINOUS NARRO W-LINE
 QUASARS
 03/20/2003 - 03/31/2004 FY03: \$56,406 Total: \$56,406
Prin. Invest.: C MATSUMOTO
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

OREGON

NASA'S UNIVERSITY PROGRAM

NAG 5 13141 **UNIV OF OKLAHOMA - NORMAN**
 PG 1448+273: THE HOTTEST ACCRETION DISK AMONG ACTIVE GALACTIC NUCLEI
 03/20/2003 - 03/31/2004 FY03: \$8,800 Total: \$8,800
Prin. Invest.: K M LEIGHLIY
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13262 **UNIV OF OKLAHOMA - NORMAN**
 "VALIDATION OF TRMM RAINFALL & HEATING ESTIMATES"
 04/02/2003 - 03/31/2004 FY03: \$195,000 Total: \$195,000
Prin. Invest.: M BIGGERSTAFF
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13701 **UNIV OF OKLAHOMA - NORMAN**
 SURVEY OBSERVATIONS OF SOFT X-RAY SELECTED AGN
 09/17/2003 - 09/14/2004 FY03: \$63,800 Total: \$63,800
Prin. Invest.: K M LEIGHLIY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 13 – PHYSICS

NAG 9 1280 **UNIV OF OKLAHOMA - NORMAN**
 INTEGRATED CREW PERFORMANCE ASSESMENT AND TRAINING
 02/02/2001 - 12/31/2003 FY03: \$104,954 Total: \$413,119
Prin. Invest.: R SCHLEGEL
Tech. Officer: JSC/B WOOLFORD
CASE Category: 56 – MEDICL

NAG 9 1486 **UNIV OF OKLAHOMA - NORMAN**
 RMS OPERATOR TRAINING & PERFORMANCE METRICS
 04/01/2003 - 03/31/2006 FY03: \$156,600 Total: \$156,600
Prin. Invest.: R E SCHLEGEL
Tech. Officer: JSC/B WOOLFORD
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 2 1355 **UNIV OF OKLAHOMA - NORMAN**
 GENETIC AND DEVELOPMENTAL STABILITY IN RESPONSE TO LONG TERM EXPOSURE OF DROSOPHILAMELANOGASTER TO A
 07/29/2002 - 01/31/2004 FY03: \$0 Total: \$20,000
Prin. Invest.: J N THOMPSON
Tech. Officer: ARC/D REISS-BUBENHEIM
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1382 **UNIV OF OKLAHOMA - NORMAN**
 MARS ANALOG RESEARCH AND TECHNOLOGY EXPERIMENT (MARTHE) SAMPLE HANDLING SUBSYSTEM
 12/23/2002 - 12/31/2003 FY03: \$155,515 Total: \$155,515
Prin. Invest.: D P MILLER
Tech. Officer: ARC/C STOKER
CASE Category: 46 – MECHANICAL ENGR

NCC 2 5382 **UNIV OF OKLAHOMA - NORMAN**
 MINERALS & SUBMICROMETER FORMS AS BIOSIGNATURES
 05/16/2000 - 05/14/2002 FY03: -\$2,170 Total: \$27,830
Prin. Invest.: R D ELMORE
Tech. Officer: ARC/D BLAKE
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 3 787 **UNIV OF OKLAHOMA - NORMAN**
 INSTABILITY AND BREAKUP OF GAS JETS INJECTED IN CO FLOWING LIQUIDS
 03/28/2000 - 12/31/2003 FY03: \$85,000 Total: \$295,000
Prin. Invest.: D N PARTHASAEATHY
Tech. Officer: GRC/J B MCQUILLEN
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1069 **UNIV OF OKLAHOMA - NORMAN**
 INFRARED AVIONICS SIGNAL DISTRIBUTION USING WAVELENGTH DIVISION MULTIPLEXING
 06/27/2003 - 12/31/2003 FY03: \$25,000 Total: \$25,000
Prin. Invest.: M ATIQUZZAMAN
Tech. Officer: GRC/D H NGO
CASE Category: 45 – ELECTRICAL ENGR

NCC 5 171 **UNIV OF OKLAHOMA - NORMAN**
 TO SUPPORT RESEARCH UNDER THE EXPERIMENTAL PROGRAM COMPETITIVE RESEARCH
 12/16/1996 - 05/14/2002 FY03: -\$769 Total: \$2,499,231
Prin. Invest.: V DUCA-SNOWDEN
Tech. Officer: GSFC/J DASCH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 586 **UNIV OF OKLAHOMA - NORMAN**
 OKLAHOMA NASA/EPSCOR PROGRAM
 08/31/2001 - 08/31/2004 FY03: \$993,812 Total: \$1,490,718
Prin. Invest.: V DUCA-SNOWDEN
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40111 **UNIV OF OKLAHOMA - NORMAN**
 OKLAHOMA SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 03/06/2001 - 02/28/2005 FY03: \$733,750 Total: \$1,205,282
Prin. Invest.: V DUCA-SNOWDEN
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

OREGON

NCC 2 1218 **OREGON HEALTH SCIENCES UNIV**
 ROBUST INTELLIGENT SYSTEMS BASED ON INFORMATION FU SION
 03/14/2001 - 02/28/2004 FY03: \$371,000 Total: \$903,000
Prin. Invest.: M PAVEL
Tech. Officer: ARC/J C COUGLAN, ARC/M SCHWABACHER
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1253 **OREGON HEALTH SCIENCES UNIV**
 BIOLOGICAL COMPUTING FOR ROBOT NAVIGATION & CONTROL
 04/08/2001 - 02/29/2004 FY03: \$795,878 Total: \$1,330,913
Prin. Invest.: M A JABRI
Tech. Officer: ARC/T R GOVINDAN
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1264 **OREGON HEALTH SCIENCES UNIV**
 MODEL BIASED, DATA DRIVEN ADAPTIVE FAILURE PREDICTION
 05/21/2001 - 02/29/2004 FY03: \$200,000 Total: \$410,000
Prin. Invest.: T LEEN
Tech. Officer: ARC/I TUMER
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1287 **OREGON STATE UNIV**
 TRAINING PILOTS TO PRIORITIZE TASKS
 02/01/1999 - 04/14/2003 FY03: \$0 Total: \$236,465
Prin. Invest.: K H FUNK
Tech. Officer: ARC/R K DISMUKES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1341 **OREGON STATE UNIV**
 INTERACTIONS BETWEEN GRAVITY & LIGHT IN DETERMININ G PLANT-
 FORM ANALYSIS USING THE LAXY-2 MUTANT TOMA
 07/21/1999 - 08/31/2003 FY03: \$0 Total: \$499,859
Prin. Invest.: T L LOMAX
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1546 **OREGON STATE UNIV**
 NUMERICAL SIMULATIONS OF THE MARTIAN ATMOSPHERE
 04/02/2002 - 08/31/2005 FY03: \$26,026 Total: \$50,131
Prin. Invest.: J R BARNES
Tech. Officer: ARC/R M HABERLE, ARC/R E YOUNG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1593 **OREGON STATE UNIV**
 EFFECT OF LIGHT ON PLANT GRAVITROPISM: FUNCTIONAL GENOMIC
 ANALYSIS
 11/14/2002 - 10/31/2003 FY03: \$232,809 Total: \$232,809
Prin. Invest.: T L LOMAX
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 5311 **OREGON STATE UNIV**
 ANALYSIS OF BIO-OPTICAL SIGNATURES FROM AUTONOMOUS ADOS
 LAGRANGIAN DRIFTERS WITH SEAWIFS
 01/23/2001 - 01/31/2002 FY03: \$0 Total: \$16,497
Prin. Invest.: R M LETELIER
Tech. Officer: GSFC/J R MOISAN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 7506 **OREGON STATE UNIV**
 ASSESSING POTENTIAL AND ACTUAL FOREST PRODUCTIVITY ACROSS
 SOUTHWESTERN OREGON WITH TWO SIMULATION
 06/26/1998 - 06/30/2003 FY03: \$0 Total: \$260,910
Prin. Invest.: R H WARING
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7686 **OREGON STATE UNIV**
 LIMITS TO CLOUD SUSCEPTIBILITY.
 09/15/1998 - 09/30/2002 FY03: \$0 Total: \$294,000
Prin. Invest.: J A COAKLEY, JR.
Tech. Officer: GSFC/M I MISHCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7856 **OREGON STATE UNIV**
 BIGFOOT--CHARACTERIZING LAND COVER, LAI, AND NPP A T THE LAND-
 SCAPE SCALE FOR EOS/MODIS VALIDATION
 12/14/1998 - 11/30/2001 FY03: -\$12,323 Total: \$699,602
Prin. Invest.: W B COHEN
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8601 **OREGON STATE UNIV**
 SPATIAL VARIATION OF SURFACE MOISTURE FLUXES IN SPG
 06/17/1999 - 06/14/2003 FY03: \$0 Total: \$179,968
Prin. Invest.: L MAHRT
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9159 **OREGON STATE UNIV**
 JASON-1 INVESTIGATION: ALTIMETRIC STUDIES OF OCEAN TIDAL DYNAM-
 ICS
 03/06/2000 - 06/30/2003 FY03: \$0 Total: \$177,582
Prin. Invest.: G D EGBERT
Tech. Officer: GSFC/R RAY
CASE Category: 33 – OCEANOGRAPHY

NAG 5 9428 **OREGON STATE UNIV**
 SYNTHESIS & ALTERATION OF HIGHER MOLECULAR WEIGHT ORGANIC
 COMPOUNDS UNDER HYDROTHERMAL CONDITIONS
 04/11/2000 - 07/14/2003 FY03: \$0 Total: \$293,072
Prin. Invest.: B T SIMONEIT
Tech. Officer: GSFC/M MEYER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9446 **OREGON STATE UNIV**
 MICROBES IN SILICATE ROCKS ON EARTH: ANALOGUES OF EXTANT &
 FOSSIL MICROBIAL HABITATS ON OTHER
 04/13/2000 - 10/14/2003 FY03: \$0 Total: \$99,042
Prin. Invest.: M FISK
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9677 **OREGON STATE UNIV**
 SUPPORT FOR THE GOFC BOREAL FOREST WORKSHOP, NASA SIBERIAN
 NETWORK, AND EWG BOREAL FOREST PROJECT
 06/02/2000 - 10/31/2002 FY03: \$0 Total: \$38,641
Prin. Invest.: O N KRANKINA
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9771 **OREGON STATE UNIV**
 STUDIES OF MGS TES AND MPF MET DATA
 06/29/2000 - 06/30/2003 FY03: \$0 Total: \$179,200
Prin. Invest.: J R BARNES
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10614 **OREGON STATE UNIV**
 GOFC SUPPORT, WORKSHOP IN RUSSIA
 03/16/2001 - 08/31/2002 FY03: \$0 Total: \$39,173
Prin. Invest.: O N KRANKINA
Tech. Officer: GSFC/G GUTMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10623 **OREGON STATE UNIV**
 THE REFINEMENT OF THE ATMOSPHERIC CORRECTION ALGOR ITHM FOR
 SPACE-DERIVING THE MARINE CHLOROPHYLL
 03/19/2001 - 03/14/2004 FY03: \$150,366 Total: \$415,194
Prin. Invest.: K S SHIFRIN
Tech. Officer: GSFC/J MARRA
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11046 **OREGON STATE UNIV**
 DYNAMICS AND CIRCULATION OF THE MARTIAN ATMOSPHERE
 06/20/2001 - 06/30/2004 FY03: \$0 Total: \$151,000
Prin. Invest.: J BARNES
Tech. Officer: GSFC/D BOGAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11105 **OREGON STATE UNIV**
 ADVANCED VALIDATION OF AMSR WIND SPEED MEASUREMENT USING
 BUOY, SCATTEROMETER, AND NWP SURFACE ANALYS
 07/13/2001 - 08/31/2004 FY03: \$61,369 Total: \$149,038
Prin. Invest.: M H FREILICH
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11125 **OREGON STATE UNIV**
 COUPLED ATMOSPHERE/OCEAN PROCESSES AND PRIMARY PRO DUC-
 TION IN THE SOUTHERN OCEAN
 08/01/2001 - 06/30/2004 FY03: \$275,085 Total: \$1,476,678
Prin. Invest.: M R ABBOTT
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11190 **OREGON STATE UNIV**
 ECOSYSTEMS STRUCTURE AND CARBON CYCLING IN THE NOR TH
 PACIFIC: MODELING & DATA ASSIMILATION
 08/17/2001 - 08/31/2004 FY03: \$228,609 Total: \$521,167
Prin. Invest.: Y SPITZ
Tech. Officer: GSFC/C TREES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11222 **OREGON STATE UNIV**
 LINKING IN-SITU MEASUREMENTS, REMOTE SENSING, AND MODELS TO
 VALIDATE MODIS PRODUCTS RELATED TO TH
 08/09/2001 - 07/31/2004 FY03: \$161,578 Total: \$362,962
Prin. Invest.: D P TURNER
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11223 **OREGON STATE UNIV**
 USING REMOTE SENSING & IN SITU NETWORK OBSERVATION S TO
 EVALUATE & IMPROVE THE PERFORMANCE OF
 08/09/2001 - 07/31/2004 FY03: \$71,485 Total: \$226,553
Prin. Invest.: B LAW
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11231 **OREGON STATE UNIV**
 REGIONAL CARBON DIOXIDE FLUXES OVER HETEROGENEOUS TERRAIN
 08/13/2001 - 08/14/2004 FY03: \$220,798 Total: \$618,034
Prin. Invest.: L MAHRT
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11250 **OREGON STATE UNIV**
 DRIVING FORCES OF CHANGE IN REGIONAL CARBON STOCKS : COMPARI-
 SON OF THE WESTERN OREGON, AND ST. PET
 08/20/2001 - 08/14/2004 FY03: \$232,277 Total: \$474,212
Prin. Invest.: O KRANKINA
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11404 **OREGON STATE UNIV**
 TESTING SPATIAL CORRELATION OF SUBDUCTION INTERPLA TE COU-
 PLING AND FOREARC MORPHO-TECTONICS
 11/28/2001 - 11/30/2003 FY03: \$50,000 Total: \$99,995
Prin. Invest.: C GOLDFINGER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11534 **OREGON STATE UNIV**
 PARAMETERIZATIONS OF THE VERTICAL VARIABILITY OF TROPICAL
 CIRRUS CLOUD MICROPHYSICAL AND OPTICAL P
 01/03/2002 - 12/31/2003 FY03: \$61,298 Total: \$171,678
Prin. Invest.: C H TWOHY
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11586 **OREGON STATE UNIV**
 IMPROVED OBSERVATION AND MODELING OF FLUXES BETWEEN THE
 SNOW PACK AND THE ATMOSPHERE
 01/25/2002 - 01/31/2005 FY03: \$138,735 Total: \$265,735
Prin. Invest.: L MAHRT
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11652 **OREGON STATE UNIV**
 LASER 40AR/39AR DATING OF IMPACT MELT ROCKS: THE C HRONOLOGY
 OF LUNAR BASIN FORMATION
 01/28/2002 - 01/31/2005 FY03: \$45,000 Total: \$85,000
Prin. Invest.: R DUNCAN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 12351 **OREGON STATE UNIV**
 INVESTIGATION OF ENDOLITHIC MICROORGANISMS IN OLIV INE-BEARING
 ROCKS
 07/03/2002 - 06/30/2005 FY03: \$0 Total: \$60,965
Prin. Invest.: M FISK
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12378 **OREGON STATE UNIV**
 LOW FREQUENCY VARIABILITY OF THE SOUTH ATLANTIC CI RCLATION
 AND INTERBASIN EXCHANGES: OBSERV
 07/16/2002 - 07/14/2005 FY03: \$157,469 Total: \$229,463
Prin. Invest.: R P MATANO
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12404 **OREGON STATE UNIV**
 SCATTERING CHARACTERISTICS OF PHYTOPLANKTON TAXONO MIC
 GROUPS AND THEIR EFFECT ON REFLECTANCE
 08/01/2002 - 07/31/2005 FY03: \$0 Total: \$65,300
Prin. Invest.: W PEGAU
Tech. Officer: GSFC/C TREES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12443 **OREGON STATE UNIV**
 3RD INTERNATIONAL SUMMER SCHOOL ON INVERSE METHODS AND DATA
 ASSIMILATION.
 08/06/2002 - 08/14/2003 FY03: \$0 Total: \$41,430
Prin. Invest.: A BENNET
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12757 **OREGON STATE UNIV**
 A MULTI-INSTRUMENT INVESTIGATION OF HIGH-WAVE NUMBER OCEAN
 WIND FORCING AND FLUX MODULATION
 01/17/2003 - 01/31/2006 FY03: \$154,338 Total: \$154,338
Prin. Invest.: M H FREILICH
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 13293 **OREGON STATE UNIV**
 STUDIES OF PLANETARY WAVES AND NORTHERN SUMMER CIRCULATION
 USING MGS TESAND RS DATA
 04/04/2003 - 03/31/2006 FY03: \$84,241 Total: \$84,241
Prin. Invest.: J BARNES
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13502 **OREGON STATE UNIV**
 CHEMISTRY AND SYNTHESIS OF ORGANIC COMPOUNDS UNDER HYDRO-
 THERMAL CONDITIONS
 05/05/2003 - 05/14/2006 FY03: \$165,000 Total: \$165,000
Prin. Invest.: B SIMONEIT
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13544 **OREGON STATE UNIV**
 VALIDATION STUDIES AND SENSITIVITY ANALYSES FOR RETRIEVALS OF
 SNOW ALBEDO AND SNOW COVERED AREA
 09/11/2003 - 09/30/2003 FY03: \$47,504 Total: \$47,504
Prin. Invest.: A NOLIN
Tech. Officer: GSFC/D O STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 1 98140 **OREGON STATE UNIV**
 CHARACTERIZATION OF CLOUDS AND THE ANISOTROPY OF EMITTED AND
 REFLECTED RADIANCES
 10/29/1998 - 10/29/2003 FY03: \$160,434 Total: \$910,027
Prin. Invest.: J COAKLEY
Tech. Officer: LARC/B A WIELICKI, LARC/R L HUFFMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 1 99104 **OREGON STATE UNIV**
 DETERMINATION OF THE INDIRECT RADIATIVE FORCING DUE TO AERO-
 SOLS
 05/17/1999 - 05/16/2004 FY03: \$31,700 Total: \$134,012
Prin. Invest.: J M COAKLEY, JR.
Tech. Officer: LARC/G GIBSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 31360 **OREGON STATE UNIV**
 MODIS INVESTIGATION
 12/30/1991 - 12/14/2003 FY03: \$461,000 Total: \$5,809,000
Prin. Invest.: M R ABBOTT
Tech. Officer: GSFC/H OSEROFF
CASE Category: 33 – OCEANOGRAPHY

NAS 5 32965 **OREGON STATE UNIV**
 SEAWINDS PRINCIPAL INVESTIGATOR & SCIENCE TEAM ACTIVITIES
 09/15/1995 - 12/31/2004 FY03: \$2,326,733 Total: \$12,174,453
Prin. Invest.: D H FREILICH
Tech. Officer: GSFC/C RABER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5515 **OREGON STATE UNIV**
 MEDUSA - SEA FLOOR MONITORING SYSTEM
 08/07/2002 - 07/31/2004 FY03: \$25,000 Total: \$100,000
Prin. Invest.: G P KLINKHAMMER
Tech. Officer: ARC/M FLYNN
CASE Category: 33 – OCEANOGRAPHY

NCC 5 711 **OREGON STATE UNIV**
 JASON-1 INVESTIGATION: ALTIMETRIC STUDIES OF OCEAN TIDAL DYNAM-
 ICS
 03/10/2003 - 03/31/2004 FY03: \$62,791 Total: \$62,791
Prin. Invest.: G D EGBERT
Tech. Officer: GSFC/R RAY
CASE Category: 33 – OCEANOGRAPHY

NGT 5 96 **OREGON STATE UNIV**
 GLOBAL CLIMATE CHANGE EFFECTS ON CARBON SEQUESTRATION
 MEDIATED BY SOIL MICROORGANISMS
 08/20/1999 - 08/31/2002 FY03: -\$13,903 Total: \$52,097
Prin. Invest.: R P DICK, V GEWIN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30181 **OREGON STATE UNIV**
 FUNCTIONAL GROUPING OF PLANTS IN FLORIDA SCRUB
 HABITAT/STUDENT: TAMMY FOSTER
 08/23/1999 - 08/31/2002 FY03: \$0 Total: \$44,000
Prin. Invest.: B BOND
Tech. Officer: GSFC/M Y WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30185 **OREGON STATE UNIV**
 RIGHT WHALE ECOLOGY IN THE NORTHWEST ATLANTIC
 OCEAN/STUDENT--MARK BAUMGARTNER
 08/19/1999 - 08/31/2002 FY03: -\$42 Total: \$65,958
Prin. Invest.: B MATE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30214 **OREGON STATE UNIV**
 COMBINING FIELD MEASUREMENTS AND SATELLITE IMAGERY WITH A
 PROBABILISTIC MODEL TO QUANTIFY UNCERTAIN
 08/24/1999 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: W B COHEN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30347 **OREGON STATE UNIV**
 ASYSTEMATIC STUDY OF THE OPTICAL PROPERTIES OF NON SPHERICAL
 OCEANIC PARTICLES/STUDENT: SEAN HERRING
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: W PEGAU
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30387 **OREGON STATE UNIV**
 SCALING UP NOCTURNAL CO2 AND WATER VAPOR FLUXES WITH
 MICROMETEOROLOGICAL NETWORKS/REINA NAKAMURA
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: L MAHRT
Tech. Officer: GSFC/W WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30526 **OREGON STATE UNIV**
 MAPPING REGIONAL CARBON STOCKS & MONITORING CARBON EMISSIONS FROM LAND COVER & LAND USE
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: W COHEN
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40103 **OREGON STATE UNIV**
 OREGON SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 03/01/2001 - 02/28/2005 FY03: \$362,000 Total: \$1,123,053
Prin. Invest.: J HIGGINBOTHAM
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2741 **PORTLAND STATE UNIV**
 CAPILLARY FLOW IN INTERIOR CORNERS CAPILLARY FLOW IN INTERIOR CORNERS
 04/04/2002 - 04/30/2004 FY03: \$166,383 Total: \$251,883
Prin. Invest.: M M WEISLOGEL
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11309 **PORTLAND STATE UNIV**
 ICE SHELVES AND LANDFAST ICE ON THE ANTARCTIC PERIMETER CHARACTERISTICS AND EFFECTS OF CLIMATE CHANGE
 08/30/2001 - 08/31/2004 FY03: \$9,701 Total: \$20,001
Prin. Invest.: C HULBE
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11441 **PORTLAND STATE UNIV**
 GENETIC COMPLEXITY IN THE RNA WORLD: AN EXAMINATION OF THE GENETIC LOAD IN RNA POPULATIONS
 12/17/2001 - 03/31/2003 FY03: \$0 Total: \$80,000
Prin. Invest.: N LEHMAN
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11442 **PORTLAND STATE UNIV**
 MICROBIAL INTERACTIONS WITH REDUCED MINERALS: A SYSTEM FOR EARLY TERRESTRIAL ANDEXTERRERRES
 12/20/2001 - 11/30/2002 FY03: \$43,474 Total: \$148,474
Prin. Invest.: T STEVENS
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12720 **PORTLAND STATE UNIV**
 RECOGNIZING THE SIGNATURES OF HYPERTHERMOPHILIC BIOFILMS: GEYSERITES, EPITHERMAL DEPOSITS & ANCI
 01/07/2003 - 12/31/2003 FY03: \$150,027 Total: \$150,027
Prin. Invest.: S CADY
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12736 **PORTLAND STATE UNIV**
 OPTIMIZING IV&V BENEFITS USING SIMULATION
 02/04/2003 - 01/31/2006 FY03: \$80,000 Total: \$80,000
Prin. Invest.: D RAFFO
Tech. Officer: GSFC/R MARTINEZ
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12856 **PORTLAND STATE UNIV**
 ASTEROIDAL DIFFERENTIATION: ORIGIN & PETROGENESIS OF SILICATE INCLUSIONS IN IRON METEORITES
 02/06/2003 - 01/31/2006 FY03: \$55,000 Total: \$55,000
Prin. Invest.: A RUZICKA
Tech. Officer: GSFC/D LINDSTRÖM
CASE Category: 12 – CHEMISTRY

NAG 5 13044 **PORTLAND STATE UNIV**
 FROM GRANTS TO CHONDRULES AND BEYOND: THE ORIGIN OF "RELICT" OLIVINE GRAINS IN ORDINARY CHONDRIT
 03/17/2003 - 03/31/2006 FY03: \$33,000 Total: \$33,000
Prin. Invest.: A RUZICKA
Tech. Officer: GSFC/D LINDSTRÖM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13503 **PORTLAND STATE UNIV**
 THE COUPLING OF BIOLOGICAL AND GEOCHEMICAL EVOLUTION ON EARTH'S EARLIEST ECOSYSTEMS: CLUES FROM SULFUR
 05/05/2003 - 04/14/2005 FY03: \$71,700 Total: \$71,700
Prin. Invest.: A REYSENBACH
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1381 **PORTLAND STATE UNIV**
 MARS ASTROBIOLOGY RESEARCH AND TECHNOLOGY EXPERIMENT (MARTE) A MARS ANALOG DRILLING PROJECT ON THE
 12/23/2002 - 12/31/2003 FY03: \$125,448 Total: \$125,448
Prin. Invest.: T STEVENS
Tech. Officer: ARC/C STOCKER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 8505 **UNIV OF OREGON - EUGENE**
 INSTABILITIES IN PROTOSTELLAR STAR/DISK SYSTEMS (ATP - 98)
 05/10/1999 - 04/30/2004 FY03: \$0 Total: \$76,358
Prin. Invest.: J IMAMURA
Tech. Officer: GSFC/R K OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10709 **UNIV OF OREGON - EUGENE**
 ACCRETION FLOWS IN MAGNETIC WHITE DWARF SYSTEMS (ADP 2000)
 04/23/2001 - 04/30/2004 FY03: \$51,498 Total: \$79,748
Prin. Invest.: J IMAMURA
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11300 **UNIV OF OREGON - EUGENE**
 GALAXY PHOTOMETRY FOR NASA/IPAC EXTRAGALACTIC DATA BASE
 08/29/2001 - 08/31/2004 FY03: \$38,320 Total: \$76,029
Prin. Invest.: J SCHOMBERT
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13077 **UNIV OF OREGON - EUGENE**
 AGE DATING OF MERGER EVENTS IN EARLY TYPE GALAXIES VIA THE DETECTION OF AGB LIGHT
 03/20/2003 - 03/31/2004 FY03: \$47,000 Total: \$47,000
Prin. Invest.: G BOTHUN
Tech. Officer: GSFC/J HAYES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1304 **UNIV OF OREGON - EUGENE**
 AFFECT AND AERONAUTICAL DECISION MAKING
 02/05/2002 - 01/31/2004 FY03: \$157,135 Total: \$257,135
Prin. Invest.: R MAURO
Tech. Officer: ARC/I BARSHI, ARC/R K DISMUKES
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 5409 **UNIV OF OREGON - EUGENE**
 CULTURE COLLECTION OF MICRO-ORGANISMS FROM EXTREME ENVIRON-
 MENTS & THE ROLE OF THE UV-SHIEDLING PIGM
 11/22/2000 - 12/31/2002 FY03: \$0 Total: \$187,538
Prin. Invest.: R W CASTENHOLZ
Tech. Officer: ARC/B M BEBATH, ARC/M L FONDA
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5524 **UNIV OF OREGON - EUGENE**
 CULTURE COLLECTION OF MICRO ORGANISMS FROM EXTREME ENVIRON-
 MENTS AND THE ROLE OF THEUV SHIELING PIG
 12/12/2002 - 11/30/2003 FY03: \$47,409 Total: \$47,409
Prin. Invest.: R W GASTENHOLZ
Tech. Officer: ARC/D DESMARAIS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

PENNSYLVANIA

NAG 5 11539 **BLOOMSBURG UNIV**
 REMOTE SENSING OF PLANETARY SURFACES
 01/03/2002 - 12/31/2004 FY03: \$35,240 Total: \$69,740
Prin. Invest.: M K SHEPARD
Tech. Officer: GSFC/D SENSEKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8679 **BUCKNELL UNIV**
 INVESTIGATION OF AERODYNAMIC AND RADIOMETRIC LAND SURFACE
 TEMPERATURES
 07/27/1999 - 08/14/2003 FY03: \$0 Total: \$195,508
Prin. Invest.: R D CRAGO
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8699 **BUCKNELL UNIV**
 IMPROVED PREDICTION OF MOMENTUM AND SCALAR FLUXES USING
 MODIS IMAGERY
 08/17/1999 - 08/14/2003 FY03: \$0 Total: \$56,250
Prin. Invest.: R D CRAGO
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10821 **BUCKNELL UNIV**
 SOFTWARE AND HARDWARE SYSTEM FOR PREDICTING THE COMPUTA-
 TIONAL SPEED OF HIGH PERFORMANCE COMPUTERS
 04/26/2001 - 09/30/2003 FY03: \$0 Total: \$75,497
Prin. Invest.: M F ABURDENE
Tech. Officer: GSFC/J DORBAND
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 03024 **CARNEGIE - MELLON UNIV**
 ON BOARD PERCEPTIVE COMPUTING FOR SALELLITE LIDAR DATA
 02/19/2003 - 02/18/2005 FY03: \$25,000 Total: \$25,000
Prin. Invest.: Y CAI
Tech. Officer: LARC/Y HU
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 2 1393 **CARNEGIE - MELLON UNIV**
 MODEL-BASED PROGRAMMING SKUNKWORKS
 02/01/2000 - 04/30/2002 FY03: \$0 Total: \$140,000
Prin. Invest.: R SIMMONS
Tech. Officer: ARC/M SHIRLEY
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1402 **CARNEGIE - MELLON UNIV**
 AUTOMATED VERIFICATION OF DIAGNOSTIC MODELS
 04/12/2000 - 05/31/2002 FY03: \$0 Total: \$145,000
Prin. Invest.: R G SIMMONS
Tech. Officer: ARC/M LOWRY
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1441 **CARNEGIE - MELLON UNIV**
 HUAV FLIGHTDYNAMICS & CONTROL
 09/28/2000 - 04/30/2002 FY03: \$0 Total: \$197,070
Prin. Invest.: W C MESSNER, C E THORPE
Tech. Officer: ARC/M B TISCHLER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1472 **CARNEGIE - MELLON UNIV**
 EFFECTIVE TEAM SUPPORT: FROM MODELING TO SOFTWARE AGENTS
 04/06/2001 - 03/31/2003 FY03: \$0 Total: \$603,209
Prin. Invest.: B JOHN, K SYCARA
Tech. Officer: ARC/M P MATESSA
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1537 **CARNEGIE - MELLON UNIV**
 MY PERSONAL ROVER A DOMESTIC EDUCATIONAL SCIENCE R OVER
 02/15/2002 - 02/14/2005 FY03: \$185,000 Total: \$334,051
Prin. Invest.: I R NOURBAKSHSH
Tech. Officer: ARC/R MORRIS, ARC/D CLANSY
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1569 **CARNEGIE - MELLON UNIV**
 ORGANIZATIONAL METRICS
 06/25/2002 - 10/31/2003 FY03: \$59,609 Total: \$122,985
Prin. Invest.: K CARLEY
Tech. Officer: ARC/JORASANU, ARC/M CONNORS
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 6054 **CARNEGIE - MELLON UNIV**
 SOLVING IMPORTANT PROBLEMS FASTER
 02/20/2002 - 02/14/2004 FY03: \$51,914 Total: \$351,914
Prin. Invest.: T MOWRY
Tech. Officer: ARC/J T ONUFER
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2159 **CARNEGIE - MELLON UNIV**
 LATEAL MOTION OF PARTICLES AND BUBBLES CAUSED BY PHORETIC
 FLOWS NEAR A SOLID INTERFACE
 04/22/1998 - 12/31/2002 FY03: \$0 Total: \$400,000
Prin. Invest.: P J SIDES, Y E SOLOMENTSER, J L ANDERSON
Tech. Officer: GRC/R B ROGERS
CASE Category: 13 – PHYSICS

NAG 3 2449 **CARNEGIE - MELLON UNIV**
 MICROSCALE HYDRODYNAMICS NEAR MOVING CONTACT LINES MICROS-
 CALE HYDRODYNAMICS NEAR MOVING CONTACT LINE
 06/12/2000 - 09/30/2003 FY03: \$164,502 Total: \$555,198
Prin. Invest.: S GAROFF
Tech. Officer: GRC/B S SINGH
CASE Category: 13 – PHYSICS

NAG 3 2640 **CARNEGIE - MELLON UNIV**
 NANOSTRUCTURAL ELECTROCHEMICALLY ACTIVE SYSTEMS FO R
 LITHIUM-ION BATTERIES
 06/25/2001 - 05/31/2004 FY03: \$100,000 Total: \$250,000
Prin. Invest.: P N KUMTA
Tech. Officer: GRC/D L BRITTON
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 6548 **CARNEGIE - MELLON UNIV**
 A NEW LOOK AT CLUSTER EVOLUTION (LTSA)
 10/29/1997 - 10/31/2003 FY03: \$51,800 Total: \$251,400
Prin. Invest.: R NICHOL
Tech. Officer: GSFC/D WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7926 **CARNEGIE - MELLON UNIV**
 THE VIPER SUNYAEV-ZELDOVICH SURVEY _(LTSA 98)
 01/03/1999 - 12/31/2004 FY03: \$90,000 Total: \$450,000
Prin. Invest.: A K ROMER
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 9902 **CARNEGIE - MELLON UNIV**
 MISSION SCIENTIST FOR ESA'S X-RAY MULTI-MIRROR MISSION
 08/25/2000 - 08/31/2003 FY03: \$0 Total: \$493,442
Prin. Invest.: R E GRIFFITHS
Tech. Officer: GSFC/N WHITE
CASE Category: 11 – ASTRONOMY

NAG 5 10014 **CARNEGIE - MELLON UNIV**
 'FOSSIL GROUPS'IN THE BRIGHT SHARC SURVEY
 09/21/2000 - 09/30/2003 FY03: \$0 Total: \$32,100
Prin. Invest.: R C NICHOL
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10043 **CARNEGIE - MELLON UNIV**
 X-RAY SPECTRAL STATISTICS OF A COMPLETE HARD X-RAY -SELECTED
 SAMPLE OF AGNS
 11/02/2000 - 10/31/2003 FY03: \$0 Total: \$33,400
Prin. Invest.: T MIYAJI
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10739 **CARNEGIE - MELLON UNIV**
 VEXT: A VIRTUAL OBSERVATORY EXPLORATORY TOOLKIT. FULLY FUNDS
 YEAR 1 OF AWARD
 05/17/2001 - 05/31/2002 FY03: -\$200 Total: \$79,800
Prin. Invest.: J SCHNEIDER
Tech. Officer: GSFC/P E HUNTER
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 10740 **CARNEGIE - MELLON UNIV**
 ADVANCED GALAXY CLUSTER DETECTION SOFTWARE.
 04/12/2001 - 09/30/2003 FY03: \$130,000 Total: \$260,000
Prin. Invest.: R NICHOL
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10875 **CARNEGIE - MELLON UNIV**
 AGN X-RAY SPECTRAL EVOLUTION (LTSA 2000)
 05/10/2001 - 08/31/2006 FY03: \$0 Total: \$186,318
Prin. Invest.: T MIYAJI
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11634 **CARNEGIE - MELLON UNIV**
 X-RAY CLUSTERS AS COSMOLOGICAL PROBES _(LTSA 01)
 01/29/2002 - 01/31/2007 FY03: \$63,814 Total: \$132,004
Prin. Invest.: A K ROMER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11888 **CARNEGIE - MELLON UNIV**
 X-RAY SPECTROSCOPY OF LOW-LUMINOSITY ACTIVE GALACT IC NUCLEI
 WITH XMM
 04/04/2002 - 11/30/2003 FY03: \$0 Total: \$5,812
Prin. Invest.: T DIMATTEO
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 11998 **CARNEGIE - MELLON UNIV**
 ARTIFICIALL INTELLIGENCE METHODS FOR IDENTIFYING M INERAL COM-
 POSITION.
 05/05/2002 - 07/03/2003 FY03: \$0 Total: \$75,000
Prin. Invest.: C GLYMOUR
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12833 **CARNEGIE - MELLON UNIV**
 TECHNOLOGY MATURATION FOR FLUORESCENCE SENSING TO FIND
 TRACES OF LIFE IN HOSPITABLE ENVIRONMENTS
 02/06/2003 - 02/14/2006 FY03: \$299,831 Total: \$299,831
Prin. Invest.: A WAGGONER
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12890 **CARNEGIE - MELLON UNIV**
 LIMITS OF LIFE IN THE ATACAMA: ROBOTICINVESTIGA- TION OF LIFE IN
 THE ATACAMA DESERT OF CHILE
 02/11/2003 - 02/14/2006 FY03: \$848,282 Total: \$848,282
Prin. Invest.: W WHITTAKER
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12999 **CARNEGIE - MELLON UNIV**
 THE PHYSICS OF 8 NEARBY X-RAY LUMINOUS GALAXY CLUSTERS
 03/06/2003 - 03/14/2004 FY03: \$42,654 Total: \$42,654
Prin. Invest.: P L GOMEZ
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13138 **CARNEGIE - MELLON UNIV**
 A MULTIWAVELENGTH STUDY OF THE COSMIC WEB
 03/20/2003 - 03/31/2004 FY03: \$43,070 Total: \$43,070
Prin. Invest.: C J MILLER
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13359 **CARNEGIE - MELLON UNIV**
 DOES MARKARIAN 6 REALLY RESEMBLE NGC 4151?
 04/17/2003 - 04/30/2004 FY03: \$45,500 Total: \$45,500
Prin. Invest.: N J SCHURCH
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13551 **CARNEGIE - MELLON UNIV**
 PROBING THE COMPLEX HIGH-ENERGY SPECTRUM OF NGC4151
 07/31/2003 - 07/31/2004 FY03: \$9,800 Total: \$9,800
Prin. Invest.: R GRIFFITHS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1674 **CARNEGIE - MELLON UNIV**
 SHAPRE EVOLUTION KINETICS OF SMALL PARTICLES
 06/28/2000 - 11/30/2003 FY03: \$100,000 Total: \$320,250
Prin. Invest.: G S ROHRER, W M MULLINS
Tech. Officer: MSFC/P DOTY
CASE Category: 12 – CHEMISTRY

NAG 8 1704 **CARNEGIE - MELLON UNIV**
 LATTICE BOLTZMANN COMPUTATIONS OF BINARY DIFFUSION IN LIQUIDS
 UNDER STOCHASTIC MICROGRAVITY
 05/24/2000 - 11/30/2002 FY03: \$0 Total: \$181,250
Prin. Invest.: R F SEKERKA
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1799 **CARNEGIE - MELLON UNIV**
 RESEARCH ENTITLED, "ULTRA-HIGH DENSITY MEMS- ACTUATED-PROBE
 MASS DATA STORAGE"
 04/24/2001 - 03/26/2004 FY03: \$716,955 Total: \$1,956,546
Prin. Invest.: L R CARLEY
Tech. Officer: MSFC/A KEYS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1842 **CARNEGIE - MELLON UNIV**
 ELECTROOSMOTIC & ELECTROPHORETIC SELF-ASSEMBLY TECHNIQUES
 TO PROMOTE MASS TRANSFER ON BIOSENSORS
 08/31/2001 - 11/30/2004 FY03: \$94,000 Total: \$427,000
Prin. Invest.: R D TILTON
Tech. Officer: MSFC/B GYUNES
CASE Category: 12 – CHEMISTRY

NAG 9 1092 **CARNEGIE - MELLON UNIV**
 AUTONOMOUS ROVER TECHNOLOGY
 03/15/1999 - 04/30/2002 FY03: \$0 Total: \$1,341,800
Prin. Invest.: T KANADE
Tech. Officer: JSC/D LAVERY
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1226 **CARNEGIE - MELLON UNIV**
 DISTRIBUTED MULTI-ROBOT ASSEMBLY AND CONSTRUCTION
 05/12/2000 - 02/28/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: R SIMMONS
Tech. Officer: JSC/T PENDLETON, JSC/C CULBERT
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1248 **CARNEGIE - MELLON UNIV**
 AUTONOMOUS RECONNAISSANCE ROVER FOR EVA ROBOTIC AS-
 SISTANCE
 07/18/2000 - 07/16/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: D APOSTOLOPOULOS
Tech. Officer: JSC/C J CULBERT, JSC/C FARMER
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1326 **CARNEGIE - MELLON UNIV**
 DISTRIBUTED MULTI ROBOT ASSEMBLY AND CONSTRUCTION
 06/19/2001 - 11/30/2002 FY03: \$0 Total: \$181,000
Prin. Invest.: R SIMMONS, S SINGH
Tech. Officer: JSC/C L FARMER
CASE Category: 22 – COMPUTER SCIENCE

NAG 9 1327 **CARNEGIE - MELLON UNIV**
 SELF ADAPTIVE PERCEPTION SYSTEMS FOR VARYING ENVIRONMENTS
 06/21/2001 - 06/20/2002 FY03: -\$2,363 Total: \$19,637
Prin. Invest.: R SIMMONS, S BURKETT
Tech. Officer: JSC/C FARMER
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1440 **CARNEGIE - MELLON UNIV**
 PATH PLANNING FOR FREE FLYING ROBOTS
 07/22/2002 - 07/21/2004 FY03: \$0 Total: \$75,000
Prin. Invest.: H CHOSET
Tech. Officer: JSC/C L FARMER
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1226 **CARNEGIE - MELLON UNIV**
 SIMULATING LEARNING OF COMPLEX, DYNAMIC TASKS
 03/23/2001 - 02/29/2004 FY03: \$110,000 Total: \$372,891
Prin. Invest.: J R ANDERSON
Tech. Officer: ARC/M MATESSA
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1227 **CARNEGIE - MELLON UNIV**
 AUTOMATED DISCOVERY PROCEDURES FOR GENE EXPRESSION & REGU-
 LATION FROM MICROARRAY & SERIAL ANALYSIS O
 03/16/2001 - 02/29/2004 FY03: \$506,025 Total: \$1,095,098
Prin. Invest.: C GLYMOUR
Tech. Officer: ARC/J COUGHLAN
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1241 **CARNEGIE - MELLON UNIV**
 FORMAL VERIFICATION TOOLS & TECHNIQUES FOR AUTONOMOUS
 SYSTEMS
 03/28/2001 - 11/30/2002 FY03: \$0 Total: \$125,000
Prin. Invest.: J WING
Tech. Officer: ARC/R MORRIS, ARC/D J CLANCY
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1243 **CARNEGIE - MELLON UNIV**
 HETEROGENEOUS MULTI-ROVER COORDINATION OF PLANETARY EXPLO-
 RATION
 04/05/2001 - 02/29/2004 FY03: \$549,497 Total: \$1,463,194
Prin. Invest.: R SIMMONS
Tech. Officer: ARC/R MORRIS, ARC/D J CLANCY
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1298 **CARNEGIE - MELLON UNIV**
 THE HIGH DEPENDABILITY COMPUTING PROGRAM (HDCP)
 12/13/2001 - 12/14/2006 FY03: \$4,223,476 Total: \$6,973,476
Prin. Invest.: J H MORRIS, W SCHERLIS
Tech. Officer: ARC/M R LOWRY, ARC/M DUENAS
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1317 **CARNEGIE - MELLON UNIV**
EFFECTIVE TEAM SUPPORT: FROM TASK AND COGNITIVE MO DELING TO
SOFTWARE AGENTS FOR TIMECRITICAL COMPL
03/05/2002 - 02/28/2004 FY03: \$227,996 Total: \$713,989
Prin. Invest.: B E JOHN
Tech. Officer: ARC/R REMINGTON
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1324 **CARNEGIE - MELLON UNIV**
REAL TIME FAULT DETECTION AND SITUATION AWARENESS FOR ROVERS
03/13/2002 - 08/31/2004 FY03: \$129,483 Total: \$173,778
Prin. Invest.: R G SIMMONS
Tech. Officer: ARC/M SHIRLEY
CASE Category: 22 – COMPUTER SCIENCE

NCC 3 1045 **CARNEGIE - MELLON UNIV**
GROWTH AND CHARACTERIZATION OF SILCON CARBIDE HETERO-
POLYTYPE STRUCTURES
04/15/2003 - 04/14/2004 FY03: \$70,000 Total: \$70,000
Prin. Invest.: M SKOWRONSKI
Tech. Officer: GRC/P G NEUDECK
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 1058 **CARNEGIE - MELLON UNIV**
COLLABORATIVE NASA & CARNEGIE MELLON PROGRAM TO STUDY THE
APPLICATION OF PROBABILITY METHODS TO
05/21/2003 - 09/30/2005 FY03: \$14,961 Total: \$14,961
Prin. Invest.: J H GRIFFIN
Tech. Officer: GRC/S S PAI
CASE Category: 46 – MECHANICAL ENGR

NCC 5 223 **CARNEGIE - MELLON UNIV**
NATIONAL ROBOTICS ENGINEERING CONSORTIUM
08/26/1997 - 07/31/2002 FY03: \$0 Total: \$13,867,615
Prin. Invest.: T KANADE
Tech. Officer: GSFC/B H HANKS
CASE Category: 11 – ASTRONOMY

NCC 5 431 **CARNEGIE - MELLON UNIV**
EVENTSCOPE: A 3D, NETWORKED ROBOTIC LEARNING ENVIRONMENT. IN
RESPONSE TO NASA COOPERATIVE AGREEMENT
09/20/1999 - 09/30/2002 FY03: \$0 Total: \$363,253
Prin. Invest.: P COPPIN
Tech. Officer: GSFC/R E GABRYS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 2 52277 **CARNEGIE - MELLON UNIV**
AUTOMATED SURFACE MISSION PLANNING
06/12/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: W L WHITTAKER
Tech. Officer: ARC/B J COLLINS, ARC/M SIMS
CASE Category: 22 – COMPUTER SCIENCE

NGT 2 52286 **CARNEGIE - MELLON UNIV**
PROBABILISTIC PLANNING AND EXECUTION FOR SITE SURVEY
05/22/2002 - 08/31/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: R SIMMONS
Tech. Officer: ARC/D SMITH, ARC/S LAU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 3 52370 **CARNEGIE - MELLON UNIV**
GRADUATE STUDENT RESEARCHERS PROGRAM GRADUATE STUDENT
RESEARCHERS PROGRAM
06/20/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: P N KUMTA
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 49 – ENGINEERING, OTHER

NGT 3 52379 **CARNEGIE - MELLON UNIV**
GRADUATE STUDENT RESEARCHERS PROGRAM GRADUATE STUDENT
RESEARCHERS PROGRAM
06/21/2001 - 07/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: M E MCHENRY
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 50279 **CARNEGIE - MELLON UNIV**
EFFICIENT MACHINE LEARNING ALGORITHMS FOR SCIENCE STUDENT:
ALEXANDER G. GRAY
06/20/2000 - 07/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: A W MOORE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50347 **CARNEGIE - MELLON UNIV**
INTEGRATING FEATURE TRACKING AND SHAPE-FROM-MOTION FOR RO-
BOST VISUAL NAVIGATION/STUDENT: DENNIS STEL
05/07/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S SINGH
Tech. Officer: HQ/K BLANDING
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NGT 9 64 **CARNEGIE - MELLON UNIV**
LEARNING SHAPE AND BEHAVIOR BY OBSERVING PUSHING
07/09/2002 - 07/14/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: R SIMMONS
Tech. Officer: JSC/C FARMER
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 01118 **DREXEL UNIV**
RECONFIGURABLE CONTROL OF AIRCRAFT IN NONLINEAR FLIGHT RE-
GIMES
08/16/2001 - 08/31/2004 FY03: \$90,000 Total: \$190,000
Prin. Invest.: B C CHANG
Tech. Officer: LARC/C M BELCASTRO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1436 **DREXEL UNIV**
ALTERED SIGNAL TRANSDUCTION & DIFFERENTIAL GENE EXPRESSION IN
PC12 PHEOCYTOMA CELLS IN CULTURE
09/19/2000 - 08/31/2004 FY03: \$253,526 Total: \$745,383
Prin. Invest.: P I LELKES
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 8929 **DREXEL UNIV**
SCHOOL-BASED UV-B MONITORING PROJECT IN SUPPORT OF EOS-CHEM
01/13/2000 - 01/14/2004 FY03: \$0 Total: \$267,582
Prin. Invest.: D R BROOKS
Tech. Officer: GSFC/E HILSENATH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9264	DREXEL UNIV	NCC 1 409	DREXEL UNIV
BINARY EVOLUTION IN GLOBULAR CLUSTERS - ATP		AN AIRBORNE STUDY OF THE CHEMISTRY OF SULFUR IN THE ATMOSPHERE	
03/13/2000 - 12/31/2003	FY03: \$0	OF THE WESTERN NORTH PACIFIC OCEAN	
<i>Prin. Invest.:</i> S MCMILLAN	Total: \$152,411	09/11/2000 - 03/31/2004	FY03: \$0
<i>Tech. Officer:</i> GSFC/R OLIVERSEN		<i>Prin. Invest.:</i> A R BANDY	Total: \$661,800
<i>CASE Category:</i> 11 - ASTRONOMY		<i>Tech. Officer:</i> LARC/V E DELUORE	
		<i>CASE Category:</i> 31 - ATMOSPHERIC SCIENCE	
NAG 5 10026	DREXEL UNIV	NCC 3 822	DREXEL UNIV
NASA ESS HPCC PROGRAM		EXPERIMENTAL AND MODEL DEVELOPMENT FOR INVESTIGATION OF	
10/27/2000 - 10/14/2003	FY03: \$216,429	SOOTING AND RADIATION EFFECTS IN MICROGRAVITY	
<i>Prin. Invest.:</i> D VALLIERES	Total: \$561,261	08/17/2000 - 03/31/2003	FY03: \$42,349
<i>Tech. Officer:</i> GSFC/J FISCHER		<i>Prin. Invest.:</i> D CHOI	Total: \$413,592
<i>CASE Category:</i> 22 - COMPUTER SCIENCE		<i>Tech. Officer:</i> GRC/D L URBAN	
		<i>CASE Category:</i> 49 - ENGINEERING, OTHER	
NAG 5 10775	DREXEL UNIV	NCC 3 825	DREXEL UNIV
STELLAR AND BINARY EVOLUTION IN STAR CLUSTERS (ATP 2000)		DEVELOPMENT OF THERMALLY SPRAYED FGM EROSION/OXIDATION	
04/24/2001 - 04/30/2004	FY03: \$77,850	RESISTANT COATING FOR POLYMERIC SUBSTRATES	
<i>Prin. Invest.:</i> S L MCMILLAN	Total: \$222,742	09/26/2000 - 08/31/2003	FY03: \$69,494
<i>Tech. Officer:</i> GSFC/R J OLIVERSEN		<i>Prin. Invest.:</i> D KNIGHT	Total: \$211,190
<i>CASE Category:</i> 11 - ASTRONOMY		<i>Tech. Officer:</i> GRC/J K SUTTER	
		<i>CASE Category:</i> 47 - METAL & MATERIALS ENGR	
NAG 5 11119	DREXEL UNIV	NCC 3 835	DREXEL UNIV
NUMERICAL RELATIVISTIC ASTROPHYSICS AT THE LABORATORY OF HIGH		A PRELIMINARY INVESTIGATION OF THE E-BEAM INDUCED POLYMERIZATION	
ENERGY ASTROPHYSICS (LHEA).		OF MALEIMIDE AND NORBORNENE END-CAP	
08/09/2001 - 03/14/2003	FY03: \$0	12/15/2000 - 04/03/2004	FY03: \$60,027
<i>Prin. Invest.:</i> M VALLIERES	Total: \$46,374	<i>Prin. Invest.:</i> D R PALMESE	Total: \$223,757
<i>Tech. Officer:</i> GSFC/J CENTRELLA		<i>Tech. Officer:</i> GRC/M A MEADOR	
<i>CASE Category:</i> 11 - ASTRONOMY		<i>CASE Category:</i> 47 - METAL & MATERIALS ENGR	
NAG 5 12243	DREXEL UNIV	NCC 3 847	DREXEL UNIV
PROBING THE EVOLUTION OF AGN CLUSTERING (L TSA 2001)		COMBUSTION OF UNSUPPORTED DROPLET CLUSTERS IN MICRO GRAVITY	
06/05/2002 - 06/14/2007	FY03: \$102,863	01/11/2001 - 12/18/2003	FY03: \$20,602
<i>Prin. Invest.:</i> M VOGEELEY	Total: \$200,827	<i>Prin. Invest.:</i> D A RUFF	Total: \$151,547
<i>Tech. Officer:</i> GSFC/R J OLIVERSEN		<i>Tech. Officer:</i> GRC/D L URBAN	
<i>CASE Category:</i> 11 - ASTRONOMY		<i>CASE Category:</i> 49 - ENGINEERING, OTHER	
NAG 5 12920	DREXEL UNIV	NCC 3 913	DREXEL UNIV
SCHOOL BASED UV-A MONITORING PROJECT IN SUPPORT OF EOS-AURA		INVESTIGATION OF SOOTING AND RADIATION EFFECTS ON THE BURNING	
02/28/2003 - 02/29/2004	FY03: \$29,991	OF LARGE ETHANOL AND HEPTANE DROPLETS	
<i>Prin. Invest.:</i> D R BROOKS	Total: \$29,991	08/31/2001 - 07/12/2002	FY03: \$0
<i>Tech. Officer:</i> GSFC/E HILSEN RATH		<i>Prin. Invest.:</i> D Y CHOI	Total: \$11,250
<i>CASE Category:</i> 13 - PHYSICS		<i>Tech. Officer:</i> GRC/D L URBAN	
		<i>CASE Category:</i> 49 - ENGINEERING, OTHER	
NAG 9 1380	DREXEL UNIV	NCC 3 1003	DREXEL UNIV
INNOVATIVE CARDIAC TISSUE ENGINEERING IN RWV BIOREACTORS		DETERMINATION OF COOL FLAME QUENCHING DISTANCES AT MICROGRAVITY	
09/13/2001 - 05/31/2003	FY03: \$24,000	09/13/2002 - 09/15/2003	FY03: \$0
<i>Prin. Invest.:</i> P LELKES	Total: \$46,000	<i>Prin. Invest.:</i> H PEARLMAN	Total: \$65,509
<i>Tech. Officer:</i> JSC/N PELLIS		<i>Tech. Officer:</i> GRC/J E BROOKER	
<i>CASE Category:</i> 61 - PSYCHOLOGY BIOLOGY		<i>CASE Category:</i> 49 - ENGINEERING, OTHER	
NAG13 00040	DREXEL UNIV	NCC 3 1006	DREXEL UNIV
APPLICATION OF AN INTEGRATED MONITORING & MODELING SYSTEM		LOW-TEMPERATURE OXIDATION AND COOL FLAMES EXPERIMENT	
NARRAGANSETT BAY - INTERNET-BASED TECHNOLOGY		09/19/2002 - 09/18/2004	FY03: \$40,000
08/23/2000 - 08/22/2003	FY03: \$0	<i>Prin. Invest.:</i> H PEARLMAN	Total: \$181,356
<i>Prin. Invest.:</i> M PIASECKI, M SPAULDING	Total: \$1,464,549	<i>Tech. Officer:</i> GRC/D L URBAN	
<i>Tech. Officer:</i> SSC/R MILLER		<i>CASE Category:</i> 49 - ENGINEERING, OTHER	
<i>CASE Category:</i> 39 - ENVIRONMENTAL SCI, OTHER			
NCC 1 297	DREXEL UNIV		
A STUDY OF THE CHEMISTRY OF SULFUR IN THE INTER-TROPICAL AND			
SOUTH PACIFIC CONVERGENCE ZONES-----			
04/28/1998 - 10/31/2002	FY03: \$0		
<i>Prin. Invest.:</i> A R BANDY, D C THORNTON	Total: \$498,742		
<i>Tech. Officer:</i> LARC/J L ROPER, LARC/R J BENDURA			
<i>CASE Category:</i> 31 - ATMOSPHERIC SCIENCE			

PENNSYLVANIA

NASA'S UNIVERSITY PROGRAM

NCC 3 1049 **DREXEL UNIV**
 EXPERIMENTS & MODEL DEVELOPMENT FOR INVESTIGATION OF SOOTING
 AND RADIATION EFFECTS USING MICROGRAVITY
 04/15/2003 - 04/14/2007 FY03: \$117,543 Total: \$117,543
Prin. Invest.: M Y CHOI
Tech. Officer: GRC/D L URBAN
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 662 **LINCOLN UNIV - PA.**
 NASA/LINCOLN UNIVERSITY TEACHER EDUCATION PARTNERSHIP: MINOR-
 ITY UNIVERSITY MATHEMATICS, SCIENCE, & TEC
 08/21/2002 - 08/31/2005 FY03: \$8,800 Total: \$208,282
Prin. Invest.: O RICHARD
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 130 **DREXEL UNIV**
 PC12 PHEOCHROMOCUTOMA CELLS
 05/31/2001 - 11/30/2003 FY03: \$0 Total: \$353,150
Prin. Invest.: P LELKE
Tech. Officer: JSC/D RISIN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 12416 **MUHLENBERG COLLEGE**
 INTRODUCING NEW TECHNOLOGIES INTO THE CLASSROOM K- 16
 07/29/2002 - 07/31/2005 FY03: \$0 Total: \$1,455,000
Prin. Invest.: R MILLIGAN
Tech. Officer: HQ/S CANRIGHT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50436 **DREXEL UNIV**
 BIOMIMETIC MODELING AND DESIGN OF BONE SCAFFOLDING WITH
 CONTROLLED PROPERTIES AND DEGRADATION.
 04/16/2003 - 09/01/2003 FY03: \$24,000 Total: \$24,000
Prin. Invest.: W SUN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50387 **PENN. STATE UNIV-RADNOR**
 UNVEILING THE ACCRETION DISKS WHICH FUEL ACTIVE GALACTIC
 NUCLEI (STUDENT: KAREN LEWIS)
 06/03/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: M ERACLEOUS
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52938 **DREXEL UNIV**
 4200011557 "ACTIVE HOLOGRAPHIC OPTICAL ELEMENTS FOR SPACE-
 BORNE APPLICATIONS"
 07/01/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: A FONTECCHIO
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 01009 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 THE PHYSICAL MECHANISMS FOR TONAL NOISE GENERATION BY SLATS
 01/23/2001 - 01/31/2004 FY03: \$55,642 Total: \$258,146
Prin. Invest.: P J MORRIS
Tech. Officer: LARC/M R KHORRAMI, LARC/B A SINGER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1840 **HAHNEMANN UNIV**
 DETERGENT INTERACTIONS AFFECTING MEMBRANE PROTEIN CRYSTAL-
 LIZATION: ANALYSIS & USE IN SCREEN DESIGN
 09/28/2001 - 11/30/2004 FY03: \$309,000 Total: \$704,000
Prin. Invest.: P J LOLL, J M WEINCEK
Tech. Officer: MSFC/B GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 1 02065 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 SIMULATION OF METAL DEPOSITION USING ELECTRON BEAM
 03/14/2002 - 11/13/2003 FY03: \$0 Total: \$80,000
Prin. Invest.: V V SEMAK
Tech. Officer: LARC/K M TAMINGER
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 9285 **HAVERTFORD COLLEGE**
 LARGE-SCALE STRUCTURE IN THE X-RAY BACKGROUND AND LIMITS ON
 COSMOLOGICAL PARAMETERS FROM THE INTEGRAL
 04/17/2000 - 04/30/2003 FY03: \$0 Total: \$54,764
Prin. Invest.: S P BOUGHN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 1 03008 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 COMPOSITE BASED HIGH PERFORMANCE ELECTROACTIVE POLYMERS FOR
 REMOTELY CONTROLLED MECH MANIPULATION
 12/16/2002 - 12/15/2003 FY03: \$45,000 Total: \$45,000
Prin. Invest.: Q M ZHANG
Tech. Officer: LARC/J SU, LARC/J S HARRISON
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 12829 **LAFAYETTE COLLEGE**
 VOLUMETRIC & OPTICAL STUDIES OF PHASE EQUILIBRIA IN HYDRATED
 SALTS FROM 0.1-400 MPa WITH APPLICATIONS
 01/30/2003 - 01/31/2006 FY03: \$58,000 Total: \$58,000
Prin. Invest.: D HOGENBOOM
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 1 03025 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 A COMPONENT-BASED METHOD FOR THE PREDICTION OF NOISE FROM
 LANDING GEAR
 02/25/2003 - 02/28/2006 FY03: \$134,877 Total: \$134,877
Prin. Invest.: P J MORRIS
Tech. Officer: LARC/D P LOCKHARD
CASE Category: 49 – ENGINEERING, OTHER

NGT 5 50418 **LEHIGH UNIV**
 WHEN AND HOW DID TOPOGRAPHY DEVELOP IN THE NORTHERN
 APPENNINES AN INTEGRATIVE GIS-BASED APPROACH
 08/14/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: F J PAZZAGLIA
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1342 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 MOLECULAR CONTROL OF CELL GROWTH DURING GRAVITY RESPONSES
 OF MAIZE SEEDINGS
 07/20/1999 - 07/14/2003 FY03: \$0 Total: \$339,434
Prin. Invest.: D J COSGROVE
Tech. Officer: ARC/M M AVERNER, ARC/D D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1366 PENNSYLVANIA STATE UNIV. - UNIV. PARK
GRAVITROPISM IN CHARA RHIZOIDS
07/30/1999 - 07/14/2003 FY03: \$0 Total: \$259,890
Prin. Invest.: S G GILROY
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 - BIOLOGY (EXCLUDING ENVIR)

NAG 2 1453 PENNSYLVANIA STATE UNIV. - UNIV. PARK
MEASUREMENTS OF OH AND HO2 USING ATHOS ON THE DC-8 DURING SOLVE
01/26/2001 - 01/31/2003 FY03: \$0 Total: \$200,000
Prin. Invest.: W H BRUNE
Tech. Officer: ARC/E P CONDON, ARC/R S HIPSKIND
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 2 1524 PENNSYLVANIA STATE UNIV. - UNIV. PARK
EVALUATION OF SI-O-C FOAM CERAMICS IN SIMULATED AE ROTHMAL ENVIRONMENTS
09/14/2001 - 03/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: J R HELLMANN
Tech. Officer: ARC/D T ELLERBY, ARC/S M JOHNSON
CASE Category: 47 - METAL & MATERIALS ENGR

NAG 2 1594 PENNSYLVANIA STATE UNIV. - UNIV. PARK
INTERACTION OF TOUCH AND GRAVITROPIC SIGNALING IN PLANT ROOTS
11/01/2002 - 10/31/2005 FY03: \$180,006 Total: \$180,006
Prin. Invest.: G C JAHNS
Tech. Officer: ARC/M M AVERNER
CASE Category: 51 - BIOLOGY (EXCLUDING ENVIR)

NAG 3 2328 PENNSYLVANIA STATE UNIV. - UNIV. PARK
A NUMERICAL AND EXPERIMENTAL STUDY OF THE FLOW AND NOISE FROM SUBSONIC AND SUPERSONIC JETS
03/17/2000 - 12/03/2003 FY03: \$19,815 Total: \$201,515
Prin. Invest.: P J MORRIS
Tech. Officer: GRC/M D DAHL
CASE Category: 41 - AERONAUTICAL ENGR

NAG 3 2374 PENNSYLVANIA STATE UNIV. - UNIV. PARK
MOLECULAR DYNAMIC OF FLUID SOLID SYSTEMS MOLECULAR DYNAMIC OF FLUID SOLID SYSTEMS
03/31/2000 - 11/30/2003 FY03: \$45,000 Total: \$165,000
Prin. Invest.: D BANAVAR
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 - ENGINEERING, OTHER

NAG 3 2448 PENNSYLVANIA STATE UNIV. - UNIV. PARK
HEALTH MANAGEMENT AND LIFE EXTENDING CONTROL OF GAS TURBINE ENGINES
05/30/2000 - 11/14/2003 FY03: \$30,000 Total: \$180,000
Prin. Invest.: A RAY
Tech. Officer: GRC/T GUO
CASE Category: 41 - AERONAUTICAL ENGR

NAG 3 2470 PENNSYLVANIA STATE UNIV. - UNIV. PARK
DYNAMICS OF PARTICLES IN STATIONARY ISOTROPIC TURBULENCE
07/11/2000 - 11/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D R COLLINS
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 - ENGINEERING, OTHER

NAG 3 2501 PENNSYLVANIA STATE UNIV. - UNIV. PARK
COMBUSTION BEHAVIOR OF ADVANCED MONOPROPELLANTS COMBUSTION BEHAVIOR OF ADVANCED MONOPROPELLANTS
12/11/2000 - 10/31/2003 FY03: \$90,000 Total: \$287,500
Prin. Invest.: D KUO
Tech. Officer: GRC/B D REED
CASE Category: 42 - ASTRONAUTICAL ENGR

NAG 3 2546 PENNSYLVANIA STATE UNIV. - UNIV. PARK
EXPERIMENTAL AND THEORETICAL STUDIES OF WET GRANULAR MEDIA
02/26/2001 - 07/31/2004 FY03: \$78,191 Total: \$233,495
Prin. Invest.: D E SCHIFFER
Tech. Officer: GRC/J H AGUI
CASE Category: 43 - CHEMICAL ENGR

NAG 3 2561 PENNSYLVANIA STATE UNIV. - UNIV. PARK
DIELECTRIC MATERIALS DEVELOPMENT FOR HIGH TEMPERATURE
03/16/2001 - 09/30/2003 FY03: \$20,000 Total: \$140,000
Prin. Invest.: D T LANAGAN
Tech. Officer: GRC/G E SCHWARZE
CASE Category: 47 - METAL & MATERIALS ENGR

NAG 3 2590 PENNSYLVANIA STATE UNIV. - UNIV. PARK
MEMS NOZZLE OPTIMIZATION STUDIES FOR DECOMPOSING SOLID MICROPROPULSION TECHNOLOGY
04/19/2001 - 05/31/2004 FY03: \$66,692 Total: \$155,595
Prin. Invest.: D A LEVIN
Tech. Officer: GRC/B D REED
CASE Category: 42 - ASTRONAUTICAL ENGR

NAG 3 2598 PENNSYLVANIA STATE UNIV. - UNIV. PARK
FLYWHEEL TECHNOLOGY DEVELOPMENT FOR SMALL SATELLITE APPLICATIONS
04/27/2001 - 08/31/2003 FY03: \$41,342 Total: \$202,230
Prin. Invest.: H HOFMANN
Tech. Officer: GRC/B KENNY
CASE Category: 45 - ELECTRICAL ENGR

NAG 3 2656 PENNSYLVANIA STATE UNIV. - UNIV. PARK
PREDICTION OF GAS LUBRICATED FOIL JOURNAL BEARING PERFORMANCE
01/24/2002 - 01/21/2005 FY03: \$99,844 Total: \$199,824
Prin. Invest.: M CARPINO
Tech. Officer: GRC/S A HOWARD
CASE Category: 46 - MECHANICAL ENGR

NAG 3 2657 PENNSYLVANIA STATE UNIV. - UNIV. PARK
THRUST AUGMENTATION MEASUREMENTS USING PULSE DETONATION EJECTOR
01/22/2002 - 12/11/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: R J SANTORO
Tech. Officer: GRC/D T PALAC
CASE Category: 46 - MECHANICAL ENGR

NAG 3 2659 PENNSYLVANIA STATE UNIV. - UNIV. PARK
OPTIMIZATION OF ACTIVE CONTROL OF GAS TURBINE COMBUSTION USING MAIN FLOW MODULATION IN LOW EMISSION
12/22/2001 - 12/11/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: D A SANTAVICCA
Tech. Officer: GRC/C T CHANG
CASE Category: 41 - AERONAUTICAL ENGR

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NAG 3 2729 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 DYNAMICS OF DROPS AND BUBBLES IN CONFINED FLOWS OF COMPLEX FLUIDS
 04/02/2002 - 03/31/2006 FY03: \$27,300 Total: \$101,430
Prin. Invest.: A BORHAN
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2746 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 MICROGRAVITY EFFECTS ON TRANSVASCULAR TRANSPORT AND VASCULAR CONTROL
 04/02/2002 - 02/28/2006 FY03: \$55,867 Total: \$170,057
Prin. Invest.: D M TARBELL
Tech. Officer: GRC/P A PARSONS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2778 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 INTELLIGENT CONTROL OF AUTONOMOUS PROPULSION SYSTEMS
 05/16/2002 - 12/13/2002 FY03: \$0 Total: \$200,001
Prin. Invest.: K R REICHARD
Tech. Officer: GRC/J LITT
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2795 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 INTEGRATION OF QUANTUM DOTS INTO PROTOCRYSTALLINE SILICON SOLAR CELLS
 09/06/2002 - 09/08/2003 FY03: \$0 Total: \$70,000
Prin. Invest.: C R WRONSKI
Tech. Officer: GRC/S G BAILEY
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2891 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 FUNDING CRITICAL CASIMIR FORCES
 04/29/2003 - 03/25/2006 FY03: \$125,000 Total: \$125,000
Prin. Invest.: M CHAN
Tech. Officer: GRC/C LEK
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2905 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 INVESTIGATION OF FUTURE MICROGRAVITY ATOMIC CLOCKS PSU PROP #SC030288
 06/03/2003 - 04/24/2007 FY03: \$200,000 Total: \$200,000
Prin. Invest.: K GIBBLE
Tech. Officer: GRC/M C HICKS
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 4301 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 A STUDY OF PLANETARY SYSTEMS AROUND NEUTRON STARS
 04/09/1997 - 05/31/2002 FY03: \$0 Total: \$297,000
Prin. Invest.: D WOLSZCZAN
Tech. Officer: GSFC/D NAVA
CASE Category: 11 – ASTRONOMY

NAG 5 4553 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 THE GLOBAL WATER CYCLE: EXTENSION ACROSS THE EARTH
 06/12/1997 - 06/30/2002 FY03: \$0 Total: \$5,263,454
Prin. Invest.: E J BARRON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5169 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 PROJECT DROPPS: THE DISTRIBUTION AND ROLE OF PARTICLES IN THE POLAR SUMMER MESOSPHERE
 03/13/1998 - 12/31/2002 FY03: \$0 Total: \$168,596
Prin. Invest.: J D MITCHELL
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5220 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 GRANT NAG5-5220 - HIGH ENERGY ANTIMATTER TELESCOPE (HEAT) - PI DR. JAMES BEATTY
 03/16/1999 - 05/31/2003 FY03: \$0 Total: \$504,000
Prin. Invest.: J J BEATTY
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5248 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 COSMIC RAY ENERGISTICS AND MASS (CREAM) COSMIC RAY ENERGISTICS AND MASS (CREAM)
 03/12/2000 - 11/30/2003 FY03: \$192,155 Total: \$648,155
Prin. Invest.: BEATTY
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5250 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 FIRST YEAR OF THREE YEAR EFFORT FOR PI DR. STEPHANE COUTU
 03/23/2000 - 11/30/2003 FY03: \$160,000 Total: \$616,000
Prin. Invest.: S E COUTU
Tech. Officer: WFF/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5256 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 MODIFICATION OF IONIZATION PROPERTIES IN THE MIDDLE ATMOSPHERE BY GRAVITY WAVES
 03/20/2000 - 02/10/2004 FY03: \$0 Total: \$669,656
Prin. Invest.: C L CROSKEY
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5277 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 RESEARCH IN X-RAY ASTRONOMY RESEARCH IN X-RAY ASTRONOMY
 06/01/2000 - 05/15/2004 FY03: \$0 Total: \$550,000
Prin. Invest.: D N BURROWS, G P GARMIRE
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5313 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 GRAVITY WAVE FORCING THE MESOSPHERE AND LOWER THERMOSPHERE MOUNTAIN AND CONNECTIVE WAVES
 02/08/2001 - 02/09/2004 FY03: \$65,734 Total: \$243,952
Prin. Invest.: C L CROSKEY
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5356 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 NEW TRACK IMAGING TECHNOLOGY FOR NEXT-GENERATION GAMMA-RAY TELESCOPES
 04/09/2002 - 12/31/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: T N JACKSON
Tech. Officer: GSFC/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5363 PENNSYLVANIA STATE UNIV. - UNIV. PARK
COSMIC-RAY SPECTRUM AND COMPOSITION AT HIGH ENERGY FIRST
YEAR OF FUNDING
05/16/2002 - 03/31/2007 FY03: \$100,000 Total: \$200,000
Prin. Invest.: S COUTU
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 - PHYSICS

NAG 5 5369 PENNSYLVANIA STATE UNIV. - UNIV. PARK
LAYERS IN THE EQUATORIAL MESOSPHERE, MOTIONS AND A EROSOL
ROCKET AND RADAR STUDY (LEMMA)
06/25/2002 - 06/18/2005 FY03: \$116,610 Total: \$236,301
Prin. Invest.: J MITCHELL
Tech. Officer: WFF/J BRINTON
CASE Category: 13 - PHYSICS

NAG 5 5375 PENNSYLVANIA STATE UNIV. - UNIV. PARK
ROCKET INVESTIGATION OF SCATTERING LAYERS IN THE B OTTOSIDE
EQUATORIAL F REGION IONOSPHERE
06/19/2002 - 06/10/2005 FY03: \$241,087 Total: \$251,791
Prin. Invest.: T WHEELER
Tech. Officer: WFF/J BRINTON
CASE Category: 13 - PHYSICS

NAG 5 5391 PENNSYLVANIA STATE UNIV. - UNIV. PARK
"ANITA: ANTARCTIC IMPULSIVE TRANSIENT ANTENNA (FIRST YEAR)
04/07/2003 - 09/30/2008 FY03: \$202,000 Total: \$202,000
Prin. Invest.: J BEATTY
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 - PHYSICS

NAG 5 6399 PENNSYLVANIA STATE UNIV. - UNIV. PARK
THE GAS AND THE STARS OF INTERMEDIATE REDSHIFT GALAXIES (LTSA)
10/10/1997 - 10/14/2003 FY03: \$0 Total: \$283,394
Prin. Invest.: J CHARLTON
Tech. Officer: GSFC/D K WEST
CASE Category: 11 - ASTRONOMY

NAG 5 7547 PENNSYLVANIA STATE UNIV. - UNIV. PARK
SATELLITE TRACKING AND RAINFALL ESTIMATION FOR SHO RT-TERM,
HEAVILY PERCIPITATING STORM EVENTS
06/22/1998 - 06/30/2002 FY03: \$0 Total: \$235,764
Prin. Invest.: J L EVANS
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 32 - GEOLOGICALSCIENCE

NAG 5 7776 PENNSYLVANIA STATE UNIV. - UNIV. PARK
REMOTE SENSING OF WEST ANTARCTIC ICE SHEET SURFACE MELTING:
RECOGNITION,CONTROLS, AND SIGNIFICANCE
10/27/1998 - 12/31/2002 FY03: \$0 Total: \$31,220
Prin. Invest.: R ALLEY
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 8107 PENNSYLVANIA STATE UNIV. - UNIV. PARK
AXAF, XMM AND ASTRO-E INVESTIGATIONS OF SEYFERT/QU ASAR CEN-
TRAL ENGINES: EXPLORING THE ENVIRONMENTS
02/05/1999 - 02/14/2004 FY03: \$68,700 Total: \$323,900
Prin. Invest.: W N BRANDT
Tech. Officer: GSFC/D K WEST
CASE Category: 11 - ASTRONOMY

NAG 5 8710 PENNSYLVANIA STATE UNIV. - UNIV. PARK
METHANE & HYDROGEN IN EARTH'S PRIMITIVE ATMOSPHERE
08/02/1999 - 09/30/2003 FY03: \$0 Total: \$235,087
Prin. Invest.: J F KASTING
Tech. Officer: GSFC/M MEYER
CASE Category: 11 - ASTRONOMY

NAG 5 8735 PENNSYLVANIA STATE UNIV. - UNIV. PARK
MERGING MODELS AND OBSERVATIONS OF THE ATMOSPHERIC BOUND-
ARY LAYER'S MESOSCALE STRUCTURE DURING SGP-9
08/17/1999 - 08/14/2002 FY03: \$0 Total: \$117,240
Prin. Invest.: D R STAUFFER
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 8738 PENNSYLVANIA STATE UNIV. - UNIV. PARK
SPACE-TIME DYNAMICS OF SOIL MOISTURE & TEMPERATURE -SCALE
ISSUES
08/17/1999 - 08/14/2003 FY03: \$0 Total: \$101,000
Prin. Invest.: D MILLER
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 9089 PENNSYLVANIA STATE UNIV. - UNIV. PARK
SEARCH FOR NEW EVIDENCE IN PRE-2.0 GA PALEOSOLS & SHALES FOR
THE EARLY EVOLUTION OF ATMOSPHERIC OXYG
02/17/2000 - 01/31/2004 FY03: \$46,813 Total: \$226,813
Prin. Invest.: H OHMOTO
Tech. Officer: GSFC/M MEYER
CASE Category: 11 - ASTRONOMY

NAG 5 9153 PENNSYLVANIA STATE UNIV. - UNIV. PARK
THEORETICAL STUDIES OF GAMMA-RAY BURSTS WITH SWIFT
03/02/2000 - 06/30/2003 FY03: \$0 Total: \$88,989
Prin. Invest.: P I MESZAROS
Tech. Officer: GSFC/N GEHRELS
CASE Category: 11 - ASTRONOMY

NAG 5 9192 PENNSYLVANIA STATE UNIV. - UNIV. PARK
PHYSICS OF GAMMA RAY BURST SOURCES
03/08/2000 - 03/14/2004 FY03: \$0 Total: \$317,329
Prin. Invest.: P MESZAROS
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 9377 PENNSYLVANIA STATE UNIV. - UNIV. PARK
THE ORIGINS AND PROPERTIES OF INTRACLUSTER STARS (LTSA 99)
04/05/2000 - 03/31/2005 FY03: \$108,356 Total: \$424,204
Prin. Invest.: R CIARDULLO
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 9586 PENNSYLVANIA STATE UNIV. - UNIV. PARK
A RADICAL-VELOCITY ASSESSMENT OF CANDIDATE SIM GRID STARS FOR
ASTROMETIC STABILITY, USING
05/10/2000 - 05/14/2004 FY03: \$0 Total: \$70,000
Prin. Invest.: R A WADE
Tech. Officer: GSFC/P CRANE
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

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NAG 5 9918 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 AN X-RAY STUDY OF THE MOST DISTANT QUASARS FROM THE SLOAN
 DIGITAL SKY SURVEY
 09/05/2000 - 09/14/2003 FY03: \$0 Total: \$28,100
Prin. Invest.: W N BRANDT
Tech. Officer: GSFC/R F MUSKOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9924 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 A DETAILED STUDY OF TWO NLS1
 09/05/2000 - 09/14/2003 FY03: \$0 Total: \$6,964
Prin. Invest.: W N BRANDT
Tech. Officer: GSFC/P M ATKINS
CASE Category: 11 – ASTRONOMY

NAG 5 9932 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 XMM SPECTROSCOPY OF THE X-RAY DETECTED BROAD ABSORPTION
 LINE QSO CSO 755
 09/07/2000 - 09/14/2004 FY03: \$0 Total: \$32,700
Prin. Invest.: W N BRANDT
Tech. Officer: GSFC/D F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9933 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 XMM STUDY OF THE BRIGHT ULTRASOFT NARROW-LINE QUASAR
 0205+024
 09/07/2000 - 09/14/2003 FY03: \$0 Total: \$5,945
Prin. Invest.: W N BRANDT
Tech. Officer: GSFC/D F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9934 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 CONSTRAINTS ON HO FROM TIME-DELAY MEASUREMENTS OF PG1115+080
 09/06/2000 - 09/14/2003 FY03: -\$1,342 Total: \$35,258
Prin. Invest.: G CHARTAS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9938 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 SPECTRUM AND PULSATIONS OF THE NEUTRON STAR CANDIDATE RX
 J0002+6246
 09/06/2000 - 09/14/2002 FY03: \$0 Total: \$5,991
Prin. Invest.: G PAVLOV
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9939 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 AN XMM STUDY OF THE BRIGHT NARROW-LINE SEYFERT 1 GALAXY
 ARAKELIAN 564
 09/06/2000 - 09/14/2004 FY03: \$0 Total: \$28,800
Prin. Invest.: W BRANDT
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9940 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 XMM SPECTROSCOPY OF MARKARIAN 6: INTRINSIC ABSORPTION AND
 BLACK HOLE REGION
 09/06/2000 - 09/14/2003 FY03: \$0 Total: \$30,300
Prin. Invest.: W N BRANDT
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9949 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 THROUGH BAL QUASARS BRIGHTLY
 09/07/2000 - 08/31/2003 FY03: \$0 Total: \$33,900
Prin. Invest.: G CHARTAS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9970 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 PROBING CLASS O PROTOSTARS WITH HARD X-RAYS --OMC2 -3 REGION--
 09/13/2000 - 09/14/2002 FY03: -\$6,008 Total: \$32,292
Prin. Invest.: Y TSUBOI
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9976 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 RGS ABUNDANCE MEASUREMENT OF WOLF-RAYET STELLAR WIND
 09/12/2000 - 01/31/2003 FY03: \$0 Total: \$33,180
Prin. Invest.: Y MAEDA
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 9982 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 STRUCTURE OF THE ACCRETION FLOWS IN BROAD-LINE RADIO GALAXIES
 09/13/2000 - 09/14/2002 FY03: \$0 Total: \$37,444
Prin. Invest.: M ERACLEOUS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10079 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 MAPPING SPECTRAL LINES FROM THE DIFFUSE X-RAY BACKGROUND
 10/27/2000 - 10/31/2002 FY03: \$0 Total: \$9,500
Prin. Invest.: D N BURROWS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10080 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 SHADOWING OF THE EXTRAGALACTIC SOFT X-RAY BACKGROUND
 10/27/2000 - 10/31/2002 FY03: \$0 Total: \$8,900
Prin. Invest.: D N BURROWS
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10089 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 THE X-RAY PROPERTIES OF LOCAL GALAXIES: BRIDGING THE GAP TO
 HIGH-Z
 11/20/2000 - 11/30/2002 FY03: \$0 Total: \$31,953
Prin. Invest.: N BRANDT
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10541 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 PATTERN-BASED MONITORING OF CHANGE AT MULTIPLE SCALES
 THROUGH REMOTE SENSING & GIS IN FOREST
 03/20/2001 - 03/14/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: W L MYERS
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10706 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 SOFT X-RAY BACKGROUND IN THE GALACTIC ANTI-CENTER (ADP - 2000)
 04/19/2001 - 04/30/2004 FY03: \$0 Total: \$9,871
Prin. Invest.: S PARK
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10817 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 A COMPREHENSIVE STUDY OF THE NARROW ABSORPTION- LINE GAS
 INSTRINSIC TO QUASARS
 04/24/2001 - 04/30/2006 FY03: \$86,398 Total: \$259,289
Prin. Invest.: M ERACLEOUS
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10865 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 X-RAY RADIATION FROM NEUTRON STARS (LTSA 2000)
 05/08/2001 - 05/14/2006 FY03: \$94,420 Total: \$275,048
Prin. Invest.: G PAVLOV
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11427 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 INFRARED SILICON IMMERSION GRATING TECHNOLOGY DEVELOPMENT
 12/03/2001 - 11/30/2004 FY03: \$210,000 Total: \$420,000
Prin. Invest.: J GE
Tech. Officer: GSFC/P CRANE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11472 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 COMBINED OBSERVATIONAL AND MODELING OF CIRRUS GENERATED BY
 DEEP CONVECTION
 12/19/2001 - 12/31/2003 FY03: \$81,325 Total: \$157,580
Prin. Invest.: J VERLINDE
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11832 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 MESOSPHERIC AND LOWER IONOSPHERIC EFFECTS OF SPRITES
 03/11/2002 - 02/28/2005 FY03: \$65,436 Total: \$128,946
Prin. Invest.: V PASKO
Tech. Officer: GSFC/M MELLOTT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12115 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 COMPACT HIGH-RESOLUTION 3-D IMAGING SPECTROMETER FOR DISCOVERING
 OASES ON MARS
 04/26/2002 - 04/30/2004 FY03: \$0 Total: \$297,777
Prin. Invest.: J GE
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12181 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 PLANETS AROUND NEUTRON STARS
 05/20/2002 - 05/31/2003 FY03: \$0 Total: \$55,000
Prin. Invest.: A WOLSKZCZAN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12242 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 "A WEB MAP-BASED TOOL FOR NEAR-REAL TIME MOSQUITO MANAGEMENT
 IN PENNSYLVANIA"
 05/28/2002 - 06/30/2005 FY03: \$0 Total: \$60,000
Prin. Invest.: D A MILLER
Tech. Officer: GSFC/N MAYNARD
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12257 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 "OPTICALLY THIN PIXEL DETECTORS FOR A BROADBAND X- RAY POLARIMETER".
 06/27/2002 - 06/30/2004 FY03: \$129,996 Total: \$159,996
Prin. Invest.: T N JACKSON
Tech. Officer: GSFC/P V DEINS-JONES
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 12330 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 TRACE ELEMENT MOBILITY
 06/28/2002 - 06/30/2005 FY03: \$15,000 Total: \$109,206
Prin. Invest.: S BRANTLEY
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12338 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 THE LATE ORDOVICIAN MASS EXTINCTION AND RECOVERY: DIVERSITY
 DYNAMICS AND GEOGRAPHIC VARIABILITY
 07/15/2002 - 06/30/2005 FY03: \$53,127 Total: \$103,821
Prin. Invest.: M E PATZKOWSKY
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12352 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 PHOTOCHEMICAL MODELING OF EARTH'S EARLY ATMOSPHERE
 07/03/2002 - 06/30/2005 FY03: \$0 Total: \$92,300
Prin. Invest.: J F KASTING
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12426 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 CHEMICAL MODELING FOR STUDIES OF GEOTREACE CAPABILITIES
 08/13/2002 - 08/14/2004 FY03: \$0 Total: \$70,000
Prin. Invest.: W BRUNE
Tech. Officer: GSFC/J GLEASON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12611 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 THE ROLE OF SOIL MOISTURE & WATER TABLE DYNAMICS IN UNGAGED
 RUNOFF PREDICTION IN MOUNTAIN-FRONT SYSTEMS
 11/29/2002 - 11/30/2005 FY03: \$110,000 Total: \$110,000
Prin. Invest.: C J DUFFY
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12804 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 THE PHYSICAL NATURE OF THE SHARP SPECTRAL FEATURE AT 7 KEV
 DETECTED IN 1H0707-495
 02/26/2003 - 04/30/2004 FY03: \$9,000 Total: \$9,000
Prin. Invest.: W N BRANDT
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 12872 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 TRMM CLIMATE CHEMISTRY RELATED STUDIES IN WEST AND CENTRAL
 AFRICA USING TRMM LEVEL 2 AND 3 DATA
 02/20/2003 - 02/28/2005 FY03: \$25,000 Total: \$25,000
Prin. Invest.: G JENKINS
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

PENNSYLVANIA

NASA'S UNIVERSITY PROGRAM

NAG 5 12955 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 GEOSPEC FOR EARTH AND ATMOSPHERIC SCIENCE.
 03/04/2003 - 03/14/2006 FY03: \$19,200 Total: \$19,200
Prin. Invest.: W BRUNE
Tech. Officer: GSFC/S J JANZ
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13010 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 MONITORING THE VARIABLE UV AND X-RAY ABSORPTION IN NGC 4051
 WITH FUSE, HST, AND CHANDRA FUSE 01
 03/11/2003 - 03/14/2004 FY03: \$47,100 Total: \$47,100
Prin. Invest.: W N BRANDT
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13035 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 X-RAY & RELATED STUDIES OF ABSORBED ACTIVE GALAXIES: REVEALING
 THE OBSCURING ENVIRONMENTS OF S
 03/13/2003 - 03/14/2005 FY03: \$94,847 Total: \$94,847
Prin. Invest.: W BRANDT
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13181 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 SUPERNOVA REMNANTS WITH UNUSUAL MORPHOLOGY
 03/25/2003 - 03/31/2004 FY03: \$47,900 Total: \$47,900
Prin. Invest.: S PARK
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13253 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 EXPLORING THE NATURE OF THE GALACTIC X-RAY BACKGROUND IN THE
 PLANE
 04/14/2003 - 06/30/2004 FY03: \$52,100 Total: \$52,100
Prin. Invest.: S PARK
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13265 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 EPIC STUDY OF THE TWO ENIGMATIC SOURCES: THE MOUSE AND SNR
 359.1-0.5
 04/03/2003 - 04/14/2004 FY03: \$9,600 Total: \$9,600
Prin. Invest.: G PAVLOV
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13286 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 PHYSICS OF GAMMA RAY BURST SOURCES
 04/04/2003 - 03/31/2006 FY03: \$131,313 Total: \$131,313
Prin. Invest.: P MESZARGO
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13320 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 PENN STATE ACTIVITIES IN THE NASA GSFC TRANSMISSIVE MICROSHUT-
 TER ARRAY TECHNOLOGY DEVELOPMENT PROG
 04/15/2003 - 04/14/2004 FY03: \$80,000 Total: \$80,000
Prin. Invest.: D GE
Tech. Officer: GSFC/S H MOSELEY
CASE Category: 11 – ASTRONOMY

NAG 5 13539 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 POLAR CAP HEATING THERMAL EMISSION FROM THE OLD DRIFTING
 PULSAR B0943+10
 07/29/2003 - 07/31/2004 FY03: \$44,200 Total: \$44,200
Prin. Invest.: G PAVLOV
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13541 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 A SYSTEMATIC X-RAY SPECTROSCOPIC SURVEY OF ABSORBING OUT-
 FLOWS IN PG AGN
 08/01/2003 - 07/31/2004 FY03: \$42,654 Total: \$42,654
Prin. Invest.: W N BRANDT
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13543 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 THROUGH LENSED BAL QUASARS BRIGHTLY
 07/30/2003 - 07/31/2004 FY03: \$44,500 Total: \$44,500
Prin. Invest.: G CHARTAS
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13620 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 PLANETS AROUND NEUTRON STARS
 09/02/2003 - 09/14/2006 FY03: \$89,000 Total: \$89,000
Prin. Invest.: A WOLSZCZAN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1272 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 GRAVITATIONAL EFFECT ON THE DEVELOPMENT OF LASER WELDPool
 AND SOLIDIFICATION MICROSTRUCTURE
 05/09/1996 - 06/15/2003 FY03: \$0 Total: \$600,000
Prin. Invest.: J SINGH
Tech. Officer: MSFC/P DOTY, MSFC/R POWER
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1452 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 R/S GRAVITATIONAL EFFECTS ON DISTORTION IN SINTERING
 02/01/1998 - 01/31/2004 FY03: \$158,889 Total: \$873,889
Prin. Invest.: R M GERMAN
Tech. Officer: MSFC/C TALLEY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1761 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 CRITICAL CASMIR FORCES
 05/01/2001 - 04/30/2005 FY03: \$0 Total: \$240,000
Prin. Invest.: M CHAN
Tech. Officer: MSFC/D HUBBARD
CASE Category: 13 – PHYSICS

NAG 8 1792 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 RESEARCH ENTITLED, "VALIDATION DATA FOR FULL FLOW STAGED COM-
 BUSTION INJECTORS"
 03/13/2001 - 03/31/2005 FY03: \$175,000 Total: \$662,650
Prin. Invest.: R J SANTORO
Tech. Officer: MSFC/K TUCKER
CASE Category: 43 – CHEMICAL ENGR

NAG 8 1844 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 FOCUSED ROCKET-EJECTOR ROCKET-BASED COMBINED-CYCLE EXPERI-
 MENTS (RBCC)
 07/16/2001 - 06/30/2002 FY03: \$0 Total: \$100,684
Prin. Invest.: R J SANTORO, S PAL
Tech. Officer: MSFC/J H RUFF
CASE Category: 42 - ASTRONAUTICAL ENGR

NAG 8 1854 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 NOVATION OF NAG8-1449 FROM YATLE TO PENN STATE
 12/18/2001 - 03/31/2004 FY03: \$0 Total: \$410,598
Prin. Invest.: K GIBBLE
Tech. Officer: MSFC/D HUBBARD
CASE Category: 13 - PHYSICS

NAG 8 1873 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 THE STUDY OF ADVANCED LASER IGNITION CONCEPTS
 08/16/2002 - 01/31/2003 FY03: \$0 Total: \$10,000
Prin. Invest.: D SANTAVICCA
Tech. Officer: MSFC/H TRINH
CASE Category: 46 - MECHANICAL ENGR

NAG 8 1877 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 RESEARCH ENTITLED MODELING OF DETONATION INITIATION AND
 PROPAGATION IN COMBUSTION WAVE IGNITION
 07/24/2002 - 09/30/2005 FY03: \$150,000 Total: \$225,000
Prin. Invest.: V YANG
Tech. Officer: MSFC/B BULLARD
CASE Category: 43 - CHEMICAL ENGR

NAG 9 1173 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 FACILITATED BLOOD PRESSURE CONTROL
 09/22/1999 - 09/30/2003 FY03: \$0 Total: \$430,340
Prin. Invest.: J A PAWELCZYK
Tech. Officer: JSC/C LLOYD
CASE Category: 59 - LIFE SCIENCE, OTHER

NAG 9 1264 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 BONE STRAIN DURING OG EXERCISE
 11/28/2000 - 10/31/2003 FY03: \$205,429 Total: \$652,209
Prin. Invest.: P CAVANAGH
Tech. Officer: JSC/C W LLOYD
CASE Category: 56 - MEDICL

NAG 9 1372 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 MICROFABRICATED OPTICAL BIOSENSOR ARRAYS FOR AIR QUALITY MONI-
 TORING
 08/01/2001 - 09/30/2004 FY03: \$61,532 Total: \$253,406
Prin. Invest.: M V PISHKO
Tech. Officer: JSC/D RUSSO
CASE Category: 54 - ENVIRONMENTAL BIOLOGY

NAG10 326 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 NASA INTERNSHIP DEVELOPMENT PROGRAM NASA INTERNSHIP DEVEL-
 OPMENT PROGRAM
 09/06/2002 - 09/08/2003 FY03: \$0 Total: \$99,109
Prin. Invest.: A FREEMAN
Tech. Officer: KSC/G BUCKINGHA
CASE Category: 49 - ENGINEERING, OTHER

NAS 3 01082 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 REDUCED THERMAL CONDUCTIVITY ZIRCONIA BASED THERMAL BARRIER
 COATINGS TBC APPLIED ON PIALUMINIDE BON
 03/08/2001 - 08/30/2002 FY03: \$0 Total: \$190,467
Prin. Invest.:
Prin. Invest.: NONE
Prin. Invest.: NONE
Tech. Officer: GRC/R DRAPER
CASE Category: 47 - METAL & MATERIALS ENGR

NAS 3 02111 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 NRA FOR OPTIMIZED DESIGNS OF ULTRA-HIGH POWER DENSITY MA-
 CHINES
 04/12/2002 - 03/15/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: H HOFMANN
Tech. Officer: GRC/J J TRUDELL, GRC/D ERCEGOVIC
CASE Category: 41 - AERONAUTICAL ENGR

NAS 3 03101 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 NRA PHASE II FOR OPTIMIZED DESIGNS OF ULTRAHIGH POWER DENSITY
 MACHINES
 09/29/2003 - 09/29/2005 FY03: \$142,304 Total: \$142,304
Prin. Invest.: H HOFMANN
Tech. Officer: GRC/J TRUDELL, GRC/K PHAM
CASE Category: 41 - AERONAUTICAL ENGR

NAS 5 00136 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 SWIFT ULTRAVIOLET & OPTICAL TELESCOPES X-RAY TELESCOPE,
 GROUND STATION SYSTEM
 04/27/2000 - 09/30/2006 FY03: \$6,400,552 Total: \$24,971,000
Prin. Invest.: J A NOUSEK
Tech. Officer: GSFC/R BORELLI
CASE Category: 11 - ASTRONOMY

NAS 8 01128 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 CHANDRA PROGRAM (SCIENCE INSTRUMENT) - ADVANCED CHARGE
 COUPLED IMAGING DEVICE SPECTROMETER (ACIS)
 03/01/2002 - 09/30/2004 FY03: \$2,039,000 Total: \$3,590,261
Prin. Invest.: G GARMIRE
Tech. Officer: MSFC/M C SMITH, MSFC/M S OSBORNE
CASE Category: 41 - AERONAUTICAL ENGR

NAS 8 38252 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 AXAF CCD IMAGING SPECTROMETER
 06/27/1990 - 03/01/2002 FY03: \$0 Total: \$12,345,572
Prin. Invest.: G P GARMIRE
Tech. Officer: MSFC/M E ROSENTHAL
CASE Category: 49 - ENGINEERING, OTHER

NAS 9 99095 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 FOOT REACTION FORCES DURING SPACE FLIGHT
 05/01/1999 - 09/30/2002 FY03: -\$114,842 Total: \$670,015
Prin. Invest.: P CAVANAGH
Tech. Officer: JSC/M KAMMAN
CASE Category: 56 - MEDICL

NCC 1 414 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 TRACE-P OH & HO2 MEAS'S W/AIRBORNE TROPOSPHERIC HYDROGEN
 OXIDES (ATHOS) ON THE NASA DC-8
 09/25/2000 - 06/30/2003 FY03: \$114,539 Total: \$1,045,873
Prin. Invest.: W H BRUNE
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 - ATMOSPHERIC SCIENCE

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NASA'S UNIVERSITY PROGRAM

NCC 1 03015 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 TENDON ACTIVATED COMPLIANT CELLULAR TRUSS (TACCT): CONTROLLED CONFORMITY IN 3D SHAPE CHANGING STRUCT
 04/07/2003 - 12/31/2005 FY03: \$150,000 Total: \$150,000
Prin. Invest.: N AVAILABLE, M I FRECKER, G A LESIUTRE
Tech. Officer: LARC/M R WASZAK
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1057 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 CREATING THE PENN STATE ASTROBIOLOGY RESEARCH CENTER
 09/17/1998 - 10/31/2004 FY03: \$1,395,796 Total: \$6,193,848
Prin. Invest.: H OHMOTO
Tech. Officer: ARC/R A GRYMES, ARC/W W DOLCI
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 2 1211 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 NEW TECHNIQUES FOR DATA FUSION VISUALIZATION & CONDITION MONITORING OF COMPLEX SYSTEMS
 01/12/2001 - 09/30/2002 FY03: \$0 Total: \$401,747
Prin. Invest.: J L WISE
Tech. Officer: ARC/J E PALLIX
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 1331 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 ALGORITHMS FOR OBSTACLE DETECTION FOR COLLISION AVOIDANCE USING INFRARED IMAGES
 04/03/2002 - 08/31/2003 FY03: \$29,975 Total: \$59,950
Prin. Invest.: O I CAMPS
Tech. Officer: ARC/A AHUMADA, ARC/J B MULLIGAN
CASE Category: 45 – ELECTRICAL ENGR

NCC 2 5410 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 GREENHOUSE MECHANISMS FOR WARMING EARLY MARS
 11/22/2000 - 11/30/2002 FY03: \$0 Total: \$90,513
Prin. Invest.: J F KASTINGS
Tech. Officer: ARC/R E YOUNG, ARC/D DESMARAIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5511 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 IDENTIFYING THE STRUCTURAL BUILDING BLOCKS OF THE PROTEIN UNIVERSE
 08/06/2002 - 07/31/2003 FY03: \$0 Total: \$13,771
Prin. Invest.: H ZHA
Tech. Officer: ARC/S LIANG
CASE Category: 22 – COMPUTER SCIENCE

NCC 3 718 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 COMPUTATIONAL AND EXPERIMENTAL STUDY OF ENERGETIC MATERIALS IN A COUNTERLOW MICROGRAVITY ENVIRONMENT
 06/28/1999 - 04/30/2004 FY03: \$0 Total: \$80,317
Prin. Invest.: R A YETTER
Tech. Officer: GRC/D L UBRAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 3 848 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 DEFORMATION RESPONSE AND LIFE OF METALLIC COMPOSITES
 01/12/2001 - 01/16/2004 FY03: \$50,000 Total: \$254,764
Prin. Invest.: D J LISSENDEN
Tech. Officer: GRC/S M ARNOLD
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 920 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 MULTISCALE COMPUTATIONAL TOOLS FOR PREDICTING THEIR DYNAMICS, MOISTURE EVOLUTION AND MECHANICAL PRO
 10/23/2001 - 09/30/2006 FY03: \$235,000 Total: \$595,000
Prin. Invest.: D CHEN
Tech. Officer: GRC/M V NATHAL
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 973 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 A PRELIMINARY STUDY: IDENTIFICATION OF THE MECHANISMS THROUGH WHICH RECOMBINATION CENTERS ARE CREATED
 07/11/2002 - 12/31/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: P M LENAHAN
Tech. Officer: GRC/R S OKOJIE
CASE Category: 13 – PHYSICS

NCC 5 432 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 LUAV II: LEARNING USING ERAST AIRCRAFT MISSIONS FOR UNDERSTANDING REMOTE SENSING, ATMOSPHERIC SAMPLING
 09/20/1999 - 06/30/2003 FY03: \$0 Total: \$600,000
Prin. Invest.: D L GRABOWSKI
Tech. Officer: GSFC/R E GABRYS
CASE Category: 99 – MULTI INTERDISCIPLINARY, OTHER

NCC 5 508 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 NASA/GSFC COOPERATIVE ENTERPRISE, PROP # 3552
 08/15/2000 - 12/31/2003 FY03: \$0 Total: \$110,000
Prin. Invest.: J E FREDLEY
Tech. Officer: GSFC/M HAGOPIAN
CASE Category: 46 – MECHANICAL ENGR

NGT 1 01018 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) PREVIOUS GRANT NO. NGT-1-52249
 05/25/2001 - 06/30/2003 FY03: \$0 Total: \$22,000
Prin. Invest.: S T KIEMARA
Tech. Officer: LARC/M G BALLEW
CASE Category: 41 – AERONAUTICAL ENGR

NGT 2 52275 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 NATIONAL ROTORCRAFT TECHNOLOGY CENTER (NRTC) ROTORCRAFT CENTER OF EXCELLENCE (RCOE)
 02/14/2001 - 01/31/2006 FY03: \$654,000 Total: \$1,941,927
Prin. Invest.: E C SMITH
Tech. Officer: GSFC/AWKERR
CASE Category: 41 – AERONAUTICAL ENGR

NGT 3 52359 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 GRADUATE STUDENT RESEARCHERS PROGRAM GRADUATE STUDENT RESEARCHERS PROGRAM
 07/15/1999 - 01/02/2004 FY03: \$24,000 Total: \$90,000
Prin. Invest.: K W WANG
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 49 – ENGINEERING, OTHER

NGT 3 52368 **PENNSYLVANIA STATE UNIV. - UNIV. PARK**
 GRADUATE STUDENT RESEARCHERS PROGRAM GRADUATE STUDENT RESEARCHERS PROGRAM
 06/19/2000 - 08/14/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: D A SANTAVICCA
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 46 – MECHANICAL ENGR

NGT 5 118 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 MODELING OF THE WEST ANTARCTIC ICE SHEET TO ASSESS DIVIDE
 STABILITY & ICE STREAM EVOLUTION/STUDENT
 05/31/2001 - 08/14/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: R B ALLEY
Tech. Officer: GSFC/M S BURRELL
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 5 119 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 CHARTING THE COURSE OF CIRCUMSTELLAR MATERIAL STUDENT: JOHN
 DEBES
 05/31/2001 - 07/31/2004 FY03: \$38,270 Total: \$84,270
Prin. Invest.: JIAN GE
Tech. Officer: GSFC/M S BURRELL
CASE Category: 11 – ASTRONOMY

NGT 5 127 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 TESTING BINARY BLACK HOLE CODES IN STRONG FIELD REGIMES
 (STUDENT: DAVID GARRISON)
 06/12/2001 - 12/31/2003 FY03: \$0 Total: \$34,000
Prin. Invest.: P LAGUNA
Tech. Officer: GSFC/M S BURRELL
CASE Category: 13 – PHYSICS

NGT 5 30193 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 EDDY CORRELATION MEASUREMENT OF CO2 FLUX IN VOLCAN IC-
 HYDROTHERMAL ENVIRONMENTS SYS/STUDENT J. LEWIC
 08/19/1999 - 08/31/2002 FY03: -\$34 Total: \$60,634
Prin. Invest.: S BRANTLEY
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30420 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 PREDICTIVE SIGNATURES ASSOCIATED WITH THE DEVELOPM ENT OF
 TROPICAL WEATHER SYSTEMS IN THE EAST
 09/07/2001 - 08/31/2004 FY03: \$0 Total: \$22,000
Prin. Invest.: G JENKINS
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 40090 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 PENNSYLVANIA SPACE GRANT COLLEGE AND FELLOWSHIP PR OGRAM
 02/22/2001 - 01/31/2005 FY03: \$488,250 Total: \$1,453,250
Prin. Invest.: L BROWN
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50236 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 GALAXY DISK EVOLUTION_(STUDENT: DAVID ANDERSEN)
 05/27/1999 - 06/30/2002 FY03: \$0 Total: \$56,281
Prin. Invest.: M BERSHADY
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50247 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 DEEP OBSERVATIONS WITH NASA'S CHANDRA X-RAY OBSERV ATORY:
 RESOLVING THE DISCRETE SOURCES OF THE COS
 06/02/1999 - 06/30/2002 FY03: -\$165 Total: \$65,835
Prin. Invest.: N BRANDT
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50277 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 PEERING THROUGH THE CLOUDS: ABSORPTION STUDIES OF LUMINOUS
 ACTIVE GALAXIES WITH THE NEW GENERA
 06/20/2000 - 07/31/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: W BRANDT
Tech. Officer: GSFC/L K SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50296 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 COSMIC RAY ENERGISTICS AND MASS BALLOON EXPERIMENT STUDENT:
 ROBERT KILLOREN
 06/26/2000 - 07/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: S COUTU
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50399 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 ORIGINS AND EVOLUTION OF HOT SUBDWARFS
 06/13/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R WADE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50429 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 ACTIVATION, ADAPTATION AND RESTORATION OF THE MECH ANICAL
 RESPONSE OF OSTEOBLASTS TO FLUID SHEAR
 03/24/2003 - 06/30/2004 FY03: \$53,310 Total: \$53,310
Prin. Invest.: H J DONAHUE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50441 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 NO RESPONSE TO GRAVISTIMULATION IN ARABIDOPSIS PRI MARY ROOT
 TIP: STUDENT NAME: GREGO
 04/17/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S GILROY
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52925 PENNSYLVANIA STATE UNIV. - UNIV. PARK
 4200013030 GRADUATE STUDENT RESEARCH PROGRAM
 06/05/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M MICCI
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1628 THOMAS JEFFERSON UNIV
 CHECKPOINT REDUCED CELL SENSITIVITY TO HIGH ENEERG Y PARTICLES
 INDUCED KILLING
 06/23/2003 - 06/30/2007 FY03: \$277,542 Total: \$277,542
Prin. Invest.: Y WANG
Tech. Officer: ARC/G C JAHNS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1023 THOMAS JEFFERSON UNIV
 FACTORS MODULATING RADIATION INDUCED G2-DELAYS
 06/15/1998 - 03/01/2003 FY03: \$0 Total: \$599,124
Prin. Invest.: C ILIAKIS
Tech. Officer: JSC/F A CUCINOTTA
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1342 **THOMAS JEFFERSON UNIV**
 GENETICALLY ENGINEERED COLLAGEN II FOR SMATT BIOMA TERIALS
 08/22/2001 - 09/30/2004 FY03: \$195,000 Total: \$445,000
Prin. Invest.: A FERTALA
Tech. Officer: JSC/D RISEN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1400 **THOMAS JEFFERSON UNIV**
 MICROGRAVITY ON HUMAN OSTEOBLAST LIFE HISTORY: EXP INVESTIGA-
 TION AND NUMERICAL STUDY
 07/02/2002 - 09/30/2004 FY03: \$226,000 Total: \$453,917
Prin. Invest.: I M SHAPIRO
Tech. Officer: JSC/D RISIN
CASE Category: 56 – MEDICL

NAG 1 03084 **UNIV OF PENNSYLVANIA**
 DEVELOPMENT OF PLAN FOR RASS FOR WAKE VORTEX DETECTION
 09/29/2003 - 06/30/2004 FY03: \$73,140 Total: \$73,140
Prin. Invest.: P J MORRIS, D K MCLAUGHLIN
Tech. Officer: LARC/W M HUMPHREYS
CASE Category: 41 – AERONAUTICAL ENGNR

NAG 3 2172 **UNIV OF PENNSYLVANIA**
 COLLOIDAL ASSEMBLY IN ENTROPICALLY DRIVEN LOW-VOLU ME-
 FRACTION BINARY PARTICLE SUSPENSION
 06/08/1998 - 02/28/2004 FY03: \$108,450 Total: \$902,692
Prin. Invest.: A G YODH
Tech. Officer: GRC/R A WILKINSEN
CASE Category: 13 – PHYSICS

NAG 3 2417 **UNIV OF PENNSYLVANIA**
 ENGINEERING NOVEL BIOCLOID SUSPENSIONS ENGINEERING NOVEL
 BIOCLOID SUSPENSIONS
 05/08/2000 - 11/30/2003 FY03: \$70,000 Total: \$278,000
Prin. Invest.: D A HAMMER
Tech. Officer: GRC/D W GRIFFIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2939 **UNIV OF PENNSYLVANIA**
 ENTROPICALLY DRIVEN COLLOIDAL ASSEMBLY ENTROPICALLY DRIVEN
 COLLOIDAL ASSEMBLY
 09/11/2003 - 08/17/2008 FY03: \$115,000 Total: \$115,000
Prin. Invest.: A G YODH
Tech. Officer: GRC/R A WILKINSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 8767 **UNIV OF PENNSYLVANIA**
 COUPLING COMPUTER VISION AND ASTRONAUT PERFORMANCE FOR
 MULTI-PERSON MODELING AND ANALYSIS
 08/25/1999 - 08/31/2003 FY03: \$0 Total: \$604,750
Prin. Invest.: D N METAXAS
Tech. Officer: GSFC/R CROUCH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9194 **UNIV OF PENNSYLVANIA**
 MICROWAVE FOREGROUNDS AND THEIR POLARIZATION (PI TRANSF. INST
 ADV STUDIES NAG5-6034)
 03/08/2000 - 09/30/2002 FY03: \$0 Total: \$249,941
Prin. Invest.: M TEGMARK
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9229 **UNIV OF PENNSYLVANIA**
 BLAST: A BALLOON-BORNE LARGE-APERTURE SUB-MILLIMET ER TELE-
 SCOPE - A COMPREHENSIVE PLAN FOR GALAC
 03/20/2000 - 09/30/2003 FY03: \$0 Total: \$1,004,785
Prin. Invest.: M DEVLIN
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 11 – ASTRONOMY

NAG 5 10731 **UNIV OF PENNSYLVANIA**
 A VERY WIDE AREA SURVEY FOR TRANS-NEPTUNIAN OBJECTS
 04/11/2001 - 04/14/2004 FY03: \$35,000 Total: \$105,000
Prin. Invest.: C ALCOCK
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10923 **UNIV OF PENNSYLVANIA**
 MAPPING LARGE-SCALE STRUCTURE IN THE UNIVERSE
 05/22/2001 - 03/14/2005 FY03: \$106,718 Total: \$348,260
Prin. Invest.: B JAIN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10924 **UNIV OF PENNSYLVANIA**
 THE CLUSTERING OF GALAXIES AND DARK MATTER AT INTERMEDIATE
 REDSHIFTS (ATP 99)
 05/22/2001 - 03/14/2004 FY03: \$35,685 Total: \$159,610
Prin. Invest.: B JAIN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11099 **UNIV OF PENNSYLVANIA**
 CMB POLARIZATION ANALYSIS (LTA 2000)
 07/24/2001 - 10/31/2006 FY03: \$94,174 Total: \$186,058
Prin. Invest.: M TEGMARK
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 12785 **UNIV OF PENNSYLVANIA**
 BLAST -LBD EXTRA-GALACTIC STUDIES
 01/30/2003 - 03/31/2006 FY03: \$271,181 Total: \$271,181
Prin. Invest.: M DEVLIN
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13182 **UNIV OF PENNSYLVANIA**
 TAIWANESE-AMERICAN OCCULTATION SURVEY: FROM CONSTRUCTION TO
 SCIENCE
 03/25/2003 - 03/31/2004 FY03: \$100,000 Total: \$100,000
Prin. Invest.: C ALCOCK
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 11 – ASTRONOMY

NAG 8 1483 **UNIV OF PENNSYLVANIA**
 SURFACE TRANSFORMATION OF REACTIVE GLASS IN A MICROGRAVITY
 ENVIRONMENT
 02/03/1998 - 01/31/2002 FY03: \$0 Total: \$397,750
Prin. Invest.: P DUCHEYNE
Tech. Officer: MSFC/P M DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1683 **UNIV OF PENNSYLVANIA**
 RESEARCH POLYOMOSOMES: TOUGH, GRANT VESICLES FROM BLOCK COPOLYMERS
 05/26/2000 - 11/30/2003 FY03: \$120,000 Total: \$404,000
Prin. Invest.: D A HAMMER
Tech. Officer: MSFC/P DOTY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1161 **UNIV OF PENNSYLVANIA**
 PREDICTING VULNERABILITY OF PERFORMANCE IMPAIRMENT FROM SLEEP LOSS
 09/21/1999 - 09/20/2002 FY03: \$0 Total: \$442,500
Prin. Invest.: H VAN D
Tech. Officer: JSC/C W LLOYD
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1279 **UNIV OF PENNSYLVANIA**
 CREW TASK SIMULATION FOR MAINTENANCE, TRAINING AND SAFETY
 02/22/2001 - 03/30/2004 FY03: \$150,000 Total: \$442,500
Prin. Invest.: N BADLER
Tech. Officer: JSC/B WOOLFORD
CASE Category: 56 – MEDICL

NAG 9 1517 **UNIV OF PENNSYLVANIA**
 MECHANISMS BY WHICH SELENOMETHINE PROTECTS AGAINST SPACE RADIATION BIOLOGICAL EFFECTS
 05/19/2003 - 05/31/2007 FY03: \$275,956 Total: \$275,956
Prin. Invest.: A KENNEDY
Tech. Officer: JSC/J DARDANO
CASE Category: 56 – MEDICL

NGT 5 30460 **UNIV OF PENNSYLVANIA**
 THE ANOMOLUS ISOTOPIC ENRICHMENT IN STRATOSPHERIC OZONE--A KEY TO UNDER-STANDING ATMOSPHERIC PHOTOCHEMISTRY
 08/21/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: D HAI-LUNG
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50267 **UNIV OF PENNSYLVANIA**
 ENGINEERING BIOADHESIVE COLLOIDAL SUSPENSIONS
 07/07/1999 - 06/30/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: D A HAMMER
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50415 **UNIV OF PENNSYLVANIA**
 ENGINEERING BIODEGRADABLE, ARTIFICIAL LEUKOCYTES FOR TARGETED DELIVERY OF THERAPEUTICS IN HUMAN
 08/06/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D HAMMER
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50483 **UNIV OF PENNSYLVANIA**
 NOVEL DELIVERY VEHICLE: CELL-LIKE POLYMER VESICLES (STUDENT: JOHN LIN)
 08/19/2003 - 08/14/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D A HAMMER
Tech. Officer: GSFC/K BLANDING
CASE Category: 43 – CHEMICAL ENGR

NAG 1 03010 **UNIV OF PITTSBURGH**
 A NOVEL STRATEGY FOR NUMERICAL SIMULATION OF HIGH SPEED TURBULENT REACTING FLOWS
 01/02/2003 - 01/01/2006 FY03: \$70,000 Total: \$70,000
Prin. Invest.: P GIVI
Tech. Officer: LARC/J P DRUMMOND
CASE Category: 46 – MECHANICAL ENGR

NAG 2 1186 **UNIV OF PITTSBURGH**
 VESTIBULO-AUTONOMIC CIRCUITS
 03/17/1998 - 03/31/2003 FY03: \$0 Total: \$542,675
Prin. Invest.: C D BALABAN, C A SCUDDER
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2396 **UNIV OF PITTSBURGH**
 FORCED TWO-DIMENSIONAL TURBULENCE IN FREELY SUSPENDED FILMS
 04/14/2000 - 11/30/2003 FY03: \$125,000 Total: \$365,000
Prin. Invest.: D WI
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2538 **UNIV OF PITTSBURGH**
 SIC STUDIES IN 15R:N, POROUS STRUCTURES AND NANO-TUBES
 02/06/2001 - 07/10/2004 FY03: \$60,000 Total: \$180,015
Prin. Invest.: W J CHOYKE
Tech. Officer: GRC/D J LARKIN
CASE Category: 13 – PHYSICS

NAG 3 2730 **UNIV OF PITTSBURGH**
 FULL-FIELD INTERFEROMETRIC MEASUREMENTS OF THICKNESS OF FREELY SUSPENDED LIQUID FILMS
 03/29/2002 - 02/19/2006 FY03: \$97,726 Total: \$164,523
Prin. Invest.: D L WU
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 5267 **UNIV OF PITTSBURGH**
 LABORATORY SUPPORT FOR THE CRYOGENIC WHOLE AIR SAMPLING OF CARBON DIOXIDE IN THE UPPER MESOSPHERE
 06/01/2000 - 05/30/2003 FY03: -\$64,482 Total: \$131,870
Prin. Invest.: E ZIPP
Tech. Officer: GSFC/J C BINTON
CASE Category: 13 – PHYSICS

NAG 5 7930 **UNIV OF PITTSBURGH**
 THE NATURE AND EVOLUTION OF THE GASEOUS AND STELLAR COMPONENTS OF THE GALAXY POPULATION ASSOCIATE
 12/14/1998 - 12/14/2003 FY03: \$119,353 Total: \$543,720
Prin. Invest.: D A TURNSHEK
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8211 **UNIV OF PITTSBURGH**
 QUANTITATIVE SPECTROSCOPIC ANALYSES OF MASSIVE STARS (LISA98)
 02/26/1999 - 02/29/2004 FY03: \$84,055 Total: \$391,041
Prin. Invest.: J D HILLIER
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

PENNSYLVANIA

NASA'S UNIVERSITY PROGRAM

NAG 5 8546 **UNIV OF PITTSBURGH**
 UNRAVELING THE EVOLUTION OF GALAXIES (L TSA 98)
 05/21/1999 - 03/31/2005 FY03: \$96,382 Total: \$376,243
Prin. Invest.: A CONNOLLY
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 9051 **UNIV OF PITTSBURGH**
 AN INTERDISCIPLINARY TEACHER TRAINING PROGRAM ON EARTH SYSTEM SCIENCE USING INFORMATION TECHNOLOGY
 02/14/2000 - 02/14/2003 FY03: \$0 Total: \$87,420
Prin. Invest.: A I PANAH
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9399 **UNIV OF PITTSBURGH**
 MULTIFREQUENCY, MULTIREOLUTION IMAGE DETECTION
 04/12/2000 - 03/31/2003 FY03: \$84,180 Total: \$241,480
Prin. Invest.: A CONNOLLY
Tech. Officer: GSFC/J BREDEKAMP
CASE Category: 11 – ASTRONOMY

NAG 5 9438 **UNIV OF PITTSBURGH**
 MULTI-SPECTRAL REMOTE SENSING OF BRUSH FIRE SCARS IN ARID URBAN REGIONS: ANALYSIS OF FUTURE FIRE AND
 04/14/2000 - 04/30/2004 FY03: \$0 Total: \$162,586
Prin. Invest.: M S RAMSEY
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9439 **UNIV OF PITTSBURGH**
 MONITORING THE HAZARDS OF SILICI VOLCANOES WITH REMOTE SENSING
 04/14/2000 - 04/30/2004 FY03: \$0 Total: \$189,427
Prin. Invest.: M S RAMSEY
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9466 **UNIV OF PITTSBURGH**
 EMPLACEMENT OF TERRESTRIAL & PLANETARY LAVA FLOWS
 04/18/2000 - 04/14/2003 FY03: \$0 Total: \$58,200
Prin. Invest.: D A CROWN
Tech. Officer: GSFC/J A GRANT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10222 **UNIV OF PITTSBURGH**
 REMOTE SENSING OF PLANETARY SURFACES: MODELING & APPLICATIONS
 01/11/2001 - 01/14/2004 FY03: \$74,300 Total: \$223,800
Prin. Invest.: B W HAPKE
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10377 **UNIV OF PITTSBURGH**
 TOWARDS UNDERSTANDING STARBURST GALAXIES AT LOW & HIGH REDSHIFT (FUSE-00)
 02/08/2001 - 02/14/2004 FY03: \$0 Total: \$17,000
Prin. Invest.: J D HILLIER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10378 **UNIV OF PITTSBURGH**
 JUST WHAT IS ETA CARINAE (FUSE 00)
 02/08/2001 - 02/14/2003 FY03: \$0 Total: \$30,500
Prin. Invest.: J D HILLIER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10628 **UNIV OF PITTSBURGH**
 ASTROMETRIC OBSERVATION OF PLANETARY SYSTEMS DISCOVERED BY RADIAL VELOCITY TECHNIQUES
 03/17/2001 - 03/14/2003 FY03: \$0 Total: \$49,600
Prin. Invest.: G GATEWOOD
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11959 **UNIV OF PITTSBURGH**
 ELECTRON-ION RECOMBINATION PROCESSES
 04/03/2002 - 04/14/2005 FY03: \$119,231 Total: \$234,164
Prin. Invest.: R JOHNSEN
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12521 **UNIV OF PITTSBURGH**
 SUPPORT FOR SYMPOSIUM ON SOLAR SYSTEM REMOTE SENSING
 08/22/2002 - 08/31/2003 FY03: \$0 Total: \$8,250
Prin. Invest.: B HAPKE
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12680 **UNIV OF PITTSBURGH**
 MASSIVE STARS IN THE MAGELLANIC CLOUDS (ADP 2001)
 01/10/2003 - 01/14/2005 FY03: \$14,754 Total: \$14,754
Prin. Invest.: J D HILLIER
Tech. Officer: GSFC/R J OLIVERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13251 **UNIV OF PITTSBURGH**
 SUPERIONIZATION IN THE WIND OF ANOMALOUS B STARS (FUSE 2002)
 04/14/2003 - 04/14/2004 FY03: \$15,800 Total: \$15,800
Prin. Invest.: J ZSARGO
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13270 **UNIV OF PITTSBURGH**
 3BRKED CORREALTIONS AND THE EVOLUTION OF GALAXY BI ASING
 04/03/2003 - 03/31/2006 FY03: \$94,300 Total: \$94,300
Prin. Invest.: R SHETH
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1587 **UNIV OF PITTSBURGH**
 R/S FREELY SYSPENED LIQUID FILMS AND THEIR APPLICATIONS IN BIOLOGICAL RESEARCH
 01/28/1999 - 11/30/2002 FY03: \$0 Total: \$386,050
Prin. Invest.: X L WU
Tech. Officer: MSFC/B GUYNES
CASE Category: 61 – PSYCHOLOGY BIOLOGY

NAG 9 1036 **UNIV OF PITTSBURGH**
 SLEEPING SHORT
 06/22/1998 - 07/26/2002 FY03: \$0 Total: \$695,951
Prin. Invest.: T H MONK
Tech. Officer: JSC/C W LLOYD
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1234 **UNIV OF PITTSBURGH**
 SLEEP STUDY
 10/18/2000 - 09/30/2004 FY03: \$289,200 Total: \$840,105
Prin. Invest.: T H MONK
Tech. Officer: JSC/C W LLOYD
CASE Category: 56 – MEDICL

NAS 2 02058 **UNIV OF PITTSBURGH**
 FUNDAMENTAL TECHNOLOGIES FOR DEVELOPMENT OF BIOMOLECULAR SENSORS
 12/20/2001 - 12/10/2004 FY03: \$573,813 Total: \$1,186,757
Prin. Invest.: S ASHER, R GETZENBERG, D FINGOLD
Tech. Officer: ARC/J HINES, ARC/P FUNG
CASE Category: 56 – MEDICL

NGT 5 125 **UNIV OF PITTSBURGH**
 EVOLUTION OF THE MARTIAN HIGHLANDS: IMPLICATIONS FROM DRAINAGE BASIN CHARACTERISTICS AND VALLEY
 06/11/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: D A CROWN
Tech. Officer: GSFC/M S BURRELL
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 5 50252 **UNIV OF PITTSBURGH**
 AUTOMATED LEARNING WITH PROBABILISTIC NETWORKS FOR STUDY & EXPLORATION OF THE UNIVERSE/STUDENT: DENV
 06/08/1999 - 03/31/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: M DRUZDZEL
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50292 **UNIV OF PITTSBURGH**
 MULTISENSORY INTEGRATION IN THE VESTIBULAR NUCLEI: IMPLICATIONS FOR RECOVERY OF FUNCTION FOLLOWING
 07/06/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: B J YATES
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50318 **UNIV OF PITTSBURGH**
 CORTICAL REPRESENTATION OF SPACE IN HUMANS/STUDENT ELISHA MERRIAM
 07/11/2000 - 07/14/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: C L COLBY
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50408 **UNIV OF PITTSBURGH**
 ROLE OF THE VESTIBULAR NUCLEI IN RECOVERY OF ORTHO STATIC TOLERANCE FOLLOWING VESIBULAR LESIONS
 07/31/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: B YATES
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50428 **UNIV OF PITTSBURGH**
 PERCEPTUAL STABILITY ACROSS THE VISUAL FIELD STUDENT: LAURA HEISER
 10/21/2002 - 10/31/2005 FY03: \$48,000 Total: \$48,000
Prin. Invest.: C COLBY
Tech. Officer: HQ/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 7113 **VILLANOVA UNIV**
 DETERMINING THE PHYSICAL PROPERTIES OF THE MAIN SEQUENCE B STARS
 03/25/1998 - 03/31/2003 FY03: \$0 Total: \$44,393
Prin. Invest.: E FITZPATRICK
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8985 **VILLANOVA UNIV**
 SOLAR PHYSICS WITH FUSE: FUV STUDIES OF SOLAR ANALOGS & TWINS - FUSE
 01/27/2000 - 07/31/2002 FY03: -\$1 Total: \$65,699
Prin. Invest.: E F GUINAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10369 **VILLANOVA UNIV**
 THE COSMIC DISTANCE SCALE: AN ACCURATE DISTANCE TO THE LMC USING ECLIPSING BINARIES (FUSE 00)
 02/08/2001 - 02/14/2004 FY03: \$0 Total: \$62,500
Prin. Invest.: E F GUINAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10385 **VILLANOVA UNIV**
 A STUDY OF THE ATMOSPHERES OF THE MAIN SEQUENCE B STARS (FUSE 00)
 02/08/2001 - 02/14/2004 FY03: \$0 Total: \$42,500
Prin. Invest.: E L FITZPATRICK
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10386 **VILLANOVA UNIV**
 PHYSICS OF BOUNDARY LAYERSWHITE DWARF ACCRETION IN DWARF NOVAE (FUSE 00)
 02/08/2001 - 05/31/2003 FY03: \$0 Total: \$57,900
Prin. Invest.: E M SION
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10387 **VILLANOVA UNIV**
 THE FUV SUN IN TIME A STUDY OF SOLAR ANALOGS OF DIFFERENT AGES (FUSE 00)
 02/08/2001 - 02/14/2003 FY03: \$0 Total: \$30,400
Prin. Invest.: E F GUINAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10686 **VILLANOVA UNIV**
 CNO ABUNDANCES IN LMC BN AND BC SUPERGIANTS (FUSE 2000)
 04/04/2001 - 04/14/2004 FY03: \$0 Total: \$27,208
Prin. Invest.: E L FITPATRICK
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 11482 **VILLANOVA UNIV**
 ACCRETING WHITE DWARFS IN CATAclysmic BINARIES (ADP 2001)
 12/21/2001 - 12/31/2003 FY03: \$33,975 Total: \$67,067
Prin. Invest.: E M SION
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

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NAG 5 12067 **VILLANOVA UNIV**
 PROBING WHITE DWARF ACCRETORS AND INNER DISK STRUCTURE OF
 HIGH ACCRETIONRATE DWARF NOVAE
 04/26/2002 - 04/30/2003 FY03: \$0 Total: \$35,800
Prin. Invest.: E M SION
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12125 **VILLANOVA UNIV**
 FUSE OBSERVATIONS OF THE SUN IN TIME: TRANSITION REGION PHYSICS
 AND EVOLUTION FUV IRRADIANCES
 05/09/2002 - 05/14/2004 FY03: \$0 Total: \$88,200
Prin. Invest.: E F GUINAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12137 **VILLANOVA UNIV**
 HIGH-LATITUDE B STARS (FUSE 2001)
 05/01/2002 - 04/30/2003 FY03: \$0 Total: \$36,500
Prin. Invest.: E FITZPATRICK
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12138 **VILLANOVA UNIV**
 ECLIPSING BINARIES IN THE LMC (FUSE 02)
 05/01/2002 - 04/30/2004 FY03: \$0 Total: \$39,800
Prin. Invest.: E F QUINAN
Tech. Officer: GSFC/G Q SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13765 **VILLANOVA UNIV**
 INNER DISKS AND WHITE DWARFS IN DWARF NOVA
 09/25/2003 - 09/30/2004 FY03: \$39,400 Total: \$39,400
Prin. Invest.: E M SION
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

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NAG 3 1929 **BROWN UNIV**
 KINETIC AND THERMODYNAMIC STUDIES OF MELTING-FREEZING OF
 HELIUM MICROGRAVITY
 07/24/1996 - 05/31/2003 FY03: \$0 Total: \$403,923
Prin. Invest.: D ELBAUM, J M KOSTERLITZ
Tech. Officer: GRC/B S SINGH
CASE Category: 13 – PHYSICS

NAG 3 2668 **BROWN UNIV**
 PERFORMANCE OF NANOTUBE-BASED CERAMIC COMPOSITES: MODEL-
 ING AND EXPERIMENT
 11/29/2001 - 10/08/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: W A CURTIN
Tech. Officer: GRC/J B HURST
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2882 **BROWN UNIV**
 MAGNETIC FIELD GRADIENT LEVITATION SYSTEM FOR PHYSICS AND
 BIOPHYSICS
 05/08/2003 - 04/16/2006 FY03: \$88,232 Total: \$88,232
Prin. Invest.: J M VALLES
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2925 **BROWN UNIV**
 COALESCENCE OF SUPERFLUID DROPS IN A MICROGRAVITY ENVIRON-
 MENT
 07/25/2003 - 10/01/2005 FY03: \$107,986 Total: \$107,986
Prin. Invest.: H J MARIS
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3659 **BROWN UNIV**
 PLANETARY GEOPHYSICS AND TECTONICS
 03/07/1997 - 10/31/2002 FY03: \$0 Total: \$379,644
Prin. Invest.: E PARMENTIER
Tech. Officer: GSFC/JG GRANTS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 3871 **BROWN UNIV**
 REFLECTANCE EXPERIMENT LABORATORY
 02/14/1997 - 09/30/2003 FY03: \$0 Total: \$680,649
Prin. Invest.: C M PIETERS
Tech. Officer: GSFC/J GGRANT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 6144 **BROWN UNIV**
 MARS OBSERVER LASER ALTIMETER (MOLA) PARTICIPATION
 08/19/1997 - 12/31/2003 FY03: \$0 Total: \$610,000
Prin. Invest.: J W HEAD
Tech. Officer: GSFC/D E SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8046 **BROWN UNIV**
 ORIGIN, STRUCTURE, AND EVOLUTION OF GROOVED TERRAIN ON
 GANYMEDE AND COMPARISON TO EUROPA
 01/15/1999 - 01/14/2002 FY03: -\$1 Total: \$126,522
Prin. Invest.: D T PAPPALARDO
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 8174 **BROWN UNIV**
 KINETICS OF MELTING AND DISSOLUTION IN LUNAR MATERIALS
 02/04/1999 - 10/31/2002 FY03: \$0 Total: \$188,000
Prin. Invest.: D C HESS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8181 **BROWN UNIV**
 EXPERIMENTS AND SPECTRAL STUDIES OF MARTIAN VOLCANIC ROCKS:
 IMPLICATIONS FOR THE ORIGIN OF PATHFINDER
 02/16/1999 - 09/30/2002 FY03: \$0 Total: \$169,300
Prin. Invest.: M J RUTHERFORD
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8972 **BROWN UNIV**
 MINERALOGY OF THE MARTIAN SURFACE: CRUSTAL COMPOSITION AND
 SURFACE PROCESSES
 01/28/2000 - 02/28/2003 FY03: \$0 Total: \$219,400
Prin. Invest.: J F MUSTARD
Tech. Officer: GSFC/J GRANT
CASE Category: 32 – GEOLOGICAL SCIENCE

<p>NAG 5 9453 BLAST: A BALLOON-BORNE LARGE-APERTURE SUB-MILLIMETER TELESCOPE - A COMPREHENSIVE PLAN FOR GALAC 04/13/2000 - 04/14/2004 FY03: \$0 Total: \$273,215 <i>Prin. Invest.:</i> G TUCKER <i>Tech. Officer:</i> GSFC/G STRINGFELLOW <i>CASE Category:</i> 11 - ASTRONOMY</p>	<p>BROWN UNIV</p>	<p>NAG 5 10665 HYDROGEN ISOTOPIC COMPOSITIONS OF INDIVIDUAL ORGANIC COMPOUNDS IN CARBONACEOUS METEORITES 03/21/2001 - 03/31/2004 FY03: \$70,000 Total: \$210,000 <i>Prin. Invest.:</i> Y HUANG <i>Tech. Officer:</i> GSFC/M MEYER <i>CASE Category:</i> 11 - ASTRONOMY</p>	<p>BROWN UNIV</p>
<p>NAG 5 9522 EXPERIMENTAL STUDY OF LUNAR MAGMAS & MAGMATIC PROCESSES 04/26/2000 - 04/30/2004 FY03: \$0 Total: \$142,000 <i>Prin. Invest.:</i> M J RUTHERFRD <i>Tech. Officer:</i> GSFC/D NAVA <i>CASE Category:</i> 11 - ASTRONOMY</p>	<p>BROWN UNIV</p>	<p>NAG 5 10690 VOLCANIC LANDFORMS & DEPOSITS: DIVERSITY OF ERUPTION CONDITIONS & IMPLICATIONS FOR THE ASCENT 03/30/2001 - 03/31/2003 FY03: \$0 Total: \$72,500 <i>Prin. Invest.:</i> J HEAD <i>Tech. Officer:</i> GSFC/D SENSKE <i>CASE Category:</i> 11 - ASTRONOMY</p>	<p>BROWN UNIV</p>
<p>NAG 5 9589 REFLECTANCE & THERMAL INFRARED SPECTROSCOPY OF MAR RELATIONSHIP BETWEEN ISM & TES FOR COMPOS 05/12/2000 - 05/14/2003 FY03: \$0 Total: \$153,600 <i>Prin. Invest.:</i> J F MUSTARD <i>Tech. Officer:</i> GSFC/J BOYCE <i>CASE Category:</i> 11 - ASTRONOMY</p>	<p>BROWN UNIV</p>	<p>NAG 5 11145 LANDSCAPE DYNAMICS AND LAND-USE/LAND-COVER CHANGE IN THE GREAT BASIN/MOJAVE DESERT REGION 07/25/2001 - 08/14/2004 FY03: \$74,268 Total: \$241,601 <i>Prin. Invest.:</i> J F MUSTARD <i>Tech. Officer:</i> GSFC/G GUTMAN <i>CASE Category:</i> 39 - ENVIRONMENTAL SCI, OTHER</p>	<p>BROWN UNIV</p>
<p>NAG 5 10010 REGOLITH PROCESSES AND THE COMPOSITIONAL DIVERSITY OF MARE BASALTS 09/25/2000 - 09/30/2003 FY03: \$0 Total: \$148,000 <i>Prin. Invest.:</i> C M PIETERS <i>Tech. Officer:</i> GSFC/J BOYCE <i>CASE Category:</i> 11 - ASTRONOMY</p>	<p>BROWN UNIV</p>	<p>NAG 5 11538 PLANETARY IMPACT PROCESSES 01/04/2002 - 01/14/2005 FY03: \$147,200 Total: \$294,400 <i>Prin. Invest.:</i> P H SCHULTZ <i>Tech. Officer:</i> GSFC/D SENSKE <i>CASE Category:</i> 32 - GEOLOGICAL SCIENCE</p>	<p>BROWN UNIV</p>
<p>NAG 5 10031 ANALYSIS OF LUNAR PROSPECTOR MAGNETOMETER/ELECTRON REFLECTOMETER (MAG/ER) EXPERIMENT DATA TO ASSIST 09/28/2000 - 09/30/2003 FY03: \$0 Total: \$135,000 <i>Prin. Invest.:</i> J W HEAD III <i>Tech. Officer:</i> GSFC/J BOYCE <i>CASE Category:</i> 11 - ASTRONOMY</p>	<p>BROWN UNIV</p>	<p>NAG 5 11763 MINERALOGY OF LUNAR MATERIALS FROM REFLECTANCE, SPECTROSCOPY: MEASUREMENT, ANALYSIS, AND 02/21/2002 - 03/31/2005 FY03: \$93,000 Total: \$186,000 <i>Prin. Invest.:</i> C PIETERS <i>Tech. Officer:</i> GSFC/J BOYCE <i>CASE Category:</i> 12 - CHEMISTRY</p>	<p>BROWN UNIV</p>
<p>NAG 5 10188 NORTHEAST REGIONAL PLANETARY DATA CENTER 01/03/2001 - 01/14/2004 FY03: \$50,900 Total: \$153,500 <i>Prin. Invest.:</i> P H SCHULTZ <i>Tech. Officer:</i> GSFC/D SENSKE <i>CASE Category:</i> 11 - ASTRONOMY</p>	<p>BROWN UNIV</p>	<p>NAG 5 11774 GEOLOGICAL MAPPING GANYMEDE: A POST-GALILEO VIEW 02/28/2002 - 02/28/2005 FY03: \$55,800 Total: \$110,800 <i>Prin. Invest.:</i> J W HEAD <i>Tech. Officer:</i> GSFC/D SENSKE <i>CASE Category:</i> 99 - MULTI INTERDISCIPL, OTHER</p>	<p>BROWN UNIV</p>
<p>NAG 5 10383 DETECTORS WITH BREAK THROUGH ENERGY RESOLUTION USING MAGNETIC SENSORS 02/07/2001 - 02/14/2004 FY03: \$294,880 Total: \$808,826 <i>Prin. Invest.:</i> G SEIDEL <i>Tech. Officer:</i> GSFC/C STAHL <i>CASE Category:</i> 11 - ASTRONOMY</p>	<p>BROWN UNIV</p>	<p>NAG 5 11775 GEOLOGICAL MAPPING OF VENUS: ORIGINS OF MAJOR TOPOGRAPHIC FEATURES AND DEVELOPING CRITERIA TO TEST 02/27/2002 - 02/28/2003 FY03: \$0 Total: \$75,000 <i>Prin. Invest.:</i> J W HEAD <i>Tech. Officer:</i> GSFC/D SENSKE <i>CASE Category:</i> 99 - MULTI INTERDISCIPL, OTHER</p>	<p>BROWN UNIV</p>
<p>NAG 5 10401 REMOTE SENSING INFORMATION APPLIED TO GEOLOGICAL STUDIES OF PLANETS 02/13/2001 - 01/31/2004 FY03: \$41,200 Total: \$121,800 <i>Prin. Invest.:</i> C M PIETERS <i>Tech. Officer:</i> GSFC/D SENSKE <i>CASE Category:</i> 32 - GEOLOGICAL SCIENCE</p>	<p>BROWN UNIV</p>	<p>NAG 5 11931 1ETROGENESIS OF MARE BASALTS, MG-RICH SUITES AND SNC PARENT MAGMAS 04/03/2002 - 04/30/2004 FY03: \$0 Total: \$59,000 <i>Prin. Invest.:</i> P C HESS <i>Tech. Officer:</i> GSFC/J BOYCE <i>CASE Category:</i> 12 - CHEMISTRY</p>	<p>BROWN UNIV</p>

NAG 5 12225 **BROWN UNIV**
 EXPERIMENTS & SPECTRAL STUDIES OF MARTIAN VOLCANIC ROCKS:
 FACTORS AFFECTING MGS AND MARS PATHFINDER
 05/22/2002 - 05/14/2005 FY03: \$63,664 Total: \$127,328
Prin. Invest.: M J RUTHERFORD
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12254 **BROWN UNIV**
 MARTIAN VOLCANIC EDIFICE & DEPOSIT CHARACTERIZATION: VOLCANIC
 STYLE, MAGMA TRANSPORT & EDIFICE/C
 06/05/2002 - 06/14/2005 FY03: \$75,000 Total: \$140,000
Prin. Invest.: J W HEAD
Tech. Officer: GSFC/J BOYCE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12286 **BROWN UNIV**
 GEOLOGIC UNITS ON MARS: STATISTICAL CHARACTERIZATION OF
 TOPOGRAPHY & GEOLOGICAL ASSESSMENT OF PROP
 06/11/2002 - 06/30/2005 FY03: \$60,000 Total: \$120,000
Prin. Invest.: M KRESLAVSKY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12327 **BROWN UNIV**
 SYNTHESIS AND SURVIVAL OF ORGANICS DURING HYPER- VELOCITY
 IMPACTS
 06/27/2002 - 06/30/2005 FY03: \$97,441 Total: \$192,456
Prin. Invest.: P H SCHULTZ
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12474 **BROWN UNIV**
 TESTS FOR STANDING BODIES OF WATER IN THE NORTHERN LOWLANDS
 AND RELATION TO SOUTH POLAR DEPOSITS IN
 08/20/2002 - 07/31/2003 FY03: \$0 Total: \$80,000
Prin. Invest.: J HEAD
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12758 **BROWN UNIV**
 THE MILLIMETER-WAVE BOLOMETRIC INTERFEROMETER
 01/16/2003 - 01/14/2006 FY03: \$32,772 Total: \$32,772
Prin. Invest.: G TUCKER
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12830 **BROWN UNIV**
 DEVELOPING A SELF-CONSISTENT MODEL FOR LUNAR FERROAN AN-
 ORTHOSITE PETROGENESIS
 02/03/2003 - 02/14/2006 FY03: \$61,000 Total: \$61,000
Prin. Invest.: Y LIANG
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 12847 **BROWN UNIV**
 IDENTIFYING THE PARENT BODY OF THE TAGISH LAKE METEORITE &
 CHARACTERIZING ITS INTERNAL HEATING
 01/29/2003 - 01/31/2004 FY03: \$20,000 Total: \$20,000
Prin. Invest.: T HIROI
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 12985 **BROWN UNIV**
 ORIGIN & EVOLUTION OF LUNAR MARE & MARS SNC-TYPE BASALTIC
 MAGMAS
 03/06/2003 - 04/30/2006 FY03: \$58,000 Total: \$58,000
Prin. Invest.: M RUTHERFORD
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13021 **BROWN UNIV**
 PETROGENESIS OF MARE BASALTS AND MG-RICH SUITE PARENT MAGMAS
 03/11/2003 - 04/30/2006 FY03: \$64,000 Total: \$64,000
Prin. Invest.: P HESS
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 13098 **BROWN UNIV**
 PHYSICAL PROCESSES OF PLANETARY EVOLUTION
 03/17/2003 - 03/14/2006 FY03: \$77,000 Total: \$77,000
Prin. Invest.: E PARMENTIER
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13173 **BROWN UNIV**
 HYDRATION OF GEOLOGICAL MATERIALS FROM REFLECTANCE SPEC-
 TROSCOPY
 03/24/2003 - 03/31/2006 FY03: \$77,000 Total: \$77,000
Prin. Invest.: J MUSTARD
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13222 **BROWN UNIV**
 GEOLOGICAL MAPPING OF VENUS: CHARACTERIZATION OF SOME MAJOR
 TOPOGRAPHIC FEATURES & DEVELOPING
 03/29/2003 - 03/31/2006 FY03: \$65,000 Total: \$65,000
Prin. Invest.: J HEAD
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13341 **BROWN UNIV**
 BLAST: LDB EXTRA-GALACTIC STUDIES
 04/16/2003 - 03/31/2006 FY03: \$103,025 Total: \$103,025
Prin. Invest.: G TUCKER
Tech. Officer: GSFC/J A FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13466 **BROWN UNIV**
 INVESTIGATION OF MARTIAN SURFACE COMPOSITION AND THE RECORD
 FOR RECENT CLIMATE CHANGE
 04/27/2003 - 05/31/2006 FY03: \$76,610 Total: \$76,610
Prin. Invest.: J MUSTARD
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13573 **BROWN UNIV**
 XMM-NEWTON OBSERVATIONS OF THE DLS SHEAR-SELECTED CLUSTER
 SURVEY
 08/19/2003 - 08/14/2004 FY03: \$5,404 Total: \$5,404
Prin. Invest.: I DELL'ANTONIO
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13579	BROWN UNIV	NCC13 98005	BROWN UNIV
LIFE SCIENCES BUILDING PROJECT		BROWN UNIV AFFILIATED RESEARCH CENTER FOR THE NORTHEAST	
09/17/2003 - 08/31/2006	FY03: \$5,088,000	09/15/1998 - 06/30/2002	FY03: \$0
<i>Prin. Invest.:</i> P R SHANK	Total: \$5,088,000	<i>Prin. Invest.:</i> J F MUSTARD	Total: \$625,000
<i>Tech. Officer:</i> GSFC/C LOPEZ		<i>Tech. Officer:</i> SSC/H CARR	
<i>CASE Category:</i> 51 – BIOLOGY (EXCLUDING ENVIR)		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 5 13609	BROWN UNIV	NGT 1 01024	BROWN UNIV
REFLECTIVE EXPERIMENT LABORATORY		GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3	
08/15/2003 - 08/14/2006	FY03: \$101,000	06/11/2001 - 06/30/2004	FY03: \$24,000
<i>Prin. Invest.:</i> C PEITERS	Total: \$101,000	<i>Prin. Invest.:</i> A KANESKY	Total: \$70,000
<i>Tech. Officer:</i> GSFC/S SAUNDERS		<i>Tech. Officer:</i> LARC/M H CARPENTER	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 29 – MATH/COMPUTER SCI, OTHER	
NAG 5 13671	BROWN UNIV	NGT 1 01037	BROWN UNIV
VOLCANIC LANDFORMS & DEPOSITS ON THE MOON & VENUS: ASCENT & ERUPTION PROCESSES & IMPLICATIONS		GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2	
09/10/2003 - 08/31/2005	FY03: \$45,000	06/28/2001 - 06/30/2003	FY03: \$0
<i>Prin. Invest.:</i> J HEAD	Total: \$45,000	<i>Prin. Invest.:</i> C SHA	Total: \$44,000
<i>Tech. Officer:</i> GSFC/S SAUNDERS		<i>Tech. Officer:</i> LARC/H L ATKINS	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 29 – MATH/COMPUTER SCI, OTHER	
NAG 8 1774	BROWN UNIV	NGT 3 52369	BROWN UNIV
COALESCENCE OF SUPERFLUID HELIUM DROPS IN A MICRO- GRAVITY ENVIRONMENT		GRADUATE STUDENT RESEARCHERS PROGRAM GRADUATE STUDENT RESEARCHERS PROGRAM	
04/30/2001 - 04/29/2005	FY03: \$0	06/20/2000 - 08/31/2002	FY03: \$0
<i>Prin. Invest.:</i> H J MARIS	Total: \$201,951	<i>Prin. Invest.:</i> G P CRAWFORD	Total: \$44,000
<i>Tech. Officer:</i> MSFC/D HUBBARD		<i>Tech. Officer:</i> GRC/F J MONTEGANI	
<i>CASE Category:</i> 13 – PHYSICS		<i>CASE Category:</i> 45 – ELECTRICAL ENGR	
NAG 9 1302	BROWN UNIV	NGT 5 91	BROWN UNIV
SNC OXYGEN FUGACITY RECORDED PYROXENES: AN EXPERIMENTAL & ANALYTICAL STUDY		SWITCHABLE/TUNABLE INTERFERENCE FILTERS FOR REMOTE SENSING APPLICATIONS STUDENT:ADAM FONTECCHIO	
06/15/2001 - 06/30/2002	FY03: \$0	06/10/1999 - 08/31/2002	FY03: -\$80
<i>Prin. Invest.:</i> M RUTHERFORD	Total: \$22,000	<i>Prin. Invest.:</i> G CRAWFORD	Total: \$65,920
<i>Tech. Officer:</i> JSC/J JONES		<i>Tech. Officer:</i> GSFC/G A SOFFEN	
<i>CASE Category:</i> 56 – MEDICL		<i>CASE Category:</i> 49 – ENGINEERING, OTHER	
NCC 1 01035	BROWN UNIV	NGT 5 40106	BROWN UNIV
RELAXATION & PRECONDITIONING 4 HI-ORDER DISCONTINUOUS GALERKIN METHODS W/APPLIC AEROACOUSTICS & H/S FLOW		RHODE ISLAND SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM	
03/21/2001 - 11/30/2003	FY03: \$20,129	03/06/2001 - 02/28/2005	FY03: \$290,250
<i>Prin. Invest.:</i> C W SHU	Total: \$60,387	<i>Prin. Invest.:</i> P H SCHULTZ	Total: \$882,067
<i>Tech. Officer:</i> LARC/H L ATKINS		<i>Tech. Officer:</i> GSFC/D D DETROYE	
<i>CASE Category:</i> 29 – MATH/COMPUTER SCI, OTHER		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NCC 2 1217	BROWN UNIV	NGT 5 50166	BROWN UNIV
CAUSAL REASONING		EFFECTS OF HIGH STRAIN-RATE DEFORMATION ON IMPACT MELT GENERATION	
03/13/2001 - 09/30/2004	FY03: \$109,641	06/04/1999 - 06/30/2002	FY03: \$0
<i>Prin. Invest.:</i> S A SLOMAN	Total: \$349,443	<i>Prin. Invest.:</i> P H SCHULTZ	Total: \$66,000
<i>Tech. Officer:</i> ARC/M SHAFTO		<i>Tech. Officer:</i> GSFC/L SMITH	
<i>CASE Category:</i> 22 – COMPUTER SCIENCE		<i>CASE Category:</i> 11 – ASTRONOMY	
NCC 5 487	BROWN UNIV	NGT 5 50355	BROWN UNIV
PRECISION AND ACCURACY OF ALI DATA FOR THE DETERMINATION OF VEGETATION ABUNDANCE		INHOMOGENEITIES IN SUPERSTRING COSMOLOGY	
04/05/2000 - 09/30/2002	FY03: \$0	05/14/2001 - 08/31/2004	FY03: \$24,000
<i>Prin. Invest.:</i> J F MUSTARD	Total: \$142,470	<i>Prin. Invest.:</i> R BRANDENBERGER	Total: \$70,000
<i>Tech. Officer:</i> GSFC/S G UNGAR		<i>Tech. Officer:</i> HQ/K BLANDING	
<i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
		NGT 9 53	BROWN UNIV
		TRAINING GRANT/REGOLITH PROCESS ON AIRLESS BODIES	
		06/06/2001 - 06/30/2002	FY03: \$0
		<i>Prin. Invest.:</i> C PIETERS	Total: \$22,000
		<i>Tech. Officer:</i> JSC/D MACKAY	
		<i>CASE Category:</i> 32 – GEOLOGICAL SCIENCE	

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NGT 9 63 **BROWN UNIV**
 SNC OXYGEN FUGACITY RECORDED IN THE PYROGENES
 06/07/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: M MACANTA
Tech. Officer: JSC/J JONES
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT 9 66 **BROWN UNIV**
 REGOLITH PROCESSES ON AIRLESS BODIES: AN ESSENTIAL LINK BETWEEN
 SAMPLE ANALYSIS & REMOTE SENSING
 08/23/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: C PIETERS
Tech. Officer: JSC/L KELLER
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 3 2208 **UNIV OF RHODE ISLAND**
 CERAMIC BASED STRAIN SENSORS FOR USE AT HIGH TEMPERATURE
 11/17/1998 - 03/30/2002 FY03: \$0 Total: \$180,000
Prin. Invest.: O GREGORY
Tech. Officer: GRC/J LEI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2434 **UNIV OF RHODE ISLAND**
 PHASE CHANGE IN LOW AND JITTERING GRAVITY ENVIRONMENT SIMU-
 LATED VIA ELECTROMAGNETIC FIELD
 05/30/2000 - 11/30/2004 FY03: \$40,827 Total: \$150,051
Prin. Invest.: D FAGHRI
Tech. Officer: GRC/H C DEGROH
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2652 **UNIV OF RHODE ISLAND**
 FLAME SPRAY STRAIN GAGES WITH IMPROVED DURABILITY AND LIFE-
 TIMES
 12/12/2001 - 12/11/2003 FY03: \$91,816 Total: \$186,219
Prin. Invest.: O GREGORY
Tech. Officer: GRC/G C FRALICK
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2655 **UNIV OF RHODE ISLAND**
 CERAMIC STRAIN GAGES FOR USE AT TEMPERATURES UP TO 1500
 DEGREES C
 12/31/2001 - 12/11/2003 FY03: \$70,154 Total: \$138,263
Prin. Invest.: D GREGORY
Tech. Officer: GRC/G C FRALICK
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 6560 **UNIV OF RHODE ISLAND**
 DETERMINATION OF OCEAN COLOR PROVINCES IN THE NORTH ATLANTIC
 10/27/1997 - 04/30/2003 FY03: \$0 Total: \$440,122
Prin. Invest.: P M STEGMANN
Tech. Officer: GSFC/J YODER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 6645 **UNIV OF RHODE ISLAND**
 SATELLITE STUDIES OF PHYTOPLANKTON DYNAMICS AND PRODUCTIVITY
 IN THE GLOBAL OCEAN AND IN OCEAN M
 12/01/1997 - 10/14/2001 FY03: -\$10 Total: \$553,246
Prin. Invest.: J A YODER
Tech. Officer: GSFC/J CAMPBELL
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8739 **UNIV OF RHODE ISLAND**
 INVESTIGATION OF AERODYNAMIC AND RADOMETRIC LAND SURFACE
 TEMPERATURES
 08/19/1999 - 08/14/2002 FY03: -\$127 Total: \$30,871
Prin. Invest.: Y WANG
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8829 **UNIV OF RHODE ISLAND**
 MULTIPLE INNOVATIVE MODELS IN REGIONAL LAND COVER CHANGE
 STUDIES
 09/08/1999 - 09/30/2004 FY03: \$100,000 Total: \$345,260
Prin. Invest.: Y WANG
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9633 **UNIV OF RHODE ISLAND**
 EXTENSION OF THE 1KM PATHFINDER AVHRR SST ARCHIVE BOTH IN TIME
 AND SPACE
 05/26/2000 - 04/30/2003 FY03: \$36,250 Total: \$405,000
Prin. Invest.: P CORNILLON
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9724 **UNIV OF RHODE ISLAND**
 U.S. COASTAL BLENDED IN SITU AND REMOTELY-SENSED OCEAN CHLO-
 ROPHYLL DATA SETS
 06/29/2000 - 06/30/2003 FY03: \$0 Total: \$55,300
Prin. Invest.: J YODER
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10554 **UNIV OF RHODE ISLAND**
 WIND-INDUCED SHORT TIME-SCALE FLUCTUATIONS OF PHYTOPLANKTON
 BIOMASS
 03/12/2001 - 02/14/2003 FY03: -\$57,374 Total: \$62,082
Prin. Invest.: B UZ
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10555 **UNIV OF RHODE ISLAND**
 SATELLITE STUDIES OF COUPLED BIOLOGICAL & PHYSICAL VARIABILITY IN
 OCEAN MARGIN WATERS OF THE NORTHWEST
 03/12/2001 - 03/14/2004 FY03: \$128,029 Total: \$455,704
Prin. Invest.: J YODER
Tech. Officer: GSFC/J MARRA
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12283 **UNIV OF RHODE ISLAND**
 STUDY OF THE CIRCULATIONS THAT CONNECT THE TROPICAL, SUBTROPICAL,
 AND SUBPOLAR REGIONS IN THE PAC
 06/13/2002 - 05/31/2005 FY03: \$33,171 Total: \$132,683
Prin. Invest.: L ROTHSTEIN
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12741 **UNIV OF RHODE ISLAND**
 GLOBAL SURVEY OF COASTAL OCEAN SST FRONTS: SEASONAL AND
 INTERANNUAL VARIABILITY
 01/15/2003 - 01/14/2005 FY03: \$67,369 Total: \$67,369
Prin. Invest.: I BELKIN
Tech. Officer: GSFC/S HAKKINEN
CASE Category: 33 – OCEANOGRAPHY

NCC 1 408 **UNIV OF RHODE ISLAND**
 HYDROGEN PEROXIDE, METHYLHYDROGEN PEROXIDE, & FOR- MALDE-
 HYDE TRANSPORT & CHEM EVOLUTION OVER PACIFIC
 09/07/2000 - 02/14/2004 FY03: \$0 Total: \$330,499
Prin. Invest.: D W O'SULLIVAN, B G HEIKES
Tech. Officer: LARC/J L RAPER, SR
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 1275 **UNIV OF RHODE ISLAND**
 SUBSURFACE BIOSPHERES
 07/20/2001 - 06/30/2006 FY03: \$787,329 Total: \$1,767,995
Prin. Invest.: S D'HONDT, A TESKE, K HINRICHS
Tech. Officer: ARC/R A GRAYMES, ARC/W DOLCI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 307 **UNIV OF RHODE ISLAND**
 THE DISTRIBUTED OCEANOGRAPHIC DATA SYSTEM (DODS): A FRAME-
 WORK FOR ACCESS TO SCIENTIFIC DATA IN THE EO
 04/27/1998 - 06/30/2003 FY03: \$0 Total: \$2,699,760
Prin. Invest.: P CORNILLON
Tech. Officer: GSFC/M MAIDEN
CASE Category: 33 – OCEANOGRAPHY

SOUTH CAROLINA

NAG 5 11761 **CLAFLIN COLLEGE**
 ASTROCHEM PROJECT
 03/12/2002 - 03/31/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: A WILLIAMS
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2214 **CLEMSON UNIV - CLEMSON**
 THERMAL CONTROL AND ENHANCEMENT OF HEAT CAPACITY OF CRYO-
 GENIC CAPILLARY PUMPED LOOP AND HEAT PIPE W
 01/22/1999 - 11/01/2002 FY03: \$0 Total: \$69,658
Prin. Invest.: D M OCHTERBECK
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2850 **CLEMSON UNIV - CLEMSON**
 MEASUREMENT AND EVALUATION OF THE AMBIENT NOISE FLOOR OVER
 THE GPS BAND
 02/19/2003 - 01/29/2004 FY03: \$179,056 Total: \$179,056
Prin. Invest.: L PEARSON
Tech. Officer: GRC/J E HOLLANSWORTH
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 5186 **CLEMSON UNIV - CLEMSON**
 COUPLING OF DYNAMICS IN AURORA FUNDING FOR FIRST YEAR OF
 GRANT
 03/30/1998 - 02/28/2003 FY03: \$0 Total: \$405,774
Prin. Invest.: M F LARSEN
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5242 **CLEMSON UNIV - CLEMSON**
 A SOUNDING ROCKET INVESTIGATION OF THE FINE STRUCTURE IN THE
 MESOPAUSE REGION
 03/16/1999 - 08/31/2002 FY03: \$0 Total: \$244,100
Prin. Invest.: M F LARSEN
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5259 **CLEMSON UNIV - CLEMSON**
 FIRST YEAR OF THREE YEAR EFFORT/ A SEQUENTIAL ROCKET INVESTI-
 GATION OF WINDS AND PLASMA LAYERS
 04/11/2000 - 03/23/2004 FY03: \$0 Total: \$226,800
Prin. Invest.: M F LARSEN
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5317 **CLEMSON UNIV - CLEMSON**
 MAPPING THE E-REGION AND ZONAL WINDS NEAR A STABLE AURORAL
 ARC, USING A NEAR-HORIZONTAL CHEMICAL TRA
 03/19/2001 - 02/28/2004 FY03: \$65,055 Total: \$250,755
Prin. Invest.: M F LARSEN
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5320 **CLEMSON UNIV - CLEMSON**
 MULTIPLE-SCALE STUDY OF HIGH-LATITUDE JOULE HEATING DURING A
 SUBSTORM EVENT
 04/26/2001 - 12/31/2003 FY03: \$122,400 Total: \$404,900
Prin. Invest.: M LARSON
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5325 **CLEMSON UNIV - CLEMSON**
 OBSERVING AND MEASURING EARLY OPTICAL LIGHT CURVES FROM
 GAMMA-RAY BURSTS WITH LOTIS
 03/21/2001 - 03/31/2003 FY03: \$0 Total: \$31,000
Prin. Invest.: D H HARTMANN
Tech. Officer: WFF/B A MERRITT
CASE Category: 13 – PHYSICS

NAG 5 5372 **CLEMSON UNIV - CLEMSON**
 ELECTRODYNAMICS OF THE NIGHTTIME EQUATORIAL IONOSPHERE: THE
 EFFECTS OF WINDS AND WAVES
 06/19/2002 - 06/10/2005 FY03: \$81,400 Total: \$151,100
Prin. Invest.: M LARSEN
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5373 **CLEMSON UNIV - CLEMSON**
 ROCKET INVESTIGATION OF BOTTOMSIDE EQUATORIAL F REGION ELEC-
 TRODYNAMICS
 06/19/2002 - 06/12/2005 FY03: \$84,400 Total: \$168,200
Prin. Invest.: M LARSON
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5378 **CLEMSON UNIV - CLEMSON**
 INVESTIGATION OF DC ELECTRIC FIELDS, WINDS, AND PLASMA DENSITY
 STRUCTURE IN THE NIGHTTIME EQUATORIAL
 06/19/2002 - 06/10/2005 FY03: \$81,400 Total: \$151,100
Prin. Invest.: M LARSEN
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5379 **CLEMSON UNIV - CLEMSON**
 CAMPAIGN PROPOSAL: SOUNDING ROCKET INVESTIGATIONS OF E-AND
 F-REGION ELECTRODYNAMICS AT THE MAGNE
 06/25/2002 - 06/13/2005 FY03: \$7,300 Total: \$14,600
Prin. Invest.: M LARSEN
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

SOUTH CAROLINA

NASA'S UNIVERSITY PROGRAM

NAG 5 5384 **CLEMSON UNIV - CLEMSON**
 UNSOLICITED PROPOSAL ENTITLED, FIELD MEASUREMENTS OF DROP
 SIZE DISTRIBUTIONS IN STRATIFORM
 08/08/2002 - 08/31/2005 FY03: \$0 Total: \$21,953
Prin. Invest.: J SAYLOR
Tech. Officer: WFF/L BLIVEN
CASE Category: 33 – OCEANOGRAPHY

NAG 5 5385 **CLEMSON UNIV - CLEMSON**
 LAYERS IN THE EQUATORIAL MESOSPHERE, MOTIONS AND AEROSOL
 (LEMMA) ROCKET & RADAR STUDY
 09/30/2002 - 09/25/2005 FY03: \$71,259 Total: \$158,830
Prin. Invest.: G LEHMACHER
Tech. Officer: WFF/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5399 **CLEMSON UNIV - CLEMSON**
 CONTINUATION OF THE LXEGRIT BALLON EXPERIMENT & DEVELOPMENT
 OF A NEXT GENERATION XETPC INSTRUMENT.
 02/06/2003 - 12/31/2003 FY03: \$10,000 Total: \$10,000
Prin. Invest.: N AVAILABLE
Tech. Officer: GSFC/B MERRITT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 5413 **CLEMSON UNIV - CLEMSON**
 "TRIO" (TURBULENT RESPONSE IN OXYGEN) FIRST YEAR OF THREE YEAR
 GRANT
 04/04/2003 - 04/03/2006 FY03: \$121,200 Total: \$121,200
Prin. Invest.: M LARSEN
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 7782 **CLEMSON UNIV - CLEMSON**
 PHYSICAL VARIATIONS IN THE RAINDROP SIZE DISTRIBUTION & THEIR
 EFFECTS ON THE QUANTITATIVE ESTIMATION
 11/13/1998 - 05/14/2002 FY03: \$0 Total: \$149,730
Prin. Invest.: C W ULBRICH
Tech. Officer: GSFC/O W THIELE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8759 **CLEMSON UNIV - CLEMSON**
 MANIPULATION AND CONTACT SENSING VIA TRUNKS, TENTACLES, AND
 WHISKERS
 08/26/1999 - 08/31/2003 FY03: \$9,338 Total: \$385,136
Prin. Invest.: I D WALKER
Tech. Officer: GSFC/S DAVISON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9702 **CLEMSON UNIV - CLEMSON**
 MEASURING THE T144 MASS IN CAS A WITH OSSE
 06/15/2000 - 06/14/2002 FY03: -\$4 Total: \$4,996
Prin. Invest.: L THE
Tech. Officer: GSFC/J P NORRIS
CASE Category: 11 – ASTRONOMY

NAG 5 10018 **CLEMSON UNIV - CLEMSON**
 PVFS 2000: AN OPERATIONAL PARALLEL FILE SYSTEM FOR BEOWULF
 10/02/2000 - 09/30/2003 FY03: \$59,991 Total: \$212,438
Prin. Invest.: D LIGON III
Tech. Officer: GSFC/J DORBAND
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 10251 **CLEMSON UNIV - CLEMSON**
 STUDIES OF WIND SHEAR INSTABILITIES & GRAVITY WAVES IN THE MLT
 REGION AIRGLOW & RELATED EFFECTS
 01/05/2001 - 01/14/2004 FY03: \$0 Total: \$162,700
Prin. Invest.: M HICKEY
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10367 **CLEMSON UNIV - CLEMSON**
 MINIATURE HEAT TRANSPORT SYSTEM FOR SPACECRAFT THERMAL
 CONTROL
 03/19/2001 - 03/31/2004 FY03: \$41,519 Total: \$121,219
Prin. Invest.: D M OCHTERBECK
Tech. Officer: GSFC/J KU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10454 **CLEMSON UNIV - CLEMSON**
 HISTORY OF THE NUCLEI IMPORTANT FOR COSMOCHEMISTRY
 02/21/2001 - 05/31/2004 FY03: \$37,000 Total: \$111,000
Prin. Invest.: B MEYER
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10764 **CLEMSON UNIV - CLEMSON**
 THE RADIOACTIVE MILKY WAY & SUPERNOVAE (LISA 2000)
 04/23/2001 - 04/30/2006 FY03: \$50,729 Total: \$228,254
Prin. Invest.: M D LEISING
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11293 **CLEMSON UNIV - CLEMSON**
 NANO-ELECTRONICS: CIRCUIT DESIGN FOR SILICON/CARBON NANOTUBE
 INTEGRATION
 08/22/2001 - 07/31/2002 FY03: \$0 Total: \$25,000
Prin. Invest.: D L CARROLL
Tech. Officer: GSFC/H SHAW
CASE Category: 13 – PHYSICS

NAG 5 11329 **CLEMSON UNIV - CLEMSON**
 ALTERNATIVE COMPUTING ROADMAP PROJECT
 09/25/2001 - 09/30/2004 FY03: \$30,000 Total: \$63,800
Prin. Invest.: D SASS
Tech. Officer: GSFC/P CORONADO
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 11808 **CLEMSON UNIV - CLEMSON**
 SPECIAL CONDITIONS FOR THE BIRTH OF THE SOLAR SYSTEM
 02/27/2002 - 03/31/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: D D CLAYTON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11871 **CLEMSON UNIV - CLEMSON**
 PRESOLAR DUST GRAINS IN METEORITES AND IDPS
 03/12/2002 - 04/14/2005 FY03: \$60,105 Total: \$118,105
Prin. Invest.: D CLAYTON
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 12922 **CLEMSON UNIV - CLEMSON**
 PROBING CORE COLLAPSE: 44Ti & 60Co NUCLEOSYNTHESIS IN SN1987A
 02/27/2003 - 02/29/2004 FY03: \$20,000 Total: \$20,000
Prin. Invest.: M D LEISING
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 13019 **CLEMSON UNIV - CLEMSON**
 SPECIAL CONDITIONS FOR THE BIRTH OF THE SOLAR SYST EM
 03/18/2003 - 03/31/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: D CLAYTON
Tech. Officer: GSFC/D J LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13565 **CLEMSON UNIV - CLEMSON**
 MAPPING GALACTIC 60FE IN CEN-CIR
 09/08/2003 - 09/14/2004 FY03: \$42,819 Total: \$42,819
Prin. Invest.: D H HARTMANN
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13606 **CLEMSON UNIV - CLEMSON**
 MORE INTEGRAL OBSERVATIONS OF NEARBY SUPERNOVAE
 08/27/2003 - 08/31/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: M D LEISING
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 5 03103 **CLEMSON UNIV - CLEMSON**
 LWS SET NRA AWARD - PHASE I
 06/02/2003 - 12/01/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: P MCNULTY
Tech. Officer: GSFC/C BRODELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 01036 **CLEMSON UNIV - CLEMSON**
 ADVANCED CROSS ENTERPRISE TECHNOLOGY DEVELOPMENT FOR NASA
 MISSIONS
 04/12/2001 - 04/30/2004 FY03: \$201,113 Total: \$450,736
Prin. Invest.: Y SUN
Tech. Officer: LARC/J W CONWELL
CASE Category: 12 – CHEMISTRY

NCC 2 1288 **CLEMSON UNIV - CLEMSON**
 USING ADVANCED DISPLAYS TO SUPPORT TRAINING AND JO B AIDING:
 IMPROVING AIRCRAFT INSPECTION PERFORMAN
 12/31/2001 - 12/31/2003 FY03: \$155,347 Total: \$282,847
Prin. Invest.: B MELLOY, A T DUCHOWSKI
Tech. Officer: ARC/T BEARD
CASE Category: 49 – ENGINEERING, OTHER

NCC 2 5421 **CLEMSON UNIV - CLEMSON**
 COMBINATORIAL APPROACH FOR SYNTHESIS & CHARACTERIZ ATION OF
 CARBON NANOTUBES - A CHARACTERIZATION LA
 02/15/2001 - 01/31/2004 FY03: \$0 Total: \$186,325
Prin. Invest.: A M RAO
Tech. Officer: ARC/M MEYYAPPAN, ARC/H PATRIDGE
CASE Category: 13 – PHYSICS

NGT 1 01036 **CLEMSON UNIV - CLEMSON**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 06/28/2001 - 06/30/2004 FY03: \$32,000 Total: \$68,000
Prin. Invest.: Y P SUN
Tech. Officer: LARC/J W CONNELL, LARC/J G SMITH
CASE Category: 12 – CHEMISTRY

NGT 5 85 **CLEMSON UNIV - CLEMSON**
 COTS CUSTOM HARDWARE: THE RECONFIGURABLE APPROACH TO CLUS-
 TER BASED PARALLEL: STUDENT/KEITH UNDERWOOD
 05/20/1999 - 08/14/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: W LIGON
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 109 **CLEMSON UNIV - CLEMSON**
 ALGORITHMS & SCHEDULING FOR PARALLEL I/O (STUDENT: PHILIP CARNS)
 06/12/2000 - 08/14/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: W B LIGON
Tech. Officer: GSFC/G SOFFEN
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 144 **CLEMSON UNIV - CLEMSON**
 ALGORITHMS AND SCHEDULING FOR PARALLEL I/O, GSRP TRAINING
 GRANT, YEAR 1 OF 1; STUDENT: PHILIP CARNS
 04/28/2003 - 08/14/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D LIGON
Tech. Officer: GSFC/M S BURRELL
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 50440 **CLEMSON UNIV - CLEMSON**
 COMPARISON OF SPACE FLIGHT AND HINDLIMB SUSPENSION SKELETAL
 UNLOADING MODELS IN MICE: EXPLORING
 04/17/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: T BATEMAN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52947 **CLEMSON UNIV - CLEMSON**
 4200017248 A THEORETICAL AND EXPERIMENTAL STUDY OF PLASMA AS IT
 PERTAINS TO THE MICF FUSION PROP CON
 07/29/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: R MILLER
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NAG 1 03074 **COLLEGE OF CHARLESTON**
 EARTH,SPACE & COMPUTER TECHNOLOGY BUILDING: INFRASTRUCTURE
 IMPROVEMENTS COLLEGE CHARLESTON
 09/29/2003 - 09/29/2007 FY03: \$6,782,000 Total: \$6,782,000
Prin. Invest.: L I HIGDON
Tech. Officer: LARC/R G FERGUSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 7183 **COLLEGE OF CHARLESTON**
 EXPLORING THE SOLAR SYSTEM IN THE CLASSROOM
 03/16/1998 - 03/14/2002 FY03: \$0 Total: \$48,000
Prin. Invest.: C R COOMBS
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10313 **COLLEGE OF CHARLESTON**
 BETA PIC-LIKE CIRCUMSTELLAR GAS DISK AROUND 2 AND -- FUSE-00
 01/26/2001 - 01/31/2003 FY03: \$0 Total: \$16,000
Prin. Invest.: J E NEFF
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

SOUTH CAROLINA

NASA'S UNIVERSITY PROGRAM

NAG 5 10625 **COLLEGE OF CHARLESTON**
AN ARTIFICIAL INTELLIGENCE CLASSIFICATION TOOL & ITS APPLICATION
TO GAMMA-RAY BURSTS
03/22/2001 - 10/31/2003 FY03: \$0 Total: \$104,054
Prin. Invest.: J HAKKILA
Tech. Officer: GSFC/N LAL
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10633 **COLLEGE OF CHARLESTON**
EXPLORING THE SOLAR SYSTEM IN THE CLASSROOM: A DIFFERENTIATED
MULTISENSORY APPROACH
03/17/2001 - 03/14/2004 FY03: \$0 Total: \$80,000
Prin. Invest.: C RUNYON
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11017 **COLLEGE OF CHARLESTON**
EARLY BATSE GRB AFTERGLOWS (ADP 2000)
06/12/2001 - 04/14/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: T W GIBLIN
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NCC 5 263 **COLLEGE OF CHARLESTON**
SOUTHEASTERN OSS-SPACE GRANT REGIONAL EDUCATION COALITION:
KEYS TO IMPLEMENTING NASA'S OSS EDUCATIO
01/12/1998 - 01/14/2003 FY03: \$0 Total: \$1,030,000
Prin. Invest.: M COLGAN
Tech. Officer: GSFC/J ROSENDHAL
CASE Category: 11 – ASTRONOMY

NCC 5 413 **COLLEGE OF CHARLESTON**
EPSCOR PREPARATION PROGRAM
06/18/1999 - 06/14/2002 FY03: -\$936 Total: \$449,064
Prin. Invest.: M COLGAN
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 575 **COLLEGE OF CHARLESTON**
SOUTH CAROLINA NASA EPSCOR PROGRAM
08/23/2001 - 07/31/2004 FY03: \$600,000 Total: \$900,000
Prin. Invest.: M COLGAN
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 607 **COLLEGE OF CHARLESTON**
SOUTHEAST REGIONAL CLEARING HOUSE: A COALITION OF SPACE GRANT
CONSORTIA(SERCH)
12/17/2001 - 01/14/2007 FY03: \$306,145 Total: \$636,145
Prin. Invest.: C RUNYON
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40050 **COLLEGE OF CHARLESTON**
NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROGRA
02/03/1997 - 02/28/2002 FY03: -\$2,484 Total: \$1,070,192
Prin. Invest.: M COLGAN
Tech. Officer: GSFC/L KEFFER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40099 **COLLEGE OF CHARLESTON**
SOUTH CAROLINA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
02/28/2001 - 02/28/2005 FY03: \$302,000 Total: \$814,500
Prin. Invest.: M COLGAN
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1621 **FURMAN UNIV**
PROSPECTIVE REMEMBERING THEORETICAL PROCESSES MINI MIZING
PROSPECTIVE MEMORY FAILURE AND REMEMBERING
03/03/2003 - 02/28/2006 FY03: \$92,089 Total: \$92,089
Prin. Invest.: G EINSTEIN
Tech. Officer: ARC/K DISMUKES
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 1085 **FURMAN UNIV**
PROSPECTIVE REMEMBERING UNDER COMPLEX, DEMANDING & FLUID
CONDITIONS
01/27/1999 - 01/14/2003 FY03: \$27,000 Total: \$551,857
Prin. Invest.: G O EINSTEIN, M A MCDANIEL
Tech. Officer: ARC/R K DISMUKES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1415 **MEDICAL UNIV OF SOUTH CAROLINA**
EMBRYONIC CELL MIGRATION & METALLOPROTEINASE ACTIV ITY ARE
AFFECTED BY RANDOMIZATION OF THE GRAVITY
07/11/2000 - 06/30/2003 FY03: \$96,032 Total: \$551,475
Prin. Invest.: S HOFFMAN
Tech. Officer: ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 8246 **SOUTH CAROLINA STATE UNIV**
SHARE WITH A PAIR OF PEERS (SWAPOP II)
02/19/1999 - 02/28/2002 FY03: \$0 Total: \$586,190
Prin. Invest.: J D SALLEY
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10145 **SOUTH CAROLINA STATE UNIV**
ENHANCEMENT OF THE SPACE SCIENCE RESEARCH PROGRAM AT SOUTH
CAROLINA STATE UNIV
01/05/2001 - 12/31/2003 FY03: \$245,000 Total: \$702,000
Prin. Invest.: D K WALTER
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NCC 5 454 **SOUTH CAROLINA STATE UNIV**
CURRICULUM ENHANCEMENT THROUGH SPACE SCIENCE RSCH
02/11/2000 - 02/29/2004 FY03: \$310,505 Total: \$1,210,505
Prin. Invest.: D K WALTER
Tech. Officer: GSFC/M MATTHEWS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 534 **SOUTH CAROLINA STATE UNIV**
THE CENTER FOR NASA RESEARCH AND TECHNOLOGY (CNRT) /MUSPIN
NRTS PROGRAM.
02/01/2001 - 01/31/2004 FY03: \$350,000 Total: \$1,050,000
Prin. Invest.: D WALTER
Tech. Officer: GSFC/J HARRINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 651 **SOUTH CAROLINA STATE UNIV**
 SHARE WITH A PAIR OF PEERS II
 08/16/2002 - 08/31/2005 FY03: \$0 Total: \$199,246
Prin. Invest.: J SALLEY
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 02117 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 SPUN-CAST POLYMER COMPOSITE MIRRORS AND THEIR USE IN ADAPTIVE OPTICS
 09/30/2002 - 09/29/2005 FY03: \$0 Total: \$93,428
Prin. Invest.: W A SCRIVENS
Tech. Officer: LARC/G C HORNER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03017 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 CNT SIZE EFFECTS ON POLYMER COMPOSITE PROPERTIES
 01/23/2003 - 01/14/2005 FY03: \$250,000 Total: \$250,000
Prin. Invest.: M A SUTTON
Tech. Officer: LARC/T R SUTTER
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 5 9233 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 THE INFLUENCE OF LAND-ATMOSPHERE INTERACTIONS ON VARIABILITY OF THE NORTH AMERICAN MONSOON
 04/06/2000 - 04/30/2004 FY03: \$0 Total: \$202,662
Prin. Invest.: V LAKSHMI
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10322 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 FUNDING GRANT FOR PROPOSAL # NRA-99-055-05 TITLED HIGH PERF ULTRAVIOLET DETECTORS BASED ON QUATERNAR
 01/31/2001 - 02/29/2004 FY03: \$392,095 Total: \$1,300,000
Prin. Invest.: D KHAN
Tech. Officer: GSFC/B MOTT
CASE Category: 19 – PHYSICALSCIENCE, OTHER

NAG 5 11128 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 EXTENDED VALIDATION OF AMSR-E SOIL MOISTURE PRODUCTS (AQUA-0084-0032)
 07/27/2001 - 08/31/2004 FY03: \$51,581 Total: \$138,953
Prin. Invest.: V LAKSHMI
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11253 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 AN ASSESSMENT OF GLOBAL ORGANIC CARBON FLUX ALONG CONTINENTAL MARGINS
 08/20/2001 - 08/31/2004 FY03: \$0 Total: \$98,609
Prin. Invest.: R THUNELL
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11526 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 STUDIES OF COMBINED PASSIVE & ACTIVE SOIL MOISTURE SENSING
 01/14/2002 - 01/30/2004 FY03: \$0 Total: \$0
Prin. Invest.: V LAKSHMI
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12339 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 CHLOROPLAST CONUNDRUM
 07/15/2002 - 06/30/2004 FY03: \$155,722 Total: \$317,970
Prin. Invest.: J BERNHARD
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 03015 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 SPATIAL DATA NEEDS AND THE USE OF GIS AND REMOTE SENSING IN STATE-LEVEL HAZARD RELATED OFFICES
 09/04/2003 - 02/27/2004 FY03: \$33,050 Total: \$33,050
Prin. Invest.: M HODGSON
Tech. Officer: SSC/B DAVIS
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC13 00003 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 PROGRAM FOR A NASA AFFILIATED RESEARCH CENTER PROGRAM AT THE UNIV OF SOUTH CAROLINA
 02/01/2000 - 01/31/2004 FY03: \$275,000 Total: \$765,750
Prin. Invest.: J JENSEN
Tech. Officer: SSC/N SOVIK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC13 03008 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 COOPERATIVE AGREEMENT DEVELOPMENT OF REMOTE SENSING-ASSISTED NATURAL AND
 09/29/2003 - 09/30/2007 FY03: \$400,732 Total: \$400,732
Prin. Invest.: J JENSEN
Tech. Officer: SSC/B DAVIS
CASE Category: 32 – GEOLOGICAL SCIENCE

NGT13 52723 **UNIV OF SOUTH CAROLINA-COLUMBIA**
 MACHINE LEARNING GMDH NEURO-FUZZY TECHNIQUES INHERENT OPTICAL PROPERTY ESTIMATED
 07/22/1999 - 07/31/2003 FY03: \$0 Total: \$66,000
Prin. Invest.: J JENSEN
Tech. Officer: SSC/R TRAVIS
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 9624 **VOORHEES COLLEGE**
 EARTH SCIENCE EDUCATION AND RESEARCH INITIATIVE
 05/23/2000 - 05/14/2003 FY03: \$0 Total: \$279,960
Prin. Invest.: C SMITH
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

SOUTH DAKOTA

NAG 5 7548 **OGLALA LAKOTA COLLEGE**
 OGLALA LAKOTA COLLEGE PACE/MSET
 07/01/1998 - 09/30/2001 FY03: \$7,463 Total: \$307,463
Prin. Invest.: J HAAS
Tech. Officer: GSFC/T GULL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10935 **OGLALA LAKOTA COLLEGE**
 NASA/OGLALA LAKOTA COLLEGE SUMMER INST AND RESEARCH INST. NASA HONORS SUPPLEMENTAL SUC
 06/07/2001 - 06/14/2002 FY03: \$0 Total: \$41,500
Prin. Invest.: S PHELPS
Tech. Officer: GSFC/D MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

TENNESSEE

NASA'S UNIVERSITY PROGRAM

NAG 1 03068 **SINTE GLESCA UNIV**
 2003-PRE-SERVICE TEACHER INST
 07/25/2003 - 07/26/2004 FY03: \$55,000 Total: \$55,000
Prin. Invest.: L BORDEAUX
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 21 – MATHEMATICS

NAG13 02045 **SOUTH DAKOTA STATE UNIV**
 SDSU WORK PLAN FOR JACIE SDSU WORK PLAN FOR JACIE
 08/09/2002 - 12/31/2003 FY03: \$0 Total: \$210,124
Prin. Invest.: D HELDER
Tech. Officer: SSC/V ZANONI
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12802 **SINTE GLESCA UNIV**
 NATIVE CLIMATE CHANGE VIDEO PROJECT
 02/24/2003 - 11/30/2003 FY03: \$20,000 Total: \$20,000
Prin. Invest.: J LEAF
Tech. Officer: GSFC/NMAYNARD
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 03023 **SOUTH DAKOTA STATE UNIV**
 SUPPORT OF JACIE HIGH SPATIAL RESOLUTION SATELLITE CHARACTERIZATION
 09/30/2003 - 05/31/2004 FY03: \$116,035 Total: \$116,035
Prin. Invest.: D HELDER
Tech. Officer: SSC/V M ZANONI
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 8973 **SOUTH DAKOTA SCHOOL OF MINES & TECH**
 EARTH SYSTEMS CONNECTIONS: AN INTEGRATED K-4 SCIENCE, MATHEMATICS, & TECHNOLOGY CURRICULUM
 02/15/2000 - 12/31/2003 FY03: \$0 Total: \$471,100
Prin. Invest.: L A VIERLING
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 472 **SOUTH DAKOTA STATE UNIV**
 AN INTEGRATED ASSESSMENT OF THE EARTH OBSERVER - 1 INSTRUMENT SUITE & THE LANDSAT 7 ENHANCED THEMATIC
 03/08/2000 - 09/30/2003 FY03: \$0 Total: \$266,320
Prin. Invest.: D HELDER
Tech. Officer: GSFC/S UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 99021 **SOUTH DAKOTA SCHOOL OF MINES & TECH**
 APPLICATION OF REMOTE SENSING TO FOREST RESOURCE INVENTORY AND HABITAT MODELING
 08/13/1999 - 06/30/2003 FY03: -\$4,012 Total: \$301,952
Prin. Invest.: M PRICE
Tech. Officer: JSC/R MCKELLIP
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

TENNESSEE

NCC 5 588 **SOUTH DAKOTA SCHOOL OF MINES & TECH**
 THE USE OF REMOTE SENSING FOR MONITORING, PREDICTION, AND MANAGEMENT OF HYDROLOGIC, AGRICULTURAL, AND
 08/31/2001 - 08/31/2004 FY03: \$512,100 Total: \$1,024,200
Prin. Invest.: S O FARWELL
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10344 **EAST TENNESSEE STATE UNIV**
 THE OUTER ATMOSPHERE OF MIRA VARIABLES (FUSE 00)
 01/31/2001 - 01/31/2004 FY03: \$0 Total: \$20,623
Prin. Invest.: D G LUTTERMOSEER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NGT 5 30402 **SOUTH DAKOTA SCHOOL OF MINES & TECH**
 SEMI-ARID GRASSLAND ECOSYSTEM FORCING: REPLACING NATIVE, FREE-RANGING UNGULATE GRAZING WITH HUMAN-
 09/05/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: P R ZIMMERMAN
Tech. Officer: GSFC/K BLANDING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13079 **EAST TENNESSEE STATE UNIV**
 A COBE/DIRBE POINT SOURCE CATALOG: INVESTIGATING THE INFRARED VARIABILITY OF ASYMPTOTIC G
 03/19/2003 - 04/30/2008 FY03: \$88,630 Total: \$88,630
Prin. Invest.: B SMITH
Tech. Officer: GSFC/J HAYES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40095 **SOUTH DAKOTA SCHOOL OF MINES & TECH**
 SOUTH DAKOTA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/28/2001 - 02/28/2005 FY03: \$410,132 Total: \$983,413
Prin. Invest.: S O FARWELL
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13793 **EAST TENNESSEE STATE UNIV**
 O VI ABSORBERS IN SPIRAL-RICH GROUPS OF GALAXIES
 09/30/2003 - 09/30/2004 FY03: \$8,600 Total: \$8,600
Prin. Invest.: M GIROUX
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11351 **SOUTH DAKOTA STATE UNIV**
 LANDSAT RADOMETRIC CALIBRATION: TOWARDS A 20 YEAR RECORD OF CALIBRATED THEMATIC MAPPER CLASS DAT FO
 09/14/2001 - 09/14/2004 FY03: \$69,975 Total: \$199,950
Prin. Invest.: D HELDER
Tech. Officer: GSFC/B L MARKHAM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 8 133 **FISK UNIV**
 FOR RESEARCH "FISK UNIV CENTER FOR PHOTONIC MATERIALS AND DEVICES"
 04/21/1997 - 12/31/2003 FY03: \$0 Total: \$6,200,000
Prin. Invest.: E SILHERMAN
Tech. Officer: MSFC/D O FRAZIER
CASE Category: 13 – PHYSICS

NAG 5 12093 **MEHARRY MEDICAL COLLEGE**
 NASA/MEHARRY/VANDERBILT SUMMER RESEARCH APPRENTICE SHIP PROGRAM
 04/30/2002 - 04/30/2005 FY03: \$111,137 Total: \$220,141
Prin. Invest.: M F LIMA
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11692 **MIDDLE TENNESSEE STATE UNIV**
 TENNESSEE CENTER FOR THE ADVANCEMENT OF MATHEMATIC S SCI-
 ENCE AND TECHNOLOGY EDUCATION
 02/01/2002 - 01/31/2005 FY03: \$173,250 Total: \$348,250
Prin. Invest.: E R PHILLIPS
Tech. Officer: GSFC/L BILBROUGH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12561 **MIDDLE TENNESSEE STATE UNIV**
 NAKED-EYE OBSERVATORY
 09/17/2002 - 08/31/2004 FY03: \$0 Total: \$329,800
Prin. Invest.: E KLUMPE
Tech. Officer: GSFC/LBILBROUGH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1486 **MIDDLE TENNESSEE STATE UNIV**
 R/S DEVELOPMENT OF ANIONIC POLYELECTROLYTES FOR SOLID STATE
 BATTERY APPLICATION
 04/21/1998 - 08/01/2002 FY03: \$0 Total: \$164,531
Prin. Invest.: A C FRIEDLI
Tech. Officer: MSFC/C TALLEY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 1 03032 **MIDDLE TENNESSEE STATE UNIV**
 SMALL AIRCRAFT TRANSPORTATION SYSTEM AEROSPACE FLIGHT EDUCA-
 TION RESEARCH
 09/30/2003 - 01/31/2005 FY03: \$715,000 Total: \$715,000
Prin. Invest.: P A CRAIG
Tech. Officer: LARC/P C MCHUGH, LARC/T P WARNER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1419 **TENNESSEE STATE UNIV**
 QUALITY OF SERVICE COMPARISONS BETWEEN SATELLITE, MIRCOWAVE,
 & T1 COMMUNICATIONS
 07/13/2000 - 06/14/2003 FY03: \$0 Total: \$200,000
Prin. Invest.: W A SMITH
Tech. Officer: ARC/K A FREEMAN, ARC/D CHOW
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1530 **TENNESSEE STATE UNIV**
 EMBODIMENT OF INTELLIGENT BEHAVIORS ON MOBILE ROBO TS
 12/13/2001 - 12/14/2003 FY03: \$147,000 Total: \$294,000
Prin. Invest.: M S ZIEN-SABATTO
Tech. Officer: ARC/S COLOMBANO
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 6052 **TENNESSEE STATE UNIV**
 A PARTNERSHIP BETWEEN THE TENNESSEE STATE UNIV CTR OF EXCEL-
 LENCE, THE NM SUPERCOMPUTING CHALLENGE &
 09/27/2001 - 03/31/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: W A SMITH
Tech. Officer: ARC/A CARDENAS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2471 **TENNESSEE STATE UNIV**
 TSU RESEARCH PROJECTS FOR INCREASING THE POOL OF M INORITY
 ENGINEERS
 07/10/2000 - 12/31/2003 FY03: \$82,400 Total: \$329,600
Prin. Invest.: D ROGERS
Tech. Officer: GRC/S MERRITT
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2577 **TENNESSEE STATE UNIV**
 THE NASA ENGINEERING AND SCIENCE COLLABORATIVE THE NASA
 ENGINEERING AND SCIENCE COLLABORATIVE
 04/18/2001 - 10/31/2004 FY03: \$1,245,140 Total: \$3,462,055
Prin. Invest.: D ROGERS
Tech. Officer: GRC/R LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2904 **TENNESSEE STATE UNIV**
 TSU COLLEGE BOUND IV PROGRAM TSU COLLEGE BOUND IV PROGRAM
 06/02/2003 - 05/13/2004 FY03: \$29,158 Total: \$29,158
Prin. Invest.: D B ROGERS
Tech. Officer: GRC/J A CHARLESTON
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10896 **TENNESSEE STATE UNIV**
 TSU SPACE SCIENCE AND ASTROBIOLOGY INITIATIVE
 05/04/2001 - 04/30/2003 FY03: \$0 Total: \$200,000
Prin. Invest.: M BUSBY
Tech. Officer: GSFC/M MATHEWS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1855 **TENNESSEE STATE UNIV**
 INSPIRING CAREERS IN ENG, MATHEMATICS SCIENCE
 12/17/2001 - 12/16/2002 FY03: \$0 Total: \$100,000
Prin. Invest.: L SHARPE
Tech. Officer: MSFC/W LOVE
CASE Category: 21 – MATHEMATICS

NAG 8 1886 **TENNESSEE STATE UNIV**
 4200000437 A ROBOTIC TELESCOPE FOR STUDENT RESEARCH AND
 OUTREACH
 01/06/2003 - 03/15/2004 FY03: \$26,000 Total: \$26,000
Prin. Invest.: G BURKS
Tech. Officer: MSFC/M WHORTON
CASE Category: 46 – MECHANICAL ENGR

NCC 5 511 **TENNESSEE STATE UNIV**
 CENTER FOR AUTOMATED SPACE SCIENCE
 08/23/2000 - 06/30/2005 FY03: \$1,472,028 Total: \$4,672,028
Prin. Invest.: M BUSBY
Tech. Officer: GSFC/M MATHEWS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 531 **TENNESSEE STATE UNIV**
 NASA/TSU MINORITY UNIVERSITIES INFORMATION NETWORK FOR RE-
 SEARCH & EDUCATION/MUSPIN NRTSPROGRAM
 02/01/2001 - 01/31/2004 FY03: \$350,000 Total: \$1,065,321
Prin. Invest.: W A SMITH
Tech. Officer: GSFC/J HARRINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 657 **TENNESSEE STATE UNIV**
 MINORITY INST COLLABORATORY
 09/18/2002 - 06/14/2003 FY03: \$0 Total: \$39,400
Prin. Invest.: T P GARY
Tech. Officer: GSFC/J HARRINGTON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1794 **TENNESSEE TECHNOLOGICAL UNIV**
 ENHANCEMENT OF EJECTOR EFFICIENCY IN ADVANCE RE- USABLE
 PROPULSION ENGINE
 03/13/2001 - 09/30/2003 FY03: \$45,000 Total: \$150,000
Prin. Invest.: S S HAN, J PIEDDIESON
Tech. Officer: MSFC/J J HUTT
CASE Category: 46 – MECHANICAL ENGR

NAG 8 1919 **TENNESSEE TECHNOLOGICAL UNIV**
 4200008302 CONCEPT DEVELOPMENT STUDY FOR JEM-EF EXPERIMENTS
 FOR THE INTERNATIONAL SPACE STATION
 05/06/2003 - 12/31/2003 FY03: \$25,000 Total: \$25,000
Prin. Invest.: S CANFIELD
Tech. Officer: MSFC/C K KARRINGTON
CASE Category: 46 – MECHANICAL ENGR

NGT 8 52928 **TENNESSEE TECHNOLOGICAL UNIV**
 4200013034 "EFFECTS OF POROSITY AND LOW-VELOCITY IMPACT DAM-
 AGE ON RESIDUAL STRENGTH OF GRAPHITE..."
 06/05/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C WILSON
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NAG 5 7617 **UNIV OF MEMPHIS**
 FUNDING FOR 'LANDSIDE HAZARD IN RESPONSE TO SHORT TERM
 CLIMATE CHANGE' (SENH98-0020)
 07/24/1998 - 06/30/2002 FY03: \$0 Total: \$225,000
Prin. Invest.: M ELLIS
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9783 **UNIV OF MEMPHIS**
 OBSERVATIONAL CONSTRAINTS FOR CORONAL HEATING MODELS
 07/06/2000 - 06/30/2004 FY03: \$20,910 Total: \$81,339
Prin. Invest.: J T SCHMELZ
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NAG 5 12096 **UNIV OF MEMPHIS**
 THE IMPLICATIONS OF MULTITHERMAL LOOPS FOR CORONAL HEATING
 MODELS
 05/01/2002 - 06/30/2004 FY03: \$0 Total: \$30,000
Prin. Invest.: J T SCHMELZ
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 1244 **UNIV OF MEMPHIS**
 SODAS: MODELS OF SELF-ORGANIZING ONTOGENETIC DEVELOPMENT
 FOR AUTONOMOUS ADAPTIVE SYSTEMS
 04/05/2001 - 02/29/2004 FY03: \$305,039 Total: \$695,064
Prin. Invest.: R KOZMA
Tech. Officer: ARC/T R GOVINDAN, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 9031 **UNIV OF TENNESSEE - CHATTANOOGA**
 PRE-SERVICE TEACHER ENHANCEMENT PROGRAM
 02/04/2000 - 02/14/2004 FY03: \$0 Total: \$295,558
Prin. Invest.: T L PATTY
Tech. Officer: GSFC/B MEESON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8405 **UNIV OF TENNESSEE - KNOXVILLE**
 TOWARD THE CORE COLLAPSE SUPERNOVA MECHANISM: THE NEXT
 GENERATION IN NEUTRINO TRANSPORT AND CONVE
 03/16/1999 - 08/31/2002 FY03: \$0 Total: \$167,694
Prin. Invest.: A MEZZACAPPA
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 8726 **UNIV OF TENNESSEE - KNOXVILLE**
 PLANETARY PETROLOGY AND GEOCHEMISTRY
 08/04/1999 - 07/31/2002 FY03: \$0 Total: \$70,500
Prin. Invest.: L A TAYLOR
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8773 **UNIV OF TENNESSEE - KNOXVILLE**
 NHSE - THE NATIONAL HPCC SOFTWARE EXCHANGE
 09/07/1999 - 08/31/2002 FY03: \$0 Total: \$435,000
Prin. Invest.: J DONGARRA
Tech. Officer: GSFC/J R FISCHER
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 8926 **UNIV OF TENNESSEE - KNOXVILLE**
 THE POROSITY OF ASTEROIDS
 01/07/2000 - 12/31/2002 FY03: \$0 Total: \$97,850
Prin. Invest.: D BRITT
Tech. Officer: GSFC/J GRANT
CASE Category: 11 – ASTRONOMY

NAG 5 9061 **UNIV OF TENNESSEE - KNOXVILLE**
 THE MINERALOGY OF THE INNER ASTEROID BELT
 02/15/2000 - 02/14/2003 FY03: \$0 Total: \$120,243
Prin. Invest.: D T BRITT
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 10525 **UNIV OF TENNESSEE - KNOXVILLE**
 DUST AND FELDSPAR MINERALOGY ON MARS FROM THERMAL EMISSION
 SPECTRA
 03/06/2001 - 03/14/2004 FY03: \$60,700 Total: \$182,100
Prin. Invest.: H MCSWEEN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10635 **UNIV OF TENNESSEE - KNOXVILLE**
 SPECIAL CONSIDERATIONS IN THE INTERPRETATION OF THERMAL INFRA-
 RED SPECTROSCOPY FROM LANDERS AN
 03/17/2001 - 11/01/2003 FY03: \$73,000 Total: \$146,000
Prin. Invest.: J MOERSCH
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10666 **UNIV OF TENNESSEE - KNOXVILLE**
 RECOGNIZING BIOTIC INFLUENCES ON PLANETARY EVOLU- TION: INVES-
 TIGATING THE BIOGEOCHEMICAL RECORD OF
 03/21/2001 - 03/31/2004 FY03: \$64,066 Total: \$146,266
Prin. Invest.: L KAH
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 10788 **UNIV OF TENNESSEE - KNOXVILLE**
 REMOTE SENSING FOR MARTIAN EXOPEALONTOLOGY: DETECTABILITY THRESHOLDS FOR AQUEOUS MINERALS AS A BASIS
 04/23/2001 - 04/30/2004 FY03: \$50,000 Total: \$150,000
Prin. Invest.: J E MOERSH
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 10794 **UNIV OF TENNESSEE - KNOXVILLE**
 MINERALOGY & SPECTRAL PROPERTIES OF LUNAR SOILS
 04/25/2001 - 04/30/2002 FY03: \$0 Total: \$24,000
Prin. Invest.: L TAYLOR
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11201 **UNIV OF TENNESSEE - KNOXVILLE**
 MINERALOGICAL MAPPING OF PUTATIVE MARTIAN PALEOLAKE BASINS
 08/07/2001 - 08/14/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: J E MOERSCH
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11558 **UNIV OF TENNESSEE - KNOXVILLE**
 PETROGENESIS OF LUNAR AND PLANETARY CRUSTS AND METEORITES
 02/08/2002 - 02/14/2005 FY03: \$115,000 Total: \$230,000
Prin. Invest.: L A TAYLOR
Tech. Officer: GSFC/J M BOYCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11567 **UNIV OF TENNESSEE - KNOXVILLE**
 CONSTRAINING PLANETESIMAL ACCRETION BY THERMAL MODELING
 02/19/2002 - 02/28/2005 FY03: \$55,000 Total: \$110,000
Prin. Invest.: H MCSWEEN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11744 **UNIV OF TENNESSEE - KNOXVILLE**
 METEORITE PETROGENESIS
 02/20/2002 - 03/31/2003 FY03: \$0 Total: \$106,000
Prin. Invest.: H Y MCSWEEN
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11978 **UNIV OF TENNESSEE - KNOXVILLE**
 CHEMICAL AND MINERALOGICAL CHARACTERIZATIONS OF LUNAR SOILS FOR SPECTRAL REFLECTANCE CALIBRATIONS
 04/08/2002 - 04/30/2005 FY03: \$33,000 Total: \$66,000
Prin. Invest.: L A TAYLOR
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 12134 **UNIV OF TENNESSEE - KNOXVILLE**
 CAREER OPPORTUNITIES FOR STUDENTS WITH DISABILITIES (COSD)
 05/09/2002 - 05/31/2003 FY03: \$7,413 Total: \$45,338
Prin. Invest.: R GREENBERG
Tech. Officer: GSFC/M HARTMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12477 **UNIV OF TENNESSEE - KNOXVILLE**
 ADVANCED WARNING METHODOLOGIES FOR SOLAR PARTICLE EVENT RADIATION EXPOSURES
 08/21/2002 - 08/14/2005 FY03: \$0 Total: \$118,031
Prin. Invest.: L TOWNSEND
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12896 **UNIV OF TENNESSEE - KNOXVILLE**
 METEORITE PETROGENESIS
 02/24/2003 - 03/31/2006 FY03: \$118,000 Total: \$118,000
Prin. Invest.: H MCSWEEN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 13152 **UNIV OF TENNESSEE - KNOXVILLE**
 THE POROSITY OF ASTEROIDS
 03/27/2003 - 03/31/2005 FY03: \$34,000 Total: \$34,000
Prin. Invest.: D BRITT
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13616 **UNIV OF TENNESSEE - KNOXVILLE**
 THE MINERALOGY OF THE INNER ASTEROID BELT
 08/26/2003 - 08/31/2004 FY03: \$30,000 Total: \$30,000
Prin. Invest.: D BRITT
Tech. Officer: GSFC/L JOHNSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1568 **UNIV OF TENNESSEE - KNOXVILLE**
 REVERSIBLE CRYOGENIC STORAGE OF MACROMOLECULAR CRYSTALS GROWN IN MICROGRAVITY
 01/15/1999 - 11/30/2002 FY03: \$0 Total: \$558,300
Prin. Invest.: G J BUNICK
Tech. Officer: MSFC/B V GUYNES, MSFC/D CHAFEE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 8 1669 **UNIV OF TENNESSEE - KNOXVILLE**
 RESEARCH ENTITLED, "DEVELOPMENT OF A MONTE CARLO RADIATION TRANSPORT CODE SYSTEM FOR HEDS"
 08/16/2000 - 11/30/2003 FY03: \$60,000 Total: \$227,000
Prin. Invest.: L W TOWNSEND, T A GABRIEL, T W ARMSTRONG
Tech. Officer: MSFC/P DOTY
CASE Category: 13 – PHYSICS

NAG 8 1826 **UNIV OF TENNESSEE - KNOXVILLE**
 STRUCTURAL STUDIES OF NUCLEOSOMES AND CHROMATIN
 09/06/2001 - 11/30/2004 FY03: \$135,000 Total: \$523,000
Prin. Invest.: G J BUNICK
Tech. Officer: MSFC/B GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1901 **UNIV OF TENNESSEE - KNOXVILLE**
 4200003821 RADIATION TRANSPORT CODE DEVELOPMENT FOR SPACE RADIATION SHIELDING APPLICATIONS
 03/11/2003 - 11/30/2006 FY03: \$443,959 Total: \$443,959
Prin. Invest.: L W TOWNSEND
Tech. Officer: MSFC/B V GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1424 **UNIV OF TENNESSEE - KNOXVILLE**
 BIOLUMINESCENT MONITORING OF OPPORTUNISTIC PATHOGENS IN THE SPACECRAFT ENVIRONMENT
 06/14/2002 - 05/31/2005 FY03: \$123,428 Total: \$313,003
Prin. Invest.: G S SAYLER
Tech. Officer: JSC/D JAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 5 50286 **UNIV OF TENNESSEE - KNOXVILLE**
 THE PETROLOGY & TEMPORAL & SPATIAL EVOLUTION OF MARTIAN VOLCANISM FROM THERMAL EMISSION DATA OF
 06/22/2000 - 07/31/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: H Y MCSWEEN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52920 **UNIV OF TENNESSEE - KNOXVILLE**
 CONTINUOUS CROSS SECTION DATABASE DEVELOPMENT FOR GENERALIZED THREE DIMENSION RADIATION TRANSPORT CODES
 05/29/2002 - 06/30/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: L TOWNSEND
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2680 **UNIV OF TENNESSEE SPACE INST-TULLAHOMA**
 PULSED DETONATION ENGINE TECHNOLOGY - IC-02-33 PULSED DETONATION ENGINE TECHNOLOGY - IC-02-33
 12/19/2001 - 09/30/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: D L MERKLE
Tech. Officer: GRC/R FERNANDEZ
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5493 **UNIV OF TENNESSEE SPACE INST-TULLAHOMA**
 ALGORITHMIC ENHANCEMENTS FOR UNSTEADY AERODYNAMICS MULTIPHASE AND COMBUSTION APPLICATIONS
 05/24/2002 - 05/31/2004 FY03: \$76,675 Total: \$153,350
Prin. Invest.: S VENKATESWARAN
Tech. Officer: ARC/G KLOPFER, ARC/M E OLSEN
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 3 2401 **VANDERBILT UNIV**
 SEPARATION OF CARBON MONOXIDE AND CARBON DIOXIDE FROM MARS ISRU
 04/25/2000 - 11/30/2003 FY03: \$78,320 Total: \$299,544
Prin. Invest.: D LEVAN
Tech. Officer: GRC/R D GREEN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 8618 **VANDERBILT UNIV**
 A STUDY OF ION OUTFLOW AS A SOURCE FOR THE MAGNETOSPHERE
 06/14/1999 - 06/30/2003 FY03: \$0 Total: \$172,044
Prin. Invest.: R CHAPPELL
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 11 – ASTRONOMY

NAG 5 8906 **VANDERBILT UNIV**
 THE PRESSURE IONIZATION OF HYDROGEN & THE INTERIOR OF JUPITER & SATURN
 12/29/1999 - 01/31/2004 FY03: \$0 Total: \$80,050
Prin. Invest.: D SAUMON
Tech. Officer: GSFC/J GRANT
CASE Category: 13 – PHYSICS

NAG 5 9565 **VANDERBILT UNIV**
 NEW ISTP SOLAR MAX: A MULTI-SPACECRAFT STUDY OF THE FLOW OF IONOSPHERIC PLASMA
 05/09/2000 - 09/30/2003 FY03: \$0 Total: \$70,000
Prin. Invest.: C CHAPPELL
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 12429 **VANDERBILT UNIV**
 IMMUNOISOLATION OF LIVING ISLETS AS A FUNCTIONAL CURATIVE FOR DIABETES - LARGE ANIMAL STUDIES
 07/29/2002 - 07/31/2005 FY03: \$0 Total: \$1,956,600
Prin. Invest.: T G WANG
Tech. Officer: GSFC/L P CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13104 **VANDERBILT UNIV**
 MOLECULAR HYDROGEN GAS IN DISKS OF T TAURI STARS: TRACING THE TIMESCALE FOR THE ORIGIN OF GIANT PLANETS
 03/13/2003 - 03/14/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: D WEINTRAUB
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 45 – ELECTRICAL ENGR

NAG 8 1662 **VANDERBILT UNIV**
 RECOVERY OF MINERALS IN MARTIAN SOILS VIA SUPERCRITICAL FLUID EXTRACTIONS
 06/01/2000 - 11/30/2003 FY03: \$95,000 Total: \$325,250
Prin. Invest.: K A DEBELAK
Tech. Officer: MSFC/P DOTY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1677 **VANDERBILT UNIV**
 INVESTIGATION OF THE RELATIONSHIP BETWEEN UNDERCOOLING AND SOLIDIFICATION VELOCITY
 05/08/2000 - 11/30/2003 FY03: \$149,993 Total: \$522,486
Prin. Invest.: R J BAYUZICK
Tech. Officer: MSFC/P DOTY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1745 **VANDERBILT UNIV**
 FLOW VISUALIZATION STUDIES IN MOLTEN ZONES
 09/29/2000 - 07/31/2003 FY03: \$0 Total: \$112,500
Prin. Invest.: A V ANIKUMER
Tech. Officer: MSFC/R GRUGEL
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 8 01914 **VANDERBILT UNIV**
 4200005175 ACCESS THE FEASIBILITY OF THE ART STRUCTURAL HEALTH MONITORING FACILITY FOR DETECTION OF COMPOSITE LAMINATE STRUCTURE
 05/02/2003 - 05/01/2004 FY03: \$40,000 Total: \$40,000
Prin. Invest.: K K TSENG
Tech. Officer: MSFC/J T ELDRIDGE
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1273 **VANDERBILT UNIV**
 DESIGN THROUGH MANUFACTURING: SOLID MODEL-FINITE ELEMENT ANALYSIS INTERFACE
 01/09/2001 - 09/30/2002 FY03: -\$12 Total: \$15,488
Prin. Invest.: C HACHEY
Tech. Officer: JSC/R ARONOFF
CASE Category: 22 – COMPUTER SCIENCE

NAG 9 1428 **VANDERBILT UNIV**
 ROBOT ACQUISITION OF ACTIVE MAPS THROUGH TELEOPERATION &
 VECTOR SPACE ANALYSIS
 05/29/2002 - 06/03/2003 FY03: \$0 Total: \$78,520
Prin. Invest.: R A PETERS
Tech. Officer: JSC/R T SAVELY
CASE Category: 22 – COMPUTER SCIENCE

NAG 9 1446 **VANDERBILT UNIV**
 ANTONOMOUS BEHAVIORS BY ROBOTIC ASSISTANTS
 08/01/2002 - 07/31/2004 FY03: \$625,000 Total: \$665,000
Prin. Invest.: K KAWAMURA
Tech. Officer: JSC/R SAVELY
CASE Category: 22 – COMPUTER SCIENCE

NAG 9 1515 **VANDERBILT UNIV**
 ROBOT BEHAVIOR ACQUISITION: SUPERPOSITIONS & COMPOSITION OF
 BEHAVIORS LEARNED THROUGH TELEOPERATION
 05/09/2003 - 06/30/2004 FY03: \$78,000 Total: \$78,000
Prin. Invest.: R A PETERS II
Tech. Officer: JSC/R T SAVELY
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 9 1537 **VANDERBILT UNIV**
 ACQUISITION OF BASIC BEHAVIORS THROUGH TELEOPERATION USING
 ROBOT
 06/27/2003 - 08/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C CAMPBELL
Tech. Officer: JSC/R AMBROSE, JSC/C CULBERT
CASE Category: 49 – ENGINEERING, OTHER

NCC 1 01018 **VANDERBILT UNIV**
 AEROELASTICITY IN ORNITHOPIC MICRO-AERIAL VEHICLES MY 1/3
 01/22/2001 - 09/30/2003 FY03: \$0 Total: \$78,330
Prin. Invest.: K D FRAMPTON
Tech. Officer: LARC/D L RANEY, LARC/D E COX
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 01031 **VANDERBILT UNIV**
 SYSTEMS RISK ASSESSMENT AND ALLOCATION IN CONCEPTUAL DESIGN
 03/12/2001 - 12/31/2002 FY03: -\$4,416 Total: \$225,584
Prin. Invest.: S MAHADEVAN
Tech. Officer: LARC/T A ZHANG
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 03023 **VANDERBILT UNIV**
 PROBABILISTIC DESIGN OF MULTIDISCIPLINARY SYSTEMS
 04/24/2003 - 04/23/2005 FY03: \$64,258 Total: \$64,258
Prin. Invest.: S MAHADEVAN
Tech. Officer: LARC/N M ALEXANDROV
CASE Category: 49 – ENGINEERING, OTHER

NCC 2 1127 **VANDERBILT UNIV**
 ADSORPTION EQUILIBRIUM & FIXED BED PERFORMANCE FOR REGENER-
 ATABLE INCINERATOR EXHAUST PURIFICATION & T
 06/21/1999 - 05/31/2003 FY03: \$0 Total: \$206,204
Prin. Invest.: M D LEVAN
Tech. Officer: ARC/J E FINN
CASE Category: 43 – CHEMICAL ENGR

NCC 2 1238 **VANDERBILT UNIV**
 ROBUST METHODS FOR AUTONOMOUS FAULT ADAPTIVE CONTROL OF
 COMPLEX SYSTEMS
 04/06/2001 - 02/28/2004 FY03: \$278,000 Total: \$529,321
Prin. Invest.: G BISWAS
Tech. Officer: ARC/R MORRIS, ARC/D J CLANCY
CASE Category: 22 – COMPUTER SCIENCE

NCC 2 5535 **VANDERBILT UNIV**
 THERMAL MODELING OF AIR COOLED TEMPERATURE SWING ABSOR-
 PTION COMPRESSOR
 05/23/2003 - 05/14/2004 FY03: \$29,113 Total: \$29,113
Prin. Invest.: M D LEVAN
Tech. Officer: ARC/M KLISS, ARC/H JONES
CASE Category: 43 – CHEMICAL ENGR

NCC 8 255 **VANDERBILT UNIV**
 RESEARCH DEVELOPMENT NSSTC
 01/31/2002 - 02/07/2007 FY03: -\$17,133 Total: \$0
Prin. Invest.: S H SMARTT
Tech. Officer: MSFC/S COLEMAN, MSFC/R SILVER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 159 **VANDERBILT UNIV**
 DISTRIBUTED MONITORING AND CONTROL OF COMPLEX DYNAMIC SYS-
 TEMS
 03/04/2003 - 03/10/2006 FY03: \$100,223 Total: \$100,223
Prin. Invest.: G BISWAS
Tech. Officer: JSC/D JAN
CASE Category: 59 – LIFE SCIENCE, OTHER

NGT 1 02023 **VANDERBILT UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 10/01/2002 - 09/30/2003 FY03: \$24,000 Total: \$24,000
Prin. Invest.: M GOLDFARB
Tech. Officer: LARC/J C HORNER
CASE Category: 46 – MECHANICAL ENGR

NGT 1 52227 **VANDERBILT UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 01/20/2000 - 12/31/2001 FY03: -\$1 Total: \$44,000
Prin. Invest.: A COX
Tech. Officer: LARC/G C HORNER
CASE Category: 46 – MECHANICAL ENGR

NGT 5 105 **VANDERBILT UNIV**
 CHARACTERIZATION OF PROTON RADIATION EFFECTS IN LI NEAR BIPO-
 LAR DEVICES & CIRCUITS/STUDENT: H BARNAB
 05/26/2000 - 06/30/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: R D SCHRIMPF
Tech. Officer: GSFC/G A SOFFEN
CASE Category: 45 – ELECTRICAL ENGR

NGT 5 40074 **VANDERBILT UNIV**
 TENNESSEE SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 02/09/2001 - 01/31/2005 FY03: \$502,750 Total: \$1,481,238
Prin. Invest.: A M STRAUSS
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

TEXAS

NASA'S UNIVERSITY PROGRAM

NGT 5 50209 **VANDERBILT UNIV**
 INVESTIGATION OF EFFECTS OF DILUTE OXYGEN SOLUTE O N NUCLE-
 ATION OF ZIRCONIUM
 07/10/1998 - 06/30/2002 FY03: -\$1 Total: \$65,999
Prin. Invest.: R BAYUZICK
Tech. Officer: HQ/A NURRIDDIN
CASE Category: 43 – CHEMICAL ENGR

NGT 8 52905 **VANDERBILT UNIV**
 DESIGN AND FABRICATION OF INDIUM-TIN-OXIDE (ITO) MICRO-SCALE
 STRAIN SENSORS
 05/25/2001 - 07/01/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: R A WELLER
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NGT 8 52907 **VANDERBILT UNIV**
 AEROSPACE STRUCTURAL SYSTEM RELIABILITY ASSESSMENT
 05/25/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S MAHADEVAN
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 44 – CIVIL ENGR

NGT 8 52910 **VANDERBILT UNIV**
 UV RAMAN LINESHAPES FOR TEMPERATURE DETERMINATION
 05/31/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: R W PITZ
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NGT 8 52926 **VANDERBILT UNIV**
 4200011586 FUNCTINALIZED HIGHLY STRAINED HYDRO- CARBONS AS
 POTENTIAL HYPERGOLIC FUELS
 06/05/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P KASZYNSKI
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 12 – CHEMISTRY

NGT 9 52 **VANDERBILT UNIV**
 MACHINE PERCEPTION TO FACILITATE HUMAN-ROBOT INTER ACTION
 07/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: R A PETERS II
Tech. Officer: JSC/C J CULBERT
CASE Category: 49 – ENGINEERING, OTHER

TEXAS

NAG 5 10102 **AUSTIN COLLEGE-SHERMAN**
 FLOOD FORECASTING USING A REGIONAL SCALE ATMOSPHERE/LAND-
 SURFACE MODELING SYSTEM.
 12/11/2000 - 12/14/2003 FY03: \$16,000 Total: \$64,134
Prin. Invest.: D R BAKER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 2 1355 **BAYLOR COLLEGE OF MEDICINE**
 ROLE OF MATH1 IN DEVELOPMENT & FUNCTION OF PROPRIO RECEPTORS
 07/22/1999 - 07/14/2003 FY03: \$0 Total: \$593,110
Prin. Invest.: H J BELLEN, H Y ZOGHBI
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1357 **BAYLOR COLLEGE OF MEDICINE**
 THE INTERACTIVE COUPLING OF CYTOSKELETON & SIGNAL TRANSDUC-
 TION ELEMENTS IN GRAVITY SENSITIVITY OF T-
 07/23/1999 - 07/31/2003 FY03: \$0 Total: \$547,079
Prin. Invest.: B B HASHEMI
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1496 **BAYLOR COLLEGE OF MEDICINE**
 SENSELESS AND GF11 IN SENSORY NEURON AND HAIR CELL DEVELOP-
 MENT
 07/11/2001 - 06/30/2004 FY03: \$296,437 Total: \$721,391
Prin. Invest.: H J BELLEN
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1583 **BAYLOR COLLEGE OF MEDICINE**
 ISLET CELL ASSEMBLY AND FUNCTION IN A NASA MICROGRAVITY BIORE-
 ACTOR
 02/02/1999 - 11/30/2003 FY03: \$0 Total: \$542,747
Prin. Invest.: A S RAJAN
Tech. Officer: JSC/N R PELLIS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1052 **BAYLOR COLLEGE OF MEDICINE**
 BIOPHYSICAL MODELS OF DNA DAMAGE, MUTATION, &...
 08/25/1998 - 09/24/2002 FY03: -\$32,997 Total: \$288,677
Prin. Invest.: L E PETERSON
Tech. Officer: JSC/F A CUCINOTTA
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1151 **BAYLOR COLLEGE OF MEDICINE**
 NONINVASIVE MONITORING OF BONE RESORPTION AND SWEAT CALCIUM
 USING SKIN PATCHES
 09/16/1999 - 09/30/2004 FY03: \$0 Total: \$53,514
Prin. Invest.: A D LE BLANC
Tech. Officer: JSC/C W LLOYD
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1153 **BAYLOR COLLEGE OF MEDICINE**
 PROTECTING SCIENTIFIC INTEGRITY THROUGH DISCLOSURE OF CON-
 FFLICTS OF INTERESTS
 09/13/1999 - 09/30/2003 FY03: \$0 Total: \$732,567
Prin. Invest.: B A BRODY
Tech. Officer: JSC/C LLOYD
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1158 **BAYLOR COLLEGE OF MEDICINE**
 ROLE OF GROWTH HORMONE SECRETOGOUS AND EXERCISE ON MUSCLE
 HOMEOSTASIS UNDER MICROGRAVITY
 10/01/1999 - 10/31/2003 FY03: \$0 Total: \$818,967
Prin. Invest.: B J SCHWARTZ
Tech. Officer: JSC/C LLOYD
CASE Category: 56 – MEDICL

NAG 9 1253 **BAYLOR COLLEGE OF MEDICINE**
 EFFECTS OF ANTI-ORTHOSTATIC SUSPENSION ON INNATE IMMUNITY
 09/11/2000 - 09/30/2004 FY03: \$197,761 Total: \$570,579
Prin. Invest.: C SMITH
Tech. Officer: JSC/C LLOYD
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1361 **BAYLOR COLLEGE OF MEDICINE**
LIVER TISSUE ENGINEERING IN MICROGRAVITY ENVIRONMENT
07/13/2001 - 09/30/2004 FY03: \$203,000 Total: \$445,000
Prin. Invest.: B YOFEE
Tech. Officer: JSC/D RISIN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 9 58 **BAYLOR COLLEGE OF MEDICINE**
NATIONAL SPACE BIOMEDICAL RESEARCH INST
03/26/1997 - 09/30/2007 FY03: \$32,607,425 Total: \$125,759,968
Prin. Invest.: B R ALFORD, M.D.
Tech. Officer: JSC/C F SAWIN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 9 61 **BAYLOR COLLEGE OF MEDICINE**
PREVENTION OF BED REST OSTEOPOROSIS
05/23/1997 - 07/31/2003 FY03: \$0 Total: \$2,320,039
Prin. Invest.: A D LE BLANC
Tech. Officer: JSC/L C SHACKELFORD
CASE Category: 56 – MEDICL

NCC 9 88 **BAYLOR COLLEGE OF MEDICINE**
COMPARISON OF STRENGTH TRAINING WITH ISS INTERIM RESISTANCE
EXERCISE DEVISE VS FREE
07/20/1999 - 07/31/2002 FY03: \$0 Total: \$29,760
Prin. Invest.: A BEBLANC
Tech. Officer: JSC/S SCHNEIDER
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 10239 **HOUSTON COMM COLLEGE**
NASA HCC SCIENCE CHALLENGE PROGRAM
01/10/2001 - 05/31/2002 FY03: \$0 Total: \$149,298
Prin. Invest.: C GARCIA
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12702 **HOUSTON COMM COLLEGE**
NASA HCC SCIENCE CHALLENGE PROGRAM
01/13/2003 - 12/31/2003 FY03: \$150,000 Total: \$150,000
Prin. Invest.: C GARCIA
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1065 **JARVIS CHRISTIAN COLLEGE**
PACE/MSET SUMMER CAMP CAMP FOR TRAINING & MENTORING
01/07/1999 - 12/31/2001 FY03: \$0 Total: \$300,000
Prin. Invest.: M J MCKINNEY
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 126 **LAMAR UNIV**
DEVELOPMENT OF MINIATURE LASER MASS SPECTROMETER SYSTEM
FOR PLANETARY STUDIES
04/20/2001 - 12/31/2003 FY03: \$0 Total: \$200,000
Prin. Invest.: S L JORDAN, G M IRWIN
Tech. Officer: SSC/G A MCKAY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11658 **PAUL QUINN COLLEGE**
MSET INST FOR ATTRACTING STUDENTS TO THE SCIE NCES
02/12/2002 - 02/28/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: S JONES
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 03064 **PRAIRIE VIEW A&M UNIV**
2003 PRE-SERVICE TEACHER INST (PSTI)
05/14/2003 - 05/13/2004 FY03: \$55,000 Total: \$55,000
Prin. Invest.: W TROTTEY
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 21 – MATHEMATICS

NAG 4 148 **PRAIRIE VIEW A&M UNIV**
RADIATION EFFECTS ON ELECTRONIC MATERIAL AND DEVICES
03/03/1998 - 02/27/2003 FY03: \$0 Total: \$266,999
Prin. Invest.: R WILKINS
Tech. Officer: DFRC/E COX
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 210 **PRAIRIE VIEW A&M UNIV**
MITIGATION OF HIGH ALTITUDE AND LOW EARTH ORBIT RA DIATION
EFFECTS ON MICROELECTRONICSVIA SHIELDING
06/07/2000 - 06/06/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: D K KIRBY
Tech. Officer: DFRC/D GUPTA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 233 **PRAIRIE VIEW A&M UNIV**
EXPLORATORY ALGORITHM DEVELOPMENT STUDY OF A WAVELET-BASED
ADAPTIVE SMART SCHEME FOR VIBRATION DETE
08/14/2002 - 01/31/2004 FY03: \$0 Total: \$15,000
Prin. Invest.: D M AKUJUOBI
Tech. Officer: DFRC/K KLOESEL
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 11070 **PRAIRIE VIEW A&M UNIV**
CENTER FOR APPLIED RADIATION RESEARCH PARTNERSHIP PROGRAM
06/29/2001 - 08/31/2002 FY03: \$15,581 Total: \$215,581
Prin. Invest.: R WILKINS
Tech. Officer: GSFC/J MALONE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13412 **PRAIRIE VIEW A&M UNIV**
SUBSTORM EVOLUTION IN THE NEAR-EARTH PLASMA SHEET
05/13/2003 - 05/14/2004 FY03: \$49,000 Total: \$49,000
Prin. Invest.: G ERICKSON
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1338 **PRAIRIE VIEW A&M UNIV**
ESTABLISHMENT OF A SOLAR OBSERVATORY AND STUDIES ON THE
SOLAR ATMOSPHERE
03/18/1997 - 03/31/2003 FY03: \$0 Total: \$438,700
Prin. Invest.: T HUANG
Tech. Officer: MSFC/J M DAVIS
CASE Category: 11 – ASTRONOMY

NAG 8 1644 **PRAIRIE VIEW A&M UNIV**
ADVANCED FUEL INJECTOR OPTIMIZATION FOR RBCC ENGINE CONCEPT
09/30/1999 - 09/30/2004 FY03: \$0 Total: \$300,000
Prin. Invest.: Z HAQUE, N BUTUK
Tech. Officer: MSFC/A BEAM, MSFC/W LOVE
CASE Category: 43 – CHEMICAL ENGR

NAG 8 1874 **PRAIRIE VIEW A&M UNIV**
STUDIES OF SOLAR PROMINENCES AND FILAMENTS
06/18/2002 - 05/31/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: T HUANG
Tech. Officer: MSFC/J DAVIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 9 1241 **PRAIRIE VIEW A&M UNIV**
 USE OF ELECTROMIGRATION TO IMMOBILIZE METAL IONS
 06/22/2000 - 05/31/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: R CUERO
Tech. Officer: JSC/D S MCKAY, JSC/L ARMENDARIZ
CASE Category: 55 – AGRICULTURE

NAG 9 1405 **PRAIRIE VIEW A&M UNIV**
 DEVELOP DAILY OBSERVATION & RESEARCH PROGRAM AT PRAIRIE VIEW
 SOLAR OBSERVATORY
 05/24/2002 - 05/23/2005 FY03: \$70,000 Total: \$140,000
Prin. Invest.: T S HWANG
Tech. Officer: JSC/K KRISHEN, JSC/L M ARMENDARIZ
CASE Category: 11 – ASTRONOMY

NCC 3 577 **PRAIRIE VIEW A&M UNIV**
 RESEARCH TO SIGNIFICANTLY ENHANCE COMPOSITES SURVIVABILITY AT
 550 DEGREES F IN OXIDATIVE ENVIRONMENT
 09/26/1997 - 11/30/2002 FY03: \$0 Total: \$336,102
Prin. Invest.: L E CARSON-ISABELLE
Tech. Officer: GRC/M A MEADOR
CASE Category: 12 – CHEMISTRY

NCC 3 972 **PRAIRIE VIEW A&M UNIV**
 EFFECTS OF SERVICE CONDITIONS ON THE MORPHOLOGY AND PROPERTIES
 OF ADVANCED COMPOSITES FOR CRYOGENIC
 06/25/2002 - 06/30/2005 FY03: \$98,314 Total: \$198,075
Prin. Invest.: D BINEY
Tech. Officer: GRC/M A MEADOR
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 980 **PRAIRIE VIEW A&M UNIV**
 RESEARCH TO SIGNIFICANTLY ENHANCE COMPOSITES SURVIVABILITY AT
 550 DEGREES F IN OXIDATIVE ENVIRONMENT
 07/03/2002 - 05/31/2004 FY03: \$0 Total: \$46,530
Prin. Invest.: D CARSON-ISABELLE
Tech. Officer: GRC/M MEADOR
CASE Category: 12 – CHEMISTRY

NCC 5 529 **PRAIRIE VIEW A&M UNIV**
 NASA SOUTHWEST REGIONAL NETWORK RESOURCES AND TRAINING
 SITE/MUSPIN NRTS PROGRAM.
 02/01/2001 - 01/31/2004 FY03: \$359,367 Total: \$1,059,367
Prin. Invest.: J WILLIAMS
Tech. Officer: GSFC/J HARRINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 591 **PRAIRIE VIEW A&M UNIV**
 IMPROVEMENT OF THE SOLAR OBSERVATION FACILITIES AT PRAIRIE VIEW
 SOLAR OBSERVATORY
 09/14/2001 - 09/14/2002 FY03: \$0 Total: \$35,500
Prin. Invest.: D HUANG
Tech. Officer: GSFC/J HARRINGTON
CASE Category: 11 – ASTRONOMY

NCC 5 670 **PRAIRIE VIEW A&M UNIV**
 FURTHER IMPROVEMENT OF THE SOLAR OBSERVATION INSTRUMENT.
 ONE YEAR GRANT.
 09/12/2002 - 03/14/2004 FY03: \$0 Total: \$25,000
Prin. Invest.: T HUANG
Tech. Officer: GSFC/J L HARRINGTON
CASE Category: 11 – ASTRONOMY

NCC 9 66 **PRAIRIE VIEW A&M UNIV**
 SOFTWARE ENGINEERING INITIATIVE
 09/25/1997 - 08/31/2003 FY03: \$0 Total: \$2,500,136
Prin. Invest.: J D OLIVER
Tech. Officer: JSC/L MCWHORTER, JSC/K MARTINDALE
CASE Category: 49 – ENGINEERING, OTHER

NCC 9 114 **PRAIRIE VIEW A&M UNIV**
 CENTER APPLIED RADIATION RESEARCH
 09/27/2000 - 08/31/2005 FY03: \$1,200,000 Total: \$3,819,999
Prin. Invest.: R WILKINS
Tech. Officer: JSC/F A CUCINOTTA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 1 2134 **RICE UNIV**
 NONLINEAR RECEPTIVITY AND BY-PASS TRANSITION IN THREE-
 DIMENSIONAL BOUNDARY LAYERS NRA 98 LARC5
 02/10/1999 - 06/30/2002 FY03: -\$2 Total: \$117,456
Prin. Invest.: S S COLLIS
Tech. Officer: LARC/R R ANTOLIFF
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2534 **RICE UNIV**
 AD HOC NETWORKS IN SPACE AND SURFACE SYSTEMS AD HOC NET-
 WORKS IN SPACE AND SURFACE SYSTEMS
 03/07/2001 - 12/31/2003 FY03: \$775,881 Total: \$1,246,223
Prin. Invest.: D B JOHNSON
Tech. Officer: GRC/D FOLTZ
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2894 **RICE UNIV**
 SUPERFLUID PHASE TRANSITION IN AN ULTRACOLD FERMI GAS
 05/08/2003 - 04/30/2005 FY03: \$85,500 Total: \$85,500
Prin. Invest.: R G HULET
Tech. Officer: GRC/C LEK
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 4072 **RICE UNIV**
 NASA SPECIALIZED CENTER OF RESEARCH AND TRAINING (AL BIOLOGY
 04/07/1997 - 10/31/2002 FY03: \$2,358 Total: \$3,601,769
Prin. Invest.: L MCINTIRE
Tech. Officer: GSFC/D LASKOWSKY
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 5 4726 **RICE UNIV**
 DEVELOPMENT AND APPLICATIONS OF A MODULAR MODEL OF MAGNETO-
 SPHERE
 06/19/1997 - 05/14/2002 FY03: -\$1,668 Total: \$266,676
Prin. Invest.: D R TOFFOLETTO
Tech. Officer: GSFC/D EVANS
CASE Category: 13 – PHYSICS

NAG 5 5400 **RICE UNIV**
 "CONTINUATION OF THE LXEGRIT BALLOON EXPERIMENT & DEVELOP-
 MENT OF A NEXT GENERATION XETPC INSTRUMENT.
 02/06/2003 - 12/31/2003 FY03: \$13,036 Total: \$13,036
Prin. Invest.: N AVAILABLE
Tech. Officer: GSFC/B MERRITT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 6432 **RICE UNIV**
 MAGNETOSPHERIC CONVECTION AT JUPITER & SATURN
 10/14/1997 - 07/14/2002 FY03: -\$1 Total: \$216,448
Prin. Invest.: D HILL
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 7980 **RICE UNIV**
 MODELING BATSE GAMMA-RAY BURST CONTINUUM SPECTRA AND SPECTRAL EVOLUTION
 01/19/1999 - 01/14/2002 FY03: -\$1 Total: \$31,999
Prin. Invest.: E P LIANG
Tech. Officer: GSFC/J P NORRIS
CASE Category: 11 – ASTRONOMY

NAG 5 8131 **RICE UNIV**
 NUMERICAL SIMULATION OF ROTATION-DRIVEN PLASMA TRANSPORT IN THE JOVIAN MAGNETOSPHERE
 01/28/1999 - 01/31/2003 FY03: \$0 Total: \$212,054
Prin. Invest.: D W HILL
Tech. Officer: GSFC/D EVANS
CASE Category: 11 – ASTRONOMY

NAG 5 8136 **RICE UNIV**
 "COMPREHENSIVE QUANTITATIVE MODEL OF INNER-MAGNETOSPHERE DYNAMICS."
 01/29/1999 - 04/30/2002 FY03: \$1,707 Total: \$713,003
Prin. Invest.: R A WOLF
Tech. Officer: GSFC/J GREBOWSKY
CASE Category: 13 – PHYSICS

NAG 5 9011 **RICE UNIV**
 FAR-UV OBSERVATIONS OF LOW AND HIGH-EXCITATION HERBIG-HARO SHOCKS - FUSE
 02/02/2000 - 01/31/2003 FY03: \$0 Total: \$28,200
Prin. Invest.: P HARTIGAN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9077 **RICE UNIV**
 ACCELERATION & TRANSPORT OF ENERGETIC PARTICLES IN THE OUTER MAGNETOSPHERE
 02/23/2000 - 08/31/2004 FY03: \$0 Total: \$242,419
Prin. Invest.: R WOLF
Tech. Officer: GSFC/J SHARBER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9223 **RICE UNIV**
 NUMERICAL SIMULATION OF HIGH ENERGY EMISSIONS FROM COMPACT OBJECTS
 03/14/2000 - 03/14/2004 FY03: \$0 Total: \$306,265
Prin. Invest.: E LIANG
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10432 **RICE UNIV**
 "PRECISION MINING" OF LARGE SPECTRAL DATA VOLUMES FOR RAPID IDENTIFICATION OF PLANETARY
 02/27/2001 - 08/31/2004 FY03: \$0 Total: \$505,332
Prin. Invest.: E MERENYI
Tech. Officer: GSFC/N LAL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10841 **RICE UNIV**
 EMISSION FROM MAGNETIZED NEUTRON STARS (ATP 2000)
 05/03/2001 - 05/14/2004 FY03: \$32,688 Total: \$95,506
Prin. Invest.: M G BARING
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11417 **RICE UNIV**
 ON THE ROLE OF CHARGE EXCHANGE IN THE FORMATION OF THE MARTIAN MAGNETIC PILEUP BOUNDARY
 11/28/2001 - 11/30/2002 FY03: \$0 Total: \$20,000
Prin. Invest.: P CLOUTIER
Tech. Officer: GSFC/M H ACUNA
CASE Category: 13 – PHYSICS

NAG 5 11418 **RICE UNIV**
 SOLAR WIND INTERACTIONS AT VENUS TO MARS, INCLUDING THE MAGNETIC EFFECTS OF THE MARTIAN CRUSTAL MAGNETIC
 11/28/2001 - 02/28/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: P CLOUTIER
Tech. Officer: GSFC/M H ACUNA
CASE Category: 13 – PHYSICS

NAG 5 11796 **RICE UNIV**
 PROBING THE SPECTRAL EVOLUTION OF PARTICLES IN THE BLAZAR MKN 421 - ADP99
 03/01/2002 - 03/14/2003 FY03: \$0 Total: \$35,401
Prin. Invest.: D FOSSATI
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11853 **RICE UNIV**
 THE EXTRAORDINARY CAMPAIGNS ON MKN421 OF 2000/2001 (ADP 2001)
 03/20/2002 - 03/31/2003 FY03: \$0 Total: \$43,843
Prin. Invest.: G FOSSATI
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11881 **RICE UNIV**
 MAGNETOSPHERIC STORM DYNAMICS
 03/27/2002 - 03/31/2005 FY03: \$340,000 Total: \$670,000
Prin. Invest.: R A WOLF
Tech. Officer: GSFC/J M GREBOWSKY
CASE Category: 13 – PHYSICS

NAG 5 12144 **RICE UNIV**
 INITIAL DEVELOPMENT OF AN ANALYSIS MODEL OF THE INNER MAGNETOSPHERE
 05/10/2002 - 05/14/2005 FY03: \$74,130 Total: \$144,653
Prin. Invest.: F R TOFFOLETTO
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12166 **RICE UNIV**
 EVOLUTION AND INFLUENCE OF THE MARTIAN HEMISPHERIC DICHOTOMY
 05/14/2002 - 05/31/2005 FY03: \$55,317 Total: \$110,634
Prin. Invest.: A LENARDIC
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12266 **RICE UNIV**
 WOLF-RAYET STAR HD 192163 (FUSE 2001)
 06/24/2002 - 06/30/2004 FY03: \$0 Total: \$34,100
Prin. Invest.: R J DUFOUR
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12728 **RICE UNIV**
 ROLE OF ION-NEUTRAL INTERACTIONS IN THE FORMATION OF THE
 MAGNETIC PILE-UP BOUNDARY.
 01/13/2003 - 01/14/2004 FY03: \$20,000 Total: \$20,000
Prin. Invest.: P CLOUTIER
Tech. Officer: GSFC/M H ACUNA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12924 **RICE UNIV**
 GOING TO THE BOTTOM OF THE EXPLOSION THAT FORMED CAS A
 02/27/2003 - 02/29/2004 FY03: \$12,017 Total: \$12,017
Prin. Invest.: U OBERLACK
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 13048 **RICE UNIV**
 CENTRAL DYNAMICS OF THE IO PLASMA TORUS
 03/11/2003 - 03/14/2006 FY03: \$84,377 Total: \$84,377
Prin. Invest.: T HILL
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13068 **RICE UNIV**
 ENERGY DEPENDENT VARIABILITY OF GALACTIC BLACK HOLES
 03/12/2003 - 03/14/2004 FY03: \$45,000 Total: \$45,000
Prin. Invest.: I SMITH
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13103 **RICE UNIV**
 MAGNETIC FIELDS OF PRE-MAIN SEQUENCE STARS
 03/13/2003 - 03/14/2006 FY03: \$51,000 Total: \$51,000
Prin. Invest.: C JOHNS-KRULL
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13219 **RICE UNIV**
 THE DOUBLE CUSP: ANALYSIS OF CLUSTER ELECTRON AND ION DATA
 04/01/2003 - 03/31/2006 FY03: \$69,722 Total: \$69,722
Prin. Invest.: P REIFF
Tech. Officer: GSFC/M L GOLDSTEIN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13246 **RICE UNIV**
 POLARIZATION MEASUREMENTS OF PROMPT GAMMA & X-RAY EMISSION
 IN GAMMA-RAY BURSTS (AND SGR FLARES)
 04/01/2003 - 02/29/2004 FY03: \$6,854 Total: \$6,854
Prin. Invest.: M BARING
Tech. Officer: GSFC/B TEEGARDEN
CASE Category: 11 – ASTRONOMY

NAG 5 13483 **RICE UNIV**
 THE PHENOTYPE AND GENOTYPE OF THE LAST COMMON ANCE STOR AND
 IT'S SUBSEQUENT METABOLIC INNOVA
 04/30/2003 - 04/30/2004 FY03: \$94,927 Total: \$94,927
Prin. Invest.: J SIEFERT
Tech. Officer: GSFC/M NEW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13524 **RICE UNIV**
 COUPLED MODEL OF STORM-TIME EFFECTS ON THE LOW-AND -MID-
 LATITUDE IONOSPHERE
 05/07/2003 - 04/30/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: R WOLF
Tech. Officer: GSFC/D SIBECK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13699 **RICE UNIV**
 MAPPING GALACTIC FE SYNTHESIS IN CEN-CIR
 09/17/2003 - 09/14/2004 FY03: \$4,000 Total: \$4,000
Prin. Invest.: U OBERLACK
Tech. Officer: GSFC/B J TEEGARDEN
CASE Category: 13 – PHYSICS

NAG 5 13720 **RICE UNIV**
 THE 06.5LLEF STAL BD+60 2522
 09/25/2003 - 09/30/2004 FY03: \$24,700 Total: \$24,700
Prin. Invest.: R J DUFOUR
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1766 **RICE UNIV**
 SUPERFLUID PHASE TRANSITION IN AN ULTRACOLD PERMI GAS
 04/24/2001 - 04/30/2005 FY03: \$0 Total: \$166,218
Prin. Invest.: R G HULET
Tech. Officer: MSFC/D S HUBBARD
CASE Category: 13 – PHYSICS

NAG 9 978 **RICE UNIV**
 DEVELOPMENT OF PLASMA INJECTOR FOR VSIPR
 10/17/1997 - 09/30/2003 FY03: \$15,000 Total: \$258,359
Prin. Invest.: A A CHAN
Tech. Officer: JSC/F CHANG-DIAZ
CASE Category: 13 – PHYSICS

NAG 9 1049 **RICE UNIV**
 LASER ABSORPTION SENSORS
 08/04/1998 - 08/05/2002 FY03: \$0 Total: \$419,720
Prin. Invest.: F K TITTLE
Tech. Officer: JPL/D L JAN
CASE Category: 45 – ELECTRICAL ENGR

NAG 9 1059 **RICE UNIV**
 COMPUTATIONAL METHODS
 12/14/1998 - 12/31/2002 FY03: \$0 Total: \$138,187
Prin. Invest.: T E TEZDUYAR
Tech. Officer: JSC/F MARTIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1249 **RICE UNIV**
 APPLICATION OF MACHINE LEARNING TO THE CONTROL OF ADVANCED
 LIFE SUPPORT SYSTEMS
 07/19/2000 - 12/31/2002 FY03: \$0 Total: \$20,000
Prin. Invest.: D SUBRAMANIAN
Tech. Officer: JSC/C L FARMER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1435 **RICE UNIV**
 SIMULATION & MODELING OF PARACHUT SYSTEMS
 07/01/2002 - 12/31/2005 FY03: \$0 Total: \$50,293
Prin. Invest.: T E TEZDUYAR
Tech. Officer: JSC/G W BOURLAND
CASE Category: 41 – AERONAUTICAL ENGR

NAG 9 1457 **RICE UNIV**
 EVALUATING THE APPLICATION OF MACHINE LEARNING TO THE CONTROL
 OF ADVANCED LIFE SUPPORT SYSTEMS
 09/26/2002 - 09/30/2004 FY03: \$40,000 Total: \$40,000
Prin. Invest.: D SUBRAMANIAN
Tech. Officer: JSC/C L FARMER
CASE Category: 22 – COMPUTER SCIENCE

NAG 9 1511 **RICE UNIV**
 SIMULATED BOLATERAL TELEOPERATION OF ROBONAUT
 05/01/2003 - 04/30/2004 FY03: \$13,000 Total: \$13,000
Prin. Invest.: M K O'MALLEY
Tech. Officer: JSC/D F MAGRUDER
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1534 **RICE UNIV**
 RAPID BREATH ANALYSIS: LASER BASED SENSORS FOR TRA CE DETEC-
 TION OF BIOMEDICAL GASES
 07/23/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: F K TITTEL
Tech. Officer: JSC/J GRAF
CASE Category: 56 – MEDICL

NAG 9 1538 **RICE UNIV**
 IMPROVEMENT OF TRANSPARENCY & STABILTY ROBUSTNESS IN HAPTIC
 SYSTEMS BY HUMAN SYSTEMS IDENTIFICIATION
 06/26/2003 - 08/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S T MCJUNKIN
Tech. Officer: JSC/C J CULBERT
CASE Category: 46 – MECHANICAL ENGR

NAG 9 01481 **RICE UNIV**
 DEVELOPMENT OF ADVANCED MID-INFRARED LASER BASE GAS SENSOR
 TECHNOLOGY
 01/13/2003 - 06/30/2004 FY03: \$66,700 Total: \$66,700
Prin. Invest.: G M SWAIN
Tech. Officer: JSC/D M RUSSO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 9 01482 **RICE UNIV**
 DEVELOPMENT OF ADVANCED MID-INFRARED LASER BASE GA S SENSOR
 TECH
 03/12/2003 - 12/31/2005 FY03: \$93,333 Total: \$93,333
Prin. Invest.: F K TITTEL
Tech. Officer: JSC/D M RUSSO
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 2 1279 **RICE UNIV**
 TECHNOLOGY DEVELOPMENT OF MINIATURIZED FAR-INFRARE D
 SOURCES FOR BIOMOLECULAR SPECTROSCOPY
 08/23/2001 - 10/14/2003 FY03: \$0 Total: \$90,409
Prin. Invest.: J KONO
Tech. Officer: ARC/B BIEGEL
CASE Category: 45 – ELECTRICAL ENGR

NCC 2 1321 **RICE UNIV**
 INTEGRATED MODELING OF COGNITION AND THE INFORMATI ON ENVI-
 RONMENT
 03/12/2002 - 02/28/2005 FY03: \$84,846 Total: \$147,107
Prin. Invest.: M BYRNE
Tech. Officer: ARC/D C FOYLE, ARC/R ASHFORD
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 1356 **RICE UNIV**
 DROSOPHILIA BEHAVIOR AND GENE EXPRESSION IN MICRO RAVITY
 07/29/2002 - 09/30/2004 FY03: \$38,203 Total: \$58,203
Prin. Invest.: K M BECKINGHAM
Tech. Officer: ARC/D R BUBENHIEM
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5458 **RICE UNIV**
 ELECTRONIC PROPERTIES OF ANTIMONIDE-BASE SEMICONDU CTOR
 NANOSTRUCTURES FOR THZ GENERATION
 08/23/2001 - 08/31/2003 FY03: -\$17,968 Total: \$101,833
Prin. Invest.: J KONO
Tech. Officer: ARC/T R GOVINDAN, ARC/B BIEGEL
CASE Category: 45 – ELECTRICAL ENGR

NCC 5 311 **RICE UNIV**
 MUSEUMS TEACHING PLANET EARTH(UTPE)
 04/11/1998 - 12/31/2003 FY03: \$0 Total: \$2,105,500
Prin. Invest.: P REIFF
Tech. Officer: GSFC/A TUYAHOV
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 77 **RICE UNIV**
 ADVANCED NANOTECHNOLOGY MATERIALS AND APPLICATIONS
 10/29/1998 - 09/30/2004 FY03: \$400,000 Total: \$3,106,000
Prin. Invest.: R C SMALLEY
Tech. Officer: JSC/G K HORIUCHI
CASE Category: 12 – CHEMISTRY

NGT 5 156 **RICE UNIV**
 PLASMA WAVES IN THE MARTIAN MAGNETOSHEATH AND MAGNETIC
 PILEUP REGION. STUDENT: JARED R. ESPLY
 08/20/2003 - 08/14/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: P CLOUTIER
Tech. Officer: GSFC/M BURRELL
CASE Category: 13 – PHYSICS

NGT 8 52899 **RICE UNIV**
 THE BROADBAND ANALYSIS OF SPECTRAL AND TEMPORAL PROPERTIES
 OF GAMMA-RAY BURSTS
 05/25/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: E P LIANG
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 11 – ASTRONOMY

NGT 9 19 **RICE UNIV**
 NOVEL LASER BASED GAS SENSORS FOR TRAVE GAS DETECTION IN A
 SPACECRAFT HABITAT
 08/23/1999 - 06/30/2002 FY03: -\$1,362 Total: \$64,638
Prin. Invest.: F K TITTEL
Tech. Officer: JSC/J C GRAF
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAS 9 00106 **SAN JACINTO COLLEGE**
 COMPUTER TRAINING
 09/29/2000 - 09/30/2004 FY03: \$200,000 Total: \$758,729
Prin. Invest.: N J ANTHA
Tech. Officer: JSC/D DENTON-MISFELDT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 137 **SAN JACINTO COLLEGE**
 KC 135 STUDENT FLIGHT PROGRAM
 09/21/2001 - 08/31/2004 FY03: \$0 Total: \$176,328
Prin. Invest.: M DALTON
Tech. Officer: JSC/D SICKOREZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 141 **SAN JACINTO COLLEGE**
 PROVIDE AREOSPACE RELATED EXPERIENCE FOR NON TRADITIONAL
 COMMUNITY COLLEGE
 08/15/2001 - 08/31/2003 FY03: \$50,422 Total: \$145,573
Prin. Invest.: N AVAILABLE
Tech. Officer: JSC/N AVAILABLE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 172 **SAN JACINTO COLLEGE**
 2YR PROGRAM COORDINATION OF THE TEXAS AEROSPACE SC HOLARS
 COMM COLLEGE PROGRAM
 09/02/2003 - 08/31/2005 FY03: \$35,999 Total: \$35,999
Prin. Invest.: S JAMES, M DALTON
Tech. Officer: JSC/A SANCHEZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9142 **SOUTHERN METHODIST UNIV**
 TECTONIC EVOLUTION OF PLANET SURFACES
 02/29/2000 - 07/31/2002 FY03: -\$50,400 Total: \$23,750
Prin. Invest.: V L HANSEN
Tech. Officer: GSFC/D A SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10586 **SOUTHERN METHODIST UNIV**
 TERRESTRIAL PLANET EVOLUTION
 03/13/2001 - 07/31/2002 FY03: -\$70,571 Total: \$60,429
Prin. Invest.: V L HANSEN
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 – ASTRONOMY

NAG 5 12289 **SOUTHERN METHODIST UNIV**
 EVALUATE FUNDAMENTAL PROCESSES THAT SHAPE LIFE ON EARTH
 06/20/2002 - 05/31/2004 FY03: \$0 Total: \$1,000,000
Prin. Invest.: J NEEL
Tech. Officer: GSFC/L CHAMBERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 02112 **SOUTHWEST TEXAS JUNIOR COLLEGE**
 2002-2004 SOUTHWEST TEXAS PACE/MSET ACADEMY NRA-02 -OEOP-03
 09/03/2002 - 09/02/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: A HERNANDEZ
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 21 – MATHEMATICS

NCC 1 01033 **SOUTHWEST TEXAS STATE UNIV**
 LOW DIELECTRIC POLYMERS
 05/10/2001 - 05/09/2002 FY03: -\$117 Total: \$49,883
Prin. Invest.: P E CASSIDY, S R VENUMBABA
Tech. Officer: LARC/D M STOAKLEY, LARC/C C FAY
CASE Category: 12 – CHEMISTRY

NCC 1 02030 **SOUTHWEST TEXAS STATE UNIV**
 HIGH PERFORMANCE POLYMERS
 06/04/2002 - 06/02/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: P E CASSIDY, S R VENUMBABA
Tech. Officer: LARC/G A MINER, LARC/D M STOAKLEY
CASE Category: 12 – CHEMISTRY

NCC 1 03027 **SOUTHWEST TEXAS STATE UNIV**
 HIGH PERFORMANCE POLYMERS
 05/13/2003 - 05/12/2004 FY03: \$60,090 Total: \$60,090
Prin. Invest.: P E CASSIDY, S R VENUMBABA
Tech. Officer: LARC/D M STOAKLEY, LARC/G A MINER
CASE Category: 12 – CHEMISTRY

NCC 9 54 **SOUTHWEST TEXAS STATE UNIV**
 ORAL HISTORY RESEARCH PROJECT
 03/01/1999 - 09/30/2001 FY03: -\$857 Total: \$37,826
Prin. Invest.: K MARGERISON
Tech. Officer: JSC/W A LARSEN
CASE Category: 73 – HISTORY

NAG 1 01005 **TEXAS A&M UNIV**
 UNSTEADY RANS COMPUTATIONS OF COMPLEX TURBULENT FLOWS:
 MODELING & IMPLEMENTATION
 02/15/2001 - 12/31/2003 FY03: \$71,110 Total: \$208,657
Prin. Invest.: S GIRIMAJI
Tech. Officer: LARC/B A SINGER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01080 **TEXAS A&M UNIV**
 HIERARCHICAL STRATEGY FOR RAPID ANALYSIS ENVIRONMENT
 05/11/2001 - 01/31/2003 FY03: \$5,000 Total: \$120,000
Prin. Invest.: J D WHITCOMB
Tech. Officer: LARC/J B RONSOM
CASE Category: 46 – MECHANICAL ENGR

NAG 1 02002 **TEXAS A&M UNIV**
 ANAL OF HISTORICAL CIRRUS IN-SITU DATA IN SUPPORT OF TERRA, AQUA
 & GIFTS CIRRUS RETRIEVAL EFFORTS
 11/07/2001 - 11/06/2004 FY03: \$68,714 Total: \$182,691
Prin. Invest.: P YANG
Tech. Officer: LARC/V E DELNORE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02069 **TEXAS A&M UNIV**
 ACTIVE SKIN FOR TURBULENT DRAG REDUCTION
 03/20/2002 - 06/30/2003 FY03: \$0 Total: \$65,000
Prin. Invest.: O K REDINIOTIS, D C LAGODAS
Tech. Officer: LARC/M J WALSH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1340 **TEXAS A&M UNIV**
 ADAPTATIONS OF VISCERAL & CEREBRAL RESISTANCE ARTE RIES TO
 SIMULATED MICROGRAVITY
 07/16/1999 - 06/30/2003 FY03: \$0 Total: \$439,127
Prin. Invest.: M D DELP
Tech. Officer: ARC/M M AVERNER, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2551 **TEXAS A&M UNIV**
 MULTI-BEAM PHASED ARRAY ANTENNAS MULTI-BEAM PHASED ARRAY
 ANTENNAS
 02/28/2001 - 06/30/2003 FY03: \$25,000 Total: \$200,000
Prin. Invest.: D CHANG
Tech. Officer: GRC/R LEE
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2617 **TEXAS A&M UNIV**
 ADVANCED LITHIUM ION POLYMER BATTERIES FOR AEROSPACE APPLICATION
 05/23/2001 - 05/31/2004 FY03: \$200,000 Total: \$411,375
Prin. Invest.: D APPLEBY
Tech. Officer: GRC/R BALDWIN
CASE Category: 12 – CHEMISTRY

NAG 3 2712 **TEXAS A&M UNIV**
 MICROSCALE INVESTIGATION OF THERMO-FLUID TRANSPORT IN THE
 TRANSITION FILM REGION OF AN EVAPORATING
 02/21/2002 - 11/30/2005 FY03: \$74,182 Total: \$162,841
Prin. Invest.: D D KHIM
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2721 **TEXAS A&M UNIV**
 PARTIALLY AVERAGED NAVIER-STOKES EQUATION: MODELING AND COM-
 PUTATION #02-171.
 03/04/2002 - 02/10/2005 FY03: \$80,073 Total: \$158,116
Prin. Invest.: D GIRIMAJI
Tech. Officer: GRC/D A POVINELLI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 6446 **TEXAS A&M UNIV**
 WORLD OCEAN CIRCULATION EXPERIMENT: SUPPORT FOR THE U.S.
 WOCE OFFICE
 11/25/1997 - 12/31/2002 FY03: -\$12 Total: \$374,988
Prin. Invest.: W D NOWLIN
Tech. Officer: GSFC/J CAMPBELL
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7751 **TEXAS A&M UNIV**
 DOES SOUTHERN OCEAN SEA ICE AFFECT INTERANNUAL OCEAN VARI-
 ABILITY
 11/19/1998 - 12/31/2002 FY03: \$0 Total: \$178,940
Prin. Invest.: A STOESEL
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8706 **TEXAS A&M UNIV**
 NOX PRODUCTION BY LIGHTNING AND ITS IMPACT ON THE CHEMISTRY OF
 THE UPPER TROPOSPHERE AND LOWER STRATOSPHERE
 07/19/1999 - 08/31/2003 FY03: \$0 Total: \$270,455
Prin. Invest.: R ZHANG
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9409 **TEXAS A&M UNIV**
 MODELING TROPICAL ATLANTIC VARIABILITY
 04/06/2000 - 06/30/2004 FY03: \$0 Total: \$210,000
Prin. Invest.: P CHANG
Tech. Officer: GSFC/K BERGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9649 **TEXAS A&M UNIV**
 STATISTICAL SAMPLING AND ESTIMATION PROBLEMS USING TRMM DATA
 06/26/2000 - 11/30/2003 FY03: \$68,894 Total: \$308,074
Prin. Invest.: G R NORTH
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9697 **TEXAS A&M UNIV**
 VALIDATION OF TRMM RAINFALL AND HEATING ESTIMATES
 07/26/2000 - 11/30/2003 FY03: \$0 Total: \$265,000
Prin. Invest.: M I BIGGERSTAFF
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9729 **TEXAS A&M UNIV**
 PHYSICAL VALIDATION OF TMI OCEANIC RAINFALL RETRIEVALS
 06/22/2000 - 11/30/2002 FY03: \$62,400 Total: \$376,000
Prin. Invest.: T WILHEIT
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10549 **TEXAS A&M UNIV**
 AIRCRAFT-BASED MEASUREMENT OF AEROSOL OPTICAL PROPERTIES
 03/09/2001 - 03/14/2004 FY03: \$98,993 Total: \$305,758
Prin. Invest.: D COLLINS
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10641 **TEXAS A&M UNIV**
 ASSIMILATING SATELLITE-DERIVED SEA-ICE CONCENTRATION IN A GLO-
 BAL COUPLED SEA-ICE-OCEAN GCM
 03/17/2001 - 03/14/2004 FY03: \$61,926 Total: \$187,298
Prin. Invest.: A STOESEL
Tech. Officer: GSFC/W ABDALATI
CASE Category: 33 – OCEANOGRAPHY

NAG 5 10829 **TEXAS A&M UNIV**
 SUPPORT FOR U.S. WOCE OFFICE AND U.S. GOOS OFFICE
 04/25/2001 - 04/30/2004 FY03: \$0 Total: \$150,000
Prin. Invest.: W NOWLIN
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11013 **TEXAS A&M UNIV**
 IMPROVEMENT OF RAIN ESTIMATION IN TROPICAL CYCLONE
 07/10/2001 - 06/14/2003 FY03: \$0 Total: \$363,000
Prin. Invest.: M BIGGERSTAFF
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11144 **TEXAS A&M UNIV**
 EFFECTS OF URBANIZATION ON ECOLOGICAL SERVICES IN A SEMI-ARID
 REGION OF THE UNITED STATES
 07/25/2001 - 08/14/2004 FY03: \$114,775 Total: \$372,321
Prin. Invest.: R LACEY
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11349 **TEXAS A&M UNIV**
 DYNAMICS AND CONTROL OF LARGE SATELLITE FORMATIONS
 10/01/2001 - 04/14/2003 FY03: \$42,220 Total: \$127,220
Prin. Invest.: K T ALFRIEND
Tech. Officer: GSFC/J A LEITNER
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 5 11374 **TEXAS A&M UNIV**
 SCATTERING & ABSORPTION PROPERTIES OF NONSPHERICAL
 /INHOMOGENEOUS AEROSOLS & ICE CRYSTALS:
 11/16/2001 - 08/31/2003 FY03: \$0 Total: \$64,991
Prin. Invest.: P YANG
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11375 **TEXAS A&M UNIV**
 SPACE-TIME DYNAMICS OF SOIL MOISTURE AND TEMPERATU RE-SCALE
 ISSUES
 10/25/2001 - 11/30/2003 FY03: \$0 Total: \$104,082
Prin. Invest.: B P MOHANTY
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11681 **TEXAS A&M UNIV**
 "IMPACT OF FIELD-SCALE HETEROGENEITY IN SURFACE MO ISTURE AND
 VEGETATION COVER ON REGIONAL SCALE FLU
 01/31/2002 - 01/31/2005 FY03: \$5,000 Total: \$10,000
Prin. Invest.: A CAHILL
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11702 **TEXAS A&M UNIV**
 "EVOLUTION OF MULTI-SCALE HYDROLOGIC PROCESSES AND ITS IMPACT
 ON LAND-ATMOSPHERE INTERACTION"
 02/07/2002 - 02/14/2005 FY03: \$165,871 Total: \$265,871
Prin. Invest.: B P MOHANTY
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11847 **TEXAS A&M UNIV**
 VALIDATION OF A SNOW ALBEDO ALGORITHM FOR THE MODE RATE
 RESOLUTION IMAGING SPECTRORADIOMETER
 03/28/2002 - 10/31/2003 FY03: \$0 Total: \$15,686
Prin. Invest.: A KLEIN
Tech. Officer: GSFC/D K HALL
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11935 **TEXAS A&M UNIV**
 RETRIEVE CIRRUS REFLECTANCE USING VISIBLE AND 1.38 -UM WATER
 ABSORPTION BANDS
 03/27/2002 - 03/31/2005 FY03: \$40,000 Total: \$90,000
Prin. Invest.: P YANG
Tech. Officer: GSFC/W WISCOMBE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11992 **TEXAS A&M UNIV**
 INVESTIGATION OF TITAN'S AEROSOLS
 04/12/2002 - 04/14/2005 FY03: \$72,391 Total: \$135,545
Prin. Invest.: M T LEMMON
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12120 **TEXAS A&M UNIV**
 ANALYSIS OF MEASUREMENT AND MODELING STUDIES FOR CRYSTAL-
 FACE
 04/29/2002 - 04/30/2004 FY03: \$40,000 Total: \$80,000
Prin. Invest.: P YANG
Tech. Officer: GSFC/S TSAY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12662 **TEXAS A&M UNIV**
 MONITORING TROPICAL GLACIER CHANGE FROM SPACE.
 11/04/2002 - 10/31/2005 FY03: \$92,874 Total: \$92,874
Prin. Invest.: A KLEIN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13527 **TEXAS A&M UNIV**
 SUPPORT OF GOOS STEERING COMMITTEE AND THE GOOS OFFICE AT
 TAMU
 05/08/2003 - 04/30/2005 FY03: \$7,987 Total: \$7,987
Prin. Invest.: W NOWLIN
Tech. Officer: GSFC/B EMORY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13779 **TEXAS A&M UNIV**
 UNCERTAINTIES IN THE RETRIEVAL OF OCEANIC RAINFALL FROM MICRO-
 WAVE RADIOMETRIC DATA
 09/30/2003 - 09/30/2006 FY03: \$57,500 Total: \$57,500
Prin. Invest.: T WILHEIT
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 8 1802 **TEXAS A&M UNIV**
 THERMOPHYSICAL ESEM & TEM CHARACTERIZATION OF CARBON FIBERS"
 CTE, SPECTROSCOPY & ROUGHNESS STUDY
 04/20/2001 - 05/31/2003 FY03: \$0 Total: \$124,846
Prin. Invest.: O O OCHOA
Tech. Officer: MSFC/M R EFFINGER, MSFC/P VALENTINE
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 8 1853 **TEXAS A&M UNIV**
 COMPUTATIONAL ANALYSIS OF CRYOGENIC FLUID FILM BEARINGS SOFT-
 WARE UPGRADE
 11/01/2001 - 05/31/2003 FY03: \$0 Total: \$37,282
Prin. Invest.: L S ANDRES
Tech. Officer: MSFC/T JETT
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1067 **TEXAS A&M UNIV**
 PLANT GROWTH AND METABOLISM AT SUB-AMBIENT ATMOSPHERE PRES-
 SURES
 01/06/1999 - 12/31/2003 FY03: \$109,414 Total: \$574,860
Prin. Invest.: M C DREW
Tech. Officer: JSC/D BARTA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1145 **TEXAS A&M UNIV**
 SEPARATION OF LIQUID PHASE FR GAS PHASE
 09/09/1999 - 01/31/2002 FY03: -\$3,869 Total: \$146,131
Prin. Invest.: J SEYED-YAGOObI, F R BEST
Tech. Officer: JSC/E K UNGAR
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1188 **TEXAS A&M UNIV**
 NAVIGATION SYSTEMS & TECHNOLOGY LAB (NSR) ATTITUDE DETERMINA-
 TION
 01/28/2000 - 12/31/2003 FY03: \$0 Total: \$184,345
Prin. Invest.: J L CRASSIDIS
Tech. Officer: JSC/J W BELL
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1239 **TEXAS A&M UNIV**
 VARIABLE ISP ROCKET TRAJECTORY OPTIMIZATION
 06/30/2000 - 05/31/2002 FY03: -\$122 Total: \$59,878
Prin. Invest.: S R VADALI
Tech. Officer: JSC/E M BRADEN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1268 **TEXAS A&M UNIV**
 FLIGHT TESTS OF AN UNMANNED POWERED PARACHUTE
 01/11/2001 - 03/29/2002 FY03: \$0 Total: \$219,534
Prin. Invest.: D T WARD, J L CRASSIDS, D W LUND
Tech. Officer: JSC/A STRAHAN, JSC/C J CERIMELE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1277 **TEXAS A&M UNIV**
 MICROFABRICATED OPTICAL BIOSENSOR ARRAYS FOR AIR QUALITY MONITORING
 01/24/2001 - 09/30/2003 FY03: \$0 Total: \$0
Prin. Invest.: M V PISHKO
Tech. Officer: JSC/D RUSSO
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG 9 1328 **TEXAS A&M UNIV**
 IMMWPSS SEPARATOR KC-135 FLIGHT DIAGNOSTIC TESTING
 06/18/2001 - 08/01/2002 FY03: -\$8,063 Total: \$77,297
Prin. Invest.: F R BEST
Tech. Officer: JSC/K HURLBERT
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1390 **TEXAS A&M UNIV**
 MODELING, SIMULATION & TESTING OF COMMERCIAL AVAILABLE DC/ DC CONVERTERS SUITABLE
 12/10/2001 - 07/31/2002 FY03: -\$102 Total: \$9,898
Prin. Invest.: P ENJETI
Tech. Officer: JSC/R GARCIA, JSC/S HOSSAIN
CASE Category: 45 – ELECTRICAL ENGR

NAG 9 1396 **TEXAS A&M UNIV**
 FLT TESTS OF AN UNMANNED POWERED PARACHUTE
 03/01/2002 - 11/30/2003 FY03: \$96,500 Total: \$316,500
Prin. Invest.: D T WARD, J VALASEK, D W LUND
Tech. Officer: JSC/A L STRAHAN, JSC/C J CERIMELE
CASE Category: 41 – AERONAUTICAL ENGR

NAG 9 1442 **TEXAS A&M UNIV**
 VIRTUAL VIDEO FOR REMOTE COCKPIT VAN
 07/26/2002 - 01/31/2003 FY03: \$0 Total: \$13,623
Prin. Invest.: A P BANERJEE
Tech. Officer: JSC/F J DELGADO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1523 **TEXAS A&M UNIV**
 GENE EXPRESSION PATTERNS PREDICTIVE OF RADIATION-INDUCED COLON TUMORIGENESIS:DIET AS A COUNTERMEASURE
 05/14/2003 - 05/31/2004 FY03: \$350,003 Total: \$350,003
Prin. Invest.: J LUPTON
Tech. Officer: JSC/J DARDANO
CASE Category: 56 – MEDICAL

NAG 9 1526 **TEXAS A&M UNIV**
 NASA FACULTY FELLOWSHIP PROGRAM
 05/19/2003 - 05/18/2004 FY03: \$393,046 Total: \$393,046
Prin. Invest.: W A HYMAN
Tech. Officer: JSC/D G SICKOREZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 328 **TEXAS A&M UNIV**
 ZERO GRAVITY ULLAGE TESTING #02-174 ZERO GRAVITY ULLAGE TESTING #02-174
 09/24/2002 - 06/30/2004 FY03: \$0 Total: \$63,500
Prin. Invest.: D BEST
Tech. Officer: KSC/M GUISBERT
CASE Category: 46 – MECHANICAL ENGR

NAG13 03008 **TEXAS A&M UNIV**
 STREAM FLOW PREDICTION BY REMOTE SENSING AND GENETIC PROGRAMMING TECHNOLOGIES
 03/05/2003 - 02/19/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: N CHANG
Tech. Officer: SSC/R E TRAVIS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 32593 **TEXAS A&M UNIV**
 STUDY ENTITLED MIMR SCIENCE TEAM MEMBERSHIP
 12/15/1993 - 12/14/2003 FY03: \$295,765 Total: \$1,753,519
Prin. Invest.: T T WILHEIT
Tech. Officer: GSFC/P HWONG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 9 00100 **TEXAS A&M UNIV**
 OPERATION & MANAGEMENT OF RTTC
 12/22/2000 - 12/31/2003 FY03: \$1,250,388 Total: \$3,602,160
Prin. Invest.: G SERA, B CORNWELL, B NAUKE
Tech. Officer: GRC/K W LASSMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 9 02063 **TEXAS A&M UNIV**
 LOW SPEED TUNNEL TESTING FOR AERODYNAMICS TECHNOLOGY STUDIES
 07/21/2002 - 06/22/2005 FY03: \$0 Total: \$25,000
Prin. Invest.: G L MARTINEZ
Tech. Officer: JSC/D L EICHBLATT
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 386 **TEXAS A&M UNIV**
 MICRO SPACECRAFT ATTITUDE SENSOR SYSTEM (MSAS) NASA HQS CETDP COMPETITION
 03/13/2000 - 04/04/2002 FY03: -\$16,166 Total: \$343,834
Prin. Invest.: J L JUNKINS
Tech. Officer: LARC/L G HORTA
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 1 02038 **TEXAS A&M UNIV**
 UNIV RESEARCH, ENGINEERING AND TECHNOLOGY INSTITUTE (URETI), INTELLIGENT BIO-NANO MATERIALS
 08/19/2002 - 08/18/2007 FY03: \$2,500,000 Total: \$4,000,000
Prin. Invest.: D C LAGODAS
Tech. Officer: LARC/T R SUTTER
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1166 **TEXAS A&M UNIV**
 ARTERIAL REMODELING AND FUNCTIONAL ADAPTATIONS INDUCED BY MICROGRAVITY
 03/22/2000 - 01/31/2004 FY03: \$220,626 Total: \$1,195,423
Prin. Invest.: M D DELP
Tech. Officer: ARC/M F VASQUES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 3 602 **TEXAS A&M UNIV**
 THERMAL CONTROL AND ENHANCEMENT OF HEAT TRANSPORT CAPACITY
 OF CRYOGENICS CAPILLARY PUMPED LOOPS AND
 03/20/1998 - 08/31/2002 FY03: \$0 Total: \$265,963
Prin. Invest.: J SEYED-YAGOOBI, J M OCHTERBECK, J 3 BYRAN
Tech. Officer: GRC/F P CHIARAMONTE
CASE Category: 46 – MECHANICAL ENGR

NCC 3 793 **TEXAS A&M UNIV**
 EXPERIMENTAL STUDY OF THE EFFECTS OF WAKES ON SEPARATION IN
 LOW PRESSURE TURBINE FLOW
 04/20/2000 - 12/30/2005 FY03: \$71,990 Total: \$235,461
Prin. Invest.: I SCHOBEIRI
Tech. Officer: GRC/D ASHPIS
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 836 **TEXAS A&M UNIV**
 LOW POWER LOSS, FAIL SAFE MAGNETIC SUSPENSIONS FOR ENERGY
 STORAGE AND ATTITUDE CONTROL FLYWHEELS
 01/04/2001 - 01/01/2004 FY03: \$148,900 Total: \$840,972
Prin. Invest.: D PALAZZOLO
Tech. Officer: GRC/K P MCLALLIN
CASE Category: 46 – MECHANICAL ENGR

NCC 3 928 **TEXAS A&M UNIV**
 SMART STRUCTURAL COMPONENTS AND SIMULATION TOOLS FOR IN-
 CREASED ENGINE EFFICIENCY, FLIGHT RANGE AND
 12/19/2001 - 09/30/2004 FY03: \$99,959 Total: \$199,848
Prin. Invest.: D PALAZZOLO
Tech. Officer: GRC/A J PROVENZA
CASE Category: 49 – ENGINEERING, OTHER

NCC 3 933 **TEXAS A&M UNIV**
 MULTIAXIAL CONTINUUM DAMAGE MODEL FOR LIFE PREDICTION OF
 POLYMER MATRIX COMPOSITES AT ULTRA HIGH TEMPERATURE
 01/02/2002 - 12/31/2003 FY03: \$65,338 Total: \$145,338
Prin. Invest.: R TAIREJA
Tech. Officer: GRC/R ELLIS
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 3 1080 **TEXAS A&M UNIV**
 A SEALED BLADE-TIP DRIVE TEST RIG TEST PROPS #03-0791
 07/23/2003 - 12/31/2003 FY03: \$100,000 Total: \$100,000
Prin. Invest.: A PALAZZOLO
Tech. Officer: GRC/A F KASCAK
CASE Category: 46 – MECHANICAL ENGR

NCC 5 359 **TEXAS A&M UNIV**
 MISSION GEOGRAPHY
 08/24/1998 - 07/31/2004 FY03: \$0 Total: \$900,542
Prin. Invest.: S BEDNARZ
Tech. Officer: HQ/P MOUNTJOY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 448 **TEXAS A&M UNIV**
 VISION-BASED NAVIGATION FOR SPACECRAFT FORMATION FLYING
 12/21/1999 - 08/31/2002 FY03: \$0 Total: \$353,730
Prin. Invest.: D L JUNKINS
Tech. Officer: GSFC/L MARKLEY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 5 517 **TEXAS A&M UNIV**
 BUILDING AN INTERDISCIPLINARY RESEARCH INFRASTRUCTURE IN AP-
 PLIED COMPUTER SCIENCE, GEOGRAPHIC INFORMATION SYSTEMS
 09/25/2000 - 09/30/2004 FY03: \$449,007 Total: \$935,611
Prin. Invest.: C STEIDLEY
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 724 **TEXAS A&M UNIV**
 MITIGATION OF THE IMPACT OF SENSING NOISE ON THE PRECISION
 FORMATION FLYING CONTROL PROBLEM
 04/22/2003 - 04/30/2004 FY03: \$0 Total: \$0
Prin. Invest.: T ALFRIEND
Tech. Officer: GSFC/M MOREAU
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 5 725 **TEXAS A&M UNIV**
 MODELING AND CONTROL OF LIBRATION POINT SATELLITE FORMATIONS
 04/22/2003 - 04/14/2004 FY03: \$0 Total: \$0
Prin. Invest.: S VADALI
Tech. Officer: GSFC/R LUQUETTE
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 5 736 **TEXAS A&M UNIV**
 MITIGATION OF THE IMPACT OF SENSING NOISE ON THE PRECISION
 FORMATION FLYING CONTROL PROBLEM
 07/31/2003 - 04/30/2004 FY03: \$34,430 Total: \$34,430
Prin. Invest.: T ALFRIEND
Tech. Officer: GSFC/M C MOREAU
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 5 737 **TEXAS A&M UNIV**
 MODELING AND CONTROL OF LIBRATION POINT SATELLITE FORMATIONS
 07/31/2003 - 04/14/2004 FY03: \$60,000 Total: \$60,000
Prin. Invest.: S VADALI
Tech. Officer: GSFC/R J LUQUETTE
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 8 169 **TEXAS A&M UNIV**
 R/S INVESTIGATION OF NEURONAL PHYSIOLOGY IN SIMULATED MICRO-
 GRAVITY USING SMART FLUORESCENT PROTEINS
 03/12/1999 - 11/30/2003 FY03: \$0 Total: \$514,000
Prin. Invest.: G COTE
Tech. Officer: JSC/M ANDERSON
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 8 226 **TEXAS A&M UNIV**
 PROMOTE COMMERCIALY FUNDED ENGINEERING RESEARCH & TECH-
 NOLOGY DEVELOPMENT ON THE INT'L SPACE STATION
 05/01/2001 - 10/31/2003 FY03: \$1,383,000 Total: \$3,111,000
Prin. Invest.: D BOYLE
Tech. Officer: MSFC/S LAMBING
CASE Category: 49 – ENGINEERING, OTHER

NCC 8 236 **TEXAS A&M UNIV**
 PROMOTE COMMERCIALY FUNDED RESEARCH & TECH DEVELOPMENT IN THE FIELD
 OF SPACE POWER GEN AND ENERGY STORAGE
 11/01/2001 - 10/31/2003 FY03: \$1,914,000 Total: \$3,179,000
Prin. Invest.: W F BEST
Tech. Officer: MSFC/S LAMBING
CASE Category: 49 – ENGINEERING, OTHER

NCC 9 146 **TEXAS A&M UNIV**
 WEB DEVELOPMENT & ONLINE DELIVERY OF MIDDLE SCHOOL AERO-
 SPACE SCHOLARS PROGRAM
 11/30/2001 - 11/30/2003 FY03: \$68,208 Total: \$134,652
Prin. Invest.: J DENTON
Tech. Officer: JSC/A SANCHEZ
CASE Category: 22 – COMPUTER SCIENCE

NCC 9 150 **TEXAS A&M UNIV**
 SUPPORT FOR THE MINORITY OUTREACH PROGRAM TEXAS A&M SPACE
 ENGINNERING INST
 07/03/2002 - 12/31/2003 FY03: \$0 Total: \$727,500
Prin. Invest.: D BOYLE
Tech. Officer: JSC/H W LANE
CASE Category: 41 – AERONAUTICAL ENGNR

NCC13 02009 **TEXAS A&M UNIV**
 GULF COAST COOPERATIVE ECOSYSTEM STUDIES UNIT
 12/09/2002 - 12/08/2003 FY03: \$10,000 Total: \$10,000
Prin. Invest.: C CURRIN
Tech. Officer: SSC/J GORDON
CASE Category: 55 – AGRICULTURE

NGT 4 52432 **TEXAS A&M UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM - FAULT TOLERANT
 CONTROL OF AN F-15 AIRCRAFT
 06/11/2002 - 06/30/2003 FY03: \$0 Total: \$24,000
Prin. Invest.: D SMITH
Tech. Officer: DFRC/K GUPTA
CASE Category: 41 – AERONAUTICAL ENGNR

NGT 4 52435 **TEXAS A&M UNIV**
 GSRP - FAULT TOLERANT CONTROL OF AN F-15 AIRCRAFT PROP. #03-04111
 06/23/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S SMITH
Tech. Officer: DFRC/K K GUPTA
CASE Category: 41 – AERONAUTICAL ENGNR

NGT 5 30408 **TEXAS A&M UNIV**
 EVALUATION OF SHRUB ENCROACHMENT ON WATER AVAILABILITY IN
 SEMI-ARID RANGELAND OF THE SOUTHWEST
 08/15/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: C MUNSTER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30417 **TEXAS A&M UNIV**
 UNDERSTANDING AND ASSESSING POTENTIAL PREDICTABILITY OF THE
 SACZ & SPCZ USING NASA/NSIPP ANDNCAR/C
 09/06/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: P CHANG
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30467 **TEXAS A&M UNIV**
 SIMULATING SURFACE WATER RUNOFF AND ASSESSING IMPACTS OF
 NATURAL AND HUMAN-INDUCED ENVIRONMENTAL
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: L HONGXING
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30488 **TEXAS A&M UNIV**
 LAND USE AND COVER IN TEMPERATE SAVANNAS STUDENT: EMILY
 HOLLISTER
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: T BOUTTON
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30503 **TEXAS A&M UNIV**
 ANALYSIS & ASSIMILATION OF SOIL MOISTURE FROM GROUND-, AIR-, AND
 SPACE-BORNE SENSORS
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: B MOHANTY
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50417 **TEXAS A&M UNIV**
 A COMPARISON OF TROPICAL PRECIPITATION RATES SIMULATED BY THE
 NCAR_CCMS WITH THOSE OBSERVED BY THE
 08/12/2002 - 08/31/2005 FY03: \$0 Total: \$22,000
Prin. Invest.: G R NORTH
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50485 **TEXAS A&M UNIV**
 EFFECT OF HYPOBARIA ON GENETIC EXPRESSION OF ETHYLENE, GAS
 EXCHANGE, AND CROP PRODUCTIVITY
 09/05/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: F T DAVIES
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52913 **TEXAS A&M UNIV**
 CLARIFYING AND MITIGATING THE EFFECTS OF STRESS ON MENTAL
 SIMULATION IN DECISION MAKING
 05/29/2002 - 06/30/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: S SMITH
Tech. Officer: MSFC/S NASH-STEVEN
CASE Category: 69 – PSYCHOLOGY, OTHER

NGT 8 52923 **TEXAS A&M UNIV**
 4200012989 "TWO-PHASE FLOW MODELING IN REDUCED GRAVITY ENVI-
 RONMENT"
 06/05/2003 - 06/30/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: F BEST
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 49 – ENGINEERING, OTHER

NGT 9 54 **TEXAS A&M UNIV**
 2001 SUMMER FACULTY FELLOWSHIP PROGRAM
 06/29/2001 - 12/31/2002 FY03: \$0 Total: \$360,617
Prin. Invest.: W A HYMAN
Tech. Officer: JSC/D SICKOREZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT10 52628 **TEXAS A&M UNIV**
 BIOTIC FACTORS CONTROLLING CALICIVIOUS ATTACHMENT AND PERSIST-
 TENCE ON ROMAINE AND ICEBERG LETTUCE
 08/14/2002 - 08/31/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D PILLAI
Tech. Officer: KSC/C BLACK
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1401 **TEXAS A&M UNIV-CORPUS CHRISTI**
 "FINDING NEAR OPTIMAL SCHEDULES FOR FUNCTIONALLY DISTRIBUTED
 TASKS ON CLUSTER& MULTIPROCESSOR ARCH
 03/05/2002 - 03/04/2005 FY03: \$99,880 Total: \$199,760
Prin. Invest.: M MOORE
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 9 1459 **TEXAS A&M UNIV-CORPUS CHRISTI**
 DESIGN OF A BORESCOPE FOR EXTRAVEHICULAR NON-DESTRUCTIVE
 APP
 10/18/2002 - 10/14/2003 FY03: \$17,250 Total: \$17,250
Prin. Invest.: R BACHNAK
Tech. Officer: JSC/J HERNANDEZ
CASE Category: 46 – MECHANICAL ENGR

NAG13 03002 **TEXAS A&M UNIV-CORPUS CHRISTI**
 GEOSPACE WORKFORCE DEVELOPMENT GEOSPACE WORKFORCE DE-
 VELOPMENT
 02/11/2003 - 01/31/2004 FY03: \$49,995 Total: \$49,995
Prin. Invest.: S D LYLE
Tech. Officer: SSC/R TRAVIS
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 9 162 **TEXAS A&M UNIV-CORPUS CHRISTI**
 POPULATION DYNAMICS OF WHITE-TAILED DEER ON THE JOHNSON
 SPACE CENTER
 04/07/2003 - 03/31/2006 FY03: \$68,488 Total: \$68,488
Prin. Invest.: R R LOPEZ
Tech. Officer: JSC/G D WESSELS
CASE Category: 55 – AGRICULTURE

NAG 9 1093 **TEXAS A&M UNIV-KINGSVILLE**
 DESIGN OF LOW BIT RATE SIGNAL COMPRESSOR FOR EFFICIENT RE-
 CORDING
 04/26/1999 - 04/30/2003 FY03: \$0 Total: \$263,313
Prin. Invest.: S W PARK
Tech. Officer: JSC/K L HAMES
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 7040 **TEXAS CHRISTIAN UNIV**
 CRITICAL TESTS OF STELLAR EVOLUTION_(LTSA)
 03/02/1998 - 02/29/2004 FY03: \$0 Total: \$43,100
Prin. Invest.: P MARCUM
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 12596 **TEXAS COLLEGE**
 MATHEMATICS, SCIENCE, ENGINEERING AND TECHNOLOGY PLACE FOR
 FACULTY: A PROPOSAL TO INTEGRATE TECHN
 10/31/2002 - 09/14/2005 FY03: \$99,813 Total: \$99,813
Prin. Invest.: M NAMOORDIRI
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12696 **TEXAS COLLEGE**
 TECTONIC EVOLUTION OF PLANETARY SURFACES
 12/17/2002 - 07/31/2003 FY03: \$50,400 Total: \$50,400
Prin. Invest.: _ NAMBOORDIRI
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1416 **TEXAS COLLEGE**
 PRE-COLLEGE PLACEMENT FOR ACHIEVEMENT OF EXCELLENCE IN
 MATH, SCIENCE, ENGINEERING TECHNOLOGY
 09/30/2002 - 09/30/2005 FY03: \$99,785 Total: \$199,570
Prin. Invest.: W STENGER
Tech. Officer: JSC/L M ARMENDEZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12599 **TEXAS SOUTHERN UNIV**
 NASA CENTER ON MODEL-BASED SIMULATION - STRUCTURAL AND MATE-
 RIALS SYSTEMS
 09/25/2002 - 09/30/2005 FY03: \$0 Total: \$100,000
Prin. Invest.: D C DAVIS
Tech. Officer: GSFC/C PERSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1194 **TEXAS SOUTHERN UNIV**
 MOLD DEVELOPMENT IN HYDROPONICS
 04/25/2000 - 04/24/2003 FY03: \$0 Total: \$132,000
Prin. Invest.: O A JEJLOWO
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 55 – AGRICULTURE

NAG 9 1227 **TEXAS SOUTHERN UNIV**
 SILICON UPTAKE IN HYDROPONICS BY GRAMINACEOUS CROP PLANTS
 06/22/2000 - 06/30/2003 FY03: \$0 Total: \$112,000
Prin. Invest.: G A JEJEDOWO
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 55 – AGRICULTURE

NAG 9 1414 **TEXAS SOUTHERN UNIV**
 STUDIES IN VIVO MODEL OF SIMULATED MICROGRAVITY OF CALCIUM
 HOMEOSTASIS
 09/11/2002 - 09/10/2005 FY03: \$0 Total: \$64,601
Prin. Invest.: G RAMESH
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NCC 9 80 **TEXAS SOUTHERN UNIV**
 HIGH PRESSURE LABORATORY
 12/02/1998 - 07/31/2002 FY03: \$0 Total: \$865,047
Prin. Invest.: B L WILSON
Tech. Officer: JSC/C B AGEE
CASE Category: 12 – CHEMISTRY

NCC 9 165 **TEXAS SOUTHERN UNIV**
 NASA RESEARCH CNTR FOR TECHNOLOGY & ENVIRONMENTAL HEALTH
 06/05/2003 - 06/15/2008 FY03: \$1,200,000 Total: \$1,200,000
Prin. Invest.: B L WILSON
Tech. Officer: JSC/C F SAWIN
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 1 2192 **TEXAS TECH UNIV**
 THE HEAVY OZONE PROBLEM NRA-98-OES-04
 09/28/1999 - 12/31/2003 FY03: \$0 Total: \$154,632
Prin. Invest.: G I GELLENE
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1560 **TEXAS TECH UNIV**
 ACTION THEORIES AND DESIGN OF INTELLIGENT SYSTEMS
 05/17/2002 - 08/31/2003 FY03: \$126,535 Total: \$168,535
Prin. Invest.: R WATSON
Tech. Officer: ARC/J FRANK, ARC/R MORRIS
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 5156	TEXAS TECH UNIV	NAG 5 8140	UNIV HOUSTON-HOUSTON
OPTIMIZATION STUDIES FOR ACCESS CALORIMETRY INCREMENTAL FUNDING FOR FIRST YEAR OF GRANT		THE ORIGINS OF TRANSLATION	
03/26/1998 - 06/30/2002	FY03: -\$321	02/03/1999 - 06/30/2002	FY03: \$0
Total: \$251,441		Total: \$242,091	
<i>Prin. Invest.:</i> R WIGMANS		<i>Prin. Invest.:</i> D FOX	
<i>Tech. Officer:</i> GSFC/B A MERRITT		<i>Tech. Officer:</i> GSFC/M MEYER	
<i>CASE Category:</i> 13 – PHYSICS		<i>CASE Category:</i> 11 – ASTRONOMY	
NCC 3 962	TEXAS TECH UNIV	NAG 5 10714	UNIV HOUSTON-HOUSTON
ON-CHIP BACKSCATTERING INTERFEROMETRY FOR SPACE BA SED BIOSENSING AND DIAGNOSTICS		ADVANCED ADIABATIC DEMAGNETIZATION REFRIGERATORS FOR CONTINUOUS COOLING FROM 10K TO 50MK	
05/02/2002 - 09/30/2004	FY03: \$30,000	04/12/2001 - 05/31/2004	FY03: \$0
Total: \$52,000		Total: \$15,000	
<i>Prin. Invest.:</i> D BORNHOP		<i>Prin. Invest.:</i> P W CHU	
<i>Tech. Officer:</i> GRC/C NIEDERHAUS		<i>Tech. Officer:</i> GSFC/P J SHIRRON	
<i>CASE Category:</i> 49 – ENGINEERING, OTHER		<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER	
NCC 9 143	TEXAS TECH UNIV	NAG 5 13392	UNIV HOUSTON-HOUSTON
PLANT RESEARCH IN EDU, WATER REUSE/RECYCLING		ANTARCTIC ATMOSPHERIC ELECTRICITY DATA AVAILABLE TO LIVING W/ STAR AND CLIMATE CHANGE INVESTIGATION	
09/28/2001 - 09/30/2002	FY03: \$0	08/04/2003 - 08/14/2004	FY03: \$24,462
Total: \$1,497,000		Total: \$24,462	
<i>Prin. Invest.:</i> J L SMITH		<i>Prin. Invest.:</i> E BERING	
<i>Tech. Officer:</i> JSC/D L HENNINGER		<i>Tech. Officer:</i> GSFC/T A KUCERA	
<i>CASE Category:</i> 49 – ENGINEERING, OTHER		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NCC 9 157	TEXAS TECH UNIV	NAG 8 1658	UNIV HOUSTON-HOUSTON
RENEWAL OF COOPERATIVE AGREEMENT NCC 9-143		DEVELOPMENT OF SPACE RADIATION MONTE-CARLO COMPUTER SIMULATION BASED ON FLUKA & ROOT CODE	
11/25/2002 - 11/30/2003	FY03: \$1,675,000	05/01/2000 - 11/30/2003	FY03: \$120,000
Total: \$1,675,000		Total: \$424,000	
<i>Prin. Invest.:</i> J L SMITH		<i>Prin. Invest.:</i> L S PINSKY	
<i>Tech. Officer:</i> JSC/B M LAWSON		<i>Tech. Officer:</i> MSFC/P DOTY	
<i>CASE Category:</i> 49 – ENGINEERING, OTHER		<i>CASE Category:</i> 19 – PHYSICAL SCIENCE, OTHER	
NAG 9 1278	TRINITY UNIV	NAG 8 1857	UNIV HOUSTON-HOUSTON
KALMAN FILTER BASED SENSOR FUSION FOR ESTIMATION OF MOBILE ROBOT LOCATION AND ORIENTATION		EFFECTS ON NONCONVECTIVE TRANSPORT OF SOLUTE IMPURITIES	
01/12/2001 - 12/31/2002	FY03: -\$11	01/29/2002 - 02/28/2004	FY03: \$329,000
Total: \$15,389		Total: \$823,529	
<i>Prin. Invest.:</i> K NICKELS		<i>Prin. Invest.:</i> P VEKILOV	
<i>Tech. Officer:</i> JSC/K BAKER		<i>Tech. Officer:</i> MSFC/K F ROBINSON	
<i>CASE Category:</i> 49 – ENGINEERING, OTHER		<i>CASE Category:</i> 51 – BIOLOGY (EXCLUDING ENVIR)	
NAG 3 2697	UNIV HOUSTON-HOUSTON	NAG 9 867	UNIV HOUSTON-HOUSTON
FUNDAMENTAL STUDIES ON TWO-PHASE FLOWS THROUGH PAC KED-BEDS IN MICROGRAVITY		NASA-ASEE SUMMER FACULTY FELLOWSHIPS	
01/28/2002 - 10/31/2005	FY03: \$42,780	05/09/1996 - 06/06/2003	FY03: \$0
Total: \$79,780		Total: \$1,213,000	
<i>Prin. Invest.:</i> D BALAKOTIAH		<i>Prin. Invest.:</i> R B BANNEROT	
<i>Tech. Officer:</i> GRC/B J MOTIL		<i>Tech. Officer:</i> JSC/D SICKOREZ	
<i>CASE Category:</i> 49 – ENGINEERING, OTHER		<i>CASE Category:</i> 46 – MECHANICAL ENGR	
NAG 3 2827	UNIV HOUSTON-HOUSTON	NAG 9 985	UNIV HOUSTON-HOUSTON
INNOVATIVE USE OF SMART MATERIALS IN AIRCRAFT ENGINE SYSTEM AND COMPONENTS - CONTROL AND EXPERIMENT		INVESTIGATE & DEVELOP ADVANCED TRAINING TECHNI	
12/04/2002 - 11/30/2003	FY03: \$68,750	01/16/1998 - 08/31/2002	FY03: -\$64
Total: \$68,750		Total: \$1,123,014	
<i>Prin. Invest.:</i> G SONG		<i>Prin. Invest.:</i> B LOFTIN	
<i>Tech. Officer:</i> GRC/H LEE		<i>Tech. Officer:</i> JSC/R SAVELY	
<i>CASE Category:</i> 46 – MECHANICAL ENGR		<i>CASE Category:</i> 22 – COMPUTER SCIENCE	
NAG 5 7840	UNIV HOUSTON-HOUSTON	NAG 9 1055	UNIV HOUSTON-HOUSTON
WINDS, WATER BUDGETS, AND STABLE ISOTOPES IN TROPICAL CYCLONES USING TRMM AND QUICKSCAT		URBAN EXPERIENCE PROGRAM	
01/06/1999 - 09/30/2003	FY03: \$0	09/22/1998 - 08/30/2002	FY03: \$0
Total: \$148,877		Total: \$105,000	
<i>Prin. Invest.:</i> J R LAWRENCE		<i>Prin. Invest.:</i> T MINDIOLA, JR.	
<i>Tech. Officer:</i> GSFC/R W LAWRENCE		<i>Tech. Officer:</i> JSC/L ARMENDARIZ	
<i>CASE Category:</i> 31 – ATMOSPHERIC SCIENCE		<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER	
NAG 9 1103	UNIV HOUSTON-HOUSTON	NAG 9 1103	UNIV HOUSTON-HOUSTON
THE SEARCH FOR MICROBIAL BIOMARKERS IN TERRESTRIAL DEPOSITS		THE SEARCH FOR MICROBIAL BIOMARKERS IN TERRESTRIAL DEPOSITS	
05/04/1999 - 03/09/2004	FY03: \$20,000	05/04/1999 - 03/09/2004	FY03: \$20,000
Total: \$100,000		Total: \$100,000	
<i>Prin. Invest.:</i> H S CHAFETZ		<i>Prin. Invest.:</i> H S CHAFETZ	
<i>Tech. Officer:</i> JSC/E K GIBSON		<i>Tech. Officer:</i> JSC/E K GIBSON	
<i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER		<i>CASE Category:</i> 39 – ENVIRONMENTAL SCI, OTHER	

NAG 9 1152 **UNIV HOUSTON-HOUSTON**
 THERAPEUTIC EFFICACY OF GROWTH HORMONE
 09/20/1999 - 11/08/2003 FY03: \$0 Total: \$568,944
Prin. Invest.: D A MARTINEZ
Tech. Officer: JSC/C W LLOYD
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1223 **UNIV HOUSTON-HOUSTON**
 TEXAS LEARNING AND COMPUTATIONAL CENTER
 10/23/2000 - 08/16/2002 FY03: \$0 Total: \$3,661,000
Prin. Invest.: G VALIAS, B BOYCO
Tech. Officer: JSC/R P KEHOE, JSC/S P CAMPBELL
CASE Category: 22 – COMPUTER SCIENCE

NAG 9 1287 **UNIV HOUSTON-HOUSTON**
 ADVANCED CROSS ENTERPRISE TECHNOLOGY DEVELOPMENT F OR
 NASA MISSIONS
 03/27/2001 - 03/31/2003 FY03: \$0 Total: \$728,000
Prin. Invest.: A IGNATIEV
Tech. Officer: JSC/R S BAIRD
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1293 **UNIV HOUSTON-HOUSTON**
 DEVELOPMENT OF REDUCED SURFACE WAVE ANTENNAS FOR THE
 NASA/JSC NAVIGATION
 04/16/2001 - 04/30/2004 FY03: \$0 Total: \$75,869
Prin. Invest.: J T WILLIAMS
Tech. Officer: JSC/J W BELL
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1305 **UNIV HOUSTON-HOUSTON**
 GRADUATE STUDENT RESERACH PROGRAM CARBON NANOTUBE POLY-
 MER NANOCOMPOSITES
 06/14/2001 - 07/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: C A MITCHELL
Tech. Officer: JSC/B FILES
CASE Category: 43 – CHEMICAL ENGR

NAG 9 1347 **UNIV HOUSTON-HOUSTON**
 NOVEL TISSUE ASSEMBLIES: MODELS FOR ENTERIC PATHOGENESIS
 07/07/2001 - 07/31/2002 FY03: \$0 Total: \$25,894
Prin. Invest.: L S PINSKY
Tech. Officer: JSC/G BADHWAR
CASE Category: 13 – PHYSICS

NAG 9 1363 **UNIV HOUSTON-HOUSTON**
 URBAN EXPERIENCE PROGRAM
 07/10/2001 - 07/11/2004 FY03: \$0 Total: \$25,000
Prin. Invest.: T MINDIOLA
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1410 **UNIV HOUSTON-HOUSTON**
 URBAN EXPERIENCE PROGRAM
 08/15/2002 - 08/14/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: T MINDIOLA
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1421 **UNIV HOUSTON-HOUSTON**
 MARS RADIATION CHARACTERIZATION EXPERIMENTAL PROG
 05/01/2002 - 04/30/2004 FY03: \$50,000 Total: \$95,033
Prin. Invest.: L C WHITE, D K HOLLINGSWORTH
Tech. Officer: JSC/K M HURBERT
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1422 **UNIV HOUSTON-HOUSTON**
 EDUCATIONAL GRANT FOR NASA ASEE SUMMER FACULTY FEL LOWSHIPS
 05/14/2002 - 05/13/2004 FY03: \$0 Total: \$415,500
Prin. Invest.: R B BANNEROT
Tech. Officer: JSC/D G SICHAREZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1429 **UNIV HOUSTON-HOUSTON**
 ANALYSIS OF DAT FROM MARS ODYSSEY MARIE EXPERIMENT
 06/19/2002 - 05/31/2004 FY03: \$15,044 Total: \$46,669
Prin. Invest.: L PINSKY
Tech. Officer: JSC/G JOHNSON
CASE Category: 11 – ASTRONOMY

NAG 9 1453 **UNIV HOUSTON-HOUSTON**
 STABILITY OF PHARMACEUTICAL FOR SPACE IN-FLIGHT TR EATMENT
 08/19/2002 - 08/31/2004 FY03: \$0 Total: \$57,250
Prin. Invest.: D CHOW
Tech. Officer: JSC/L PUTCHA
CASE Category: 56 – MEDICL

NAG 9 1495 **UNIV HOUSTON-HOUSTON**
 THE URBAN EXPERIENCE PROGRAM
 04/14/2003 - 04/13/2006 FY03: \$25,000 Total: \$25,000
Prin. Invest.: T MINDIOLA
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1524 **UNIV HOUSTON-HOUSTON**
 VASMIR PLASMA DIAGNOSTIC FOR DEMONSTRATION OF TRL- 4
 05/20/2003 - 09/30/2004 FY03: \$50,000 Total: \$50,000
Prin. Invest.: E BERING
Tech. Officer: JSC/F R CHANG-DIAZ
CASE Category: 13 – PHYSICS

NAG13 03006 **UNIV HOUSTON-HOUSTON**
 MATLAB GUI FOR A FLUID MIXER MATLAB GUI FOR A FLUID MIXER
 03/05/2003 - 08/20/2004 FY03: \$60,648 Total: \$60,648
Prin. Invest.: E BARBIERI
Tech. Officer: SSC/F FIGUEROA
CASE Category: 46 – MECHANICAL ENGR

NCC 8 239 **UNIV HOUSTON-HOUSTON**
 PROMOTE COMMERCIALY FUNDED RESEARCH AND TECHNOLOGY DEVEL-
 OPMENT IN THE FIELD OF SPACE VACUUM EPITAXY
 01/16/2002 - 10/31/2003 FY03: \$1,041,666 Total: \$2,041,666
Prin. Invest.: A IGNATIEV
Tech. Officer: MSFC/S LAMBING
CASE Category: 49 – ENGINEERING, OTHER

NCC 9 70 **UNIV HOUSTON-HOUSTON**
 UH NASA TECHNOLOGY COMMERCIALIZATION
 03/24/1998 - 05/31/2002 FY03: -\$47,398 Total: \$1,152,602
Prin. Invest.: A V VAILLAS
Tech. Officer: JSC/H L DAVIS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 151 **UNIV HOUSTON-HOUSTON**
 USE OF NEAR-INFRARED SPECTROSCOPY AS NON-INVASIVE MEASURE OF
 MUSCLE VASCULAR FUNCTION
 05/29/2002 - 12/31/2002 FY03: \$0 Total: \$11,150
Prin. Invest.: J DAVIS
Tech. Officer: JSC/D FEEBACK
CASE Category: 56 – MEDICL

NAG 9 1155 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 NUTRITIONAL INTERVENTION TO IMPROVE MUSCLE PROTEIN METABOLISM DURING STRESS
 09/16/1999 - 08/31/2003 FY03: \$0 Total: \$534,981
Prin. Invest.: A A FERRANDO
Tech. Officer: JSC/C LLOYD
CASE Category: 56 – MEDICL

NAG 9 1490 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 EFFECTS OF SIMULATED SPACFLIGHT ON VIRUS-SPECIFIC IMMUNITY
 01/14/2003 - 01/13/2006 FY03: \$367,013 Total: \$367,013
Prin. Invest.: R P STOWE
Tech. Officer: JSC/J DARDANO
CASE Category: 56 – MEDICL

NAS 2 02059 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 FUNDAMENTAL TECHNOLOGIES FOR DEVELOPMENT OF BIOMOL ECULAR SENSORS
 12/20/2001 - 12/21/2003 FY03: \$413,966 Total: \$842,238
Prin. Invest.: J F LEARY
Tech. Officer: ARC/J W HINES, ARC/P P FUNG
CASE Category: 56 – MEDICL

NAS 9 01006 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 ISS FLIGHT EXPERIMENT E129
 01/23/2001 - 12/31/2004 FY03: \$130,377 Total: \$733,436
Prin. Invest.: A D BARRET
Tech. Officer: JSC/M ANDERSON
CASE Category: 56 – MEDICL

NAS 9 97147 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 PROTEIN TURNOVER DURING SPACE FLIGHT
 02/24/1997 - 06/30/2004 FY03: \$0 Total: \$780,361
Prin. Invest.: A FERRANDO
Tech. Officer: JSC/A LEE
CASE Category: 56 – MEDICL

NAS 9 98138 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 SMALL PAYLOAD EXPERIMENT
 10/28/1998 - 09/30/2003 FY03: \$0 Total: \$523,392
Prin. Invest.: M MCGINNIS
Tech. Officer: JSC/C HAVEN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 1160 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 STREPTOCOCCUS PNEUMONIAE GENE EXPRESSION AND VIRUL ENCE POTENTIAL IN THE SPACE ENVIRONMENT
 02/11/2000 - 08/31/2004 FY03: \$357,442 Total: \$710,003
Prin. Invest.: D NIESSSEL
Tech. Officer: ARC/C M WINGET, ARC/D REISS-BUBENHEIM
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 8 170 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 R/S DIFFERENTIATION OF 3 DIMENSIONAL CO-CULTURES OF MYOFIBROBLASTS, PRENEOPLASTIC
 03/23/1999 - 11/30/2003 FY03: \$0 Total: \$607,682
Prin. Invest.: V CHOPPA
Tech. Officer: MSFC/V CHOPPA
CASE Category: 56 – MEDICL

NCC 9 81 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 UTMB/NASA-JSC GRADUATE MED TRAINING IN AEROSPACE MEDICINE
 12/07/1998 - 09/30/2004 FY03: \$303,100 Total: \$1,537,534
Prin. Invest.: J R DAVIS
Tech. Officer: JSC/R BILLICA
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 9 123 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 SPATIAL REORIENTATION OF SENSORIMOTOR BALANCE CONTROL IN ALTERED GRAVITY
 02/22/2001 - 11/30/2003 FY03: \$3,725 Total: \$18,625
Prin. Invest.: G KAUFMAN
Tech. Officer: JSC/B PALOSKI
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 9 47 **UNIV OF TEXAS MEDICAL BRANCH - GALVESTON**
 TRAINING PROGRAM FOR TWO STUDENTS GRADUATE SCHOOL OF BIOMEDICAL SCIENCES
 04/12/2000 - 05/31/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: C W COOPER
Tech. Officer: JSC/C W LLOYD
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1824 **UNIV OF TEXAS-GRAD SCHOOL OF BIOMED SCI.**
 PHYSICO-CHEMICAL TOOLS FOR RATIONAL OPTIMATIZATION OF GROWTH CONDITIONS OF BIOLOGICAL CRYSTALS
 10/04/2001 - 11/30/2004 FY03: \$129,000 Total: \$552,000
Prin. Invest.: P G VEKILOV
Tech. Officer: MSFC/B GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2857 **UNIV OF TEXAS-PAN AMERICAN**
 A REDUCED MODEL FOR VIRTUAL PROTOTYPING OF TURBINE TIP CLEARANCE CONTROL
 03/13/2003 - 12/31/2003 FY03: \$39,703 Total: \$39,703
Prin. Invest.: J KYPUROS
Tech. Officer: GRC/K MELCHER
CASE Category: 41 – AERONAUTICAL ENGNR

NAG 5 11928 **UNIV OF TEXAS-PAN AMERICAN**
 NASA BORDER INITIATIVE
 04/04/2002 - 10/31/2002 FY03: \$0 Total: \$25,000
Prin. Invest.: H MEDRANO
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12549 **UNIV OF TEXAS-PAN AMERICAN**
 NASA BORDER INITIATIVE: A PARTNERSHIP FOR ENRICHING EDUCATION FOR AT-RISK STUDENTS (PEERS)
 09/05/2002 - 08/31/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: H MEDRADO
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1634 **UNIV OF TEXAS-PAN AMERICAN**
 OPTIMAL DESIGN OF HYBRID PASSIVE VISCOELASTIC AND ACTIVE PIEZOELECTRIC DAMPING LAYERS
 09/30/1999 - 08/31/2003 FY03: \$0 Total: \$296,107
Prin. Invest.: A LUMSDAINE
Tech. Officer: MSFC/A BEAM, MSFC/W LOVE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1169 **UNIV OF TEXAS-PAN AMERICAN**
 PAARTNERSHIP FOR SCIENCE AND ENGR STUDENT SUCCESS
 09/27/1999 - 12/30/2003 FY03: \$0 Total: \$195,825
Prin. Invest.: R FOWLER, J LANAGABEER
Tech. Officer: JSC/S GONZALEZ, JSC/L ARMENDARIZ
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG 5 4846 **UNIV OF TEXAS, HEALTH SCI CTR-DALLAS**
 THE ROLE OF CARDIAC MECHANICS IN BLOOD PRESSURE RE TATIC
 STRESS
 06/27/1997 - 09/30/2001 FY03: \$201,000 Total: \$726,000
Prin. Invest.: B LEVINE
Tech. Officer: GSFC/V SCHNEIDER
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1033 **UNIV OF TEXAS, HEALTH SCI CTR-DALLAS**
 MICROCIRCULATORY ADJUSTMENT TO SIMULATED MICROGRAVITY EXPO-
 SURE IN HUMANS
 07/16/1998 - 07/14/2002 FY03: \$0 Total: \$475,700
Prin. Invest.: C G CRANDALL
Tech. Officer: JSC/C W LLOYD
CASE Category: 56 – MEDICL

NAG 2 1505 **UNIV. OF TEXAS MD ANDERSON CANCER CENTER**
 GRAVITY AND INTERGRIN MEDIATED HUMAN LYMPHOCYTE AD HESION
 07/26/2001 - 07/14/2004 FY03: \$194,955 Total: \$506,929
Prin. Invest.: B W MCINTYRE
Tech. Officer: ARC/G C JAHNS, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1347 **UNIV. OF TEXAS MD ANDERSON CANCER CENTER**
 USE OF NASA BIOREACTORS IN A NOVEL SCHEME FOR IMMUNIZATION
 AGAINST CANCER
 06/18/1997 - 12/31/2002 FY03: \$0 Total: \$457,338
Prin. Invest.: C A SAVARY
Tech. Officer: JSC/S R GONDAS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1570 **UNIV. OF TEXAS MD ANDERSON CANCER CENTER**
 APPLICATION OF BIOREACTOR TECHNOLOGY FOR A PRECLINICAL HUMAN
 MODEL OF MELANOMA
 03/19/1999 - 11/30/2002 FY03: \$0 Total: \$504,250
Prin. Invest.: E A GRIMM
Tech. Officer: MSFC/D RISEN
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1454 **UNIV. OF TEXAS MD ANDERSON CANCER CENTER**
 EFFECT OF RADIATION ON HUMAN PERIPHERAL BLOOD DEDR ITIC CELLS
 09/13/2002 - 09/16/2005 FY03: \$188,869 Total: \$226,643
Prin. Invest.: J REUBEN
Tech. Officer: JSC/C LLOYD
CASE Category: 56 – MEDICL

NAG 9 1522 **UNIV. OF TEXAS MD ANDERSON CANCER CENTER**
 GENE EXPRESSION PROFILE ANALYSIS PROGNOSTIC INDICA TOR OF
 NORMAL TISSUE RESPONSE TO SIMULATED SPACE
 05/14/2003 - 05/31/2004 FY03: \$254,458 Total: \$254,458
Prin. Invest.: M D STORY
Tech. Officer: JSC/J DARDANO
CASE Category: 56 – MEDICL

NAG 2 1261 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 RELATIONSHIP OF MORPHOGENESIS & MINERALIZATION TO GRAVITY IN
 SPACEFLOWN ALGAE
 09/01/1998 - 10/31/2003 FY03: \$0 Total: \$319,065
Prin. Invest.: P J DUKE
Tech. Officer: ARC/O SANTOS, ARC/P D SAVAGE
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1498 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 CYTOPLASMIC/GOLGI INTERACTIONS IN THE NANOFABRICAT ION OF
 BIOMINERAL COMPOSITES - A GENETIC APPROACH
 07/05/2001 - 06/30/2004 FY03: \$157,728 Total: \$405,840
Prin. Invest.: M E MARSH
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 8 1585 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 IMPACT/MICROGRAVITY ON IMMUNOGENICITY ASSOCIATED WITH BI-
 STRUCTURAL CHANGES/PANCRATIC ISLETS
 03/19/1999 - 07/01/2003 FY03: \$0 Total: \$465,136
Prin. Invest.: L P RUTZKY
Tech. Officer: MSFC/B V GUYNES
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 9 1040 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 EFFECTS OF CIRCADIAN RHYTHMS ON DEPRESSION OUTCOME
 06/22/1998 - 03/30/2003 FY03: \$0 Total: \$294,519
Prin. Invest.: B BUTLER
Tech. Officer: JSC/C SAWIN
CASE Category: 56 – MEDICL

NAG 9 1353 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 EFFECT OF MICROGRAVITY ON PANCREATIC ISLET XENOTRANSPLATA-
 TION,VASCULARIZATION & STEM CELL
 07/27/2001 - 09/30/2004 FY03: \$164,000 Total: \$358,000
Prin. Invest.: L P RUTZKY, S M STEPKOWSKI, S M KATZ
Tech. Officer: JSC/D RISIN
CASE Category: 56 – MEDICL

NCC 2 1234 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 HUMAN CENTERED INTELLIGENT FLIGHT SURGEON CONSOLE
 03/29/2001 - 02/28/2004 FY03: \$170,886 Total: \$427,886
Prin. Invest.: J ZHANG
Tech. Officer: ARC/P M JONES, ARC/M G SHAFTO
CASE Category: 22 – COMPUTER SCIENCE

NCC 8 168 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 NUTRITION IMMUNOMODULATION IN MICROGRAVITY
 03/05/1999 - 11/30/2003 FY03: \$0 Total: \$573,650
Prin. Invest.: A D KULKARNI
Tech. Officer: JSC/S GONDAS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 9 82 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 EVA PREBREATHE REDUCTION PROTOCOL
 03/11/1999 - 03/10/2003 FY03: \$0 Total: \$275,000
Prin. Invest.: B BUTLER
Tech. Officer: JSC/M GERNHARDT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 90 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 GAS PHASE FORMATION, GROWTH AND EFFECTS OF SURFACE TENSION
 02/23/2000 - 06/30/2003 FY03: \$0 Total: \$55,162
Prin. Invest.: B D BUTLER
Tech. Officer: JSC/M R POWELL
CASE Category: 59 – LIFE SCIENCE, OTHER

NCC 9 103 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 CHARACTERIZATION OF AUTONOMIC FUNCTION
 02/25/2000 - 02/20/2004 FY03: \$0 Total: \$14,834
Prin. Invest.: R F LODATO
Tech. Officer: JSC/J MECK
CASE Category: 59 – LIFE SCIENCE, OTHER

NGT 9 46 **UNIV. OF TEXAS-HLTH SCIENCE CTR-HOUSTON**
 TRAINING PROGRAM FOR TWO STUDENTS AT THE GRADUATE SCHOOL OF
 BIOMEDICAL SCIENCES
 04/07/2000 - 05/31/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: J WEINDER
Tech. Officer: JSC/C W LLOYD
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 9 30 **UNIV OF HOUSTON - CLEAR LAKE**
 RESEARCH FOR COMPUTING & INFORMATION SYSTEMS
 08/08/1994 - 06/30/2002 FY03: \$0 Total: \$36,651,370
Prin. Invest.: E T DICKERSON
Tech. Officer: JSC/R T SAVELY
CASE Category: 22 – COMPUTER SCIENCE

NCC 9 156 **UNIV OF HOUSTON - CLEAR LAKE**
 MANAGEMENT OF JSC LIBRARY BOOKS & JOURNALS & FOR PROVIDING
 LIBRARY SERVICES TO JSC PERSONNEL
 09/25/2002 - 09/30/2003 FY03: \$250,441 Total: \$275,441
Prin. Invest.: K WILHORSKI
Tech. Officer: JSC/K E INGRAM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10149 **UNIV OF HOUSTON - DOWNTOWN**
 AN URBAN OUTREACH PROGRAM IN SPACE SCIENCE: A COLLABORATIVE
 EFFORT BETWEEN NASA, HISPANIC SERVING &
 01/03/2001 - 12/31/2003 FY03: \$0 Total: \$425,996
Prin. Invest.: P A MORRIS-SMITH
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12366 **UNIV OF HOUSTON - DOWNTOWN**
 THE ORIGINS OF TRANSLATION AND EARLY LIFE
 07/09/2002 - 06/30/2005 FY03: \$129,361 Total: \$240,563
Prin. Invest.: G E FOX
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12467 **UNIV OF HOUSTON - DOWNTOWN**
 UH PARTICIPATORY PROJECT IN MESSENGER EXPLORATION & NSIP
 DEVELOPMENT OF STUDENT SCIENTISTS - ONE YR
 09/11/2002 - 09/14/2003 FY03: \$0 Total: \$41,600
Prin. Invest.: D A ALO
Tech. Officer: GSFC/J L HARRINGTON
CASE Category: 29 – MATH/COMPUTERSCI, OTHER

NAG 9 1113 **UNIV OF HOUSTON - DOWNTOWN**
 ACIENT LIFE IN ROCKS ON EARTH
 05/14/1999 - 05/13/2004 FY03: \$5,000 Total: \$41,000
Prin. Invest.: P A MORRIS-SMITH
Tech. Officer: JSC/E K GIBSON
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 9 1114 **UNIV OF HOUSTON - DOWNTOWN**
 ACIENT LIFE IN ROCKS ON EARTH
 05/13/1999 - 05/31/2004 FY03: \$5,000 Total: \$41,000
Prin. Invest.: P A MORRIS-SMITH
Tech. Officer: JSC/E K GIBSON
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 5352 **UNIV OF NORTH TEXAS**
 NANOSTRUCTURED POLYMER FILMS FOR IMPROVED BARRIER PROPERTIES
 01/16/2002 - 12/31/2003 FY03: \$60,838 Total: \$117,452
Prin. Invest.: N D'SOUZA
Tech. Officer: GSFC/B MERRITT
CASE Category: 13 – PHYSICS

NCC 2 1316 **UNIV OF NORTH TEXAS**
 TESTING THE NECESSITY OF STRATEGIC RETRIEVAL IN EVENT BASED
 PROSPECTIVE MEMORY
 03/06/2002 - 03/31/2003 FY03: \$0 Total: \$21,730
Prin. Invest.: M BINK
Tech. Officer: ARC/R K DISMUKES
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1262 **UNIV OF NORTH TEXAS HLTH SCI.CTR AT FT.WORTH**
 VESTIBULAR MODULATION OF AUTONOMIC RESPONSES TO ORTHOSTASIS
 11/16/2000 - 10/31/2003 FY03: \$156,109 Total: \$487,996
Prin. Invest.: M L SMITH, D ORR, D E WATENPAUGH
Tech. Officer: JSC/C W LLOYD
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1889 **UNIV OF TEXAS - ARLINGTON**
 DESIGN STUDY FOR A SLIT-JAW CAMERA FOR SUMI
 09/18/2002 - 12/12/2002 FY03: \$0 Total: \$7,955
Prin. Invest.: Z MUSIELAK
Tech. Officer: MSFC/J PORTER
CASE Category: 46 – MECHANICAL ENGR

NCC 2 5395 **UNIV OF TEXAS - ARLINGTON**
 SCHEDULING & LOAD BALANCING ON THE INFORMATION POWER GRID
 08/15/2000 - 08/31/2003 FY03: \$47,480 Total: \$172,800
Prin. Invest.: S K DAS
Tech. Officer: ARC/R BISWAS, ARC/D KWAK
CASE Category: 22 – COMPUTER SCIENCE

NGT 5 30382 **UNIV OF TEXAS - ARLINGTON**
 MINING OF STRUCTURAL DATA TO DISCOVER PROBABILISTIC SUBSTRUCTURES
 JOSEPH T.POTTS
 08/13/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: D COOK
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01109 **UNIV OF TEXAS - AUSTIN**
APPLICATION OF HOS AND VOLTERRA MODELS TO AEROELASTIC SYSTEM IDENTIFICATION
07/18/2001 - 09/30/2002 FY03: -\$12,442 Total: \$22,558
Prin. Invest.: E J POWERS
Tech. Officer: LARC/W A SILVA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1347 **UNIV OF TEXAS - AUSTIN**
CELLULAR BASES OF LIGHT REGULATED GRAVITY RESPONSE S
07/23/1999 - 06/30/2003 FY03: \$0 Total: \$367,970
Prin. Invest.: S J ROUX
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1349 **UNIV OF TEXAS - AUSTIN**
EVOLUTIONARY ORIGIN OF BODY AXIS SEGMENTATION IN A NNELIDS & ARTHROPODS
07/20/1999 - 07/14/2003 FY03: \$0 Total: \$495,345
Prin. Invest.: S M SHANKLAND
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1586 **UNIV OF TEXAS - AUSTIN**
CELLULAR BASES OF LIGHT REGULATED GRAVITY RESPONSE S
10/30/2002 - 10/31/2005 FY03: \$239,582 Total: \$239,582
Prin. Invest.: S J ROUX
Tech. Officer: ARC/G C JAHNS, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1604 **UNIV OF TEXAS - AUSTIN**
LARGE EDDY SIMULATION OF BYPASS TRANSITION BY THE VARIATIONAL MULTISCALE METHOD
12/04/2002 - 12/14/2003 FY03: \$75,000 Total: \$75,000
Prin. Invest.: T HUGHES
Tech. Officer: ARC/N MANSOR, ARC/A WRAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2240 **UNIV OF TEXAS - AUSTIN**
LASER VELOCIMETER FOR STUDIES OF MICROGRAVITY COMBUSTION FLOWFIELDS
02/26/1999 - 01/13/2003 FY03: \$0 Total: \$270,250
Prin. Invest.: P L VARGHESE
Tech. Officer: GRC/P S GREENBERG
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2602 **UNIV OF TEXAS - AUSTIN**
ADVANCED FLYWHEEL MATERIALS DEVELOPMENT PROGRAM FOR HIGH SPECIFIC ENERGY, SPACE APPLICATIONS
05/01/2001 - 05/31/2002 FY03: \$0 Total: \$50,030
Prin. Invest.: R THOMPSON
Tech. Officer: GRC/K MCLALLIN
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2633 **UNIV OF TEXAS - AUSTIN**
HIGH PERFORMANCE AIGAN AND GAN POWER ELECTRONIC DEVICES
06/18/2001 - 08/31/2004 FY03: \$47,742 Total: \$144,570
Prin. Invest.: D D DUPUIS
Tech. Officer: GRC/G SCHWARZE
CASE Category: 13 – PHYSICS

NAG 3 2908 **UNIV OF TEXAS - AUSTIN**
SEARCH FOR TIME REVERSAL SYMMETRY VIOLATION WITH LASER-COLLED ATOMS
06/03/2003 - 04/30/2005 FY03: \$100,000 Total: \$100,000
Prin. Invest.: D HEINZEN
Tech. Officer: GRC/C LEK
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3431 **UNIV OF TEXAS - AUSTIN**
PARASEC-SCALE ENVIRONMENT OF LIMINOUS AGN: SPECTROSCOPIC CLUES TO WINDS, JETS, AND ACCRETION
10/01/1996 - 09/30/2002 FY03: \$0 Total: \$712,606
Prin. Invest.: B J WILLS
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 3786 **UNIV OF TEXAS - AUSTIN**
MCDONALD OBSERVATORY SUPPORT: HARLAN SMITH POST-DO PLANETARY SCIENCE
03/19/1997 - 12/31/2002 FY03: \$0 Total: \$251,849
Prin. Invest.: D N BASH
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 11 – ASTRONOMY

NAG 5 6728 **UNIV OF TEXAS - AUSTIN**
GENERAL RELATIVISTIC AND GRAVITATIONAL PHYSICS PARAMETERS FROM LUNAR LASER RANGING DATA
12/11/1997 - 12/31/2001 FY03: \$0 Total: \$198,000
Prin. Invest.: P J SHELUS
Tech. Officer: GSFC/H HASAN
CASE Category: 11 – ASTRONOMY

NAG 5 7203 **UNIV OF TEXAS - AUSTIN**
TRACING THE MASS IN AN EVOLUTIONARY SEQUENCE
04/23/1998 - 04/14/2002 FY03: \$0 Total: \$165,643
Prin. Invest.: N J EVANS, 11
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 7582 **UNIV OF TEXAS - AUSTIN**
"MAPPING NEAR-SURFACE SALINIZATION USING LONG-WAVE LENGTH AIRSAR" (SENH98-0113)
08/04/1998 - 07/31/2002 FY03: -\$153 Total: \$125,847
Prin. Invest.: J G PAINE
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7660 **UNIV OF TEXAS - AUSTIN**
'PATTERNS OF SHORELINE CHANGE AND HURRICANE WASHOVER ON BARRIER ISLANDS' (SENH98-0094)
09/09/1998 - 08/31/2003 FY03: \$0 Total: \$600,000
Prin. Invest.: J C GIBEAUT
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7693 **UNIV OF TEXAS - AUSTIN**
FUNDING FOR 'REMOTE SENSING, GIS AND THE ANCIENT TERRITORY: A PROJECT FOR THE CHORA OF CHERSONESOS
09/17/1998 - 09/30/2002 FY03: \$27,346 Total: \$327,506
Prin. Invest.: J C CARTER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 7791 **UNIV OF TEXAS - AUSTIN**
 SPATIALLY-RESOLVED, GROUND-BASED OBSERVATIONS OF M ARTIAN
 ATMOSPHERIC WATER VAPOR:1999-2002 APP
 12/14/1998 - 08/31/2004 FY03: \$0 Total: \$203,708
Prin. Invest.: D S BARKER
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 7910 **UNIV OF TEXAS - AUSTIN**
 CHARACTERIZING THE SIPLE COAST ICE STREAM SYSTEM U SING
 SATELLITE IMAGES,IMPROVED TOPOGRAPHY, AND IN
 12/07/1998 - 12/31/2001 FY03: -\$106 Total: \$82,235
Prin. Invest.: D D BLANKENSHIP
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7937 **UNIV OF TEXAS - AUSTIN**
 SUPERNOVAE AND COSMOLOGY
 12/21/1998 - 12/31/2003 FY03: \$118,863 Total: \$547,647
Prin. Invest.: P HOEFLICH
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8143 **UNIV OF TEXAS - AUSTIN**
 IMPROVED NUMERICAL MODELING OF LOW-DENSITY ATMOSPHERIC
 FLOW ON IO
 02/01/1999 - 12/31/2002 FY03: \$0 Total: \$152,688
Prin. Invest.: D GOLDSTEIN
Tech. Officer: GSFC/D BOGAN
CASE Category: 11 – ASTRONOMY

NAG 5 8301 **UNIV OF TEXAS - AUSTIN**
 PHOTOMETRIC DETECTION OF EXTRA-SOLAR PLANETS
 02/24/1999 - 02/28/2004 FY03: \$0 Total: \$269,600
Prin. Invest.: W P COCHRAN
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 8798 **UNIV OF TEXAS - AUSTIN**
 VARIATIONS IN SPACE GEODETIC IN TIME SERIES DUE TO WATER
 REDISTRIBUTION AND OTHER SOURCES.
 11/02/1999 - 11/14/2003 FY03: \$0 Total: \$310,000
Prin. Invest.: C R WILSON
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8858 **UNIV OF TEXAS - AUSTIN**
 HIGH INDEX GRISMS FOR MID-INFRARED SPECTROSCOPY.
 09/28/1999 - 01/31/2003 FY03: \$0 Total: \$288,671
Prin. Invest.: D T JAFFE
Tech. Officer: GSFC/F HERRERO
CASE Category: 13 – PHYSICS

NAG 5 9003 **UNIV OF TEXAS - AUSTIN**
 THE CHEMICAL COMPOSITION OF PRIMITIVE BODIES IN THE SOLAR
 SYSTEM
 01/27/2000 - 01/31/2004 FY03: \$0 Total: \$302,886
Prin. Invest.: A L COCHRAN
Tech. Officer: GSFC/T H MORGAN
CASE Category: 11 – ASTRONOMY

NAG 5 9144 **UNIV OF TEXAS - AUSTIN**
 RECONSTRUCTION OF HISTORICAL SEA LEVEL VARIATIONS USING TIDE
 GAUGE DATA AND EMPIRICAL ORTHOGONAL
 02/29/2000 - 08/31/2003 FY03: \$0 Total: \$75,000
Prin. Invest.: D P CHAMBERS
Tech. Officer: GSFC/H V FREY
CASE Category: 11 – ASTRONOMY

NAG 5 9163 **UNIV OF TEXAS - AUSTIN**
 IMPROVEMENT IN GEOID MODELS FOR OCEAN CIRCULATION STUDIES
 03/08/2000 - 03/14/2003 FY03: \$0 Total: \$120,000
Prin. Invest.: B TAPLEY
Tech. Officer: GSFC/F HERBERT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9227 **UNIV OF TEXAS - AUSTIN**
 RADIAL VELOCITY DETECTION OF EXTRA-SOLAR PLANETARY SYSTEMS
 03/13/2000 - 05/31/2003 FY03: \$0 Total: \$450,000
Prin. Invest.: W COCHRAN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 11 – ASTRONOMY

NAG 5 9230 **UNIV OF TEXAS - AUSTIN**
 IMPROVED SILICON DIFFRACTION GRATINGS FOR NEAR-IR SPECTROSCOPY
 FROM SPACE
 03/20/2000 - 02/28/2004 FY03: \$0 Total: \$414,736
Prin. Invest.: D JAFFE
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 11 – ASTRONOMY

NAG 5 9239 **UNIV OF TEXAS - AUSTIN**
 FAR-UV ABSORPTION-LINE SPECTROSCOPY OF THE NEUTRAL ENVELOPES
 OF PLANETARY NEBULAE - FUSE
 03/09/2000 - 03/14/2002 FY03: \$0 Total: \$73,600
Prin. Invest.: G SONNEBORN
Tech. Officer: GSFC/H DINERSTEIN
CASE Category: 11 – ASTRONOMY

NAG 5 9302 **UNIV OF TEXAS - AUSTIN**
 REQUEST FOR SUPPLEMENTAL FUNDING FOR COX POSTDOCTORAL
 FELLOW
 03/20/2000 - 03/31/2002 FY03: \$0 Total: \$22,500
Prin. Invest.: C WHEELER
Tech. Officer: GSFC/D GOLOMBEK
CASE Category: 11 – ASTRONOMY

NAG 5 9321 **UNIV OF TEXAS - AUSTIN**
 A PARALLEL GENETICS-ALGORITHM-BASED APPROACH TO WHITE DWARF
 PULSATION MODELS
 03/22/2000 - 03/31/2004 FY03: \$0 Total: \$231,800
Prin. Invest.: D E WINGET
Tech. Officer: GSFC/J BREDEKAMP
CASE Category: 11 – ASTRONOMY

NAG 5 9989 **UNIV OF TEXAS - AUSTIN**
 EARTH SYSTEM DYNAMICS: THE DETERMINATION & INTERPRETATION OF
 THE GLOBAL ANGULAR MOMENTUM BUDGET USING
 09/21/2000 - 03/31/2002 FY03: \$0 Total: \$1,087,000
Prin. Invest.: B D TAPLEY
Tech. Officer: GSFC/J LABRECQUE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10183 **UNIV OF TEXAS - AUSTIN**
 ASTROMETRY OF NEW & UNDER-OBSERVED NEAR-EARTH- OBJECTS-
 (NEOS) AT MCDONALD OBSERVATORY
 01/22/2001 - 07/31/2003 FY03: \$0 Total: \$199,100
Prin. Invest.: E BARKER
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 10195 **UNIV OF TEXAS - AUSTIN**
 GENERAL RELATIVISTIC & GRAVITATIONAL PHYSICS PARAMETERS FROM
 LUNAR LASER RANGING DATA
 12/28/2000 - 12/31/2003 FY03: \$50,000 Total: \$150,000
Prin. Invest.: P J SHELUS
Tech. Officer: GSFC/M SALOMON
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 10435 **UNIV OF TEXAS - AUSTIN**
 GROUND BASED STUDIES OF THE OUTER PLANETS
 02/20/2001 - 02/28/2004 FY03: \$120,000 Total: \$381,682
Prin. Invest.: L TRAFTON
Tech. Officer: GSFC/T MORGAN
CASE Category: 11 - ASTRONOMY

NAG 5 10458 **UNIV OF TEXAS - AUSTIN**
 INFRARED SPECTRAL SURVEY OF YOUNG STELLAR/PLANETARY SYSTEMS
 WITH SUB-AU SPATIAL RESOLUTION
 02/26/2001 - 02/28/2004 FY03: \$0 Total: \$380,000
Prin. Invest.: P HARVEY
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 10488 **UNIV OF TEXAS - AUSTIN**
 FROM MOLECULAR CLOUD CORE TO PROTOPLANETARY DISK: TRACING
 THE MASS
 02/27/2001 - 02/28/2004 FY03: \$60,000 Total: \$180,000
Prin. Invest.: N J EVANS, II
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 10766 **UNIV OF TEXAS - AUSTIN**
 JETS FROM NEUTRON STARS (ATP-2000)
 04/23/2001 - 04/30/2004 FY03: \$56,750 Total: \$165,900
Prin. Invest.: J WHEELER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 10767 **UNIV OF TEXAS - AUSTIN**
 SUPPLEMENT FOR THEORY POSTDOC (ATP-2000)
 05/03/2001 - 04/30/2004 FY03: \$18,462 Total: \$51,693
Prin. Invest.: J WHEELER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 10825 **UNIV OF TEXAS - AUSTIN**
 REIONIZATION OF THE UNIVERSE (ATP - 2000)
 05/01/2001 - 05/14/2004 FY03: \$111,390 Total: \$334,170
Prin. Invest.: P R SHAPIRO
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 10826 **UNIV OF TEXAS - AUSTIN**
 FORMATION OF STAR CLUSTERS (ATP - 2000)
 05/01/2001 - 05/14/2003 FY03: \$0 Total: \$79,332
Prin. Invest.: H MARTEL
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 - ASTRONOMY

NAG 5 11203 **UNIV OF TEXAS - AUSTIN**
 SATELLITE LASER RANGING DATA ANALYSIS AND QUALITY CONTROL
 08/09/2001 - 08/14/2004 FY03: \$0 Total: \$197,838
Prin. Invest.: R J EANES
Tech. Officer: GSFC/D L CARTER
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 5 11278 **UNIV OF TEXAS - AUSTIN**
 DECENTRALIZED CONTROL FOR SATELLITES
 08/21/2001 - 08/31/2003 FY03: \$0 Total: \$148,344
Prin. Invest.: E LIGHTSEY
Tech. Officer: GSFC/J R CARPENTER
CASE Category: 41 - AERONAUTICAL ENGR

NAG 5 11464 **UNIV OF TEXAS - AUSTIN**
 GENERAL RELATIVISTIC AND GRAVITATIONAL PHYSICS PARAMETERS
 FROM LUNAR LASER RANGING DATA
 12/10/2001 - 12/31/2004 FY03: \$54,000 Total: \$107,000
Prin. Invest.: P SHELUS
Tech. Officer: GSFC/M SALOMON
CASE Category: 13 - PHYSICS

NAG 5 11597 **UNIV OF TEXAS - AUSTIN**
 NEBULAR UV ABSORPTION LINES IN PLANETARY NEBULAE - FUSE CYCLE
 2.
 01/17/2002 - 03/14/2004 FY03: \$0 Total: \$80,900
Prin. Invest.: H L DINERSTEIN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 - ASTRONOMY

NAG 5 11619 **UNIV OF TEXAS - AUSTIN**
 DEEP MOONQUAKES ON THE FAR HEMISPHERE OF THE MOON
 01/22/2002 - 01/31/2004 FY03: \$67,000 Total: \$133,000
Prin. Invest.: Y NAKAMURA
Tech. Officer: GSFC/D SENSKE
CASE Category: 11 - ASTRONOMY

NAG 5 11636 **UNIV OF TEXAS - AUSTIN**
 "WATER MASS VARIABILITY IN THE EARTH SYSTEM"
 01/18/2002 - 01/14/2005 FY03: \$100,000 Total: \$200,000
Prin. Invest.: D P CHAMBERS
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 11949 **UNIV OF TEXAS - AUSTIN**
 ATTITUDE DETERMINATION USING NONALINGED GPS ANTENNAS
 03/28/2002 - 03/31/2004 FY03: \$39,433 Total: \$84,433
Prin. Invest.: G LIGHTSEY
Tech. Officer: GSFC/R CARPENTER
CASE Category: 41 - AERONAUTICAL ENGR

NAG 5 11991 **UNIV OF TEXAS - AUSTIN**
 MODELING PARTICULATES IN IONIAN VOLCANIC PLUMES
 04/11/2002 - 04/14/2005 FY03: \$0 Total: \$101,503
Prin. Invest.: D GOLDSTEIN
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 12299 **UNIV OF TEXAS - AUSTIN**
 P-MODES, GRAVITY WAVES, ROTATION AND THE SOLAR CYCLE
 06/19/2002 - 06/30/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: P KUMAR
Tech. Officer: GSFC/W J WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12322 **UNIV OF TEXAS - AUSTIN**
 ACCRETION DISK VISCOSITY (FUSE 2001)
 08/07/2002 - 08/14/2003 FY03: \$0 Total: \$10,567
Prin. Invest.: E L ROBINSON
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12577 **UNIV OF TEXAS - AUSTIN**
 PARAMETERIZATION OF SNOW COVER FRACTION IN CLIMATE AND
 WEATHER PREDICTION MODELS.
 10/21/2002 - 10/31/2005 FY03: \$126,201 Total: \$126,201
Prin. Invest.: Z YANG
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12693 **UNIV OF TEXAS - AUSTIN**
 TERRESTRIAL ANALOGS OF MARTIAN RADAR TARGETS FROM THE DRY
 VALLEY, ANTARCTICA
 12/11/2002 - 11/30/2005 FY03: \$94,850 Total: \$94,850
Prin. Invest.: J HOLT
Tech. Officer: GSFC/J GARVIN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12731 **UNIV OF TEXAS - AUSTIN**
 MOLECULAR AND IONIZED GAS IN PNFUSE CYCLE 3.
 01/23/2003 - 01/31/2004 FY03: \$38,000 Total: \$38,000
Prin. Invest.: H DINERSTEIN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12817 **UNIV OF TEXAS - AUSTIN**
 GRAVITY WAVES AND THE SOLAR ROTATION
 01/30/2003 - 01/31/2004 FY03: \$55,000 Total: \$55,000
Prin. Invest.: P KUMAR
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13057 **UNIV OF TEXAS - AUSTIN**
 AN AUTOMATED TOOL FOR MINING THE IUE ARCHIVE
 03/12/2003 - 03/14/2006 FY03: \$58,872 Total: \$58,872
Prin. Invest.: D LAMBERT
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13070 **UNIV OF TEXAS - AUSTIN**
 AGES AND COOLING PHYSICS OF WHITE DWARF STARS FROM HST
 OBSERVATIONS
 03/12/2003 - 03/14/2008 FY03: \$130,949 Total: \$130,949
Prin. Invest.: T VON HIPPEL
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13094 **UNIV OF TEXAS - AUSTIN**
 PROJECT: DYING STARS LIVING PLANETS: A SEARCH FOR EXTRA-SOLAR
 PLANETS AROUND WHITE DWARF STARS
 03/24/2003 - 03/31/2006 FY03: \$78,000 Total: \$78,000
Prin. Invest.: D WINGET
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13147 **UNIV OF TEXAS - AUSTIN**
 NON-LTE MODEL ATMOSPHERES AND THEIR IMPACT ON OBSERVATIONAL
 STUDIES OF GALACTIC CHEMICAL EVOLUTION
 03/24/2003 - 03/31/2008 FY03: \$45,672 Total: \$45,672
Prin. Invest.: C ALLENDE-PRIETO
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13206 **UNIV OF TEXAS - AUSTIN**
 RADIAL VELOCITY DETECTION OF EXTRASOLAR PLANETARY SYSTEMS
 03/28/2003 - 05/31/2004 FY03: \$100,000 Total: \$100,000
Prin. Invest.: W COCHRAN
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13218 **UNIV OF TEXAS - AUSTIN**
 GENERALIZED SPACECRAFT RELATIVE MOTION MODELS AND ALGO-
 RITHMS FOR A COMPREHENSIVE SPACECRAFT TRAJECTORY
 04/01/2003 - 03/31/2004 FY03: \$45,000 Total: \$45,000
Prin. Invest.: C OCAMPO
Tech. Officer: GSFC/S COOLEY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 13271 **UNIV OF TEXAS - AUSTIN**
 THE FORMATION OF CLUSTERS AND THE ORIGIN OF THE IMF
 04/03/2003 - 03/31/2005 FY03: \$87,630 Total: \$87,630
Prin. Invest.: H MARTEL
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13280 **UNIV OF TEXAS - AUSTIN**
 MIXING THE GALAXY: TURBULENCE AND CHEMICAL INHOMOGENEITY
 04/08/2003 - 03/31/2006 FY03: \$92,879 Total: \$92,879
Prin. Invest.: J SCALO
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13302 **UNIV OF TEXAS - AUSTIN**
 ASTROMETRY OF NEW AND UNDER-OBSERVED NEAR-EARTH OBJECTS
 (NEOS) AT MCDONALD OBSERVATORY
 04/15/2003 - 04/14/2004 FY03: \$55,000 Total: \$55,000
Prin. Invest.: E BARKER
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13345 **UNIV OF TEXAS - AUSTIN**
 COLLABORATIVE: ROTATION PERIODS AND OPPOSITION SURGES OF
 SMALL ICY BODIES IN THE OUTER SOLAR SYSTEM
 04/16/2003 - 04/15/2003 FY03: \$0 Total: \$0
Prin. Invest.: B SCHAEFER
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13617 **UNIV OF TEXAS - AUSTIN**
 THE CHEMICAL COMPOSITION OF PRIMITIVE BODIES IN THE SOLAR SYSTEM
 08/26/2003 - 08/31/2004 FY03: \$36,855 Total: \$36,855
Prin. Invest.: A COCHRAN
Tech. Officer: GSFC/L JOHNSON
CASE Category: 12 – CHEMISTRY

NAG 5 13724 **UNIV OF TEXAS - AUSTIN**
 FUSE OBSERVATIONS OF NEUTRON-CAPTURE ELEMENTS IN WOLF-RAYET PLANETARY NEBULAE
 09/29/2003 - 09/30/2004 FY03: \$31,500 Total: \$31,500
Prin. Invest.: H L DINERSTEIN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13726 **UNIV OF TEXAS - AUSTIN**
 GEOMETRY OF THE HOT GASEOUS OUTFLOWS IN SEYFERTS
 09/29/2003 - 09/30/2004 FY03: \$23,200 Total: \$23,200
Prin. Invest.: S PRAJVAL
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1764 **UNIV OF TEXAS - AUSTIN**
 SEARCH FOR TIME REVERALS SYMETRY VIOLATION WITH LASER-COOLED ATOMS
 05/01/2001 - 04/30/2005 FY03: \$30,000 Total: \$200,000
Prin. Invest.: D J HEINZMAN
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1060 **UNIV OF TEXAS - AUSTIN**
 NASA STUDENT COMPETITION
 12/14/1998 - 03/31/2004 FY03: \$50,000 Total: \$282,029
Prin. Invest.: B D TAPLEY
Tech. Officer: JSC/H C MANDELL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1187 **UNIV OF TEXAS - AUSTIN**
 INTERNATIONAL SPACE STATION GPS RECEIVER SUPPORT
 02/02/2000 - 01/24/2004 FY03: \$25,000 Total: \$277,271
Prin. Invest.: G E LIGHTSEY
Tech. Officer: JSC/G C BLACKBURN, JSC/J M COX
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1189 **UNIV OF TEXAS - AUSTIN**
 NAVIGATION SYSTEMS AND TECHNOLOGY LAB
 01/28/2000 - 12/31/2003 FY03: \$0 Total: \$276,602
Prin. Invest.: G LIGHTSEY
Tech. Officer: JSC/J W BELL
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1225 **UNIV OF TEXAS - AUSTIN**
 MARS PRECISION LANDING TASK
 04/13/2000 - 09/30/2003 FY03: \$0 Total: \$456,003
Prin. Invest.: R BISHOP
Tech. Officer: JSC/E M BRADEN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1244 **UNIV OF TEXAS - AUSTIN**
 HYBRID PARTICLE ELEMENT SIMULATION OF IMPACT ON COMPOSITE ORBITAL DEBRIS SHIELDS
 07/11/2000 - 03/30/2004 FY03: \$80,000 Total: \$228,539
Prin. Invest.: E P FAHRENTHOLD
Tech. Officer: JSC/E L CHRISTIANSEN, JSC/J H KERR
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1275 **UNIV OF TEXAS - AUSTIN**
 CULTURAL AND PERSONALITY DETERMINANTS OF PERFORMANCE AND ERROR MANAGMENT
 02/22/2001 - 01/31/2004 FY03: \$0 Total: \$275,250
Prin. Invest.: R L HELMREICH
Tech. Officer: JSC/C LLOYD
CASE Category: 56 – MEDICL

NAG 9 1286 **UNIV OF TEXAS - AUSTIN**
 NASA REDUCED GRAVEITY STUDENT FLIGHT CAMPAIGN 2001
 03/05/2001 - 12/31/2001 FY03: -\$235 Total: \$405,209
Prin. Invest.: B D TAPLEY
Tech. Officer: JSC/D SICKOREZ
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1323 **UNIV OF TEXAS - AUSTIN**
 LOW THRUST CAPTURE INVESTIGATION
 06/13/2001 - 10/31/2001 FY03: -\$27 Total: \$19,973
Prin. Invest.: R BISHOP
Tech. Officer: JSC/T CRANE
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1437 **UNIV OF TEXAS - AUSTIN**
 SPACE LAUNCH INITIATIVE ADAPTIVE NAVAGATION ARCHIT ECTURE
 07/22/2002 - 10/21/2006 FY03: \$47,000 Total: \$67,000
Prin. Invest.: R H BISHOP
Tech. Officer: JSC/T CRAIN
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1441 **UNIV OF TEXAS - AUSTIN**
 ADVANCED MULTI-BODY/MULTI-SPACECRAFT TRAJACTORY OPTIMIZATION SYSTEM
 07/25/2002 - 07/25/2004 FY03: \$106,700 Total: \$156,700
Prin. Invest.: C OCAMPO
Tech. Officer: JSC/G L CONDON
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 1514 **UNIV OF TEXAS - AUSTIN**
 LAYERED LEARNING FOR ROBONAUT CONTROL
 05/16/2003 - 08/14/2004 FY03: \$59,194 Total: \$59,194
Prin. Invest.: P STONE
Tech. Officer: JSC/R T SAVELY
CASE Category: 22 – COMPUTER SCIENCE

NAG 9 1574 **UNIV OF TEXAS - AUSTIN**
 LOW THRUST STATION-KEEPING AT LIBRATION POINTS
 09/19/2003 - 09/19/2004 FY03: \$15,000 Total: \$15,000
Prin. Invest.: R BISHOP
Tech. Officer: JSC/T CRAIN
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 9 01476 **UNIV OF TEXAS - AUSTIN**
 ADVANCED GUIDANCE & NAVIGATION SYSTEM DEVELOPMENT
 03/03/2003 - 02/29/2008 FY03: \$576,000 Total: \$576,000
Prin. Invest.: R H BISHOP
Tech. Officer: JSC/T P CRAIN, JSC/J MASCIARELLI
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG10 295 **UNIV OF TEXAS - AUSTIN**
 EARLY DEVELOPMENT OF FERN GAMETOPHYTES IN MICROGRA VITY
 02/05/2001 - 04/30/2005 FY03: \$154,000 Total: \$262,500
Prin. Invest.: D ROUX
Tech. Officer: KSC/D SCHULTZ
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG13 02049 **UNIV OF TEXAS - AUSTIN**
 RESEARCH ENTITLED "MID-AMERICAN GEOSPATIAL INFORMATION SYS-
 TEM"
 07/25/2002 - 05/31/2004 FY03: \$900,000 Total: \$3,026,240
Prin. Invest.: B TAPLEY
Tech. Officer: SSC/B DAVIS
CASE Category: 32 – GEOLOGICAL SCIENCE

NAS 3 00119 **UNIV OF TEXAS - AUSTIN**
 FLYWHEEL ROTOR HEALTH MONITORING RESEARCH & DEVELOPMENT
 04/26/2000 - 12/31/2003 FY03: \$0 Total: \$140,000
Prin. Invest.: J BENO
Tech. Officer: GRC/K MCLALLIN
CASE Category: 49 – ENGINEERING, OTHER

NAS 3 01133 **UNIV OF TEXAS - AUSTIN**
 FLYWHEEL ARBOR DEVELOPMENT
 05/30/2001 - 05/29/2004 FY03: \$460,200 Total: \$1,072,900
Prin. Invest.: R H BENO, R THOMPSON
Tech. Officer: GRC/K L MCLALLIN
CASE Category: 46 – MECHANICAL ENGR

NAS 3 99169 **UNIV OF TEXAS - AUSTIN**
 FLYWHEEL ROTOR HUB AND RIM HARDWARE FOR THE ACESE FOR ISS
 07/08/1999 - 05/31/2003 FY03: \$0 Total: \$3,884,324
Prin. Invest.: J H BENO, R C THOMPSON
Tech. Officer: JSC/K KONNO
CASE Category: 46 – MECHANICAL ENGR

NAS 5 01096 **UNIV OF TEXAS - AUSTIN**
 MCDONALD LASER RANGING STATION SUPPORT SERVICES
 03/01/2001 - 02/28/2004 FY03: \$398,000 Total: \$1,140,000
Prin. Invest.: P J SHELUS
Tech. Officer: GSFC/D L CARTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 5 97213 **UNIV OF TEXAS - AUSTIN**
 GRAVITY RECOVERY AND CLIMATE EXPERIMENT (GRACE)
 08/12/1997 - 06/12/2006 FY03: \$1,833,000 Total: \$10,690,000
Prin. Invest.: B TAPLEY
Tech. Officer: GSFC/R FITZGERALD
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 99005 **UNIV OF TEXAS - AUSTIN**
 GLAS SCIENCE TEAM LEADER.
 11/25/1998 - 09/30/2004 FY03: \$1,474,470 Total: \$6,135,000
Prin. Invest.: R SCHUTZ
Tech. Officer: GSFC/G SMITH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5482 **UNIV OF TEXAS - AUSTIN**
 DESIGN AND CONTROL OF LARGE COLLECTIONS OF LEARNIN G AGENTS
 02/19/2002 - 02/14/2003 FY03: \$0 Total: \$31,320
Prin. Invest.: J GHOSH
Tech. Officer: ARC/K TUMER
CASE Category: 22 – COMPUTER SCIENCE

NCC 3 677 **UNIV OF TEXAS - AUSTIN**
 INVESTIGATION OF STRAIN/VORTICITY AND LARGE-SCALE FLOW STRUC-
 TURE IN TURBULENT NONPREMIXED JET FLAMES
 02/26/1999 - 01/13/2004 FY03: \$26,753 Total: \$381,575
Prin. Invest.: N T CLEMENS
Tech. Officer: GRC/K SACKSTEDER
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 463 **UNIV OF TEXAS - AUSTIN**
 EVALUATION AND VALIDATION OF EO-1 AND LANDSAT 7 IMAGERY
 THROUGH AN ANALYSIS OF LAND COVER/LAND USE
 02/29/2000 - 09/30/2003 FY03: \$0 Total: \$290,763
Prin. Invest.: W A WHITE
Tech. Officer: GSFC/S G UNGAR
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 688 **UNIV OF TEXAS - AUSTIN**
 SATELLITE ATTITUDE FORMATIONS
 01/13/2003 - 01/14/2004 FY03: \$79,830 Total: \$79,830
Prin. Invest.: G LIGHTSEY
Tech. Officer: GSFC/J C ADAMS
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 5 732 **UNIV OF TEXAS - AUSTIN**
 SENSING AND ESTIMATION METHODS FOR RELATIVE NAVIGATION AND
 ATTITUDE DETERMINATION OF LARGE SATELLIT
 04/18/2003 - 05/31/2006 FY03: \$59,996 Total: \$59,996
Prin. Invest.: G LIGHTSEY
Tech. Officer: GSFC/M MOREAU
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 5 733 **UNIV OF TEXAS - AUSTIN**
 PRECISE RELATIVE NAVIGATION FOR HIGH EARTH AND LIBRATION POINT
 MISSIONS
 04/22/2003 - 04/30/2006 FY03: \$56,371 Total: \$56,371
Prin. Invest.: R H BISHOP
Tech. Officer: GSFC/M MOREAU
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 9 73 **UNIV OF TEXAS - AUSTIN**
 SIMULATION OF HYPERVELOCITY IMPACT ON AL-NEXTEL KEVLOR ORBITAL
 DEBRIS SHIELDS
 08/10/1998 - 06/30/2003 FY03: \$0 Total: \$81,558
Prin. Invest.: E P FAHRENTHOLD
Tech. Officer: JSC/E L CHRISTIANSEN
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 9 166 **UNIV OF TEXAS - AUSTIN**
 PLASMA RESEARCH ON THE VASMIR ADVANCED PROPULSION SYSTEM
 06/12/2003 - 09/30/2004 FY03: \$67,989 Total: \$67,989
Prin. Invest.: R BENGTON, B BREIZMAN
Tech. Officer: JSC/F R CHANG-DIAZ
CASE Category: 13 – PHYSICS

NGT 3 52393 **UNIV OF TEXAS - AUSTIN**
 GSRP-REFORMING OF HYDROCARBON FUELS IN A CATALYTIC REACTOR
 06/26/2003 - 06/16/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J L ELLZEY
Tech. Officer: GRC/C LEE
CASE Category: 46 – MECHANICAL ENGR

NGT 5 130 **UNIV OF TEXAS - AUSTIN**
 SOLVING THE INITIAL VALUE PROBLEM FOR TWO BLACK HO LES. STU-
 DENT: ERIN BONNING
 06/06/2002 - 07/31/2005 FY03: \$38,995 Total: \$62,995
Prin. Invest.: R MATZNER
Tech. Officer: GSFC/M S BURRELL
CASE Category: 13 – PHYSICS

NGT 5 136 **UNIV OF TEXAS - AUSTIN**
 SYNTHESIS OF ATTITUDE DETERMINATION ALGORITHMS ON A PIVOT GPS
 RECEIVER STUDENT: JARED MADSEN
 06/13/2002 - 08/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: G LIGHTSEY
Tech. Officer: GSFC/M S BURRELL
CASE Category: 41 – AERONAUTICAL ENGRN

NGT 5 137 **UNIV OF TEXAS - AUSTIN**
 INFRARED IMMERSION GRATINGS AND GRISMS FOR IR SPEC TROSCOPY
 AND A SPECTROSCOPIC STUDY OF PR
 06/13/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: D T JAFFE
Tech. Officer: GSFC/M S BURRELL
CASE Category: 11 – ASTRONOMY

NGT 5 139 **UNIV OF TEXAS - AUSTIN**
 PARALLEL FINITE ELEMENT COMPUTATIONAL TECHNIQUES & AMR FOR
 MICROGRAVITY FLUID FLOW SIMULATION PROBLE
 07/02/2002 - 08/14/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: G F CAREY
Tech. Officer: GSFC/M S BURRELL
CASE Category: 41 – AERONAUTICAL ENGRN

NGT 5 141 **UNIV OF TEXAS - AUSTIN**
 TRAJECTORY OPTIMIZATION IN TRANSLATING, ROTATING, AND OSCILLAT-
 ING REFER-ENCE FRAMES WITH APPLICATION
 07/18/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C OCAMPO
Tech. Officer: GSFC/M S BURRELL
CASE Category: 41 – AERONAUTICAL ENGRN

NGT 5 30447 **UNIV OF TEXAS - AUSTIN**
 ESTIMATING WATER CONTENT VARIATIONS, ERROR ANALYSI S, AND
 VALIDATION OF GRACE (STUDENT: KI-WEON SE
 08/23/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C WILSON
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30468 **UNIV OF TEXAS - AUSTIN**
 THE TREATMENT OF ALIASING ERROR IN THE ESTIMATION OF THE
 EARTH'S GRAVITYFIELD - STUDENT NAME: BRIAN
 08/21/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: B TAPLEY
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30497 **UNIV OF TEXAS - AUSTIN**
 LOCAL GRAVITY FIELD RECOVERY USING WAVELETS MODEL. STUDENT:
 HARREY SHULER
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: B TAPLEY
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30529 **UNIV OF TEXAS - AUSTIN**
 EXTENDING THE CAPABILITIES OF THE BLACKJET GPS RECEIVER FOR
 EARTH SCIENCE APPLICATIONS
 09/30/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: G LIGHTSEY
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40083 **UNIV OF TEXAS - AUSTIN**
 TEXAS SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/09/2001 - 01/31/2005 FY03: \$576,750 Total: \$1,556,350
Prin. Invest.: B TAPLEY
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50239 **UNIV OF TEXAS - AUSTIN**
 IMPROVED ESTIMATION OF SURFACE TOPOGRAPHY & VEGETA TION
 STRUCTURE BY COMBINING INTERFEROMETRIC SAR
 06/03/1999 - 06/30/2002 FY03: \$8,000 Total: \$74,000
Prin. Invest.: M CRAWFORD
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50301 **UNIV OF TEXAS - AUSTIN**
 GALAXY EVOLUTION AT REDSHIFTS OF Z=1-2
 06/29/2000 - 06/30/2004 FY03: \$0 Total: \$68,000
Prin. Invest.: G J HILL
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50361 **UNIV OF TEXAS - AUSTIN**
 AUTONOMOUS RENDEZVOUS BETWEEN MULTIPLE SPACECRAFT IN A
 CENTRAL BODY GRAVITY FIELD WITH DETAILED SENS
 05/31/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: C OCAMPO
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50371 **UNIV OF TEXAS - AUSTIN**
 RNAI ANALYSIS OF GRAVIRY SIGNAL TRANSDUCTION IN CERATOPERIS
 RICHARDII
 06/13/2001 - 07/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: S ROUX
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50401 **UNIV OF TEXAS - AUSTIN**
 PROBING THE PHYSICAL CONDITIONS OF STAR FORMATION
 06/13/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: N EVANS
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50459 **UNIV OF TEXAS - AUSTIN**
 MODELING STAR CLUSTER FORMATION (STUDENT: ANDREA URBAN)
 04/29/2003 - 07/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: N EVANS
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 9 20 **UNIV OF TEXAS - AUSTIN**
 TRAINING GRANT
 07/08/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: R H BISHOP
Tech. Officer: JSC/D J PEARSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 5257 **UNIV OF TEXAS - DALLAS**
 A SEQUENTIAL ROCKET INVESTIGATION OF WINDS AND PLASMAS LAYERS
 IN THE NIGHTTIME E-REGION
 02/28/2000 - 02/21/2004 FY03: -\$25,000 Total: \$763,053
Prin. Invest.: G D EARLE
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 9297 **UNIV OF TEXAS - DALLAS**
 A WEB-BASED DISTRIBUTION OF IONOSPHERIC THERMAL PLASMA DATA
 FROM THE DMSP SPACECRAFT
 04/17/2000 - 04/30/2004 FY03: \$0 Total: \$235,000
Prin. Invest.: M HAIRSTON
Tech. Officer: GSFC/P HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9476 **UNIV OF TEXAS - DALLAS**
 TURBO CODES & THEIR APPLICATION IN MOBILE SYSTEMS
 04/24/2000 - 04/30/2002 FY03: \$0 Total: \$99,999
Prin. Invest.: J P FONSEKA
Tech. Officer: GSFC/P H YEH
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10271 **UNIV OF TEXAS - DALLAS**
 A MODEL OF IONOSPHERIC VELOCITY STRUCTURE IN THE HIGH LATI-
 TUDE F-REGION
 01/08/2001 - 01/31/2004 FY03: \$70,053 Total: \$202,390
Prin. Invest.: R HEELIS
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10335 **UNIV OF TEXAS - DALLAS**
 DEVELOPMENT OF A RAM WIND SENSOR FOR PLANETARY THERMO-
 SPHERIC STUDIES-PROPOSAL #273
 02/06/2001 - 01/31/2004 FY03: \$270,000 Total: \$952,892
Prin. Invest.: G D EARLE
Tech. Officer: GSFC/C STAHL
CASE Category: 13 – PHYSICS

NAG 5 12697 **UNIV OF TEXAS - DALLAS**
 GROUP TRAVEL FOR U.S. PARTICIPANTS IN THE 21ST TEXAS SYMPOSIUM
 ON RELATIVISTIC ASTROPHYSICS
 12/13/2002 - 11/14/2003 FY03: \$20,000 Total: \$20,000
Prin. Invest.: E FENYVES
Tech. Officer: GSFC/L KALUZIENSKI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13393 **UNIV OF TEXAS - DALLAS**
 LWS:PROPOSAL TO ENHANCE THE DMSP DATA DISTRIBUTION WEBSITE BY
 PROVIDING ELECTROSTATIC POTENTIAL
 08/04/2003 - 08/14/2004 FY03: \$30,304 Total: \$30,304
Prin. Invest.: M R HAIRSTON
Tech. Officer: GSFC/T A KUCERA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 5 01068 **UNIV OF TEXAS - DALLAS**
 THE COUPLED ION-NEUTRAL DYNAMICS INVESTIGATION.
 12/13/2000 - 12/31/2005 FY03: \$875,456 Total: \$5,902,315
Prin. Invest.: R A HEELIS
Tech. Officer: GSFC/J BYRD
CASE Category: 11 – ASTRONOMY

NGT 5 50354 **UNIV OF TEXAS - DALLAS**
 LOW-LATITUDE IONOSPHERIC PLASMA DEPLETION: STRUCTURE AND DY-
 NAMICS
 05/11/2001 - 05/14/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: R A HEELIS
Tech. Officer: GSFC/M E MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2303 **UNIV OF TEXAS - EL PASO**
 THIN-FILM SOLAR CELLS FOR SPACE APPLICATION THIN-FILM SOLAR
 CELLS FOR SPACE APPLICATION
 11/23/1999 - 10/28/2002 FY03: \$0 Total: \$399,394
Prin. Invest.: G B LUSH
Tech. Officer: GRC/A HEPP
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2773 **UNIV OF TEXAS - EL PASO**
 DEVELOPMENT OF CONTROL STRATEGIES FOR MICROTHRUSTER PRO-
 PELLANT FLOW
 04/24/2002 - 02/06/2003 FY03: -\$6,620 Total: \$3,380
Prin. Invest.: D KYPYROS
Tech. Officer: GRC/B REED
CASE Category: 43 – CHEMICAL ENGR

NAG 5 8882 **UNIV OF TEXAS - EL PASO**
 SCIENCE EDUCATIONAL INSTRUCTIONAL MATERIALS FOR ISTP/SOLARMAX
 11/30/1999 - 01/14/2002 FY03: \$0 Total: \$53,228
Prin. Invest.: R E LOPEZ
Tech. Officer: GSFC/M H ACUNA
CASE Category: 13 – PHYSICS

NAG 5 9213 **UNIV OF TEXAS - EL PASO**
 PROBING NEUTRINO-INDUCED NUCLEOSYNTHESIS FROM THE ABUN-
 DANCES OF FLUORINE, BORON, LITHIUM, & OXYGEN
 03/23/2000 - 03/31/2004 FY03: \$79,154 Total: \$349,689
Prin. Invest.: V E SMITH
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9542 **UNIV OF TEXAS - EL PASO**
 REMOTE SENSING SPECTRAL IDENTIFICATION OF FRESHWATER PLANK-
 TON
 05/09/2000 - 05/14/2004 FY03: \$0 Total: \$299,521
Prin. Invest.: D SCHULZ-MAKUCH
Tech. Officer: GSFC/D MENCHAN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10151 **UNIV OF TEXAS - EL PASO**
 CONNECTING SUN CITY WITH SUN-EARTH CONNECTIONS
 01/03/2001 - 12/31/2003 FY03: \$265,452 Total: \$713,438
Prin. Invest.: R LOPEZ
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NAG 5 10507 **UNIV OF TEXAS - EL PASO**
 STUDIES OF SOLAR WIND-MAGNETOSPHERE COUPLING THRU DETAILED
 COMPARISON OF OBSERVATIONS & RESULTS
 03/01/2001 - 02/28/2004 FY03: \$89,522 Total: \$275,844
Prin. Invest.: R LOPEZ
Tech. Officer: GSFC/J SPANN
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 12704 **UNIV OF TEXAS - EL PASO**
 EFFECTS OF STAR FORMATION AND STELLAR DEATH ON INTERSTELLAR
 GAS ASSOCIATED WITH CEP OB2 (FUSE00)
 01/17/2003 - 01/14/2004 FY03: \$34,948 Total: \$34,948
Prin. Invest.: V E SMITH
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 13175 **UNIV OF TEXAS - EL PASO**
 HIGH RESOLUTION SPECTROSCOPY TO PROBE THE LINKS BE BETWEEN
 STELLAR CHEMISTRY & PLANETARY FORMATION
 03/24/2003 - 03/31/2006 FY03: \$77,000 Total: \$77,000
Prin. Invest.: V SMITH
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1645 **UNIV OF TEXAS - EL PASO**
 INVESTIGATION OF FRICTION STIR WELDING
 09/30/1999 - 09/30/2003 FY03: \$0 Total: \$200,000
Prin. Invest.: J C MCCLURE
Tech. Officer: MSFC/A BEAM, MSFC/W LOVE
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 9 1099 **UNIV OF TEXAS - EL PASO**
 DATA FUSION METHODOLOGISTS FOR DAMAGE MONITORING OF AERO-
 SPACE STRUCTURES
 05/15/1999 - 05/14/2004 FY03: \$0 Total: \$155,189
Prin. Invest.: C FERREGUT
Tech. Officer: JSC/A R ROCHA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 9 1100 **UNIV OF TEXAS - EL PASO**
 FUNDAMENTAL STUDIES OF CRATERING PHENOMMENA
 05/21/1999 - 06/30/2003 FY03: \$0 Total: \$155,773
Prin. Invest.: L E MURR
Tech. Officer: JSC/F HORZ
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 9 1171 **UNIV OF TEXAS - EL PASO**
 EXPERIMENTS FOR THE GRANTS AND COOP AGREEMENT HANDBOOKS
 09/28/1999 - 05/31/2003 FY03: \$0 Total: \$199,339
Prin. Invest.: L E MURR
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 47 – METAL & MATERIALS ENGR

NAG10 225 **UNIV OF TEXAS - EL PASO**
 CONTINUOUS HAZARD TRACKING & FAILURE ANALYSIS METHODOLOGY
 09/17/1997 - 09/30/2002 FY03: \$0 Total: \$298,983
Prin. Invest.: R QUINTANA
Tech. Officer: KSC/B DELIWALA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 287 **UNIV OF TEXAS - EL PASO**
 NONPARAMETRIC INFERENCE UNDER ORDER CONSTRAINTS FOR COM-
 PLETE AND CENSORED DATE: MATERIALS SCIENCE
 06/28/2000 - 06/27/2004 FY03: \$0 Total: \$273,037
Prin. Invest.: D ROJO
Tech. Officer: KSC/R LEE
CASE Category: 21 – MATHEMATICS

NAG10 331 **UNIV OF TEXAS - EL PASO**
 A PREDICTIVE SAFETY MANAGEMENT SYSTEM SOFTWARE PAC KAGE
 BASED ON THE CONTINUOUS HAZARD TRACKING AND
 11/26/2002 - 11/30/2003 FY03: \$50,000 Total: \$50,000
Prin. Invest.: D QUINTANA
Tech. Officer: KSC/B DELIWA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 5441 **UNIV OF TEXAS - EL PASO**
 SCIENCE OPPORTUNITY PLANNING FOR THE CASSINI SATURN MISSION
 06/26/2001 - 05/31/2003 FY03: \$0 Total: \$24,616
Prin. Invest.: S M ROACH
Tech. Officer: ARC/J N CUZZI
CASE Category: 11 – ASTRONOMY

NCC 2 5547 **UNIV OF TEXAS - EL PASO**
 SCIENCE DATA ANALYSIS FOR THE CASSINI SATURN MISSION
 08/14/2003 - 06/30/2005 FY03: \$27,089 Total: \$27,089
Prin. Invest.: S M ROACH
Tech. Officer: ARC/J CUZZI
CASE Category: 11 – ASTRONOMY

NCC 5 468 **UNIV OF TEXAS - EL PASO**
 CERTIFICATION OF MATHEMATICS AND SCIENCE TEACHERS
 03/07/2000 - 05/14/2003 FY03: \$0 Total: \$554,469
Prin. Invest.: S BLAKE
Tech. Officer: GSFC/C HOLLINGSWORTH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 498 **UNIV OF TEXAS - EL PASO**
 PAN AMERICAN CENTER FOR EARTH AND ENVIRONMENTAL STUDIES
 05/01/2000 - 06/30/2005 FY03: \$0 Total: \$3,400,000
Prin. Invest.: S STARKS
Tech. Officer: GSFC/J LAMBRECQUE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 535 **UNIV OF TEXAS - EL PASO**
 PROPELLING SCIENCE CONTENT INTO THE NEW MILLENNIUM /MUSPIN
 NRTS PROGRAM.
 02/01/2001 - 01/31/2004 FY03: \$503,372 Total: \$1,203,372
Prin. Invest.: H L SCHULTE
Tech. Officer: GSFC/J HARRINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 655 **UNIV OF TEXAS - EL PASO**
 DISSEMINATION OF NASA NRTS IMPACTS AT UTEP
 09/24/2002 - 09/14/2003 FY03: \$0 Total: \$35,000
Prin. Invest.: H SCHULTE
Tech. Officer: GSFC/J L HARRINGTON
CASE Category: 22 – COMPUTER SCIENCE

NGT 1 03010 **UNIV OF TEXAS - EL PASO**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 05/05/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S A SARKE
Tech. Officer: LARC/S J KATZBERG
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 13396 **UNIV OF TEXAS AT BROWNSVILLE**
 PROPOSAL TO CREATE A CENTER FOR GRAVITATIONAL WAVE ASTRO-
 PHYSICS AT THE UNIV OF TEXAS BROWN
 04/21/2003 - 04/14/2008 FY03: \$1,124,409 Total: \$1,124,409
Prin. Invest.: J D ROMANO
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1064 **UNIV OF TEXAS AT BROWNSVILLE**
 NRA PACE/MSET BLAST-OFF TO AN ENGINEERING CAREER
 01/07/1999 - 01/01/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: W WELLS
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1304 **UNIV OF TEXAS AT BROWNSVILLE**
 PRE MATH SCIENCE ENGINEERING & TECH SPT (MSET)
 05/18/2001 - 12/30/2003 FY03: \$0 Total: \$25,000
Prin. Invest.: A RIVAS
Tech. Officer: JSC/L ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1391 **UNIV OF TEXAS AT BROWNSVILLE**
 HISPANIC EDUCATION PROGRAM
 12/06/2001 - 12/12/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: L V LOF
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1406 **UNIV OF TEXAS AT BROWNSVILLE**
 PREMATH, SCIENCE, ENGINEERING & TECH SPT PROGRAM
 06/20/2002 - 06/19/2005 FY03: \$25,000 Total: \$50,000
Prin. Invest.: H SILVA
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1496 **UNIV OF TEXAS AT BROWNSVILLE**
 JASON PROJECT
 05/13/2003 - 05/18/2004 FY03: \$31,407 Total: \$31,407
Prin. Invest.: M SHANDS
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 438 **UNIV OF TEXAS AT BROWNSVILLE**
 C+P=M2T: SOUTH TEXAS MASTER MATHEMATICS TEACHER PREPARATION
 PROGRAMS
 03/03/2000 - 05/31/2003 FY03: \$72,931 Total: \$503,857
Prin. Invest.: J TELESE
Tech. Officer: GSFC/B WHITE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1383 **UNIV OF TEXAS AT SAN ANTONIO**
 PARALLEL AERODYNAMICS SIMULATION IN DISTRIBUTED ENVIRONMENTS
 09/14/1999 - 08/31/2002 FY03: \$0 Total: \$194,961
Prin. Invest.: A T CHRONPOULOS
Tech. Officer: ARC/B J COLLINS, ARC/G S LEE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 6040 **UNIV OF TEXAS AT SAN ANTONIO**
 CHANGING THE PARADIGM; PREPARING STUDENTS FOR THE COMPUTING
 PROFESSION IN THE 21ST CENTURY
 12/15/1999 - 02/28/2003 FY03: \$0 Total: \$190,713
Prin. Invest.: R F SINCOVEC
Tech. Officer: ARC/M J LEON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2297 **UNIV OF TEXAS AT SAN ANTONIO**
 PARTNERSHIP IN PROBABILISTIC STRUCTURAL ANALYSIS METHODS
 10/05/1999 - 08/31/2002 FY03: \$0 Total: \$200,000
Prin. Invest.: R D MANTEUFEL
Tech. Officer: GRC/C CHAMIS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2671 **UNIV OF TEXAS AT SAN ANTONIO**
 THE DEVELOPMENT OF A DISLOCATION PATTERNING BASED SET OF
 RATE-DEPENDENT EVOLUTION LAWS FOR CREEP AND
 12/06/2001 - 01/01/2003 FY03: \$0 Total: \$30,950
Prin. Invest.: D L BAGLEY
Tech. Officer: GRC/S RAJ
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2858 **UNIV OF TEXAS AT SAN ANTONIO**
 A PROBABILISTIC PERSPECTIVE APPROACH FOR SENSOR-BASED ENGINE
 LIFE CALCULATION
 03/06/2003 - 02/26/2004 FY03: \$35,000 Total: \$35,000
Prin. Invest.: P CHEN
Tech. Officer: GRC/T GUO
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 11741 **UNIV OF TEXAS AT SAN ANTONIO**
 PROYECTO ACCESS
 02/13/2002 - 07/31/2003 FY03: \$0 Total: \$1,000,000
Prin. Invest.: M P BERRIOZABAL
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13342 **UNIV OF TEXAS AT SAN ANTONIO**
 PROYECTO ACCESS 2003
 04/17/2003 - 03/31/2004 FY03: \$1,000,000 Total: \$1,000,000
Prin. Invest.: J G ROMO
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1720 **UNIV OF TEXAS AT SAN ANTONIO**
 LATIN HYPERCUBE SAMPLING IN RELIABILITY ANALYSIS
 06/07/2000 - 06/06/2004 FY03: \$0 Total: \$284,590
Prin. Invest.: R MANTUEFEL
Tech. Officer: MSFC/F SAFIE
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1301 **UNIV OF TEXAS AT SAN ANTONIO**
 TEXAS PREFRESHMAN ENGINEERING (TEXPREP) 2001
 05/08/2001 - 08/28/2002 FY03: \$0 Total: \$198,000
Prin. Invest.: M P BERRIOZABAL
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 21 – MATHEMATICS

NAG 9 1403 **UNIV OF TEXAS AT SAN ANTONIO**
 TEXAS PREFRESHMAN ENGINEERING PROGRAM
 05/30/2002 - 09/30/2003 FY03: \$0 Total: \$198,000
Prin. Invest.: M P BERRIOZABAL
Tech. Officer: JSC/L M ARMENDARIZ
CASE Category: 21 – MATHEMATICS

NAG 9 1546 **UNIV OF TEXAS AT SAN ANTONIO**
 TEXS PREFRESHMAN ENGINEERING PROGRAM
 07/02/2003 - 07/01/2004 FY03: \$198,000 Total: \$198,000
Prin. Invest.: J VALDEZ
Tech. Officer: JSC/E H GILLETTE
CASE Category: 49 – ENGINEERING, OTHER

NAG 9 1382 **UNIV OF TEXAS AT TYLER**
 CFD ANALYSIS OF LASER-ABLATION CARBON NANOTUBE PRODUCTION
 09/17/2001 - 08/31/2002 FY03: -\$668 Total: \$14,332
Prin. Invest.: R B GREENDYKE
Tech. Officer: JSC/C D SCOTT
CASE Category: 46 – MECHANICAL ENGR

NAG 9 1456 **UNIV OF TEXAS AT TYLER**
 CFD ANALYSIS OF THERMOPHYSICAL
 09/25/2002 - 01/31/2004 FY03: \$20,000 Total: \$20,000
Prin. Invest.: J GREENDYKE
Tech. Officer: JSC/C SCOTT
CASE Category: 46 – MECHANICAL ENGR

NCC 5 465 **UNIV OF THE INCARNATE WORD**
 INTEGRATING MATH AND SCIENCE FOR PRE-SERVICE & IN-SERVICE
 PARTNERSHIPS
 03/08/2000 - 05/31/2003 FY03: \$0 Total: \$450,721
Prin. Invest.: J BEAUFORD
Tech. Officer: GSFC/B WHITE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

UTAH

NAG 2 1625 **BRIGHAM YOUNG UNIV**
 AUTOMATED LANDING OF AN UNMANNED AIR VEHICLE IN A NON-
 COOPERATIVE ENVIRONMENT
 03/26/2003 - 03/31/2006 FY03: \$80,518 Total: \$80,518
Prin. Invest.: T W MCLAIN
Tech. Officer: ARC/M B TISCHLER, ARC/B R LAKINSMITH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 215 **BRIGHAM YOUNG UNIV**
 ROBUST COMMAND LINKS FOR FLIGHT TERMINATION ROBUST COMMAND
 LINKS FOR FLIGHT TERMINATION
 10/30/2000 - 07/31/2003 FY03: \$0 Total: \$72,034
Prin. Invest.: M D RICE
Tech. Officer: DFRC/R D SAKAHARA
CASE Category: 45 – ELECTRICAL ENGR

NAG 4 220 **BRIGHAM YOUNG UNIV**
 A PERFORMANCE STUDY OF EFTS IN THE PRESENCE OF INTERFERENCE
 02/11/2002 - 05/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: M D RICE
Tech. Officer: DFRC/R D SAKAHARA
CASE Category: 45 – ELECTRICAL ENGR

NAG 5 7711 **BRIGHAM YOUNG UNIV**
 FDG FOR 'GEOLOGIC AND ARCHAEOLOGIC APPLICATIONS OF HIGH-
 RESOLUTION SAR' PI:DAVID V. ARNOLD, SENH98
 09/28/1998 - 09/30/2002 FY03: \$0 Total: \$374,778
Prin. Invest.: D V ARNOLD
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 8746 **BRIGHAM YOUNG UNIV**
 POLAR ICE SHEET MONITORING FROM LONG TERM SCATTEROMETER
 AND RADIOMETER OBSERVATIONS
 08/18/1999 - 08/31/2002 FY03: \$0 Total: \$266,355
Prin. Invest.: D LONG
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9625 **BRIGHAM YOUNG UNIV**
 SCATTEROMETER CLIMATE RECORD PATHFINDER
 05/23/2000 - 04/30/2004 FY03: \$55,982 Total: \$487,000
Prin. Invest.: D LONG
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9638 **BRIGHAM YOUNG UNIV**
 SYNERGISTIC USE OF TRMM AND SEAWINDS DATA
 06/08/2000 - 11/30/2003 FY03: \$85,312 Total: \$235,312
Prin. Invest.: D G LONG
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 02005 **BRIGHAM YOUNG UNIV**
 NANOMATERIALS & STRUCTURES FOR NANO AND MICROPOWER APPLI-
 CATIONS
 01/15/2002 - 01/14/2005 FY03: \$120,000 Total: \$190,300
Prin. Invest.: J N HARB, G D WATT, R C DAVIS
Tech. Officer: LARC/G C KING
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 2250 **UNIV OF UTAH**
 USING GROUND-BASED MEASUREMENTS AND RETRIEVALS TO VALIDATE
 SATELLITE DATA
 01/19/2000 - 08/31/2002 FY03: -\$49,737 Total: \$155,477
Prin. Invest.: X DONG
Tech. Officer: LARC/P MINNIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2319 **UNIV OF UTAH**
 MOLECULAR DYNAMICS SIMULATIONS OF RANDOM IONOMERS AND
 NANOCOMPOSITES
 07/14/2000 - 06/30/2003 FY03: \$52,289 Total: \$246,144
Prin. Invest.: G D SMITH, M A GLASSER
Tech. Officer: LARC/J A HINKLEY, LARC/T S GATES
CASE Category: 12 – CHEMISTRY

NAG 1 03085 **UNIV OF UTAH**
 MANUFACTURING & MECHANICAL TESTING OF MULTI-FUNCTIONAL
 STRUCTURAL SYSTEMS FOR SPACECRAFT
 09/29/2003 - 09/30/2006 FY03: \$83,000 Total: \$83,000
Prin. Invest.: D O ADAMS
Tech. Officer: LARC/E SAETHER, LARC/E H GLAESSGEN
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2403 **UNIV OF UTAH**
 SIMULATION OF COMBUSTION SYSTEMS WITH REALISTIC G- JITTER
 04/26/2000 - 03/22/2003 FY03: \$0 Total: \$126,911
Prin. Invest.: D E MELL
Tech. Officer: GRC/H D ROSS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2548 **UNIV OF UTAH**
 SECONDARY FIRES: INITIATION & EXTINGUISHMENT SECONDARY FIRES:
 INITIATION & EXTINGUISHMENT
 02/23/2001 - 11/30/2004 FY03: \$43,300 Total: \$114,901
Prin. Invest.: W MELL
Tech. Officer: GRC/H D ROSS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2624 **UNIV OF UTAH**
 A JOINT SIMULATION AND EXPERIMENTAL STUDY OF NANOC OMPPOSITE
 SOLID POLYMERN ELECTROLYTES
 05/25/2001 - 07/31/2004 FY03: \$100,000 Total: \$272,000
Prin. Invest.: G D SMITH
Tech. Officer: GRC/B MCKISSOCK
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 3 2886 **UNIV OF UTAH**
 FUNDING_ SIMULATION OF COMBUSTION SYSTEMS WITH REALISTIC
 G-JITTER
 04/29/2003 - 09/30/2006 FY03: \$41,000 Total: \$41,000
Prin. Invest.: W MELL
Tech. Officer: GRC/H D ROSS
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 3902 **UNIV OF UTAH**
 ORBITING ARRAY OF WIDE-ANGLE LIGHT COLLECTORS (OWL ORBITING
 "EYES" TO STUDY AIR SHOWERS INITIATED BY
 03/03/1997 - 02/28/2002 FY03: \$0 Total: \$120,646
Prin. Invest.: E C LOH
Tech. Officer: GSFC/L M BARBIER
CASE Category: 11 – ASTRONOMY

NAG 5 6458 **UNIV OF UTAH**
 CLOUD PROPERTY & SURFACE RADIATION OBSERVATIONS & DIAGNOS-
 TICS IN SUPPORT OF EOS, CERES, MODIA & MISR
 10/14/1997 - 03/31/2004 FY03: \$0 Total: \$1,783,941
Prin. Invest.: G MACE
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 7447 **UNIV OF UTAH**
 CONTINUED SUPPORT OF THE GCTE FOCUS 1 OFFICE (ECOS YSTEM
 PHYSIOLOGY)
 06/19/1998 - 07/31/2002 FY03: \$0 Total: \$450,420
Prin. Invest.: J R EHLERINGER
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7871 **UNIV OF UTAH**
 THE GLACIER DYNAMICS AND MASS FLUX OF ANTARCTIC IC E STREAMS
 FROM RADARSAT INSAR
 01/21/1999 - 12/31/2003 FY03: \$0 Total: \$146,060
Prin. Invest.: R FORESTER
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8277 **UNIV OF UTAH**
 ACCRETION ONTO SUPERMASSIVE BLACK HOLES: OBSERVAT IONAL
 SIGNALS FROM 3-D33-DIMENSION (ATP 98)
 03/02/1999 - 02/28/2003 FY03: \$0 Total: \$109,239
Prin. Invest.: B C BROMLEY
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8339 **UNIV OF UTAH**
 GLOBAL DISTRIBUTION OF LIGHTNING FROM THE DTD AND RELATE
 GLOBAL DISTRIBUTION OF MCSS FROM TH
 04/26/1999 - 09/30/2001 FY03: -\$35 Total: \$142,302
Prin. Invest.: E ZIPSER
Tech. Officer: GSFC/J C DODGE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8550 **UNIV OF UTAH**
 THE SPATIAL AND TEMPORAL CHARACTERISTICS OF HIGH LATITUDE
 SEASONAL SNOW MELT AS DETECTED BY PASSIVE
 06/02/1999 - 05/31/2002 FY03: \$0 Total: \$128,886
Prin. Invest.: K JEZEK
Tech. Officer: GSFC/J C DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9717 **UNIV OF UTAH**
 VALIDATION AND TRANSFERABILITY OF TROPICAL LATENT HEATING ESTI-
 MATES
 06/21/2000 - 11/30/2003 FY03: \$127,000 Total: \$516,924
Prin. Invest.: E J ZIPSER
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10136 **UNIV OF UTAH**
 SAR ANALYSIS OF THE WESTERN SAINT ELIAS OROGEN, ALASKA
 12/04/2000 - 11/30/2003 FY03: \$45,527 Total: \$174,222
Prin. Invest.: R L BRUHN
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10682 **UNIV OF UTAH**
 REMOTE SENSING OF INTENSITY & ORGANIZATION OF CON- VECTION IN
 HURRICANES & TROPICAL CYCLONES BEFORE
 05/10/2001 - 05/14/2004 FY03: \$90,000 Total: \$268,105
Prin. Invest.: E J ZIPSER
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11478 **UNIV OF UTAH**
 CHARACTERIZATION OF THE ATMOSPHERIC PHYSICAL STATE GROUND
 SITE DATA COLLECTION, PROCESSING, & REDUCT
 12/19/2001 - 12/31/2003 FY03: \$158,726 Total: \$323,444
Prin. Invest.: G MACE
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11503 **UNIV OF UTAH**
 CRYSTAL-FACE: FIELD MEASUREMENT SUPPORT FROM THE FARSPOLAR-
 IZATION DIVERSITY LIDAR AND 95 GHZ R
 01/02/2002 - 05/15/2003 FY03: -\$54,745 Total: \$38,855
Prin. Invest.: K SASSEN
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11504 **UNIV OF UTAH**
 CLOUD-SCALE AND LARGE-SCALE MODELING OF TROPICAL A NVILS AND
 CIRRUS LAYERS
 01/02/2002 - 12/31/2003 FY03: \$84,828 Total: \$164,943
Prin. Invest.: S K KRUEGER
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11505 **UNIV OF UTAH**
 DIRECT MEASUREMENT OF THE OPTICAL PROPERTIES OF TR OPICAL
 CIRRUS CLOUDS
 01/02/2002 - 12/31/2003 FY03: \$97,378 Total: \$136,063
Prin. Invest.: T J GARRETT
Tech. Officer: GSFC/D Q ANDESRON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11532 **UNIV OF UTAH**
 CONNECTING THE PROPERTIES OF ANVIL CIRRUS TO THE PROPERTIES OF THE CONVECTIVE SOURCE
 01/03/2002 - 12/14/2003 FY03: \$65,730 Total: \$124,785
Prin. Invest.: E ZIPSER
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12080 **UNIV OF UTAH**
 GCTE FOCUS 1 OFFICE: ECOSYSTEM PROCESSES IN BIOGEOCHEMICAL CYCLES
 05/15/2002 - 12/31/2003 FY03: \$139,165 Total: \$270,660
Prin. Invest.: J EHLERINGER
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12230 **UNIV OF UTAH**
 INFRARED SPECTROSCOPY OF COMETARY MOLECULES
 05/30/2002 - 05/31/2005 FY03: \$76,339 Total: \$160,978
Prin. Invest.: J EHLERINGER
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12552 **UNIV OF UTAH**
 A MULTI-SENSOR (MULTI-SCALE) APPROACH TO SNOWMELT DETECTION USING ACTIVE AND PASSIVE MICROWAVE
 09/09/2002 - 09/14/2005 FY03: \$0 Total: \$74,697
Prin. Invest.: R FORSTER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13628 **UNIV OF UTAH**
 VALIDATION AND TRANSFERABILITY OF SATELLITE PRECIPITATION ESTIMATES
 08/28/2003 - 08/31/2006 FY03: \$60,000 Total: \$60,000
Prin. Invest.: E ZIPSER
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1665 **UNIV OF UTAH**
 NOVEL MICROSTRUCTURES FOR POLYMER-LIQUID CRYSTAL COMPOSITE MATERIALS
 06/15/2000 - 11/30/2003 FY03: \$110,146 Total: \$374,646
Prin. Invest.: J J MAGDA
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 5516 **UNIV OF UTAH**
 SIMULATION STUDIES OF THE CONFORMATIONS AND DYNAMICS OF A MODEL SINGLE STRANDED DNA MOLECULE IN AQUEOUS SOLUTION
 08/08/2002 - 08/14/2004 FY03: \$25,000 Total: \$50,630
Prin. Invest.: B BEDROVE
Tech. Officer: ARC/R JAFFE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 5 297 **UNIV OF UTAH**
 CARBON AND OXYGEN ISOTOPE RATIO CO₂ FLUX ANALYSES AT THE SOIL, CANOPY, AND LANDSCAPE SCALES
 06/16/1998 - 12/31/2002 FY03: \$0 Total: \$1,107,142
Prin. Invest.: J EHLERINGER
Tech. Officer: GSFC/D DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 683 **UNIV OF UTAH**
 CARBON AND OXYGEN ISOTOPE RATIO CO₂ FLUX ANALYSES AT THE SOIL, CANOPY AND LANDSCAPE SCALES
 01/02/2003 - 12/31/2005 FY03: \$180,000 Total: \$180,000
Prin. Invest.: J EHLERINGER
Tech. Officer: GSFC/D WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30398 **UNIV OF UTAH**
 RETRIEVAL OF CIRRUS CLOUD MICROPHYSICAL PARAMETERS AND ANALYSIS OF THE RELATIONSHIP BETWEEN PROPERTIES OF THE CLOUDS AND SURFACE FLUXES
 08/14/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: G MACE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30423 **UNIV OF UTAH**
 PRECIPITATION FEATURES ACCORDING TO TRMM: DIURNAL CYCLE AND EVALUATION OF RAINFALL PRODUCTS (STUDY OF THE RELATIONSHIP BETWEEN RAINFALL AND SURFACE FLUXES)
 09/07/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: E ZIPSER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30492 **UNIV OF UTAH**
 VARIABILITY OF WATER CONTENTS. STUDENT: HAIYAN JIANG
 09/29/2003 - 08/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: E ZIPSER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 40101 **UNIV OF UTAH**
 ROCKY MOUNTAIN UTAH SPACE GRANT COLLEGE AND FELLOW SHIP PROGRAM
 03/01/2001 - 01/31/2005 FY03: \$457,000 Total: \$1,319,500
Prin. Invest.: W WESTENSKOW
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50410 **UNIV OF UTAH**
 EFFECTS OF EXERCISE WITH AND WITHOUT WEIGHT BEARING ON BONE STRENGTH AND ARCHITECTURE. STUDENT: SA
 07/29/2002 - 07/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: S MILLER
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 03005 **UTAH STATE UNIV**
 SABER (SOUNDING OF ATMOSPHERE USING BROADBAND EMISSION RADIOMETER) SCIENCE INVESTIGATION
 11/26/2002 - 11/25/2006 FY03: \$80,000 Total: \$80,000
Prin. Invest.: J C ULWICK, D J BAKER
Tech. Officer: LARC/J G WELLS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 4469 **UTAH STATE UNIV**
 SATELLITE STUDIES OF STORM TIME MID- AND LOW-LATITUDE DYNAMICS
 05/21/1997 - 09/30/2001 FY03: \$0 Total: \$309,200
Prin. Invest.: D G FEJER
Tech. Officer: GSFC/M M MELLOTT
CASE Category: 13 – PHYSICS

NAG 5 5187 **UTAH STATE UNIV**
 CODA - COUPLING OF DYNAMICS AND AURORA FUNDING FOR FIRST YEAR OF GRANT
 03/30/1998 - 03/31/2004 FY03: \$0 Total: \$411,231
Prin. Invest.: C M SWENSON
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 - PHYSICS

NAG 5 5189 **UTAH STATE UNIV**
 A ROCKET INVESTIGATION OF ELECTRON DENSITY STRUCTURE, E-FIELDS AND AEROSOLS DURING PMSE AND N
 03/27/1998 - 09/30/2003 FY03: \$0 Total: \$419,648
Prin. Invest.: J C ULWICK
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 - PHYSICS

NAG 5 5245 **UTAH STATE UNIV**
 FIRST YEAR OF A THREE YEAR GRANT NAG5-5245 PI DR. JAMES C. ULWICK
 03/29/1999 - 03/31/2003 FY03: \$0 Total: \$390,470
Prin. Invest.: J C ULWICK
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 - PHYSICS

NAG 5 5258 **UTAH STATE UNIV**
 FIRST YEAR OF THREE YEAR EFFORT/ ROCKET INVESTIGATION OF WINDS ASSOCIATED W/E-REGION
 04/11/2000 - 03/23/2004 FY03: \$0 Total: \$199,294
Prin. Invest.: C M SWENSON
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 - PHYSICS

NAG 5 5293 **UTAH STATE UNIV**
 IONOSPHERIC NANOSATELLITE FORMATION (ION-F) IONOSPHERIC NANOSATELLITE FORMATION (ION-F)
 05/23/2000 - 05/17/2003 FY03: \$0 Total: \$535,157
Prin. Invest.: B G FEJER
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 - PHYSICS

NAG 5 5374 **UTAH STATE UNIV**
 ROCKET INVESTIGATION OF SCATTERING LAYERS IN THE B OTTOMSIDE EQUATORIAL FREGION IONOSPHERE
 06/19/2002 - 06/10/2005 FY03: \$139,138 Total: \$177,811
Prin. Invest.: C SWENSON
Tech. Officer: WFF/J BRINTON
CASE Category: 13 - PHYSICS

NAG 5 7597 **UTAH STATE UNIV**
 SNOW HYDROLOGY: THE PARAMETERIZATION OF SUBGRID PROCESSES WITHIN A PHYSICALLY BASED SNOW ENERGY
 07/21/1998 - 07/14/2002 FY03: \$0 Total: \$163,240
Prin. Invest.: D G TARBOTON
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 32 - GEOLOGICAL SCIENCE

NAG 5 8638 **UTAH STATE UNIV**
 PLASMAPAUSE AND ITS ENVIRONMENT: A PROPOSAL FOR COOPERATIVE STUDIES
 08/11/1999 - 01/31/2003 FY03: \$0 Total: \$70,500
Prin. Invest.: B G FEJER
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 - ASTRONOMY

NAG 5 9290 **UTAH STATE UNIV**
 ION-F: A SPACE-BASED TESTBED FOR DISTRIBUTED FORMATION CONTROL USING THE USUSAT NANOSATELLITE
 03/17/2000 - 03/31/2004 FY03: \$20,000 Total: \$87,000
Prin. Invest.: R FULLMER
Tech. Officer: GSFC/K LUU
CASE Category: 41 - AERONAUTICAL ENGR

NAG 5 10215 **UTAH STATE UNIV**
 SATELLITE STUDIES OF STORM-TIME THERMOSPHERIC WINDS
 01/05/2001 - 01/14/2004 FY03: \$85,500 Total: \$250,000
Prin. Invest.: B G FEJER
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 10716 **UTAH STATE UNIV**
 MULTIPLIERLESS FILTERS FOR REAL-TIME PROCESSING OF HYPERSPECTRAL IMAGES
 04/10/2001 - 04/30/2004 FY03: \$69,000 Total: \$194,000
Prin. Invest.: T BOSE
Tech. Officer: GSFC/N LAL
CASE Category: 22 - COMPUTER SCIENCE

NAG 5 11282 **UTAH STATE UNIV**
 USING REMOTE SENSING & IN SITU NETWORK OBSERVATION TO EVALUATE & IMPROVE THE PERFORMANCE OF
 08/17/2001 - 08/31/2004 FY03: \$75,344 Total: \$243,001
Prin. Invest.: M WHITE
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 11673 **UTAH STATE UNIV**
 IMPACT OF FIELD SCALE HETEROGENEITY IN SURFACE MOISTURE & VEGETATION COVER ON REGIONAL SCALE
 01/30/2002 - 01/31/2005 FY03: \$38,399 Total: \$105,675
Prin. Invest.: C NEALE
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 11687 **UTAH STATE UNIV**
 "IMPACT OF FIELD-SCALE HETEROGENEITY IN SURFACE MOISTURE AND VEGETATION COVER ON REGIONAL-SCALE FLUX
 02/12/2002 - 01/31/2005 FY03: \$4,804 Total: \$9,608
Prin. Invest.: L HIPPS
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 11880 **UTAH STATE UNIV**
 THE FLOW OF PLASMA IN THE SOLAR TERRESTRIAL ENVIRONMENT
 03/20/2002 - 03/31/2005 FY03: \$320,000 Total: \$615,000
Prin. Invest.: R W SCHUNK
Tech. Officer: GSFC/J M GREBOWSKY
CASE Category: 13 - PHYSICS

NAG 5 12117 **UTAH STATE UNIV**
 VISUALIZATION OF SPACE-TIME AMBIGUITIES TO BE EXPLORED BY NASA GEC MISSION WITH A CRITIQUE OF
 04/29/2002 - 04/30/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: J J SOJKA
Tech. Officer: GSFC/P BUCHANAN
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 12170 **UTAH STATE UNIV**
 I-M COUPLING ALONG AURORAL FILED LINES: MASS AND ENERGY EX-
 CHANGE BETWEEN HOT MAGNETOSPHERIC A
 05/09/2002 - 05/14/2005 FY03: \$76,000 Total: \$149,500
Prin. Invest.: A R BARAKAT
Tech. Officer: GSFC/J SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13026 **UTAH STATE UNIV**
 PLASMA FLUID FINITE DIFFERENCE TIME DOMAIN SIMULAT ION OF RADIO
 FREQUENCY PROBES FOR THE GE
 04/16/2003 - 03/31/2006 FY03: \$78,785 Total: \$78,785
Prin. Invest.: C SWEENSON
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13256 **UTAH STATE UNIV**
 VISUALIZATION OF SPACE-TIME AMBIGUITIES TO BE EXPL ORED BY THE
 GEC MISSION WITH A CRITIQUE OF MEASUR
 04/17/2003 - 06/30/2004 FY03: \$80,000 Total: \$80,000
Prin. Invest.: J J SOJKA
Tech. Officer: GSFC/R P BUCHANAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 8 1750 **UTAH STATE UNIV**
 EXTENSION OF ATLANTA/HOUSTON URBAN HEAT ISLAND STUDIES USING
 ASTER IMAGERY
 11/13/2000 - 04/01/2003 FY03: \$0 Total: \$52,073
Prin. Invest.: R GILES
Tech. Officer: MSFC/D QUATTROCHI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 9 1237 **UTAH STATE UNIV**
 CO2 GAS EXCHANGE TO DETERMINE THE FACTGORS CONTROL LING
 RESPIRATION & CARBON USE IN CROP PLANTS
 06/16/2000 - 07/01/2003 FY03: \$0 Total: \$66,275
Prin. Invest.: B BUGBEE
Tech. Officer: JSC/D BARTA
CASE Category: 55 – AGRICULTURE

NAG 9 1284 **UTAH STATE UNIV**
 OPTIMIZATION OF ROOT ZONE SUNSTRATES FOR REDUCED GRAVITY
 EXPERIEMENTS
 02/22/2001 - 02/21/2006 FY03: \$642,753 Total: \$1,108,093
Prin. Invest.: G BINGHAM
Tech. Officer: JSC/K DAUES
CASE Category: 56 – MEDICL

NAG 9 1397 **UTAH STATE UNIV**
 ETHYLENE SYNTHESIS & SENSITIVITY IN SALAD CROPS
 02/20/2002 - 02/19/2005 FY03: \$194,100 Total: \$366,220
Prin. Invest.: B G BUGBEE
Tech. Officer: JSC/K DAUES
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 02058 **UTAH STATE UNIV**
 DEVELOPMENT OF INTERMOUNTAIN REGION DIGITAL IMAGE PROCESSING
 AND ARCHIVE CENTER FOR LANDSCAPE
 09/27/2002 - 03/26/2004 FY03: \$0 Total: \$500,000
Prin. Invest.: D RAMSEY
Tech. Officer: SSC/T FRISBLE
CASE Category: 55 – AGRICULTURE

NAG13 03025 **UTAH STATE UNIV**
 THE INTERMOUNTAIN REGION DIGITAL IMAGE PROCESSING AND ARCHIVE
 CENTER FOR LANDSCAPE
 09/15/2003 - 09/14/2004 FY03: \$671,000 Total: \$671,000
Prin. Invest.: R D RAMSEY
Tech. Officer: SSC/T FRISBLE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 1 00071 **UTAH STATE UNIV**
 SENSOR MODULE DEVELOPMENT AND SUPPORT FOR GIFTS
 06/19/2000 - 03/19/2007 FY03: \$19,276,270 Total: \$45,278,167
Prin. Invest.: G BINGHAM, W SMITH
Tech. Officer: LARC/W A ROETTKER, LARC/J B MILLER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 1 02053 **UTAH STATE UNIV**
 FAR-INFRARED SPECTROSCOPY OF THE TROPOSPHERE (FIRST) FOURIER
 TRANSFORM SPECTROMETER
 07/22/2002 - 07/21/2005 FY03: \$1,315,450 Total: \$2,315,450
Prin. Invest.: G E BINGHAM
Tech. Officer: LARC/G JOHNSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 8 02031 **UTAH STATE UNIV**
 R&D SERVICES NRA 8-31; MEASUREMENT OF CHARGE STOR- AGE DECAY
 TIME AND RESISTIVITY OF SPACECRAFT INSU
 02/20/2002 - 02/19/2004 FY03: \$89,120 Total: \$178,578
Prin. Invest.: J R DENNISON, R FREDRICKSON, W HANSEN
Tech. Officer: MSFC/D HARDAGE
CASE Category: 13 – PHYSICS

NAS 8 03082 **UTAH STATE UNIV**
 4200008726 R/D ELECTRONIC PROPERTIES W/APP TO SPACECRAFT
 CHARGING EXTENSION OF MATERIALS DBASE
 09/30/2003 - 09/23/2004 FY03: \$55,204 Total: \$55,204
Prin. Invest.: J R DENNISON
Tech. Officer: MSFC/J MINOR
CASE Category: 47 – METAL & MATERIALS ENGR

NAS 9 02002 **UTAH STATE UNIV**
 FLOATING POTENTIAL MEASUREMENT UNIT
 10/30/2001 - 10/20/2003 FY03: \$504,489 Total: \$2,474,489
Prin. Invest.: C SWANSON
Tech. Officer: JSC/M A EDEN
CASE Category: 42 – ASTRONAUTICAL ENGR

NCC 2 5466 **UTAH STATE UNIV**
 FLOUROMETRIC DETECTION OF MICROORGANISMS ON STERLI ZED SUR-
 FACES
 09/26/2001 - 09/14/2003 FY03: \$49,902 Total: \$189,808
Prin. Invest.: L S POWERS
Tech. Officer: ARC/C P MCKAY, ARC/B F SMITH
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 2 5514 **UTAH STATE UNIV**
 MEDUSA SEA FLOOR MONITORING SYSTEM II
 08/06/2002 - 09/30/2003 FY03: \$0 Total: \$90,000
Prin. Invest.: L POWERS
Tech. Officer: ARC/M FLYNN
CASE Category: 33 – OCEANOGRAPHY

NASA'S UNIVERSITY PROGRAM

VERMONT

NCC 5 219 **UTAH STATE UNIV**
 HOLOGRAPHIC LIDAR CONCEPTS AND APPLICATIONS
 08/19/1997 - 10/31/2001 FY03: \$0 Total: \$79,520
Prin. Invest.: T D WILKERSON
Tech. Officer: GSFC/G SCHWEMMER
CASE Category: 11 – ASTRONOMY

NGT 8 52885 **UTAH STATE UNIV**
 EXPERIMENTAL STUDY OF THE SECONDARY ELECTRON EMISSION
 06/22/2000 - 12/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: J DENNISON
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 13 – PHYSICS

NCC 5 598 **UTAH STATE UNIV**
 HOLOGRAPHIC LIDAR CONCEPTS AND APPLICATIONS
 10/10/2001 - 10/14/2004 FY03: \$22,000 Total: \$61,831
Prin. Invest.: T D WILKERSON
Tech. Officer: GSFC/G SCHWEMMER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT10 52631 **UTAH STATE UNIV**
 GSRP STRESS SIGNALING IN RESPONSE TO HYPOXIA
 07/30/2001 - 12/31/2002 FY03: -\$4,032 Total: \$29,968
Prin. Invest.: D DEWALD
Tech. Officer: KSC/R M WHEELER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC13 00005 **UTAH STATE UNIV**
 AFFILIATED RESEARCH CENTER PROGRAM SAME
 03/06/2000 - 03/05/2005 FY03: \$200,000 Total: \$745,666
Prin. Invest.: R D RAMSEY, D BAKER, C HALL
Tech. Officer: SSC/A PEEK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

VERMONT

NAG 5 9733 **MIDDLEBURY COLLEGE**
 ENERGETICS & INITIATION OF CORONAL MASS EJECTIONS
 06/30/2000 - 06/30/2004 FY03: \$0 Total: \$87,303
Prin. Invest.: R WOLFSON
Tech. Officer: GSFC/W J WAGNER
CASE Category: 13 – PHYSICS

NCC13 02001 **UTAH STATE UNIV**
 VALIDATION AND APPLICATION OF GEOSPATIAL INFORMATION FOR
 EARLY DETECTION OF STRESS IN WHEAT
 01/07/2002 - 01/06/2005 FY03: \$373,990 Total: \$629,500
Prin. Invest.: T HAMMOND
Tech. Officer: SSC/D RISEN
CASE Category: 56 – MEDICL

NAG 5 10463 **UNIV OF VERMONT**
 CORE FORMATION UNDER DYNAMIC CONDITIONS: AN EXPERIMENTAL
 DEFORMATION INVESTIGATION
 02/27/2001 - 02/29/2004 FY03: \$40,000 Total: \$120,000
Prin. Invest.: T RUCHMER
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NGT 5 142 **UTAH STATE UNIV**
 THEORETICAL AND EXPERIMENTAL INVESTIGATION OF HIGH LATITUDE
 OUTFLOW, IONS AND NEUTRALS, GSRP TRA
 07/18/2002 - 07/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: R W SCHUNK
Tech. Officer: GSFC/M S BURRELL
CASE Category: 13 – PHYSICS

NCC 2 1373 **UNIV OF VERMONT**
 IS GRAVITY A CONTINUUM INVESTIGATIONS OF MECHANISMS MEDIATING
 GRAVITY INDUCED CHANGE IN MAMMARY MET
 12/23/2002 - 11/30/2003 FY03: \$111,637 Total: \$111,637
Prin. Invest.: K PLAUT
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NGT 5 40047 **UTAH STATE UNIV**
 TO SUPPORT PROGRAMS AND FELLOWSHIPS UNDER THE NATI COLLEGE
 AND FELLOWSHIP PROGRAM
 02/11/1997 - 08/31/2002 FY03: \$0 Total: \$1,404,372
Prin. Invest.: D BAKER
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 5399 **UNIV OF VERMONT**
 LAND COVER MAPPING IN NORTHERN ECOSYSTEMS USING AD
 EOS/POLDER
 09/18/2000 - 03/31/2002 FY03: \$0 Total: \$30,000
Prin. Invest.: G P LIVINGSTON
Tech. Officer: ARC/V C VANDERBILT, ARC/E P CONDON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 50398 **UTAH STATE UNIV**
 NOVEL ALGORITHMS FOR IMAGE RESTORATION
 06/13/2002 - 07/31/2003 FY03: \$3,473 Total: \$27,273
Prin. Invest.: T BOSE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 581 **UNIV OF VERMONT**
 VERMONT NASA EPSCOR PROGRAM
 08/15/2001 - 07/31/2004 FY03: \$522,819 Total: \$1,568,457
Prin. Invest.: W D LAKIN
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52866 **UTAH STATE UNIV**
 MONITORING OZONE CONCENTRATIONS AND INJURY IN HIGH ELEVATION
 DOUGLAS FIR NEAR SALT LAKE CITY
 07/24/1998 - 08/22/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: F BAKER
Tech. Officer: MSFC/J F DOWDY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 40110 **UNIV OF VERMONT**
 VERMONT SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 03/02/2001 - 02/28/2005 FY03: \$348,400 Total: \$1,092,340
Prin. Invest.: W LAKIN
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

VIRGINIA

NAG 1 2219 CHRISTOPHER NEWPORT UNIV
TECHNOLOGY DEVELOPMENT IMPLEMENTATION, AND ASSESS-
MENT: K-16 PRE-SERVICE, IN-SERVICE, AND DISTANCE
08/20/1999 - 07/31/2002 FY03: \$0 Total: \$1,448,090
Prin. Invest.: R CATON
Tech. Officer: LARC/T E PINELLI, LARC/R A HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01070 CHRISTOPHER NEWPORT UNIV
LOW TEMP SUPERCONDUCTING QUANTUM INTERFERENCE (SQUID) NON-
DESTRUCTIVE EVALUATION (NDE) APPLIC'S
06/01/2001 - 11/30/2002 FY03: \$0 Total: \$30,070
Prin. Invest.: R SELIM
Tech. Officer: LARC/M NAMKUNG
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 02055 CHRISTOPHER NEWPORT UNIV
LOW TEMPERATURE SQUID FOR NDE APPLICATIONS
02/15/2002 - 12/31/2003 FY03: \$21,552 Total: \$93,163
Prin. Invest.: R SELIM
Tech. Officer: LARC/R A WINCHESKI
CASE Category: 13 – PHYSICS

NAG 5 6503 CHRISTOPHER NEWPORT UNIV
VALIDATION OF MSMT. OF POLLUTION IN THE TROPOSPHERE (MOPITT)
EXPERIMENT BY GROUND-BASED INFRARED SO
10/29/1997 - 09/30/2002 FY03: \$0 Total: \$496,543
Prin. Invest.: N POUGATCHEV
Tech. Officer: GSFC/D STARR
CASE Category: 11 – ASTRONOMY

NCC 1 01028 CHRISTOPHER NEWPORT UNIV
THEORETICAL AND COMPUTATIONAL DEVELOPMENT OF A GALACTIC COS-
MIC RAY (GCR) BOUNDARY CONDITION MODEL
03/08/2001 - 01/31/2004 FY03: \$111,773 Total: \$279,359
Prin. Invest.: K CHANG
Tech. Officer: LARC/R C SINGLETERRY
CASE Category: 41 – AERONAUTICALENGR

NCC 1 02018 CHRISTOPHER NEWPORT UNIV
ANALYSIS OF MULTIPLATFORM CO (CARBON MONOXIDE) MEASUREMENTS
DURING TRACE-P MISSION
03/21/2002 - 01/31/2004 FY03: \$117,371 Total: \$233,911
Prin. Invest.: N S POUGATCHEV
Tech. Officer: LARC/G W SACHSE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 02021 CHRISTOPHER NEWPORT UNIV
SYNTHESIS OF CARBON NANOTUBES USING TEMPLATING TECHNIQUE
04/08/2002 - 10/07/2003 FY03: \$16,487 Total: \$52,962
Prin. Invest.: T M ABDEL-FATTAH
Tech. Officer: LARC/E J SIOCHI
CASE Category: 12 – CHEMISTRY

NCC 1 02039 CHRISTOPHER NEWPORT UNIV
DISTANCE LEARNING TECHNOLOGY/SCIENCE MATH ENGINEERING AND
TECHNOLOGY EDUCATION (SMET)
07/25/2002 - 07/31/2005 FY03: \$501,927 Total: \$1,068,916
Prin. Invest.: R A CANTON, M SPRAGUE
Tech. Officer: LARC/T E PINELLI
CASE Category: 22 – COMPUTER SCIENCE

NCC 1 02041 CHRISTOPHER NEWPORT UNIV
AEROSPACE VEHICLE SYSTEMS TECHNOLOGY OFFICE EDUCATIONAL
OUTREACH
08/08/2002 - 07/31/2004 FY03: \$181,289 Total: \$229,289
Prin. Invest.: E B WARD
Tech. Officer: LARC/R R ANTCLIFF
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 02042 CHRISTOPHER NEWPORT UNIV
PROJECT PRIME TIME
07/17/2002 - 08/14/2005 FY03: \$184,469 Total: \$259,150
Prin. Invest.: B H BARTELS
Tech. Officer: LARC/J M SEATON
CASE Category: 49 – ENGINEERING, OTHER

NCC 5 435 CHRISTOPHER NEWPORT UNIV
THE NASA WHY FILES, PROBLEM-BASED LEARNING INTEGRATING BROAD-
CAST VIDEO AND THE INTERNET.
09/24/1999 - 09/30/2002 FY03: \$0 Total: \$327,998
Prin. Invest.: D B CATON
Tech. Officer: GSFC/D GABRYS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2168 COLLEGE OF WILLIAM AND MARY
AN ADVANCED HIERARCHICAL HYBRID ENVIRONMENT FOR RELIABILITY
AND PERFORMANCE MODELING
03/24/1999 - 02/28/2003 FY03: \$0 Total: \$302,429
Prin. Invest.: G CIARDO
Tech. Officer: LARC/P W GOODE
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 01107 COLLEGE OF WILLIAM AND MARY
PREPARATION AND CHARACTERIZATION OF POLYIMIDE NANOCOMPOS-
ITES
07/09/2001 - 06/14/2003 FY03: \$0 Total: \$2,920
Prin. Invest.: R A ORWOLL
Tech. Officer: LARC/J W CONNELL
CASE Category: 12 – CHEMISTRY

NAG 1 02095 COLLEGE OF WILLIAM AND MARY
FORMAL VERIFICATION OF SAFETY PROPERTIES FOR AERO- SPACE
SYSTEMS THROUGH ALGORITHMS BASED ON
05/09/2002 - 10/08/2004 FY03: \$104,037 Total: \$154,037
Prin. Invest.: G CIARDO
Tech. Officer: LARC/B L DIVITO
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 02109 COLLEGE OF WILLIAM AND MARY
POLYIMIDE-CLAY COMPOSITE MATERIALS FOR SPACE APPLI CATION
08/07/2002 - 06/06/2004 FY03: \$9,506 Total: \$19,438
Prin. Invest.: R A ORWOLL
Tech. Officer: LARC/J W CONNELL, LARC/J G SMITH
CASE Category: 12 – CHEMISTRY

NAG 1 03019 COLLEGE OF WILLIAM AND MARY
QUANTUM TECHNOLOGY FOR RADIATION HARDENED (RAD HARD) MATE-
RIALS FOR SPACE AND INDUSTRIES
01/23/2003 - 01/22/2006 FY03: \$42,000 Total: \$42,000
Prin. Invest.: W J KOSSLER
Tech. Officer: LARC/R K TRIPATHI, LARC/J W WILSON
CASE Category: 13 – PHYSICS

NAG 8 1900 **COLLEGE OF WILLIAM AND MARY**
 POLYARYLENE ETHER AND POLYIMIDE MATERIALS WITH IMPROVED RADIATION SHIELD
 12/01/2002 - 11/30/2004 FY03: \$102,225 Total: \$102,225
Prin. Invest.: R ORWOLL
Tech. Officer: MSFC/B V GUYNES
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 1 00146 **COLLEGE OF WILLIAM AND MARY**
 SPECTROSCOPIC RESEARCH AND ANALYSES OF SAGE III DATA PRODUCTS
 01/19/2001 - 01/18/2006 FY03: \$95,000 Total: \$316,000
Prin. Invest.: D BRENNER
Tech. Officer: LARC/W CHU
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 327 **COLLEGE OF WILLIAM AND MARY**
 PREDICTION FOR RADIATION SHIELDING MATERIALS
 01/27/1999 - 12/18/2002 FY03: \$0 Total: \$294,189
Prin. Invest.: R L KIEFER
Tech. Officer: LARC/S A THIBEAULT
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 1 356 **COLLEGE OF WILLIAM AND MARY**
 CYBER SIMULATION FOR COMPOSITE MAT'L'S & STRUCTURES IN AERONAUTICS AND AEROSPACE
 09/28/1999 - 09/30/2002 FY03: -\$1 Total: \$326,559
Prin. Invest.: D M MANOS, R B PIPES
Tech. Officer: LARC/J H STARNES, JR.
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 390 **COLLEGE OF WILLIAM AND MARY**
 HIGH RESOLUTION SPECTROSCOPY TO SUPPORT ATMOSPHERIC MEASUREMENTS
 03/29/2000 - 04/30/2003 FY03: \$28,000 Total: \$497,400
Prin. Invest.: D C BENNER, M D VENKATARAMAN
Tech. Officer: LARC/M H SMITH
CASE Category: 13 – PHYSICS

NCC 1 01030 **COLLEGE OF WILLIAM AND MARY**
 DEV & APPLIC NON-LINEAR IMAGE ENHANCEMENT & MULTI-SENSOR FUSION TECHNIQ'S HAZY/DARK IMAG'G CONDITIO
 03/06/2001 - 02/28/2004 FY03: \$123,693 Total: \$320,603
Prin. Invest.: Z RAHMAD
Tech. Officer: LARC/D J JOBSON, LARC/S D HARRAH
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 01056 **COLLEGE OF WILLIAM AND MARY**
 LARGE SCALE PRODUCTION OF CARBON NANOTUBES USING THE JEFFERSON LAB FREE ELECTRON LASER
 07/25/2001 - 07/24/2003 FY03: \$0 Total: \$60,000
Prin. Invest.: B C HOLLOWAY
Tech. Officer: LARC/M W SMITH
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 02029 **COLLEGE OF WILLIAM AND MARY**
 ROBUST TECHNIQUES FOR MULTIDISCIPLINARY DESIGN OPTIMIZATION PROBLEM SYNTHESIS AND SOLUTION
 05/16/2002 - 05/15/2005 FY03: \$23,000 Total: \$45,350
Prin. Invest.: R M LEWIS
Tech. Officer: LARC/N M ALEXANDROV
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 02032 **COLLEGE OF WILLIAM AND MARY**
 MATERIALS FOR RADIATION SHIELDING AND DURABILITY IN THE SPACE ENVIRONMENT
 06/21/2002 - 06/20/2005 FY03: \$25,000 Total: \$80,499
Prin. Invest.: R L KIEFER
Tech. Officer: LARC/S A THIBEAULT
CASE Category: 13 – PHYSICS

NCC 1 03010 **COLLEGE OF WILLIAM AND MARY**
 NEW COOPERATIVE AGREEMENT
 03/10/2003 - 03/31/2006 FY03: \$151,700 Total: \$151,700
Prin. Invest.: M D VENKATARAMAN, D C BENNER
Tech. Officer: LARC/M A SMITH, LARC/C P RINSLAND
CASE Category: 13 – PHYSICS

NGT 1 01008 **COLLEGE OF WILLIAM AND MARY**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/04/2001 - 06/30/2004 FY03: \$13,000 Total: \$49,000
Prin. Invest.: N M ALEXANDROV, V TORCZON
Tech. Officer: LARC/R HATHAWAY
CASE Category: 22 – COMPUTER SCIENCE

NGT 1 01010 **COLLEGE OF WILLIAM AND MARY**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/04/2001 - 06/30/2004 FY03: \$0 Total: \$22,000
Prin. Invest.: M HINDERS
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 03014 **COLLEGE OF WILLIAM AND MARY**
 GRADUATE STUDENT RESEARCHERS PROGRAM
 04/25/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: J A WILKES, J A WILKES
Tech. Officer: LARC/P DANELY
CASE Category: 13 – PHYSICS

NGT 1 52200 **COLLEGE OF WILLIAM AND MARY**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 07/21/1998 - 08/31/2002 FY03: -\$4,038 Total: \$83,962
Prin. Invest.: R A ORWOLL
Tech. Officer: LARC/J W CONNELL, LARC/J A HINKLEY
CASE Category: 47 – METAL & MATERIALS ENGR

NGT 1 52204 **COLLEGE OF WILLIAM AND MARY**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 09/04/1998 - 08/31/2002 FY03: -\$428 Total: \$91,572
Prin. Invest.: M HINDERS
Tech. Officer: LARC/T E PINELLI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01030 **GEORGE MASON UNIV**
 INVENTIVE DESIGN: AN EVOLUTIONARY COMPUTATION APPROACH
 03/09/2001 - 09/30/2004 FY03: \$0 Total: \$223,278
Prin. Invest.: T ARCISZEWSKI, K D JONG
Tech. Officer: LARC/J J RENDER
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 1 03048 **GEORGE MASON UNIV**
 ATMOSPHERIC MESOSCALE MODELING OF THE ARES FLIGHT REGION ON MARS
 04/30/2003 - 10/29/2003 FY03: \$17,460 Total: \$17,460
Prin. Invest.: M E SUMMERS
Tech. Officer: LARC/J S LEVINE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1289 **GEORGE MASON UNIV**
 ABATEMENT OF AUTOMATION ERRORS BY TRAINING BASED ON COGNITIVE MODELS
 02/01/1999 - 09/30/2002 FY03: \$0 Total: \$296,445
Prin. Invest.: D B DAVIS, P A IKOMI, R W HOLT
Tech. Officer: ARC/S M CASNER
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 2 1565 **GEORGE MASON UNIV**
 AN EFFICIENT AIR TRAFFIC MANAGEMENT MODEL FOR EVALUATION OF COMPLEX BEHAVIOR AND IV & V SUPPORT OF
 06/10/2002 - 08/31/2003 FY03: \$0 Total: \$250,808
Prin. Invest.: G DONOHUE, C H CHEN
Tech. Officer: ARC/K D JAMES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1643 **GEORGE MASON UNIV**
 AN EFFICIENT AIR TRAFFIC MANAGEMENT MODEL FOR EVALUATION OF COMPLEX BEHAVIOR AND IV & V SUPPORT OF
 08/07/2003 - 12/31/2004 FY03: \$50,422 Total: \$50,422
Prin. Invest.: G DONOHUE, C H CHEN
Tech. Officer: ARC/K D JAMES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 8834 **GEORGE MASON UNIV**
 THE REDSHIFT DEPENDENCE OF THE INTERACTION- ACTIVITY CONNECTION AMONG ULTRALUMINOUS STARBURST
 11/18/1999 - 09/30/2003 FY03: \$0 Total: \$80,139
Prin. Invest.: J WALLIN
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 9781 **GEORGE MASON UNIV**
 PROBLEM SOLVING ON LOOSELY COUPLED SYSTEM
 07/07/2000 - 01/14/2004 FY03: \$0 Total: \$125,693
Prin. Invest.: P Y WANG
Tech. Officer: GSFC/J DORBAND
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 10038 **GEORGE MASON UNIV**
 LOW-LUMINOSITY NUCLEAR ACCRETION IN NGC 4261 & NGC 6251
 09/27/2000 - 09/30/2003 FY03: \$0 Total: \$38,518
Prin. Invest.: R M SAMBRUNA
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10073 **GEORGE MASON UNIV**
 HIGH-ENERGY ABSORPTION IN BLAZARS: PROBING THE INNER JET ENVIRONMENT (ADP 98)
 10/30/2000 - 06/30/2004 FY03: \$41,022 Total: \$111,945
Prin. Invest.: R M SAMBRUNA
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10177 **GEORGE MASON UNIV**
 A PROTOTYPE CLUSTERING TECHNIQUE FOR DATA MINING & KNOWLEDGE DISCOVERY BASED ON A DATA PYRAMID MODE
 01/04/2001 - 06/14/2002 FY03: \$0 Total: \$132,000
Prin. Invest.: D KAFATOS
Tech. Officer: GSFC/K L MOE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 10243 **GEORGE MASON UNIV**
 CONSTRAINING THE STRUCTURE OF THE CENTRAL ENGINE OF RADIO-LOUD AGN ADP99
 01/17/2001 - 09/14/2003 FY03: \$0 Total: \$28,219
Prin. Invest.: R M SAMBRUNA
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10244 **GEORGE MASON UNIV**
 INTENSIVE RXTE MONITORING OF THE TEV BLAZAR MRK501 (ADP 99)
 01/18/2001 - 01/31/2003 FY03: \$0 Total: \$23,678
Prin. Invest.: R M SAMBRUNA
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10708 **GEORGE MASON UNIV**
 STRUCTURE OF THE ACCRETION FLOW IN RADIO-LOUD AGN
 04/23/2001 - 10/31/2006 FY03: \$102,072 Total: \$283,581
Prin. Invest.: R M SAMBRUNA
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10776 **GEORGE MASON UNIV**
 COBE/DIRBE DATA AND THE ZODIACAL CLOUD (ADP 2000)
 04/26/2001 - 04/30/2004 FY03: \$0 Total: \$236,000
Prin. Invest.: L OZNEROY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 10879 **GEORGE MASON UNIV**
 ANALYSES OF RAIN RATE PARAMETERS DERIVED FROM TMI: CONDITIONAL RAIN RATE AND RAIN FRACTIONS
 05/10/2001 - 09/14/2002 FY03: \$0 Total: \$25,162
Prin. Invest.: L CHIU
Tech. Officer: GSFC/A T CHANG
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11346 **GEORGE MASON UNIV**
 SATELLITE MICROWAVE ESTIMATES OF OCEANIC RAINFALL AND SNOW OVER LAND
 09/13/2001 - 09/14/2003 FY03: \$0 Total: \$110,158
Prin. Invest.: L CHIU
Tech. Officer: GSFC/A T CHANG
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11432 **GEORGE MASON UNIV**
 PROBING THE NUCLEI OF IR LUMINOUS GALAXIES: THE GENESIS, NATURE, & EVOLUTION OF THEIR NUCLEAR ACT
 11/30/2001 - 09/30/2005 FY03: \$0 Total: \$100,000
Prin. Invest.: S SATYAPAL
Tech. Officer: GSFC/H HASSAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11874 **GEORGE MASON UNIV**
 OBSERVATIONAL STUDY ON INITIATION AND ACCELERATION OF CORONAL MASS EJECTIONS
 03/15/2002 - 03/14/2004 FY03: \$92,660 Total: \$136,933
Prin. Invest.: J ZHANG
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NAG 5 12343 **GEORGE MASON UNIV**
 EXPLORING THE PHASE SPACE AND CYCLE SPACE OF NETWORKED COLLECTIVE DYNAMICAL SYSTEMS.
 07/22/2002 - 10/31/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: D MOROWITZ
Tech. Officer: GSFC/J DORBAND
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12640 **GEORGE MASON UNIV**
 COMPARISON OF SATELLITE RAINFALL ALGORITHMS IN THE OCEANIC DRY REGIONS: RESULTS FROM TRMMRAIN RATE
 10/21/2002 - 12/31/2003 FY03: \$83,257 Total: \$83,257
Prin. Invest.: L S CHIU
Tech. Officer: GSFC/A T CHANG
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12708 **GEORGE MASON UNIV**
 EXTREME ENVIRONMENTS-DEVELOPMENT OF DECISION PROCESSES AND TRAINING FOR BIO-MEDICAL POLICY FORM
 01/13/2003 - 01/14/2004 FY03: \$150,000 Total: \$150,000
Prin. Invest.: R STOUGH
Tech. Officer: GSFC/M SHEPANEK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13409 **GEORGE MASON UNIV**
 INTEGRATION OF OGC & GRID TECHNOLOGIES FOR EARTH SCIENCE MODELING APPLICATIONS
 05/09/2003 - 05/14/2006 FY03: \$175,000 Total: \$175,000
Prin. Invest.: L DI
Tech. Officer: GSFC/K MCDONALD
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 13603 **GEORGE MASON UNIV**
 PARALLEL PROGRAMMING ON CLUSTERS
 08/13/2003 - 08/13/2004 FY03: \$60,112 Total: \$60,112
Prin. Invest.: P WANG
Tech. Officer: GSFC/J E DORBAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13666 **GEORGE MASON UNIV**
 ANALYSIS & HYDRODYNAMIC MODELING OF ACTIVE REGION LOOPS
 09/23/2003 - 08/31/2006 FY03: \$60,490 Total: \$60,490
Prin. Invest.: A WINEBARGER
Tech. Officer: GSFC/W WAGNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 01009 **GEORGE MASON UNIV**
 VIRGINIA ACCESS
 09/19/2001 - 09/18/2003 FY03: \$0 Total: \$997,800
Prin. Invest.: M KAFATOS
Tech. Officer: SSC/W GRAHAM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG13 02054 **GEORGE MASON UNIV**
 VIRGINIA ACCESS AND MIDDLE ATLANTIC GEOSPATIAL INFORMATION CONSORTIUM
 09/05/2002 - 09/18/2004 FY03: \$0 Total: \$1,300,000
Prin. Invest.: M KAFATOS
Tech. Officer: SSC/M GIARDINO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG13 03019 **GEORGE MASON UNIV**
 VIRGINIA ACCESS (VACCESS) AND MIDDLE ATLANTIC GEOSPATIAL INFORMATION CONSORTIUM (MAGIC)
 09/16/2003 - 09/18/2004 FY03: \$1,341,000 Total: \$1,341,000
Prin. Invest.: M KAFATOS
Tech. Officer: JSC/T S VANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCA 1 01004 **GEORGE MASON UNIV**
 VIRGINIA SATSLAB
 08/31/2001 - 09/30/2002 FY03: \$0 Total: \$2,500,000
Prin. Invest.: G DONOHUE
Tech. Officer: LARC/J R BURLEY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 5 306 **GEORGE MASON UNIV**
 SEASONAL & INTERANNUAL EARTH SCIENCE INFORMATION PARTNER (SIESIP)
 04/09/1998 - 12/31/2003 FY03: \$210,000 Total: \$3,080,000
Prin. Invest.: M KAFATOS
Tech. Officer: GSFC/M MAIDEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 360 **GEORGE MASON UNIV**
 CONTINUING CAREER PROGRAM (CCP)
 08/26/1998 - 01/31/2004 FY03: \$692,658 Total: \$2,855,374
Prin. Invest.: R R STOUGH
Tech. Officer: GSFC/A J MATURO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 522 **GEORGE MASON UNIV**
 DEVELOPMENT OF POSEIDON OCEAN MODEL FOR NSIPP
 12/18/2000 - 12/31/2003 FY03: \$158,786 Total: \$461,433
Prin. Invest.: P S SCHOPF
Tech. Officer: GSFC/M RIENECKER
CASE Category: 33 – OCEANOGRAPHY

NCC 5 555 **GEORGE MASON UNIV**
 JOINT INTERDISCIPLINARY EARTH SCIENCE
 05/04/2001 - 06/14/2004 FY03: \$3,284,238 Total: \$9,024,375
Prin. Invest.: M KAFATOS
Tech. Officer: GSFC/M MCCUMBER
CASE Category: 11 – ASTRONOMY

NCC 5 645 **GEORGE MASON UNIV**
 JOINT GEO-INFORMATICS LABORATORY (JGIL) CONDUCT RESEARCH & PROTOTYPING IN SUPPORT OF ESDISIP &
 06/12/2002 - 06/14/2005 FY03: \$836,182 Total: \$1,386,629
Prin. Invest.: L DI
Tech. Officer: GSFC/K MCDONALD
CASE Category: 22 – COMPUTER SCIENCE

NCC 5 714 **GEORGE MASON UNIV**
 SUPPORT FOR LIVING WITH A STAR PROGRAM (CONTROL # 3723)
 04/01/2003 - 03/31/2006 FY03: \$91,380 Total: \$91,380
Prin. Invest.: G L WITHBROE
Tech. Officer: GSFC/O C ST. CYR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 738 **GEORGE MASON UNIV**
 PROPOSAL TO ESTABLISH A NASA SCHOOLHOUSE FOR NASA ENGINEERING TRAINING AT GMU
 08/18/2003 - 08/14/2006 FY03: \$1,000,000 Total: \$1,000,000
Prin. Invest.: R STOUGH
Tech. Officer: GSFC/F G PATTERSON
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 2135 **HAMPTON UNIV**
 STUDY OF CONTRAILS AND ATMOSPHERIC RADIATION MEAS (ARM) DATA PROJECT DEVELOPMENT
 01/19/1999 - 01/31/2002 FY03: -\$4,185 Total: \$281,754
Prin. Invest.: M P MCCORMICK, J M RUSSELL, 111
Tech. Officer: LARC/P MINNIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2170 **HAMPTON UNIV**
 DEVELOPMENT AND COMPARISON OF GLOBAL AEROSOL, WATER VAPOR, AND OZONE CLIMATOLOGIES USING SAGE II
 03/25/1999 - 02/28/2002 FY03: \$0 Total: \$213,000
Prin. Invest.: M P MCCORMICK
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2206 **HAMPTON UNIV**
 TOP-OF-ATMOSPHERE CLEAR-SKY BROADBAND RADIATIVE FLUX AND DIRECT AEROSOL RADIATIVE FORCING FROM
 06/21/1999 - 06/30/2002 FY03: \$0 Total: \$164,555
Prin. Invest.: N G LOEB, B LIN, J HU
Tech. Officer: LARC/V E DELNORE, LARC/J L RAPER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2223 **HAMPTON UNIV**
 EVALUATION OF THE EFFECT OF WATER VAPOR ON THE PERFORMANCE OF NASA'S NMRO CATALYSIT FOR CARBON
 08/31/1999 - 03/31/2002 FY03: \$0 Total: \$199,869
Prin. Invest.: A AKYURTLU
Tech. Officer: LARC/D R SCHRYER
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 1 2318 **HAMPTON UNIV**
 THEORET & OBSERVAT'L DETERM OF GLOBAL & REGIONAL RADIATION BUDG, FORC'G & FEEDBACK TOP-OF-ATMOSPHERE
 07/18/2000 - 05/01/2004 FY03: \$390,315 Total: \$1,664,636
Prin. Invest.: N G LOEB
Tech. Officer: LARC/G G GIBSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2331 **HAMPTON UNIV**
 THE AMERICAN INDIAN EDUCATIONAL OPPORTUNITIES 2000 PROGRAM
 09/29/2000 - 07/31/2002 FY03: \$0 Total: \$75,000
Prin. Invest.: R SCHWAN
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 79 – SOCIAL SCIENCE, OTHER

NAG 1 01075 **HAMPTON UNIV**
 STATISTICAL METHODS FOR RAPID AEROTHERMAL ANALYSIS AND DESIGN TECHNOLOGY
 04/27/2001 - 01/09/2002 FY03: -\$1 Total: \$80,000
Prin. Invest.: D J DEPRIEST, C B MORGAN
Tech. Officer: LARC/R A THOMPSON
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 1 01089 **HAMPTON UNIV**
 THE AMERICAN INDIAN EDUCATIONAL OPPORTUNITIES 2001 PROGRAM
 06/13/2001 - 06/10/2003 FY03: \$0 Total: \$100,000
Prin. Invest.: R SCHWAN
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 01096 **HAMPTON UNIV**
 TOP-OF-ATMOSPHERE ALBEDO ESTIMATION FROM POLDER MULTI-ANGLE MEASUREMENTS: EVALUATION OF WATER AND
 06/20/2001 - 05/31/2004 FY03: \$56,917 Total: \$163,737
Prin. Invest.: N G LOEB, Y HU
Tech. Officer: LARC/V E DELNORE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02030 **HAMPTON UNIV**
 STATISTICAL METHODS FOR RAPID AEROTHERMAL ANALYSIS AND DESIGN TECHNOLOGY
 01/10/2002 - 12/31/2002 FY03: \$0 Total: \$59,999
Prin. Invest.: D J DEPRIEST, C B MORGAN
Tech. Officer: LARC/R A THOMPSON
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 1 02044 **HAMPTON UNIV**
 CONTRAIL TRACKING AND ARM (ATMOSPHERIC RADIATION MEASUREMENTS) DATA PRODUCT DEVELOPMENT
 01/28/2002 - 01/31/2005 FY03: \$114,829 Total: \$224,190
Prin. Invest.: D P DUDA
Tech. Officer: LARC/P MINNIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 03021 **HAMPTON UNIV**
 A COMPLETE ADAPTIVE DIGITAL SIGNAL PROCESSING SYSTEM
 01/28/2003 - 01/27/2006 FY03: \$98,279 Total: \$98,279
Prin. Invest.: W EDMONSON
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 1 03087 **HAMPTON UNIV**
 PARAMETRIC GENERATION OF TUNABLE RADIATION FOR REMOTE SENSING APPLICATION
 09/30/2003 - 09/30/2006 FY03: \$50,000 Total: \$50,000
Prin. Invest.: M P MCCORMICK, H R LEE
Tech. Officer: LARC/J YU
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1331 **HAMPTON UNIV**
 APPLIED CFD RESEARCH & TRAINING
 06/21/1999 - 09/14/2002 FY03: \$0 Total: \$300,000
Prin. Invest.: H HU
Tech. Officer: ARC/R C STRAWN
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 3 2249 **HAMPTON UNIV**
 ADVANCED METHODS FOR AIRCRAFT ENGINE THRUST AND NOISE BENEFITS. NOZZLE-INLET FLOW ANALYSIS
 04/01/1999 - 12/31/2002 FY03: \$0 Total: \$300,000
Prin. Invest.: M H MORGAN
Tech. Officer: GRC/I BLANKSON
CASE Category: 49 – ENGINEERING, OTHER

<p>NAG 3 2422 HAMPTON UNIV NUMERICAL SIMULATION OF ONE-AND TWO-PHASE FLOWS IN PROPULSION SYSTEMS 05/31/2000 - 12/31/2003 FY03: \$0 Total: \$300,000 <i>Prin. Invest.:</i> M GILLINSKY <i>Tech. Officer:</i> GRC/I M BLANKSON CASE Category: 41 – AERONAUTICAL ENGR</p>	<p>NAG 5 10796 HAMPTON UNIV CONCEPT STUDY FOR THE "AERONOMY OF ICE IN THE MESO SPHERE" (AIM) MISSION AO-99-OSS-05 05/01/2001 - 08/31/2003 FY03: \$1,800,000 Total: \$2,147,116 <i>Prin. Invest.:</i> D M RUSSELL <i>Tech. Officer:</i> GSFC/J R BYRD CASE Category: 11 – ASTRONOMY</p>
<p>NAG 3 2495 HAMPTON UNIV CORRUGATED AND COMPOSED NOZZLES APPLICATION FOR TH RUST AND JET NOISE BENEFITS VIA UEET PROGRAM 10/27/2000 - 09/30/2003 FY03: \$0 Total: \$125,000 <i>Prin. Invest.:</i> D GILLINSKY <i>Tech. Officer:</i> GRC/D W LAM CASE Category: 41 – AERONAUTICAL ENGR</p>	<p>NAG 5 11065 HAMPTON UNIV STDS OF CLIMATOLOGY & LONG-TERM CHANGES OF CHEM TRACERS IN THE MIDDLE ATMOS USING UARS DATA & HALO 06/28/2001 - 01/31/2003 FY03: \$0 Total: \$84,258 <i>Prin. Invest.:</i> J M RUSSELL <i>Tech. Officer:</i> GSFC/C JACKMAN CASE Category: 31 – ATMOSPHERIC SCIENCE</p>
<p>NAG 3 2618 HAMPTON UNIV ANALYSIS OF ANTIOXIDANT AND PHOSPHOINOSITOL SIGNAL TRANSDUCTION PATHWAY (S) IN PLANTS AFTER EXPOSUR 05/31/2001 - 04/30/2005 FY03: \$0 Total: \$88,145 <i>Prin. Invest.:</i> C M OKPODU <i>Tech. Officer:</i> GRC/D W GRIFFIN CASE Category: 49 – ENGINEERING, OTHER</p>	<p>NAG 5 11126 HAMPTON UNIV AURORA 2001 (ADVANCED UNDERGRADUATE RESEARCH USING OPTICAL RADIATION IN THE ATMOSPHERE) 07/18/2001 - 07/14/2002 FY03: -\$304 Total: \$74,696 <i>Prin. Invest.:</i> J RUSSELL <i>Tech. Officer:</i> GSFC/B W MEESON CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>
<p>NAG 5 5360 HAMPTON UNIV GRANT TO HAMPTON UNIVESITY FOR THE STUDY OF UPPER AIR INSTRUMENTATION ANOMALIES. PERIOD: 3/15/02 T 03/14/2002 - 06/30/2003 FY03: \$0 Total: \$11,389 <i>Prin. Invest.:</i> P MCCORMICK <i>Tech. Officer:</i> WFF/F J SCHMIDLIN CASE Category: 31 – ATMOSPHERIC SCIENCE</p>	<p>NAG 5 11409 HAMPTON UNIV TIMED PHASE E SABER - RUSSELL 12/10/2001 - 12/31/2005 FY03: \$134,714 Total: \$291,687 <i>Prin. Invest.:</i> J M RUSSELL <i>Tech. Officer:</i> GSFC/B A CAMPBELL CASE Category: 31 – ATMOSPHERIC SCIENCE</p>
<p>NAG 5 9156 HAMPTON UNIV PROGRAM FOR IMPROVING SUCCESS IN SCIENCE, ENGINEERING, AND MATHEMATICS (PRISEM) 03/03/2000 - 02/28/2003 FY03: \$0 Total: \$273,482 <i>Prin. Invest.:</i> C RANKINS <i>Tech. Officer:</i> GSFC/M STOUTSENBERGER CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>NAG 5 11477 HAMPTON UNIV REAL-TIME VERY HIGH RESOLUTION REGIONAL 4D ASSIMILATION IN SUPPORTING NASA CRYSTAL-FACE EXPERIMENT 12/19/2001 - 12/31/2003 FY03: \$65,582 Total: \$137,371 <i>Prin. Invest.:</i> D WANG <i>Tech. Officer:</i> GSFC/D ANDERSON CASE Category: 39 – ENVIRONMENTAL SCI, OTHER</p>
<p>NAG 5 9171 HAMPTON UNIV STUDIES OF POLAR MESOSPHERIC CLOUDS FROM OBSERVATIONS BY THE STUDENT NITRIC OXIDE EXPLORER 03/08/2000 - 02/28/2002 FY03: -\$87 Total: \$149,220 <i>Prin. Invest.:</i> S M BAILEY <i>Tech. Officer:</i> GSFC/M MELLOTT CASE Category: 32 – GEOLOGICAL SCIENCE</p>	<p>NAG 5 11818 HAMPTON UNIV HELIOSPHERIC HYDROGEN AND HELIUM 03/12/2002 - 03/14/2005 FY03: \$65,341 Total: \$118,507 <i>Prin. Invest.:</i> W R PRYOR <i>Tech. Officer:</i> GSFC/T KUCERA CASE Category: 19 – PHYSICAL SCIENCE, OTHER</p>
<p>NAG 5 10015 HAMPTON UNIV HAMPTON UNIV COLLEGE OF CONTINUING EDUCATION AEROSCIENCE CENTER 09/21/2000 - 09/30/2003 FY03: \$300,000 Total: \$900,000 <i>Prin. Invest.:</i> C L REAVES <i>Tech. Officer:</i> GSFC/P S BOELLNER CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>NAS 1 97042 HAMPTON UNIV PRINCIPAL INVESTIGATOR SERVICES TO SUPPORT SAGE II AND III, SABER, HALOE, LITE AND LIDAR PROGRAMS. 09/29/1997 - 09/30/2002 FY03: \$0 Total: \$1,274,194 <i>Prin. Invest.:</i> P MCCORMICK <i>Tech. Officer:</i> LARC/R L DUNCAN CASE Category: 31 – ATMOSPHERIC SCIENCE</p>
<p>NAG 5 10163 HAMPTON UNIV A SPACE SCIENCE CURRICULUM AT HAMPTON UNIV: DEVELOPMENT OF A MINOR, FACULTY ENHANCEMENT. 12/13/2000 - 12/31/2003 FY03: \$244,998 Total: \$734,991 <i>Prin. Invest.:</i> A OMAR <i>Tech. Officer:</i> GSFC/P SAKIMOTO CASE Category: 11 – ASTRONOMY</p>	<p>NAS 1 99108 HAMPTON UNIV PICASSO-CENA INTERNATIONAL SCIENCE ADVISORY PANEL, SCIENCE ACTIVITIES, ALGORITHM IMPLEMENTATION& OU 02/01/2000 - 01/31/2004 FY03: \$273,800 Total: \$3,242,371 <i>Prin. Invest.:</i> M P MCCORMICK, A H OMAR <i>Tech. Officer:</i> LARC/G G GIBSON CASE Category: 31 – ATMOSPHERIC SCIENCE</p>

NAS 5 03074 **HAMPTON UNIV**
 DEFINITION ACTIVITIES (PHASE B) FOR THE AERONOMY OF ICE IN THE
 (AIM) SPACEFLIGHT MISSION
 04/14/2003 - 12/31/2003 FY03: \$6,461,412 Total: \$6,461,412
Prin. Invest.: J M RUSSELL
Tech. Officer: GSFC/D L PIERCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 251 **HAMPTON UNIV**
 RESEARCH CENTER FOR OPTICAL PHYSICS MY 1/5
 03/18/1997 - 05/31/2003 FY03: \$31,000 Total: \$6,218,999
Prin. Invest.: D A TEMPLE
Tech. Officer: LARC/R HATHAWAY
CASE Category: 13 – PHYSICS

NCC 1 358 **HAMPTON UNIV**
 NASA-ASEE SUMMER FACULTY FELLOWSHIP PROGRAM 2000
 03/27/2000 - 12/31/2001 FY03: \$0 Total: \$584,055
Prin. Invest.: D DEPRIEST
Tech. Officer: LARC/R HATHAWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 366 **HAMPTON UNIV**
 DEVELOPMENT OF ADVANCED AIRCRAFT ANTENNA DESIGN AND ANALY-
 SIS TECHNIQUES
 01/11/2000 - 12/31/2002 FY03: -\$1 Total: \$77,033
Prin. Invest.: A O OLADIPUPO, C J REDDY
Tech. Officer: LARC/F B BECK, LARC/M C BAILEY
CASE Category: 45 – ELECTRICAL ENGR

NCC 1 01034 **HAMPTON UNIV**
 2001 LANGLEY AEROSCIENCE RESEARCH SUMMER SCHOLARS (LARSS)
 PROGRAM
 03/20/2001 - 03/02/2002 FY03: -\$118 Total: \$927,347
Prin. Invest.: R SCHWAN
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 01059 **HAMPTON UNIV**
 CENTER FOR LIDAR & ATMOSPHERIC SCIENCES STUDENTS (FORMERLY
 GSFC NCC-5-348)
 08/22/2001 - 06/30/2004 FY03: \$27,227 Total: \$1,189,196
Prin. Invest.: D A TEMPLE, A OMAR
Tech. Officer: LARC/J YU
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 02015 **HAMPTON UNIV**
 2002 NASA SUMMER FACULTY FELLOWSHIP PROGRAM
 02/22/2002 - 03/02/2004 FY03: \$24,000 Total: \$697,300
Prin. Invest.: D J DEPRIEST
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 02020 **HAMPTON UNIV**
 2002 LANGLEY AEROSPACE RESEARCH SUMMER SCHOLARS PROGRAM
 (LARSS)
 04/02/2002 - 03/02/2004 FY03: \$169,622 Total: \$1,183,082
Prin. Invest.: H DAVIS
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 03020 **HAMPTON UNIV**
 2003 LARSS PROGRAM
 05/09/2003 - 03/31/2004 FY03: \$1,121,446 Total: \$1,121,446
Prin. Invest.: V PELCHY
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 1037 **HAMPTON UNIV**
 HAMPTON UNIV AEROPROPULSION CENTER HAMPTON UNIV AEROPRO-
 PULSION CENTER
 03/20/2003 - 01/26/2007 FY03: \$1,116,292 Total: \$1,116,292
Prin. Invest.: M H MORGAN
Tech. Officer: GRC/I M BLANKSON
CASE Category: 41 – AERONAUTICAL ENGR

NGT 2 52261 **HAMPTON UNIV**
 DEVELOPMENT OF AN ASTROBIOLOGY EDUCATION CURRICULUM AT
 HAMPTON UNIV
 12/06/1999 - 06/30/2002 FY03: \$0 Total: \$199,877
Prin. Invest.: B FAISON
Tech. Officer: ARC/D DESMARAIS
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 1 2186 **JAMES MADISON UNIV**
 INFRARED DEVELOPMENT AND TESTING LABORATORY WITH DEVELOP-
 MENT OF ATMOSPHERIC CO IMAGING INSTRUMENT
 04/29/1999 - 02/28/2003 FY03: \$0 Total: \$141,800
Prin. Invest.: J J MILES
Tech. Officer: LARC/A D LITTLE
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 02033 **JAMES MADISON UNIV**
 RANSLES AND DNS TOWARD MUTUALLY CONSISTENT FORMULATIONS
 01/10/2002 - 01/09/2004 FY03: \$33,000 Total: \$56,000
Prin. Invest.: C D PRUETT
Tech. Officer: LARC/T B GATSKI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 10701 **JAMES MADISON UNIV**
 DEVELOPMENT OF TEST TECHNOLOGY FOR THIN-FILM MEMBRANE
 STRUCTURES
 04/05/2001 - 04/14/2003 FY03: \$0 Total: \$49,965
Prin. Invest.: J BLANDINO
Tech. Officer: GSFC/J JOHNSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 394 **MARY WASHINGTON COLLEGE**
 A PROPOSAL FOR THE ESTABLISHMENT OF A CENTER FOR EXPERIMEN-
 TAL AERODYNAMICS (CEA)
 04/24/2000 - 03/31/2005 FY03: \$200,000 Total: \$756,396
Prin. Invest.: C P BRITCHER, R L ASH, R L ASH
Tech. Officer: LARC/J C YU
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2125 **NORFOLK STATE UNIV**
 TECHNICAL EDUCATION OUTREACH MATERIALS SCIENCE AND TECHNOL-
 OGY BASED ON NASAS MATERIALS RESEARCH
 01/12/1999 - 12/31/2002 FY03: \$0 Total: \$119,000
Prin. Invest.: J JACOBS, S R CHAUDHURY
Tech. Officer: LARC/E T PRIOR, LARC/R HATHAWAY
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 2172 **NORFOLK STATE UNIV**
 DEVELOPMENT OF SOLID-STATE LASER MATERIALS FOR APPLICATION IN LASERS FOR ATMOSPHERIC OZONE & WATER
 03/30/1999 - 12/31/2001 FY03: \$0 Total: \$88,231
Prin. Invest.: M NOGINOV, G LOUITS
Tech. Officer: LARC/N P BARNES, LARC/J C BARNES
CASE Category: 13 – PHYSICS

NAG 1 2226 **NORFOLK STATE UNIV**
 PORTSMOUTH ATMOSPHERIC SCIENCE SCHOOL PROJECT (PASS)
 08/24/1999 - 07/31/2002 FY03: \$0 Total: \$199,728
Prin. Invest.: C COLEMAN
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01127 **NORFOLK STATE UNIV**
 THE CHROME HONORS PROGRAM
 09/26/2001 - 09/30/2002 FY03: \$0 Total: \$50,000
Prin. Invest.: E WILSON
Tech. Officer: LARC/R HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02060 **NORFOLK STATE UNIV**
 NASA'S CENTER OF EXCELLENCE FOR STRUCTURES AND MATERIALS TECHNICAL EDUCATION OUTREACH
 04/01/2002 - 04/30/2005 FY03: \$48,585 Total: \$98,585
Prin. Invest.: J A JACOBS
Tech. Officer: LARC/E J PRIOR
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02076 **NORFOLK STATE UNIV**
 CHARACTERIZATION OF SMART OPTICAL MATERIALS USING ELLIPSOIDOMETRY
 03/29/2002 - 07/31/2002 FY03: \$0 Total: \$10,000
Prin. Invest.: K D SONG
Tech. Officer: LARC/S H CHOI, LARC/G C KING
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 03015 **NORFOLK STATE UNIV**
 POWER ALLOCATION & DIST (PAD) LOGIC CIRCUIT /SMART MEMBRANE ACTUATORS CONTROLLED BY A MICROWAVE
 01/30/2003 - 01/29/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: W T GOLEMBIEWSKI
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2289 **NORFOLK STATE UNIV**
 NOVEL HIGH EFFICIENT ORGANIC PHOTOVOLTAIC MATERIALS
 08/30/1999 - 07/21/2002 FY03: \$0 Total: \$299,816
Prin. Invest.: S SUN
Tech. Officer: GRC/A F HEPP
CASE Category: 12 – CHEMISTRY

NAG 4 165 **NORFOLK STATE UNIV**
 VARIATIONAL METHOD IN DESIGN OPTIMIZATION
 02/26/1999 - 02/26/2002 FY03: \$0 Total: \$293,464
Prin. Invest.: D HULBERT
Tech. Officer: DFRC/K GUPTA, DFRC/E COX
CASE Category: 41 – AERONAUTICAL ENGR

NAG 4 237 **NORFOLK STATE UNIV**
 ANALYSIS OF FLUID-STRUCTURE INTERACTION ANALYSIS OF FLUID-STRUCTURE INTERACTION
 02/11/2003 - 06/19/2003 FY03: \$100,000 Total: \$100,000
Prin. Invest.: A IBRAHIM
Tech. Officer: DFRC/J LARSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 6298 **NORFOLK STATE UNIV**
 NORFOLK STATE UNIV RESEARCH EXPERIENCE IN EA
 09/15/1997 - 07/31/2002 FY03: -\$17,182 Total: \$206,088
Prin. Invest.: W J RODRIGUEZ
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8541 **NORFOLK STATE UNIV**
 SUMMER WORKSHOP PROGRAM TO PROVIDE EMERGING EDUCATORS W/THE FAMILIARITY & KNOWLEDGE TO UTILIZE IN CLASS
 05/12/1999 - 05/14/2002 FY03: -\$6,983 Total: \$33,312
Prin. Invest.: S CHAUDHURY
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8653 **NORFOLK STATE UNIV**
 DESIGN AND PERFORMANCE TESTS OF ULTRA-COMPACT CALORIMETERS FOR HIGH ENERGY ASTROPHYSICS
 08/19/1999 - 07/31/2003 FY03: \$0 Total: \$279,385
Prin. Invest.: C W SALGADO
Tech. Officer: GSFC/R E STREITMATTER
CASE Category: 13 – PHYSICS

NAG 5 9257 **NORFOLK STATE UNIV**
 BRINGING EDUCATION & SCIENCE TOGETHER FOR SYSTEMIC TRAINING & EMPOWERMENT OF PRESERVICE TEACHERS
 03/15/2000 - 08/31/2003 FY03: \$0 Total: \$576,968
Prin. Invest.: G GOLEMBIEWSKI
Tech. Officer: GSFC/B L WHITE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 9374 **NORFOLK STATE UNIV**
 SCENARIO BASED LEARNING: INQUIRY FOR A DIGITAL EARTH
 04/05/2000 - 09/30/2003 FY03: \$0 Total: \$253,999
Prin. Invest.: S J CHAUDHURY
Tech. Officer: GSFC/B MEESON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10140 **NORFOLK STATE UNIV**
 A NASA-HBCU PARTNERSHIP TO ENHANCE MINORITY EDUCATION & RESEARCH PARTICIPATION IN THE SPACE SCIENCE
 12/12/2000 - 12/31/2003 FY03: \$201,673 Total: \$608,226
Prin. Invest.: C W SALGADO
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 11 – ASTRONOMY

NAG 8 1862 **NORFOLK STATE UNIV**
 GROWTH AND CHARACTERIZATION OF ORGANIC CRYSTALS
 04/16/2002 - 04/15/2003 FY03: \$0 Total: \$10,000
Prin. Invest.: L SALARY
Tech. Officer: MSFC/W J LOVE
CASE Category: 12 – CHEMISTRY

NCC 1 280 **NORFOLK STATE UNIV**
 FEASIBILITY STUDY OF PIEZOELECTRIC ACTUATORS DRIVE N BY A
 MICROWAVE
 03/06/1998 - 03/05/2002 FY03: -\$19,175 Total: \$280,824
Prin. Invest.: K D SONG
Tech. Officer: LARC/S H CHOI
CASE Category: 46 – MECHANICAL ENGR

NCC 1 01049 **NORFOLK STATE UNIV**
 DEVELOPMENT OF NOVEL COMPOSITE AND RANDOM MATERIAL FOR
 NONLINEAR OPTICS AND LASERS - TRANSFER FROM
 06/06/2001 - 09/14/2004 FY03: \$0 Total: \$1,360,000
Prin. Invest.: L MATTIX
Tech. Officer: LARC/J C BARNES
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 01053 **NORFOLK STATE UNIV**
 2001 PRE-SERVICE TEACHER INST
 05/10/2001 - 03/31/2002 FY03: \$0 Total: \$216,284
Prin. Invest.: P TUCKER-HOGAN
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 01055 **NORFOLK STATE UNIV**
 MISSION-LEVERAGED EDUCATION: NSU-NASA INNOVATIVE UNDERGRADU-
 ATE MODEL MILEN1IUM A NASA PAIR PROJECT
 06/29/2001 - 02/29/2004 FY03: \$299,480 Total: \$895,694
Prin. Invest.: W RODRIGUEZ
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 02024 **NORFOLK STATE UNIV**
 2002 PRE-SERVICE TEACHER PROGRAM (INST AND CONFERENCE)
 04/29/2002 - 04/28/2003 FY03: \$346,836 Total: \$821,836
Prin. Invest.: S M PROCTOR, P TUCKER-HOGAN
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 03030 **NORFOLK STATE UNIV**
 2003 PRE-SERVICE TEACHER PROGRAM (PSTI)
 05/15/2003 - 05/14/2004 FY03: \$561,986 Total: \$561,986
Prin. Invest.: S DELOATCH
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NCC 3 1035 **NORFOLK STATE UNIV**
 CENTER FOR RESEARCH AND EDUCATION IN ADVANCED MATERIALS
 03/25/2003 - 12/02/2007 FY03: \$1,200,000 Total: \$1,200,000
Prin. Invest.: G B LOUTTS
Tech. Officer: GRC/A F HEPP
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2266 **OLD DOMINION UNIV**
 NUMERICAL SIMULATIONS OF MIXING AND COMBUSTION IN SCRAMJET
 ENGINES
 01/31/2000 - 12/31/2003 FY03: \$0 Total: \$119,247
Prin. Invest.: S W TIWARI, T O MOHIELDIN
Tech. Officer: LARC/D E REUBUSH, LARC/C R MCCLINTON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2278 **OLD DOMINION UNIV**
 IMPLICATIONS OF AUTOMOTIVE AND TRUCKING ON-BOARD INFORMATION
 SYSTEMS FOR GENERAL AVIATION COCKPIT
 03/15/2000 - 03/31/2002 FY03: -\$1,383 Total: \$43,997
Prin. Invest.: P KACHROO, P J KAUFFMAN
Tech. Officer: LARC/E J JOHNSON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2279 **OLD DOMINION UNIV**
 DESIGN & ANALYSIS OF ARCHITECTURES FOR STRUCTURAL HEALTH
 MONITORING SYSTEMS
 03/13/2000 - 08/31/2002 FY03: \$0 Total: \$99,751
Prin. Invest.: R MUKKAMALA
Tech. Officer: LARC/S L VAZQUEZ
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 2300 **OLD DOMINION UNIV**
 STRUCTURE-COMPATIBLE NONLINEAR HEAT TRANSFER ANAL.ERROR ES-
 TIMATEDS, ORDER ADAPTIVITY & DESIGN OPTIMI
 05/26/2000 - 11/14/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: G HOU
Tech. Officer: LARC/K S BEY
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 2303 **OLD DOMINION UNIV**
 NATIONAL CULTURE, CREW RESOURCES MANAGEMENT, AND TEAM PER-
 FORMANCE IN A FLOGHT SIMULATION
 06/02/2000 - 12/31/2003 FY03: \$84,065 Total: \$451,417
Prin. Invest.: D D DAVIS
Tech. Officer: LARC/P C SHUTTIE, LARC/A C TRUJILLO
CASE Category: 62 – PSYCHOLOGY SOCIAL ASPECTS

NAG 1 2330 **OLD DOMINION UNIV**
 INVESTIGATION OF ERROR PATTERNS IN GEOGRAPHICAL DATABASES
 09/29/2000 - 07/31/2002 FY03: -\$419 Total: \$105,738
Prin. Invest.: D A DRYER, P KAUFFMAN
Tech. Officer: LARC/D R JONES, LARC/P W GOODE
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 1 01028 **OLD DOMINION UNIV**
 NONLINEAR AND FAILURE ANALYSIS OF COMPOSITE STRUCTURES
 02/05/2001 - 12/31/2002 FY03: \$0 Total: \$60,000
Prin. Invest.: A K NOOR
Tech. Officer: LARC/J H STARNES, JR
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01033 **OLD DOMINION UNIV**
 PARALLEL DOMAIN DECOMPOSITION FORMULATION AND SOFTWARE FOR
 LARGE-SCALE UNSYMETRICAL 3D APPLICATI
 02/22/2001 - 01/14/2004 FY03: \$50,000 Total: \$135,000
Prin. Invest.: D T NGUYEN
Tech. Officer: LARC/W R WATSON, LARC/M G JONES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01043 **OLD DOMINION UNIV**
 ULTRA NANOSTRUCTURED COMPOSITE FIBERS
 03/26/2001 - 03/25/2004 FY03: \$0 Total: \$160,000
Prin. Invest.: R B PIPES
Tech. Officer: LARC/T S GATES
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 01044 **OLD DOMINION UNIV**
 INVESTIGATION WAVE PROPAGATIONS IN DISCONTINUOUS GALERKIN
 METHOD
 03/26/2001 - 02/28/2004 FY03: \$20,646 Total: \$59,479
Prin. Invest.: F HU
Tech. Officer: LARC/H L ATKINS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01068 **OLD DOMINION UNIV**
 NOISE PREDICTION FOR ADVANCED AIRCRAFT CONFIGUR- ATIONS USING
 THE EQUIVALENT SOURCE METHOD
 04/23/2001 - 04/22/2003 FY03: \$0 Total: \$303,595
Prin. Invest.: M H DUNN
Tech. Officer: LARC/D P GARBER, LARC/R A GOLUB
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 1 01071 **OLD DOMINION UNIV**
 MODIFICATION OF EXISTING METHOD OF MOMENT CODE FOR LARGE
 OBJECTS USING PHYSICAL OPTICS
 04/20/2001 - 09/30/2002 FY03: -\$4,983 Total: \$25,229
Prin. Invest.: R P JOSHI
Tech. Officer: LARC/M D DESHBANDE
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 01076 **OLD DOMINION UNIV**
 PARALLEL COMPUTATIONAL STUDIES OF THE DIRECT SIMULATION MONTE
 CARLO METHOD IN FLUID DYNAMICS
 05/16/2001 - 05/31/2004 FY03: \$0 Total: \$34,618
Prin. Invest.: D E KEYES, P BOGACKI
Tech. Officer: LARC/J N MOSS
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 01086 **OLD DOMINION UNIV**
 REDUCING DESIGN RISK USING DESIGN METHODS
 05/17/2001 - 03/17/2003 FY03: \$0 Total: \$9,988
Prin. Invest.: R UNAL
Tech. Officer: LARC/R A LEPSCH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01092 **OLD DOMINION UNIV**
 ERROR ANALYSIS FOR DISCONTINUOUS GALERKIN METHOD FOR PARA-
 BOLIC PROBLEMS
 06/27/2001 - 01/31/2004 FY03: \$5,000 Total: \$45,000
Prin. Invest.: H KANEKO
Tech. Officer: LARC/K S BEY
CASE Category: 21 – MATHEMATICS

NAG 1 01097 **OLD DOMINION UNIV**
 A PROJECT DEV MODEL FOR ASSESSING THE FEAS OF AUTO MOTIVE-
 TRUCKING INFO SYS W/APPLICS TO GEN AVIATIO
 06/29/2001 - 09/30/2002 FY03: \$0 Total: \$59,990
Prin. Invest.: P J KAUFFMANN, P KACHROO
Tech. Officer: LARC/E J JOHNSON, LARC/H P STOUGH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01121 **OLD DOMINION UNIV**
 YOUNG PHD'S IN HUMAN SPACE FLIGHT INST
 08/31/2001 - 08/31/2002 FY03: -\$286 Total: \$29,566
Prin. Invest.: E WILSON
Tech. Officer: LARC/R HATHAWAY
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02005 **OLD DOMINION UNIV**
 STUDIES IN TRANSITION AND TIME VARYING TURBULENT FLOW
 11/16/2001 - 11/15/2003 FY03: \$40,000 Total: \$75,000
Prin. Invest.: C E GROSCHE
Tech. Officer: LARC/T B GATSKI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02039 **OLD DOMINION UNIV**
 SPECIFICATION DESIGN AND ANALYSIS OF ADVANCED HUMS ARCHITURES
 01/25/2002 - 01/31/2004 FY03: \$64,496 Total: \$110,384
Prin. Invest.: R MUKKAMALA
Tech. Officer: LARC/S L VAZQUEZ, LARC/E G COOPER
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 02062 **OLD DOMINION UNIV**
 ADAPTIVE TECHNOLOGY AS A COUNTERMEASURE FOR COMPLACENCY
 03/05/2002 - 03/04/2004 FY03: \$0 Total: \$91,000
Prin. Invest.: M SCERBO, F FREEMAN
Tech. Officer: LARC/A T POPE
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 1 02072 **OLD DOMINION UNIV**
 NUMERICAL ANAL FOR PREDICTING ALGAASSB-INGAASSB AVALANCHE
 PHOTODETECTOR PERF MICRON WAVELENGTHS
 03/20/2002 - 12/31/2002 FY03: -\$1 Total: \$19,999
Prin. Invest.: R P JOSHI
Tech. Officer: LARC/M N ABEDINE
CASE Category: 13 – PHYSICS

NAG 1 02096 **OLD DOMINION UNIV**
 COST ESTIMATION TECHNIQUES FOR MULTI-DISCIPLINARY OPTIMIZATION
 05/14/2002 - 05/13/2005 FY03: \$0 Total: \$40,000
Prin. Invest.: H P BAO
Tech. Officer: LARC/R P WESTON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02110 **OLD DOMINION UNIV**
 DEVELOPMENT OF APPROXIMATION MODELS FOR LAUNCH VEH ICLE
 OPERATIONS ANALYSIS
 08/16/2002 - 06/15/2004 FY03: \$14,978 Total: \$31,934
Prin. Invest.: R UNAL
Tech. Officer: LARC/W D MORRIS, LARC/N H WHITE
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 03016 **OLD DOMINION UNIV**
 LONGITUDINAL STUDY OF THE MARKET PENETRATION OF COCKPIT
 WEATHER INFORMATION SYSTEM
 01/21/2003 - 01/15/2006 FY03: \$42,001 Total: \$42,001
Prin. Invest.: P KAUFFMANN
Tech. Officer: LARC/H P STOUGH, LARC/W S GREEN
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 03020 **OLD DOMINION UNIV**
 NEUROPHYSIOLOGICAL & BEHAVIORAL INDICES OF MENTAL WORKLOAD
 AS A FUNCTION OF TRAFFIC DENSITY & VISIB
 01/24/2003 - 09/23/2003 FY03: \$20,000 Total: \$20,000
Prin. Invest.: F G FREEMAN
Tech. Officer: LARC/L J PRINZEL III, LARC/R COMSTOCK
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 1 03033 **OLD DOMINION UNIV**
TWO & THREE DIMENSIONAL ELASTIC-PLASTIC FINITE ELEMENT ANALYSES AND RESIDUAL STRENGTH ANALYSES
03/14/2003 - 12/13/2003 FY03: \$89,841 Total: \$89,841
Prin. Invest.: S N TIWARI
Tech. Officer: LARC/S C FOREH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03042 **OLD DOMINION UNIV**
MODELING ELECTROMAGNETIC SHIELDING PROPERTIES POLYMERIC MATERIALS W/ NANOPARTICLES & CARBON NANO
04/08/2003 - 04/07/2006 FY03: \$30,000 Total: \$30,000
Prin. Invest.: M GUPTA
Tech. Officer: LARC/R L CRAVEY, LARC/R W LAWRENCE
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 03053 **OLD DOMINION UNIV**
IMPROVING PROCESSES FOR BLACK-BOX TESTING OF SOFTWARE AND SOFTWARE INTEGRATION
04/28/2003 - 04/27/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: R MUKKAMALA
Tech. Officer: LARC/D R JONES
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 03061 **OLD DOMINION UNIV**
TACTICAL AND STRATEGIC PLAN FOR NASA FLIGHTDECK DISPLAY RESEARCH: ISSUES AND APPROACH
07/25/2003 - 10/31/2004 FY03: \$60,000 Total: \$60,000
Prin. Invest.: J P BLISS
Tech. Officer: LARC/J E JONSSON, LARC/H P STOUGH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03073 **OLD DOMINION UNIV**
INVESTIGATION OF AIRFRAME NOISE BASED ON STUDY REYNOLDS AVERAGED NAVIER-STOKES
08/22/2003 - 08/24/2006 FY03: \$47,896 Total: \$47,896
Prin. Invest.: M Q HU
Tech. Officer: LARC/M R KHORRAMI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03075 **OLD DOMINION UNIV**
DEVELOPMENT OF RADIATION CODES ASSOCIATED WITH HIGH ENERGY PROCESSES
08/25/2003 - 08/24/2006 FY03: \$61,000 Total: \$61,000
Prin. Invest.: J HEINBOCKEL
Tech. Officer: LARC/R K TRIPATHI, LARC/J W WILSON
CASE Category: 21 – MATHEMATICS

NAG 1 03077 **OLD DOMINION UNIV**
A MATHEMATICAL MODEL AND COMPUTATIONAL PROCEDURE FOR THE TRANSPORT OF HIGH CHARGE & ENERGY IONS
09/16/2003 - 08/15/2006 FY03: \$51,000 Total: \$51,000
Prin. Invest.: J TWEED
Tech. Officer: LARC/R K TRIPATHI, LARC/J W WILSON
CASE Category: 21 – MATHEMATICS

NAG 1 03078 **OLD DOMINION UNIV**
OPERATION AND SUPPORT COST ASSESSMENT RESEARCH ON AN ARCHITECTURAL SIMULATION FOR FUTURE LAUNCH SYSTEM
09/03/2003 - 02/03/2004 FY03: \$34,568 Total: \$34,568
Prin. Invest.: G RABADI
Tech. Officer: LARC/T M CHYTKA
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1481 **OLD DOMINION UNIV**
DATA-LINK AIRCRAFT COMMUNICATIONS: AN EXAMINATION OF INTERFERENCE, COHERENCE, & WORKLOAD
05/04/2001 - 04/30/2004 FY03: \$122,433 Total: \$339,440
Prin. Invest.: D S MCNAMARA, M SCERBO
Tech. Officer: ARC/I BARSHI, ARC/S LOZITO
CASE Category: 69 – PSYCHOLOGY, OTHER

NAG 5 10528 **OLD DOMINION UNIV**
RESPONSE OF SEA ICE AND MARINE ECOSYSTEMS TO THE OBSERVED WARMING TRENDS IN THE ARCTIC
03/19/2001 - 03/14/2004 FY03: \$125,362 Total: \$332,937
Prin. Invest.: G F COTA
Tech. Officer: GSFC/J MARRA
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11259 **OLD DOMINION UNIV**
PHYSICAL BIOLOGICAL INTERACTIONS AND THE CARBON CYCLE OF THE TROPICAL PACIFIC AND ATLANTIC OCEANS
08/20/2001 - 08/31/2004 FY03: \$99,786 Total: \$225,480
Prin. Invest.: E HOFMANN
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1270 **OLD DOMINION UNIV**
VIRTUAL REALITY TRAINING
12/18/2000 - 12/18/2003 FY03: \$0 Total: \$96,246
Prin. Invest.: R LOFTIN
Tech. Officer: JSC/R SAVELY, JSC/D G SICKOREZ
CASE Category: 22 – COMPUTER SCIENCE

NAS 1 99160 **OLD DOMINION UNIV**
TESTBED OF INTEROPERABLE MULTIDISCIPLINARY DIGITAL LIBRARIES
09/22/1999 - 09/21/2003 FY03: \$0 Total: \$687,870
Prin. Invest.: K MALY
Tech. Officer: LARC/M M LITTLE, LARC/N R KAPLAN
CASE Category: 22 – COMPUTER SCIENCE

NCA 1 188 **OLD DOMINION UNIV**
VA SPACE GRANT CONSORTIUM ENVIRONMENT IMPACT
08/04/2000 - 10/31/2001 FY03: -\$5,767 Total: \$69,233
Prin. Invest.: M L SANDY
Tech. Officer: LARC/S A COOKE
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 349 **OLD DOMINION UNIV**
INST FOR SCIENTIFIC & EDUCATIONAL TECHNOLOGY (FOLLOW-ON TO NCC-1-232)
06/28/1999 - 08/15/2002 FY03: -\$40,397 Total: \$965,145
Prin. Invest.: S N TIWARI
Tech. Officer: LARC/S E MASSENBERG, LARC/E J PRIOR
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 363 **OLD DOMINION UNIV**
AUTOMATED, NON-AUTOCLAVE, COMPOSITE MATERIALS FABRICATION (NRA 99-LARC-1)
11/29/1999 - 05/31/2003 FY03: \$0 Total: \$337,930
Prin. Invest.: M C GUPTA
Tech. Officer: LARC/T H HOU
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 369 **OLD DOMINION UNIV**
DOCUMENT AND DISSEMINATE THE RESULTS OF WIND TUNNEL TESTS OF WRIGHT FLYER AIRCRAFT AND
01/31/2000 - 12/31/2001 FY03: -\$3,980 Total: \$171,020
Prin. Invest.: R L ASH
Tech. Officer: LARC/A G PRICE
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 371 **OLD DOMINION UNIV**
TWO AND THREE DIMENSIONAL ELASTIC-PLASTIC FINITE ELEMENT ANALYSES OF TAPERED/COLDWORKED FASTENERS
02/07/2000 - 06/30/2003 FY03: \$0 Total: \$281,441
Prin. Invest.: S A TIWARI, B R SESHADRI
Tech. Officer: LARC/J C NEWMAN, LARC/D R AMBUR
CASE Category: 49 – ENGINEERING, OTHER

NCC 1 392 **OLD DOMINION UNIV**
STOCHASTIC DYNAMICAL MODELS FOR DIGITAL CONTROL SYSTEMS IN ELECTROMAGNETIC ENVIRONMENTS (EME)
04/07/2000 - 08/31/2003 FY03: \$50,885 Total: \$555,209
Prin. Invest.: W S GRAY, O R GONZALEZ
Tech. Officer: LARC/C M BELCASTRO
CASE Category: 46 – MECHANICAL ENGR

NCC 1 396 **OLD DOMINION UNIV**
AN ALGORITHM FOR TRANSPORT OF ANISOTROPIC NEUTRONS
05/03/2000 - 12/31/2002 FY03: \$0 Total: \$114,321
Prin. Invest.: J TWEED
Tech. Officer: LARC/R C SINGLETERRY, LARC/J W WILSON
CASE Category: 13 – PHYSICS

NCC 1 404 **OLD DOMINION UNIV**
BOLTZMANN TRANSPORT CODE UPDATE: PARALLELIZATION AND INTEGRATED DESIGN METHODS
07/11/2000 - 08/31/2003 FY03: \$126,000 Total: \$452,000
Prin. Invest.: J H HEINBOCKEL, J NEALY
Tech. Officer: LARC/R C SINGLETERRY JR, LARC/J W WILSON
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 1 01012 **OLD DOMINION UNIV**
EVALUATING THE ABILITY OF HEART RATE AND EEG TO CONTROL ALERTNESS DURING PERFORMANCE
12/29/2000 - 08/31/2002 FY03: -\$3,172 Total: \$67,723
Prin. Invest.: F G FREEMAN, M W SCERBO, P J MIKULKA
Tech. Officer: LARC/L J PRINZEL
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 1 01014 **OLD DOMINION UNIV**
CENTER FOR ADVANCED ENGINEERING ENVIRONMENTS
01/24/2001 - 12/31/2003 FY03: \$1,720,000 Total: \$3,861,341
Prin. Invest.: A K NOOR
Tech. Officer: LARC/R E GILLIAN, LARC/K A CANNON
CASE Category: 49 – ENGINEERING, OTHER

NCC 1 01032 **OLD DOMINION UNIV**
FIELD PENETRATION STUDIES STATISTICS AND BOUNDING
03/23/2001 - 12/31/2003 FY03: \$30,000 Total: \$161,411
Prin. Invest.: C F BUNTING, L L VAHALA
Tech. Officer: LARC/T X NGUYEN
CASE Category: 45 – ELECTRICAL ENGR

NCC 1 01040 **OLD DOMINION UNIV**
RESEARCH ON INTELLIGENT SYNTHESIS ENVIRONMENT
03/27/2001 - 09/30/2002 FY03: -\$65,233 Total: \$434,767
Prin. Invest.: A K NOOR, R B LOFFIN
Tech. Officer: LARC/J J REHDER
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 1 01043 **OLD DOMINION UNIV**
NASA - ASEE SUMMER FACULTY RESEARCH PROGRAM 2001
04/06/2001 - 12/31/2002 FY03: \$0 Total: \$590,408
Prin. Invest.: B TIWARI, D DEPRIEST
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 1 01052 **OLD DOMINION UNIV**
AUTOMATED TOW PLACEMENT PROCESSING & CHARACTERIZATION OF COMPOSITES
06/22/2001 - 12/31/2003 FY03: \$0 Total: \$64,940
Prin. Invest.: R PRABHAKARAN
Tech. Officer: LARC/T H HOU
CASE Category: 13 – PHYSICS

NCC 1 02022 **OLD DOMINION UNIV**
NANOCOMPOSITE STRUCTURE-PROPERTY-PROCESS RELATIONSHIPS
04/08/2002 - 04/07/2005 FY03: \$60,000 Total: \$166,150
Prin. Invest.: M C GUPTA
Tech. Officer: LARC/T S GATES
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 02026 **OLD DOMINION UNIV**
PHOTONIC SENSORS FOR INTEGRATED SYSTEM HEALTH MONITORING
05/07/2002 - 04/21/2006 FY03: \$123,258 Total: \$185,016
Prin. Invest.: S ALBIN, M BUONCRISTIANI
Tech. Officer: LARC/R S ROGOWSKI
CASE Category: 45 – ELECTRICAL ENGR

NCC 1 02027 **OLD DOMINION UNIV**
THE WRIGHT FLYER TESTING PROGRAM
05/06/2002 - 05/05/2003 FY03: \$0 Total: \$41,780
Prin. Invest.: R L ASHE
Tech. Officer: LARC/E J PRIOR
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 02044 **OLD DOMINION UNIV**
DEV OF EXPERT JUDGEMENT ELICITATION & CALIBRATION METHODOLOGY FOR RISK ANALYSIS CONCEPT VEHICLE DESIGN
08/07/2002 - 12/15/2003 FY03: \$0 Total: \$71,500
Prin. Invest.: R UNAL, C KEATING, R MONROE
Tech. Officer: LARC/L L GREEN, LARC/T A ZANG
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 03002 **OLD DOMINION UNIV**
EXPANDING REVOLUTIONARY RESEARCH AND EDUCATION CONCEPTS
12/23/2002 - 12/22/2005 FY03: \$185,000 Total: \$185,000
Prin. Invest.: S N TIWARI
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NCC 1 03005 **OLD DOMINION UNIV**
IMPROVED METAL TO POLYMER ADHESION
01/21/2003 - 01/20/2006 FY03: \$85,000 Total: \$85,000
Prin. Invest.: M GUPTA
Tech. Officer: LARC/T H HOU
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 03019 **OLD DOMINION UNIV**
 WIRELESS NETWORKING PATH LOSS AND INTERFERENCE IN AN AIRCRAFT
 05/06/2003 - 05/05/2006 FY03: \$70,000 Total: \$70,000
Prin. Invest.: L A VAHALA
Tech. Officer: LARC/J H BEGGS
CASE Category: 45 – ELECTRICAL ENGR

NCC 1 03022 **OLD DOMINION UNIV**
 2003 - NASA FACULTY FELLOWSHIP PROGRAM
 05/07/2003 - 05/06/2004 FY03: \$726,100 Total: \$726,100
Prin. Invest.: S N TIWARI
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 43 – CHEMICAL ENGR

NCC 1 03026 **OLD DOMINION UNIV**
 SYSTEM LEVEL EFFECTS OF NEUTRON-INDUCED SINGLE- EVENT UPSETS
 ON DIGITAL FLIGHT CONTROL SYSTEMS
 04/22/2003 - 04/21/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: W S GRAY, O R GONZALEZ
Tech. Officer: LARC/C M BELCASTRO
CASE Category: 45 – ELECTRICAL ENGR

NCC 1 03031 **OLD DOMINION UNIV**
 NEUTRON-INDUCED SINGLE-EVENT EFFECTS (SEE) IN FLIGHT CONTROL
 COMPUTERS
 05/15/2003 - 05/15/2006 FY03: \$33,560 Total: \$33,560
Prin. Invest.: L L VAHALA
Tech. Officer: LARC/C M BELCASTRO
CASE Category: 45 – ELECTRICAL ENGR

NCC 5 592 **OLD DOMINION UNIV**
 NASA USRP UNDERGRADUATE STUDENT RESEARCH PROGRAM, VIRGINIA
 SPACE GRANT CONSORTIUM.
 09/19/2001 - 09/14/2004 FY03: \$23,200 Total: \$2,126,784
Prin. Invest.: M SANDY
Tech. Officer: GSFC/J GORMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 135 **OLD DOMINION UNIV**
 VIRTUAL REALITY TRAINING/CYBERSICKNESS & EFFECTS ON SENSOR MO-
 TOR FUNCTIONS
 07/20/2001 - 03/31/2003 FY03: \$0 Total: \$23,206
Prin. Invest.: R B LOFTIN
Tech. Officer: JSC/D L HARM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 1 01001 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 11/02/2000 - 09/30/2001 FY03: -\$1,224 Total: \$20,776
Prin. Invest.: M D LEE
Tech. Officer: LARC/J L BURT, LARC/D B SHAFER
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 01005 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 05/22/2001 - 06/30/2004 FY03: \$0 Total: \$22,000
Prin. Invest.: M SCERBO
Tech. Officer: LARC/R HATHAWAY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 1 01011 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/04/2001 - 06/30/2004 FY03: \$0 Total: \$22,000
Prin. Invest.: D A JACOBS
Tech. Officer: LARC/S D YOUNG, LARC/D L BLACKSTOCK
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NGT 1 01014 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/06/2001 - 06/30/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: D H ELSAYED-ALII
Tech. Officer: LARC/R DEYOUNG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NGT 1 01015 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 05/25/2001 - 06/30/2003 FY03: \$0 Total: \$22,000
Prin. Invest.: F G FREEMAN
Tech. Officer: LARC/L J PRENZEL, LARC/A T POPE
CASE Category: 69 – PSYCHOLOGY, OTHER

NGT 1 01019 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 05/29/2001 - 12/31/2003 FY03: \$22,000 Total: \$58,000
Prin. Invest.: J P BLISS
Tech. Officer: LARC/J R COMSTOCK, JR, LARC/A T POPE
CASE Category: 69 – PSYCHOLOGY, OTHER

NGT 1 01020 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 05/30/2001 - 06/30/2003 FY03: \$0 Total: \$36,000
Prin. Invest.: J C BLISS
Tech. Officer: LARC/K A LATORELLA, LARC/V CRISP
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 01021 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 05/31/2001 - 06/30/2003 FY03: \$0 Total: \$44,000
Prin. Invest.: D D DOVES
Tech. Officer: LARC/P C SCHUTTE
CASE Category: 69 – PSYCHOLOGY, OTHER

NGT 1 01027 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/12/2001 - 06/30/2004 FY03: \$34,000 Total: \$70,000
Prin. Invest.: J HUANG
Tech. Officer: LARC/P FERGEN
CASE Category: 46 – MECHANICAL ENGR

NGT 1 01029 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 06/14/2001 - 06/30/2004 FY03: \$34,000 Total: \$70,000
Prin. Invest.: S ZOHORIOD
Tech. Officer: LARC/D B SHAFER
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 01030 **OLD DOMINION UNIV**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 06/15/2001 - 09/30/2004 FY03: \$34,000 Total: \$70,000
Prin. Invest.: M SCERBO
Tech. Officer: LARC/J L BURT
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 02020	OLD DOMINION UNIV	NAG 1 2321	UNIV OF VIRGINIA
GRADUATE STUDENT RESEARCHERS PROGRAM		DEVELOPMENT OF SENSORY ALLOYS FOR ACOUSTIC STRAIN MONITORS	
07/24/2002 - 06/30/2003	FY03: \$10,000	08/14/2000 - 12/31/2002	FY03: \$0
<i>Prin. Invest.:</i> G J MCAULIFFE, A WILLIAMS	Total: \$24,000	<i>Prin. Invest.:</i> G SHIFLET	Total: \$129,977
<i>Tech. Officer:</i> LARC/T PINELLI		<i>Tech. Officer:</i> LARC/R PIASCIK	
<i>CASE Category:</i> 69 – PSYCHOLOGY, OTHER		<i>CASE Category:</i> 47 – METAL & MATERIALS ENGR	
NGT 1 03006	OLD DOMINION UNIV	NAG 1 01022	UNIV OF VIRGINIA
GRADUATE STUDENT RESEARCHERS PROGRAM		END EFFECTS AND LOAD DIFFUSION IN COMPOSITE STRUCTURES	
04/22/2003 - 08/13/2004	FY03: \$24,000	03/21/2001 - 12/31/2001	FY03: -\$1
<i>Prin. Invest.:</i> L VAHALA, M J JAFRI	Total: \$24,000	<i>Prin. Invest.:</i> C O HORGAN	Total: \$50,000
<i>Tech. Officer:</i> LARC/J ELY		<i>Tech. Officer:</i> LARC/M P NEMETH	
<i>CASE Category:</i> 22 – COMPUTER SCIENCE		<i>CASE Category:</i> 47 – METAL & MATERIALS ENGR	
NGT 1 03013	OLD DOMINION UNIV	NAG 1 01051	UNIV OF VIRGINIA
GRADUATE STUDENT RESEARCHERS PROGRAM		EXPERIMENTAL CHARACTERIZATION OF CONTINUUM/ RAREFIELD FLOWS	
04/25/2003 - 06/30/2004	FY03: \$24,000	05/18/2001 - 02/29/2004	FY03: \$0
<i>Prin. Invest.:</i> H ELSAGED-ALI	Total: \$24,000	<i>Prin. Invest.:</i> J C MCDANIEL, JR, D E CECIL	Total: \$65,972
<i>Tech. Officer:</i> LARC/R DE YOUNG		<i>Tech. Officer:</i> LARC/C E GLASS	
<i>CASE Category:</i> 22 – COMPUTER SCIENCE		<i>CASE Category:</i> 41 – AERONAUTICAL ENGR	
NGT 1 03019	OLD DOMINION UNIV	NAG 1 01120	UNIV OF VIRGINIA
GRADUATE STUDENT RESEARCHERS PROGRAM		UNSTEADY AERODYNAMICS OF FLAPPING WINGS	
04/28/2003 - 06/30/2004	FY03: \$24,000	08/16/2001 - 08/31/2004	FY03: \$65,000
<i>Prin. Invest.:</i> M SCERBO, N R BAILEY	Total: \$24,000	<i>Prin. Invest.:</i> N NAJ-HARERI	Total: \$165,000
<i>Tech. Officer:</i> LARC/L PRINZEL		<i>Tech. Officer:</i> LARC/D D MOERDER	
<i>CASE Category:</i> 62 – PSYCHOLOGY SOCIAL ASPECTS		<i>CASE Category:</i> 41 – AERONAUTICAL ENGR	
NGT 1 52210	OLD DOMINION UNIV	NAG 1 02019	UNIV OF VIRGINIA
GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)		DUAL-MODE COMBUSTION MY 1/3	
05/26/1999 - 06/30/2002	FY03: -\$1,731	12/14/2001 - 12/31/2004	FY03: \$227,000
<i>Prin. Invest.:</i> D T NGUYEN	Total: \$64,269	<i>Prin. Invest.:</i> J C MACDANIEL, C P GOYNE	Total: \$566,842
<i>Tech. Officer:</i> LARC/J SOBIESKI		<i>Tech. Officer:</i> LARC/D E REUBUSH	
<i>CASE Category:</i> 41 – AERONAUTICAL ENGR		<i>CASE Category:</i> 41 – AERONAUTICAL ENGR	
NGT 5 40070	OLD DOMINION UNIV	NAG 1 02049	UNIV OF VIRGINIA
GENERAL AVIATION DESIGN COMPETITION FUNDING IN SUP PORT OF THE VIRGINIA NATIONAL SPACE GRANT COLLEGE		DEVELOPMENT OF SENSORY ALLOYS FOR MAGNETIC AND ACOUSTIC STRAIN MONITORS	
01/03/2001 - 05/31/2002	FY03: -\$751	02/06/2002 - 05/31/2005	FY03: \$78,650
<i>Prin. Invest.:</i> M SANDY	Total: \$903,513	<i>Prin. Invest.:</i> G J SHIFLET	Total: \$167,855
<i>Tech. Officer:</i> GSFC/D DETROYE		<i>Tech. Officer:</i> LARC/R S PIASCIK	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 47 – METAL & MATERIALS ENGR	
NGT 5 40080	OLD DOMINION UNIV	NAG 1 02090	UNIV OF VIRGINIA
VIRGINIA SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM		METALS TECHNOLOGY FOR AEROSP APPLICS IN 2020: DEV OF HIGH TEMP ALUMINUM ALLOYS FOR AEROSPACE APPLIC	
02/09/2001 - 01/31/2005	FY03: \$846,465	04/29/2002 - 09/30/2003	FY03: \$0
<i>Prin. Invest.:</i> M SANDY	Total: \$2,003,694	<i>Prin. Invest.:</i> E A STARKE	Total: \$34,987
<i>Tech. Officer:</i> GSFC/D D DETROYE		<i>Tech. Officer:</i> LARC/D L DICUS	
<i>CASE Category:</i> 99 – MULTI INTERDISCIPL, OTHER		<i>CASE Category:</i> 47 – METAL & MATERIALS ENGR	
NAG 1 2131	UNIV OF VIRGINIA	NAG 1 02101	UNIV OF VIRGINIA
DUAL-MODE COMBUSTION (FOLLOW-ON TO NAG-1-2085)		ADVANCED TOOLS AND TECHNIQUES FOR FORMAL TECHNIQUE S IN AEROSPACE SYSTEMS	
01/26/1999 - 05/31/2002	FY03: -\$918	06/17/2002 - 09/30/2003	FY03: \$150,000
<i>Prin. Invest.:</i> J C MCDANIEL, E H MASLAN, H K CHELLIAH	Total: \$468,494	<i>Prin. Invest.:</i> J C KNIGHT	Total: \$254,000
<i>Tech. Officer:</i> LARC/D E REUBUSH, LARC/C R MCCLINTON		<i>Tech. Officer:</i> LARC/B L DIVITO	
<i>CASE Category:</i> 41 – AERONAUTICAL ENGR		<i>CASE Category:</i> 22 – COMPUTER SCIENCE	
NAG 1 2290	UNIV OF VIRGINIA		
PRACTICAL USE OF FORMAL TECHNIQUES IN AEROSPACE IN SOFTWARE SYSTEMS			
05/01/2000 - 02/28/2003	FY03: \$0		
<i>Prin. Invest.:</i> J C KNIGHT, D E EVANS	Total: \$608,422		
<i>Tech. Officer:</i> LARC/K J HAYHURST			
<i>CASE Category:</i> 22 – COMPUTER SCIENCE			

NAG 1 02102 **UNIV OF VIRGINIA**
 NASA AVIATION SAFETY PROGRAM SYSTEMS ANALYSIS/PROG RAM AS-
 SESSMENT METRICS REVIEW
 06/17/2002 - 01/31/2003 FY03: \$0 Total: \$41,724
Prin. Invest.: G E LOUIS
Tech. Officer: LARC/S M JONES, LARC/V K CRISP
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 02103 **UNIV OF VIRGINIA**
 EXPANDING THE USE OF FORMAL TECHNIQUES IN AEROSPACE SYSTEMS
 SEAS PROPOSAL NO:CS-NASA/LARC-1120-02
 06/27/2002 - 09/30/2004 FY03: \$213,000 Total: \$322,000
Prin. Invest.: J C KNIGHT
Tech. Officer: LARC/C M HOLLOWAY
CASE Category: 22 – COMPUTER SCIENCE

NAG 1 02113 **UNIV OF VIRGINIA**
 EVALUATING MEASURES OF HUMAN-AUTOMATION INTERACTION IN PILOT
 SELF-SEPARATION TASKS
 09/10/2002 - 05/31/2004 FY03: \$19,493 Total: \$39,493
Prin. Invest.: E J BASS, G L BALLARD
Tech. Officer: LARC/M T PALMER
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 03059 **UNIV OF VIRGINIA**
 SOLUTION CONCEPTS FOR DISTRIBUTED DECISION-MAKING WITHOUT
 COORDINATION
 05/07/2003 - 12/06/2003 FY03: \$53,937 Total: \$53,937
Prin. Invest.: P W GOODE
Tech. Officer: LARC/P A BELING, LARC/S D PATEK
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 3 2359 **UNIV OF VIRGINIA**
 RLV THRUST CELL LINER COATING ANALYSIS AND OPTIMIZATION
 03/16/2000 - 11/30/2003 FY03: \$0 Total: \$116,500
Prin. Invest.: M J PINDERA
Tech. Officer: GRC/S M ARNOLD
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2524 **UNIV OF VIRGINIA**
 HOMOGENIZED AND SMART HOTFGM
 01/19/2001 - 01/21/2004 FY03: \$165,000 Total: \$485,057
Prin. Invest.: M PINDERA
Tech. Officer: GRC/S M ARNOLD
CASE Category: 44 – CIVIL ENGR

NAG 3 2760 **UNIV OF VIRGINIA**
 DYNAMICS OF DROPS AND BUBBLES IN CONFINED FLOWS OF COMPLEX
 FLUIDS
 04/03/2002 - 12/31/2005 FY03: \$66,000 Total: \$85,369
Prin. Invest.: D HAJ-HARIRI
Tech. Officer: GRC/M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2845 **UNIV OF VIRGINIA**
 FLIGHT DISPATCHER ICING TRAINING #SE-NASA/GRC-1383 -03
 01/23/2003 - 10/31/2003 FY03: \$15,000 Total: \$15,000
Prin. Invest.: E J BASS
Tech. Officer: GRC/A REEHORST
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 3931 **UNIV OF VIRGINIA**
 EROSIONAL PROCESSES ON MARS
 03/12/1997 - 02/28/2003 FY03: \$0 Total: \$293,763
Prin. Invest.: A D HOWARD
Tech. Officer: GSFC/J G GRANT
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 4192 **UNIV OF VIRGINIA**
 ION COLLISION PROCESSES: PLASMA INTERACTIONS WITH AN NEUTRAL
 CORONA
 04/10/1997 - 03/31/2003 FY03: \$0 Total: \$408,848
Prin. Invest.: D E JOHNSON
Tech. Officer: GSFC/J BERGSTRALH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 4283 **UNIV OF VIRGINIA**
 EROSION AND ALTERATION OF INTERSTELLAR AND INTERPL
 04/07/1997 - 05/31/2002 FY03: \$0 Total: \$177,700
Prin. Invest.: D E JOHNSON
Tech. Officer: GSFC/D BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 6384 **UNIV OF VIRGINIA**
 THE COUPLING LAND-USE AND LAND-COVER CHANGES, AND MIOMBO
 WOODLANDS
 09/26/1997 - 10/31/2001 FY03: -\$266 Total: \$569,899
Prin. Invest.: P DESANKER
Tech. Officer: GSFC/A C JANETOS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 6403 **UNIV OF VIRGINIA**
 CRITICAL TESTS OF STELLAR EVOLUTION (L TSA)
 10/10/1997 - 10/14/2003 FY03: \$0 Total: \$400,799
Prin. Invest.: R O'CONNELL
Tech. Officer: GSFC/R K OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 7500 **UNIV OF VIRGINIA**
 MAGNETOHYDRODYNAMICS OF THE SOLAR NEBULA
 06/01/1998 - 05/31/2002 FY03: \$0 Total: \$164,000
Prin. Invest.: S BALBUS
Tech. Officer: HQ/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 7749 **UNIV OF VIRGINIA**
 SPATTERING OF THE MARTIAN ATMOSPHERE
 11/04/1998 - 12/31/2002 FY03: \$0 Total: \$173,751
Prin. Invest.: R E JOHNSON
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 7862 **UNIV OF VIRGINIA**
 SAFARI 2000: A SOUTHERN AFRICAN REGIONAL SCIENCE INITIATIVE
 01/08/1999 - 10/31/2002 FY03: \$0 Total: \$252,864
Prin. Invest.: C O JUSTICE
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7956 **UNIV OF VIRGINIA**
 LAND SURFACE CHARACTERIZATION OF SOUTHERN AFRICAN SAVANNAS:
 CARBON CYCLING AND SENSITIVITY TO E
 01/07/1999 - 01/31/2003 FY03: \$0 Total: \$605,642
Prin. Invest.: H H SHUGART
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

<p>NAG 5 8088 SUPERNOVA-INFLUENCED STAR FORMATION 01/27/1999 - 12/31/2002 FY03: \$0 <i>Prin. Invest.:</i> D A CHEVALIER <i>Tech. Officer:</i> HQ/J BOYCE CASE Category: 11 – ASTRONOMY</p>	<p>UNIV OF VIRGINIA Total: \$130,000</p>	<p>NAG 5 9654 PRODUCTION OF DIABATIC HEATING IN THE TROPICAL TROPOSPHERE 06/05/2000 - 05/31/2004 FY03: \$51,667 <i>Prin. Invest.:</i> J D FUENTES <i>Tech. Officer:</i> GSFC/R J LAWRENCE CASE Category: 31 – ATMOSPHERIC SCIENCE</p>	<p>UNIV OF VIRGINIA Total: \$346,000</p>
<p>NAG 5 8130 MODELS OF PULSAR NEBULAE (ATP 98) 02/11/1999 - 02/14/2003 FY03: \$0 <i>Prin. Invest.:</i> R A CHEVALIER <i>Tech. Officer:</i> GSFC/R J OLIVERSEN CASE Category: 11 – ASTRONOMY</p>	<p>UNIV OF VIRGINIA Total: \$185,500</p>	<p>NAG 5 9758 MOLECULAR ISOTOPIC COMPOSITION OF ORGANIC COMPOUNDS IN ANT-ARCTIC METEORITES 06/28/2000 - 06/30/2003 FY03: \$0 <i>Prin. Invest.:</i> S MACKO <i>Tech. Officer:</i> GSFC/M MEYER CASE Category: 99 – MULTI INTERDISCIPL, OTHER</p>	<p>UNIV OF VIRGINIA Total: \$51,810</p>
<p>NAG 5 8670 ESTIMATING ROOT ZONE SOIL MOISTURE AND EXPLORING SCALE ASPECTS OF ITS COUPLING TO THE ATMOSPHERIC 07/08/1999 - 07/14/2002 FY03: -\$75,777 <i>Prin. Invest.:</i> J D ALBERTSON <i>Tech. Officer:</i> GSFC/M Y WEI CASE Category: 39 – ENVIRONMENTAL SCI, OTHER</p>	<p>UNIV OF VIRGINIA Total: \$270,918</p>	<p>NAG 5 10074 STELLAR MASS LOSS VERSUS EXTERNAL ACCRETION IN X-RAY BRIGHT ELLIPTICALS 10/27/2000 - 10/31/2003 FY03: \$0 <i>Prin. Invest.:</i> C L SARAZIN <i>Tech. Officer:</i> GSFC/R MUSHOTZKY CASE Category: 11 – ASTRONOMY</p>	<p>UNIV OF VIRGINIA Total: \$40,000</p>
<p>NAG 5 8902 MARTIAN CRATERED HIGHLANDS FIELD CONFERENCE 12/28/1999 - 12/31/2001 FY03: -\$678 <i>Prin. Invest.:</i> A HOWARD <i>Tech. Officer:</i> GSFC/J GRANT CASE Category: 39 – ENVIRONMENTAL SCI, OTHER</p>	<p>UNIV OF VIRGINIA Total: \$21,322</p>	<p>NAG 5 10075 MERGER SHOCKS IN CLUSTERS OF GALAXIES 10/27/2000 - 10/31/2003 FY03: \$0 <i>Prin. Invest.:</i> C L SARAZIN <i>Tech. Officer:</i> GSFC/R MUSHOTZKY CASE Category: 11 – ASTRONOMY</p>	<p>UNIV OF VIRGINIA Total: \$38,700</p>
<p>NAG 5 8954 FAR-ULTRAVIOLET STUDIES OF METAL-DEFICIENT BLUE COMPACT DWARF GALAXIES - FUSE 01/24/2000 - 01/31/2003 FY03: \$0 <i>Prin. Invest.:</i> T X THUAN <i>Tech. Officer:</i> GSFC/G SONNEBORN CASE Category: 11 – ASTRONOMY</p>	<p>UNIV OF VIRGINIA Total: \$54,300</p>	<p>NAG 5 10173 CHARGED PARTICLE ALTERATIONS OF THE SURFACES IN THE OUTER SOLAR SYSTEM 12/21/2000 - 01/31/2004 FY03: \$39,600 <i>Prin. Invest.:</i> R E JOHNSON <i>Tech. Officer:</i> GSFC/D SENSKE CASE Category: 32 – GEOLOGICAL SCIENCE</p>	<p>UNIV OF VIRGINIA Total: \$118,200</p>
<p>NAG 5 9266 NUMERICAL MAGNETOHYDRODYNAMIC STUDIES OF ACCRETION DISKS (ATP 99) 03/13/2000 - 03/14/2004 FY03: \$0 <i>Prin. Invest.:</i> J HAWLEY <i>Tech. Officer:</i> GSFC/R OLIVERSEN CASE Category: 11 – ASTRONOMY</p>	<p>UNIV OF VIRGINIA Total: \$281,490</p>	<p>NAG 5 10250 OBSERVATIONS OF O VI EMISSION IN THE HOT HALO OF NGC 891 (FUSE 00) 02/15/2001 - 02/14/2004 FY03: \$0 <i>Prin. Invest.:</i> E M MURPHY <i>Tech. Officer:</i> GSFC/G SONNEBORN CASE Category: 11 – ASTRONOMY</p>	<p>UNIV OF VIRGINIA Total: \$69,997</p>
<p>NAG 5 9289 OPERATIONALIZING GOFC IN THE MIOMBO REGION & QUESTIONS OF CARBON MIOMBO REGION A SOURCE OR SINK 03/27/2000 - 07/31/2003 FY03: \$36,699 <i>Prin. Invest.:</i> P V DESANKER <i>Tech. Officer:</i> GSFC/G GUTMAN CASE Category: 39 – ENVIRONMENTAL SCI, OTHER</p>	<p>UNIV OF VIRGINIA Total: \$370,107</p>	<p>NAG 5 10341 THE INTERSTELLAR MEDIUM OF BLUE COMPACT DWARF GALAXIES (FUSE 00) 02/05/2001 - 02/14/2004 FY03: \$9,995 <i>Prin. Invest.:</i> T X THUAN <i>Tech. Officer:</i> GSFC/G SONNEBORN CASE Category: 11 – ASTRONOMY</p>	<p>UNIV OF VIRGINIA Total: \$87,795</p>
<p>NAG 5 9357 REGIONAL ANALYSIS OF LAND-ATMOSPHERE FEEDBACKS IN SOUTHERN AFRICAN SAVANNAS: A SYNTHESIS ACTIVITIES 04/05/2000 - 04/30/2004 FY03: \$94,688 <i>Prin. Invest.:</i> H H SHUGART <i>Tech. Officer:</i> GSFC/D E WICKLAND CASE Category: 39 – ENVIRONMENTAL SCI, OTHER</p>	<p>UNIV OF VIRGINIA Total: \$842,797</p>	<p>NAG 5 10436 STRUCTURE & REFLECTANCE OF SURFACES OF ICY BODIES: LABORATORY SIMULATIONS 02/20/2001 - 02/28/2003 FY03: \$0 <i>Prin. Invest.:</i> R A BARAGIOLA <i>Tech. Officer:</i> GSFC/D SENSKE CASE Category: 11 – ASTRONOMY</p>	<p>UNIV OF VIRGINIA Total: \$101,800</p>

VIRGINIA

NASA'S UNIVERSITY PROGRAM

NAG 5 10606 **UNIV OF VIRGINIA**
 ANALYSIS OF IN-SITU OBSERVATIONS OF AEROSOLS OVER SOUTHERN AFRICA
 03/15/2001 - 03/14/2004 FY03: \$0 Total: \$145,076
Prin. Invest.: R SWAP
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10655 **UNIV OF VIRGINIA**
 MAGNETOHYDRODYNAMICS IN PROTOSTELLAR DISKS
 03/20/2001 - 05/31/2003 FY03: \$0 Total: \$30,000
Prin. Invest.: S BALBUS
Tech. Officer: GSFC/J M BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10956 **UNIV OF VIRGINIA**
 ADVANCED IMAGE PROCESSING FOR IMAGE2000 ENHANCE- MENTS
 05/30/2001 - 05/31/2002 FY03: -\$573 Total: \$49,427
Prin. Invest.: G WILLIAMS
Tech. Officer: WFF/B MERRITT
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 5 10985 **UNIV OF VIRGINIA**
 SOUTHERN AFRICAN VALIDATION OF EOS GROUND AND AIR- BORNE INSTRUMENTATION AND VALIDATION ACTIVITIES
 05/31/2001 - 05/31/2002 FY03: \$0 Total: \$58,997
Prin. Invest.: R J SWAPP
Tech. Officer: GSFC/J PRIVETTE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11341 **UNIV OF VIRGINIA**
 CARPE GIS MAPPING ACTIVITY
 09/24/2001 - 09/30/2002 FY03: -\$471 Total: \$8,533
Prin. Invest.: C O JUSTICE
Tech. Officer: GSFC/C JTUCKER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11647 **UNIV OF VIRGINIA**
 EROSIONAL PROCESSES ON MARS
 01/24/2002 - 02/28/2005 FY03: \$64,000 Total: \$128,000
Prin. Invest.: A D HOWARD
Tech. Officer: GSFC/D SENSEKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11771 **UNIV OF VIRGINIA**
 MOLECULAR SYNTHESIS AND DESORPTION IN PRE-COMETARY ICY GRAINS: LABORATORY SIMULATIONS
 03/26/2002 - 02/28/2005 FY03: \$50,000 Total: \$100,000
Prin. Invest.: R A BARAGIOLA
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 11953 **UNIV OF VIRGINIA**
 SOFTWARE QUALITY & SAFETY ASSESSMENT USING BAYESIAN BELIEF NETWORKS
 04/08/2002 - 04/14/2005 FY03: \$0 Total: \$99,684
Prin. Invest.: D B DUGAN
Tech. Officer: GSFC/L H ROSENBERG
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12025 **UNIV OF VIRGINIA**
 THESAURUS SUPPORT FOR EARTH SCIENCE DATA SYSTEMS.
 04/22/2002 - 09/14/2003 FY03: \$0 Total: \$92,205
Prin. Invest.: J C FRENCH
Tech. Officer: GSFC/K MOE
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 12055 **UNIV OF VIRGINIA**
 RADIATION CHEMISTRY OF PLANETARY SURFACES: SYNTHESIS AND DECOMPOSITION
 04/19/2002 - 04/30/2005 FY03: \$59,000 Total: \$118,000
Prin. Invest.: R A BARAGIOLA
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 12061 **UNIV OF VIRGINIA**
 ATMOSPHERIC COLLISION PROCESSES
 04/18/2002 - 04/30/2005 FY03: \$0 Total: \$89,244
Prin. Invest.: R E JOHNSON
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12102 **UNIV OF VIRGINIA**
 LARGE-SCALE STRUCTURE OF MAGNETOCENTRIFUGAL JETS AND WINDS IN STAR FORMATION
 04/24/2002 - 04/30/2005 FY03: \$47,768 Total: \$110,100
Prin. Invest.: Z LI
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12262 **UNIV OF VIRGINIA**
 THE DISK-HALO CONNECTION IN THE SPIRAL GALAXY M101
 06/04/2002 - 06/14/2004 FY03: \$0 Total: \$39,200
Prin. Invest.: R W O'CONNELL
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12267 **UNIV OF VIRGINIA**
 ELIPTICAL GALAXIES (FUSE 2001)
 06/24/2002 - 06/30/2003 FY03: \$0 Total: \$16,984
Prin. Invest.: R W O'CONNELL
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12405 **UNIV OF VIRGINIA**
 2002 COMPREHENSIVE HEDS EDUCATION PROGRAM EVALUATION TEAM
 08/01/2002 - 07/31/2003 FY03: \$101,799 Total: \$199,999
Prin. Invest.: D BALL
Tech. Officer: GSFC/D HALE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12472 **UNIV OF VIRGINIA**
 RADIATION -INDUCED EROSION AND ALTERATION OF GRAIN S
 08/15/2002 - 08/14/2005 FY03: \$35,000 Total: \$70,000
Prin. Invest.: R E JOHNSON
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 12609 **UNIV OF VIRGINIA**
 OBSERVATIONS OF O VI EMISSION IN THE HALO OF NGC 4 631
 09/26/2002 - 09/30/2003 FY03: \$24,800 Total: \$100,700
Prin. Invest.: E M MURPHY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12620 **UNIV OF VIRGINIA**
 LABORATORY STUDIES IN SUPPORT OF NEAR DATA ANALYSIS
 09/30/2002 - 09/30/2005 FY03: \$82,739 Total: \$162,462
Prin. Invest.: R A BARAGIOLA
Tech. Officer: GSFC/T MORGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12937 **UNIV OF VIRGINIA**
 THE HOT ISM OF CHEMICALLY UNEVOLVED GALAXIES
 03/03/2003 - 02/29/2004 FY03: \$52,800 Total: \$52,800
Prin. Invest.: T X THUAN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13088 **UNIV OF VIRGINIA**
 THE ORIGIN OF THE DISTURBED COOL CORE AND FILAMENTARY RADIO
 SOURCE IN ABELL 133
 03/24/2003 - 03/31/2004 FY03: \$38,000 Total: \$38,000
Prin. Invest.: C L SARAZIN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13089 **UNIV OF VIRGINIA**
 THE PHYSICS OF COOLING FLOW CLUSTERS WITH CENTRAL RADIO
 SOURCES
 03/24/2003 - 03/31/2004 FY03: \$38,000 Total: \$38,000
Prin. Invest.: C L SARAZIN
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13272 **UNIV OF VIRGINIA**
 MODELS OF PULSAR WIND NEBULAE & THEIR SURROUNDINGS
 04/04/2003 - 03/31/2006 FY03: \$56,000 Total: \$56,000
Prin. Invest.: R CHEVALIER
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13288 **UNIV OF VIRGINIA**
 THREE DIMENSIONAL STUDIES OF THE INTERACTION BETWEEN A
 PROTOSTELLAR DISK AND AN EMBEDDED PLANET
 04/04/2003 - 05/31/2006 FY03: \$50,000 Total: \$50,000
Prin. Invest.: S BALBUS
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13330 **UNIV OF VIRGINIA**
 GENERATION OF PLANETARY ATMOSPHERES BY RADIOLYSIS AND
 SUBLIMATION OF ICES
 04/12/2003 - 04/14/2006 FY03: \$80,000 Total: \$80,000
Prin. Invest.: R BARAGIOLA
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13631 **UNIV OF VIRGINIA**
 INTERFEROMETRIC-RADAR OBSERVATIONS OF NEAR EARTH ASTEROIDS
 08/28/2003 - 08/31/2006 FY03: \$35,000 Total: \$35,000
Prin. Invest.: G J BLACK
Tech. Officer: HQ/L JOHNSON
CASE Category: 11 – ASTRONOMY

NAG 5 13645 **UNIV OF VIRGINIA**
 STELLAR MASS LOSS VERSUS EXTERNAL ACCRETION IN X-RAY BRIGHT
 ELLIPTICALS
 09/10/2003 - 09/14/2004 FY03: \$38,000 Total: \$38,000
Prin. Invest.: C L SARAZIN
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 13737 **UNIV OF VIRGINIA**
 RADIO HALOS AND RELICS AND MERGER SHOCKS IN CLUSTERS OF
 GALAXIES
 09/24/2003 - 09/30/2004 FY03: \$36,000 Total: \$36,000
Prin. Invest.: G L SARAZIN
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13778 **UNIV OF VIRGINIA**
 SURFACE-BASED PROCESS AND PRECIPITATION FEATURES IN THE TROP-
 ICS
 09/30/2003 - 09/30/2006 FY03: \$73,116 Total: \$73,116
Prin. Invest.: J FUENTES
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 8 1567 **UNIV OF VIRGINIA**
 MEMBRANE PROTEIN CRYSTALLIZATION SCREENS BASED UPON FUNDAMEN-
 TAL PHENOMENOLOGY OF SOLUTIONS
 12/22/1998 - 11/30/2003 FY03: \$0 Total: \$614,550
Prin. Invest.: M C WIENER
Tech. Officer: MSFC/B GUYNES
CASE Category: 13 – PHYSICS

NAG 8 1832 **UNIV OF VIRGINIA**
 A DIRECTED APPROACH TO MEMBRANE PROTEIN CRYSTALLOGRAPHY
 09/05/2001 - 11/30/2004 FY03: \$100,000 Total: \$452,000
Prin. Invest.: M C WIENER
Tech. Officer: MSFC/B Q GUYNES
CASE Category: 59 – LIFE SCIENCE, OTHER

NAS 1 02076 **UNIV OF VIRGINIA**
 ASSAP/GALILEO SOFTWARE TOOL MAINTENANCE AND IMPROVEMENTS
 AND FEASIBILITY STUDY
 09/26/2002 - 09/26/2004 FY03: \$590,000 Total: \$735,000
Prin. Invest.: K J SULLIVAN, J B DUGAN
Tech. Officer: LARC/J A CARABALLO
CASE Category: 49 – ENGINEERING, OTHER

NAS 1 99098 **UNIV OF VIRGINIA**
 ANALYTICAL AERONAUTICAL SAFETY SOFTWARE TOOL
 03/26/1999 - 10/31/2002 FY03: \$0 Total: \$700,087
Prin. Invest.: J BECHTA-DUGAN, K J SULLIVAN
Tech. Officer: LARC/H A ROELANT, LARC/D J PORTER, JR.
CASE Category: 49 – ENGINEERING, OTHER

NCC 1 342 **UNIV OF VIRGINIA**
 ROBUST ADAPTIVE CONTROL IN THE PRESENCE OF UNCERTAINTIES AND
 FAILURES
 06/08/1999 - 05/31/2003 FY03: \$0 Total: \$154,001
Prin. Invest.: G TAO
Tech. Officer: LARC/S M JOSHI, LARC/C M BELCASTRO
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 361 **UNIV OF VIRGINIA**
 NONLINEAR IMPEDANCE OF POROUS MATERIALS
 11/12/1999 - 01/31/2003 FY03: \$0 Total: \$163,545
Prin. Invest.: W E ZORUMSKI
Tech. Officer: LARC/T L PARROTT, LARC/M G JONES
CASE Category: 13 – PHYSICS

NCC 1 01009 **UNIV OF VIRGINIA**
 DEVELOPMENT & EVALUATION OF LAP JOINT SIMULANT ENVIRONMENTS
 FOR ACCELERATED TESTING
 12/14/2000 - 12/31/2002 FY03: \$0 Total: \$60,000
Prin. Invest.: R G KELLY
Tech. Officer: LARC/R S PIASCIK
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 02006 **UNIV OF VIRGINIA**
 DIRECT ADAPTIVE CONTROL METHODOLOGIES FOR SYSTEMS IN THE
 PRESENCE OF UNCERTAINTIES AND FAILURES
 01/09/2002 - 05/31/2005 FY03: \$60,000 Total: \$90,000
Prin. Invest.: G TAO
Tech. Officer: LARC/S M JOSHI
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 02019 **UNIV OF VIRGINIA**
 LOAD DIFFUSION IN COMPOSITE AND SMART STRUCTURES
 03/29/2002 - 03/31/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: C O HORGAN
Tech. Officer: LARC/D R AMBUR, LARC/M P NEMETH
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 1093 **UNIV OF VIRGINIA**
 WHEN ARE THE IMMERSIVE DISPLAYS USEFUL: PERCEPTUAL & TASK
 CONSIDERATIONS?
 03/09/1999 - 08/31/2002 FY03: \$0 Total: \$441,768
Prin. Invest.: D R PROFFITT
Tech. Officer: ARC/M K KAISER
CASE Category: 69 – PSYCHOLOGY, OTHER

NCC 2 1192 **UNIV OF VIRGINIA**
 THE TOPOGRAPHY & BASIN DEPOSITS OF THE EQUATORIAL HIGHLANDS
 08/28/2000 - 08/31/2004 FY03: \$0 Total: \$47,000
Prin. Invest.: A D HOWARD
Tech. Officer: ARC/J M MOORE
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NCC 2 5415 **UNIV OF VIRGINIA**
 THEORETICAL CALCULATIONS OF POLYNUCLEAR TRANSITION METAL
 CARBONYLS
 01/19/2001 - 01/31/2004 FY03: \$0 Total: \$148,281
Prin. Invest.: L S ANDREWS
Tech. Officer: ARC/H PARTRIDGE
CASE Category: 12 – CHEMISTRY

NGT 1 01016 **UNIV OF VIRGINIA**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 06/22/2001 - 06/30/2003 FY03: \$10,000 Total: \$46,000
Prin. Invest.: B W JOHNSON
Tech. Officer: LARC/P M GOODE, LARC/A T MORRIS
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NGT 1 01031 **UNIV OF VIRGINIA**
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/2
 06/22/2001 - 06/30/2004 FY03: \$44,000 Total: \$70,000
Prin. Invest.: J C MCDANIEL, JR
Tech. Officer: LARC/C E GLASS
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 02007 **UNIV OF VIRGINIA**
 GRADUATE STUDENT RESEARCHER PROGRAM (GSRP)
 06/07/2002 - 06/30/2005 FY03: \$34,000 Total: \$48,000
Prin. Invest.: J C MCDANIEL, P D CAMPBELL
Tech. Officer: LARC/C E GLASS
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 30365 **UNIV OF VIRGINIA**
 NEE MODIFICATION BY AEROSOL RADIATIVE FORCING/JORDAN G. BARR
 08/13/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J FUENTES
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30418 **UNIV OF VIRGINIA**
 STRUCTURAL DYNAMICS OF SOUTHERN AFRICAN SAVANNAS ALONG THE
 KALAHARI TRANSECT--STUDENT:KELLY C
 09/10/2001 - 08/31/2004 FY03: \$0 Total: \$41,500
Prin. Invest.: H SHUGART
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30448 **UNIV OF VIRGINIA**
 ESTIMATION OF THE CARBON BUDGET RESPONSE TO LAND USE CHANGE
 FOR THE MIOMBO ECOSYSTEM OF SOUTHERN AFRICA
 08/23/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: P DESANKER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50305 **UNIV OF VIRGINIA**
 USING NOVEL MEMBRANE PROTEIN CRYSTALLIZATION SCREENS FOR
 THE STRUCTURE DETERMINATION OF ACHLORIDE
 07/07/2000 - 06/30/2003 FY03: \$0 Total: \$42,252
Prin. Invest.: M C WIENER
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50385 **UNIV OF VIRGINIA**
 MODELING OF SATURN'S NEUTRAL TORUS AND SPUTTER-PRODUCED
 SATELLITE ATMOSPHERES STUDENT: MICH
 05/23/2002 - 05/31/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: R JOHNSON
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT10 52620 **UNIV OF VIRGINIA**
 TRAINING GRANT UNDER A GRADUATE STUDENT RESEARCHER'S PRO-
 GRAM
 06/22/1999 - 12/31/2002 FY03: -\$17 Total: \$77,983
Prin. Invest.: A MILLS
Tech. Officer: KSC/R WHEELER
CASE Category: 55 – AGRICULTURE

NAG 1 2128 VA POLYTECHNIC INST & ST UNIV
 INVESTIGATION OF NOVEL SPACE-BORNE BROADBAND RADIO METER
 CONCEPTS
 01/07/1999 - 10/31/2001 FY03: -\$1 Total: \$297,805
Prin. Invest.: J R MAHAN
Tech. Officer: LARC/R B LEE, ARC/R L HUFFMAN, JR.
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2158 VA POLYTECHNIC INST & ST UNIV
 HYBRID ACTIVE-PASSIVE SYSTEMS FOR CONTROL OF AIRCRAFT INTE-
 RIOR NOISE
 03/09/1999 - 03/31/2002 FY03: -\$7 Total: \$451,842
Prin. Invest.: C R FULLER
Tech. Officer: LARC/D L PALUMBO
CASE Category: 46 – MECHANICAL ENGR

NAG 1 2272 VA POLYTECHNIC INST & ST UNIV
 AERODYNAMIC STUDIES RELATED TO THE AEROACOUSTICS OF TILTRO-
 TOR BLADES
 03/24/2000 - 02/28/2003 FY03: \$0 Total: \$170,000
Prin. Invest.: W J DAVENPORT
Tech. Officer: LARC/C L BURLEY, LARC/T F BROOKS
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2277 VA POLYTECHNIC INST & ST UNIV
 FINITE ELEMENT MODEL UPDATING OF UNCERTAIN SYSTEMS
 03/08/2000 - 07/31/2002 FY03: \$0 Total: \$97,117
Prin. Invest.: R KAPANIA
Tech. Officer: LARC/L G HORTA, LARC/J JUANG
CASE Category: 46 – MECHANICAL ENGR

NAG 1 2298 VA POLYTECHNIC INST & ST UNIV
 RESIDUAL STRESS EFFECTS IN ANISOTROPIC COMPOSITE LAMINATES
 05/24/2000 - 05/15/2003 FY03: \$0 Total: \$75,009
Prin. Invest.: M W HYER
Tech. Officer: LARC/D R AMBUR
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 2310 VA POLYTECHNIC INST & ST UNIV
 PUNCTURE-HEALING PROPERTIES OF CARBON NANOTUBE- FILLED IONO-
 MERS
 07/05/2000 - 07/31/2003 FY03: \$48,470 Total: \$221,753
Prin. Invest.: T C WARD
Tech. Officer: LARC/E J SIOCHI, LARC/T L ST. CLAIR
CASE Category: 12 – CHEMISTRY

NAG 1 01007 VA POLYTECHNIC INST & ST UNIV
 NONLINEAR AEROELASTICITY OF LIFTING SURFACES BY FUNCTIONAL
 SERIES TECHNIQUES: SUBCRITICAL
 11/21/2000 - 09/30/2001 FY03: -\$1 Total: \$50,000
Prin. Invest.: L LEBESCU
Tech. Officer: LARC/W A SILVA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01018 VA POLYTECHNIC INST & ST UNIV
 OPTICAL FIBER STRAIN SENSOR INSTRUMENTATION FOR HIGH TEMPERA-
 TURE AEROSPACE STRUCTURAL MONITORING
 01/18/2001 - 12/31/2001 FY03: -\$1,085 Total: \$65,914
Prin. Invest.: A WANG, G PICKRELL, R MAY
Tech. Officer: LARC/R S ROGOWSKI
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 01072 VA POLYTECHNIC INST & ST UNIV
 FAILURE OF NONCIRCULAR COMPOSITE CYLINDERS MY 1/3
 04/24/2001 - 05/15/2004 FY03: \$0 Total: \$80,200
Prin. Invest.: M W HYER
Tech. Officer: LARC/M P NEMETH
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 01101 VA POLYTECHNIC INST & ST UNIV
 THIN-WALLED STRUCTURES MULTIPLE INTERACTIVE FUNCTIONS-
 FOUNDATIONS OF THE THEORY AND BEHAVIOR
 07/16/2001 - 07/15/2004 FY03: \$70,000 Total: \$175,000
Prin. Invest.: L LIBRESCU
Tech. Officer: LARC/D R AMBUR
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 01104 VA POLYTECHNIC INST & ST UNIV
 INTEGRATION OF MACRO FIBER COMPOSITES INTO THE DYNAMICS AND
 CONTROL OF AN INFLATED TORUS
 06/16/2001 - 06/15/2002 FY03: -\$1 Total: \$39,999
Prin. Invest.: D J INMAN
Tech. Officer: LARC/W K WILKIE
CASE Category: 42 – ASTRONAUTICAL ENGR

NAG 1 01105 VA POLYTECHNIC INST & ST UNIV
 EVOLUTIONARY STRATEGIES FOR PASSIVE/ACTIVE TAILORING OF THIN
 AND MODERATELY THICK WALLED
 06/20/2001 - 06/19/2004 FY03: \$25,000 Total: \$121,187
Prin. Invest.: Z GURDAL
Tech. Officer: LARC/D R AMBUR
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 01112 VA POLYTECHNIC INST & ST UNIV
 NEW MEAS & INTERPRETATION PROTOCOLS FOR SATELLITE- BASED
 EARTH RADIATION BUDGET (ERB) OBSERVATIONS
 08/15/2001 - 09/30/2004 FY03: -\$1 Total: \$66,800
Prin. Invest.: M A HAEFFELIN
Tech. Officer: LARC/D F YOUNG
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 01123 VA POLYTECHNIC INST & ST UNIV
 ANALYSIS FOR THE PROGRESSIVE FAILURE RESPONSE OF TEXTILE
 COMPOSITE FUSELAGE FRAMES
 09/18/2001 - 07/31/2002 FY03: \$0 Total: \$46,909
Prin. Invest.: E R JOHNSON
Tech. Officer: LARC/R B OITNOTT
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01125 VA POLYTECHNIC INST & ST UNIV
 UNCERTAINTY AND CONFIDENCE INTERVALS IN RADIOMETRIC INSTRU-
 MENT DATA PRODUCTS
 10/15/2001 - 10/14/2002 FY03: -\$11,724 Total: \$65,762
Prin. Invest.: J R MAHAN
Tech. Officer: LARC/R B LEE, LARC/R L HUFFMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02011 VA POLYTECHNIC INST & ST UNIV
 OPEN/CLOSED LOOP NONLINEAR AEROELASTICITY OF AIRCRAFT WINGS
 11/28/2001 - 09/30/2003 FY03: \$40,000 Total: \$105,195
Prin. Invest.: LIBRESCU
Tech. Officer: LARC/W A SILVA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02024 VA POLYTECHNIC INST & ST UNIV
 MULTIDISCIPLINARY DESIGN OPTIMIZTN INVESTIGATION ADVANCED DE-
 SIGN CONCEPTS APPLIED BLENDED WING-BODY
 12/21/2001 - 01/14/2005 FY03: \$116,000 Total: \$261,640
Prin. Invest.: S M PROCTOR
Tech. Officer: LARC/R A HATHAWAY, LARC/M D GUYEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02025 VA POLYTECHNIC INST & ST UNIV
 POLYNOMIAL CHAOS IN FLUID MECHANICS
 12/19/2001 - 09/30/2002 FY03: \$0 Total: \$75,000
Prin. Invest.: B GROSSMAN, R W WALTERS
Tech. Officer: LARC/J H MORRISON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02053 VA POLYTECHNIC INST & ST UNIV
 ADVANCED DISTRIBUTED ACTIVE VIBRATION ABSORBERS DAVA'S FOR
 REDUCING AIRCRAFT INTERIOR NOISE
 02/13/2002 - 02/12/2005 FY03: \$82,988 Total: \$149,988
Prin. Invest.: C R FULLER
Tech. Officer: LARC/D L PALUMBO
CASE Category: 46 – MECHANICAL ENGR

NAG 1 02063 VA POLYTECHNIC INST & ST UNIV
 A PROGRAM TO DEVELOP SHAPE MEMORY ALLOYS FOR SENSING AND
 MORPHING APPLICATIONS
 03/06/2002 - 03/05/2005 FY03: \$79,995 Total: \$134,995
Prin. Invest.: W T REYNOLDS
Tech. Officer: LARC/R S PIASCIK
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 02084 VA POLYTECHNIC INST & ST UNIV
 CONTROL OF LANDING GEAR NOISE
 04/22/2002 - 04/21/2006 FY03: \$146,151 Total: \$218,458
Prin. Invest.: R A BURDISSO, W NG
Tech. Officer: LARC/M R KHORRAMI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02106 VA POLYTECHNIC INST & ST UNIV
 DEVELOPMENT AND OPERATION OF VIRGINIA FIRST LEGO LEAGUE
 (VAFLL) (FOLLOW-ON TO NAG-1-01021)
 07/23/2002 - 03/31/2003 FY03: \$0 Total: \$20,000
Prin. Invest.: B DUGGINS
Tech. Officer: LARC/J M SEATON, LARC/J L EVANS
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 02108 VA POLYTECHNIC INST & ST UNIV
 PROGRAM TO DEVELOP INTEGRATED JP-7 PLASMA-INJECTOR FLAME-
 HOLDER FOR SUPERSONIC COMBUSTION
 07/29/2002 - 08/09/2005 FY03: \$100,224 Total: \$198,462
Prin. Invest.: J A SCHETZ
Tech. Officer: LARC/D E REUBUSH
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 02111 VA POLYTECHNIC INST & ST UNIV
 INVESTIGATION OF ADAPTIVE STRUCTURES FOR MORPHING AIRCRAFT
 08/30/2002 - 12/31/2003 FY03: \$0 Total: \$65,078
Prin. Invest.: H H ROBERTSHAW, D J INMAN, C F REINHOLTZ
Tech. Officer: LARC/G C HORNER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03026 VA POLYTECHNIC INST & ST UNIV
 ACTIVE MICROCAPSULES FOR CONTROLLABLE FLUID TRANSPORT
 02/20/2003 - 02/19/2006 FY03: \$123,747 Total: \$123,747
Prin. Invest.: D J LEO
Tech. Officer: LARC/G C HORNER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03028 VA POLYTECHNIC INST & ST UNIV
 POLYNOMIAL CHAOS IN FLUID MECHANICS-PHASE 2
 03/04/2003 - 03/03/2004 FY03: \$69,999 Total: \$69,999
Prin. Invest.: R W WALTERS
Tech. Officer: LARC/J H MORRISON
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03052 VA POLYTECHNIC INST & ST UNIV
 PROCESSING AND CHARACTERIZATION OF POLYMERIC ACTUATORS WITH
 EMBEDDED MICROCAPSULES
 04/30/2003 - 04/29/2006 FY03: \$137,087 Total: \$137,087
Prin. Invest.: D LEO
Tech. Officer: LARC/G C HORNER
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03058 VA POLYTECHNIC INST & ST UNIV
 CONTINUING INVESTIGATION OF THE PUNCTURE HEALING PROPERTIES
 OF CARBON NANOTUBE FILLED POLYMERS
 05/09/2003 - 07/31/2005 FY03: \$25,000 Total: \$25,000
Prin. Invest.: T C WARD
Tech. Officer: LARC/E J SIOCHI
CASE Category: 12 – CHEMISTRY

NAG 2 1521 VA POLYTECHNIC INST & ST UNIV
 ACCELERATING DESIGN INTEGRATED AIRCRAFT SYNTHESIS TOOLS
 09/10/2001 - 12/31/2003 FY03: \$0 Total: \$515,695
Prin. Invest.: A MYKLEBUST, J H BOHN
Tech. Officer: ARC/D A WARDWELL
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2687 VA POLYTECHNIC INST & ST UNIV
 A DESIGN METHODOLOGY FOR RAPID IMPLEMENTATION OF A CTIVE
 CONTROL SYSTEMS ACROSS LEANDIRECT INJECTIO
 01/10/2002 - 09/30/2004 FY03: \$100,000 Total: \$200,000
Prin. Invest.: W R SAUNDERS
Tech. Officer: GRC/J R SAUS
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2694 VA POLYTECHNIC INST & ST UNIV
 FAN NOISE CONTROL USING HERSCHEL-QUINCKE RESONATOR S
 01/17/2002 - 09/30/2004 FY03: \$99,449 Total: \$195,508
Prin. Invest.: D A BURDISSO
Tech. Officer: GRC/L J HEIDELBERG
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2710 VA POLYTECHNIC INST & ST UNIV
 PREDICTING MODES OF THE UNSTEADY VORTICITY FIELD N EAR THE
 TRAILING EDGE OF A BLADE
 02/14/2002 - 11/30/2003 FY03: \$55,706 Total: \$109,262
Prin. Invest.: W J DEVENPORT
Tech. Officer: GRC/E ENVIA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2733 VA POLYTECHNIC INST & ST UNIV
 BASIC HIGH REYNOLDS NUMBER 3-D TURBULENT BOUNDARY LAYER
 EXPERIMENTS ON LAGS TO IMPROVE SECOND-ORDER
 03/08/2002 - 01/31/2005 FY03: \$150,000 Total: \$256,738
Prin. Invest.: R L SIMPSON
Tech. Officer: GRC/L A POVINELLI
CASE Category: 41 – AERONAUTICAL ENGR

NAG 3 2796 VA POLYTECHNIC INST & ST UNIV
 COMPUTATIONAL THERMOCHEMISTRY OF JET FUELS AND ROC KET
 PROPELLANTS
 08/06/2002 - 09/30/2002 FY03: \$0 Total: \$20,000
Prin. Invest.: T CRAWFORD
Tech. Officer: GRC/M ZEHE
CASE Category: 12 – CHEMISTRY

NAG 3 2826 VA POLYTECHNIC INST & ST UNIV
 AN INVESTIGATION OF LOW ENERGY ION SPUTTERING IN I ON THRUST-
 ERS
 12/06/2002 - 10/31/2003 FY03: \$35,000 Total: \$35,000
Prin. Invest.: J J WANG
Tech. Officer: GRC/M T DOMONKOS
CASE Category: 13 – PHYSICS

NAG 4 240 VA POLYTECHNIC INST & ST UNIV
 HIGH TEMPERATURE OPTICAL FIBER SENSORS HIGH TEMPERATURE
 OPTICAL FIBER SENSORS
 08/05/2003 - 10/31/2003 FY03: \$15,000 Total: \$15,000
Prin. Invest.: R O CLAUS
Tech. Officer: DFRC/L D HUDSON
CASE Category: 13 – PHYSICS

NAG 5 5295 VA POLYTECHNIC INST & ST UNIV
 IONOSPHERIC NANOSATELLITE FORMATION (ION-F) SCIENCE
 06/01/2000 - 11/25/2003 FY03: \$0 Total: \$155,270
Prin. Invest.: W SCALES
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 – PHYSICS

NAG 5 9291 VA POLYTECHNIC INST & ST UNIV
 ION-F: A SPACE-BASED TESTBED FOR DISTRIBUTED FORMATION CON-
 TROL USING THE HOKIESAT NANOSATELLITE
 03/17/2000 - 03/31/2004 FY03: \$0 Total: \$177,000
Prin. Invest.: C HALL
Tech. Officer: GSFC/K LUU
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 10548 VA POLYTECHNIC INST & ST UNIV
 NET ECOSYSTEM PRODUCTIVITY OF MANAGED FORESTS
 03/14/2001 - 03/14/2004 FY03: \$0 Total: \$210,938
Prin. Invest.: R WYNNE
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10733 VA POLYTECHNIC INST & ST UNIV
 FLUID AND MELT INCLUSION STUDIES OF VOLATILES IN PLANETARY
 SAMPLES
 04/11/2001 - 04/14/2002 FY03: -\$651 Total: \$24,349
Prin. Invest.: R BODNAR
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10818 VA POLYTECHNIC INST & ST UNIV
 "CONTROL EFFECTIVENESS FOR LEONARDO MISSION ORBITS"
 04/24/2001 - 01/31/2002 FY03: -\$132 Total: \$39,868
Prin. Invest.: C HALL
Tech. Officer: GSFC/S HUGHES
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 11315 VA POLYTECHNIC INST & ST UNIV
 TETHERED FORMATION FLYING STUDY-CROSS ENTERPRISE TECH. DEV.
 PROGRAM
 09/05/2001 - 08/31/2004 FY03: \$34,183 Total: \$100,000
Prin. Invest.: C HALL
Tech. Officer: GSFC/D QUINN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 5 12119 VA POLYTECHNIC INST & ST UNIV
 TIME-OPTIMAL CONTROL FOR FORMATION ESTABLISHMENT & MANEUVER-
 ING
 04/29/2002 - 05/31/2004 FY03: \$0 Total: \$31,697
Prin. Invest.: D HALL
Tech. Officer: GSFC/D FOLTA
CASE Category: 41 – AERONAUTICAL ENGR

NAG 8 1846 VA POLYTECHNIC INST & ST UNIV
 MATERIAL CHARACTERIZATION OF ELASTOMERIC ADHESIVE
 08/09/2001 - 02/08/2003 FY03: \$0 Total: \$66,983
Prin. Invest.: D A DILLIARD
Tech. Officer: MSFC/M E PRINCE
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 346 VA POLYTECHNIC INST & ST UNIV
 A UNIFIED PROGRAM FOR THE FLIGHT DYNAMICS AND AERO SERVOELAS-
 TICITY OF WHOLE AIRCRAFT
 06/17/1999 - 12/15/2002 FY03: -\$1,938 Total: \$149,062
Prin. Invest.: L MEIROVITCH
Tech. Officer: LARC/M R WAZAK
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 367 VA POLYTECHNIC INST & ST UNIV
 LOW SPEED ROTOR/FUSELAGE INTERACTIONAL AERODYNAMICS
 01/12/2000 - 01/31/2003 FY03: \$0 Total: \$247,279
Prin. Invest.: D D BOYD, R W BARNWELL
Tech. Officer: LARC/H E JONES
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 398 VA POLYTECHNIC INST & ST UNIV
 INTERFACE FINITE ELEMENTS FOR ANALYSIS OF FRACTURE INITIATION &
 PROGRESSION
 05/15/2000 - 05/14/2003 FY03: -\$1 Total: \$127,998
Prin. Invest.: E R JOHNSON
Tech. Officer: LARC/D R AMBUR
CASE Category: 41 – AERONAUTICAL ENGR

NCC 1 405 VA POLYTECHNIC INST & ST UNIV
 SCIENTIFIC INVESTIGATIONS WITH RADIATION BUDGET DATA
 08/10/2000 - 08/15/2003 FY03: \$62,705 Total: \$299,250
Prin. Invest.: G L SMITH
Tech. Officer: LARC/R B LEE III, LARC/R L HUFFMAN JR.
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 01037 VA POLYTECHNIC INST & ST UNIV
 VARTM MODEL DEVELOPMENT AND VERIFICATION
 04/12/2001 - 04/11/2004 FY03: \$104,000 Total: \$253,989
Prin. Invest.: A C LOOS
Tech. Officer: LARC/R J CANO, LARC/B J JENSEN
CASE Category: 47 – METAL & MATERIALS ENGR

NCC 1 01044 VA POLYTECHNIC INST & ST UNIV
 NEW NANO-SPHERE MATERIALS: MAGNETIC AND DIELECTRIC PROPERTIES OF THE ENDOHEDRAL
 04/12/2001 - 01/12/2004 FY03: \$0 Total: \$141,650
Prin. Invest.: H C DORN
Tech. Officer: LARC/C C FAY
CASE Category: 12 – CHEMISTRY

NCC 1 03017 VA POLYTECHNIC INST & ST UNIV
 FLIGHT CONTROL OF MORPHING AIRCRAFT STRUCTURES
 04/07/2003 - 12/31/2005 FY03: \$203,231 Total: \$203,231
Prin. Invest.: D J INMAN, W H MASON, H H ROBERTSHAW
Tech. Officer: LARC/M R WASZAK
CASE Category: 41 – AERONAUTICAL ENGR

NCC 2 5433 VA POLYTECHNIC INST & ST UNIV
 AEROELASTIC DESIGN OF WINGS USING NON-TRADITIONAL METHODS
 04/25/2001 - 09/30/2002 FY03: \$0 Total: \$47,023
Prin. Invest.: R K KAPANIA
Tech. Officer: ARC/T L HOLST, ARC/G GURASWANY
CASE Category: 22 – COMPUTER SCIENCE

NCC 3 866 VA POLYTECHNIC INST & ST UNIV
 HIGH TEMPERATURE PROTON EXCHANGE MEMBRANES FOR FUE L CELLS
 02/20/2001 - 12/31/2003 FY03: \$92,500 Total: \$214,815
Prin. Invest.: J E MCGRATH
Tech. Officer: GRC/M B MEADOR
CASE Category: 12 – CHEMISTRY

NCC 3 1026 VA POLYTECHNIC INST & ST UNIV
 TRAILING EDGE BLOWING AND ITS EFFECTS ON THE WAKE OF A LINEAR FAN CASCADE, VT PROPOSAL #03-0924-11
 01/22/2003 - 12/31/2004 FY03: \$116,877 Total: \$116,877
Prin. Invest.: W J DEVENPORT
Tech. Officer: GRC/B FITE
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 01033 VA POLYTECHNIC INST & ST UNIV
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP) MY 1/3
 06/22/2001 - 06/30/2004 FY03: \$42,000 Total: \$70,000
Prin. Invest.: T LONG
Tech. Officer: LARC/E J SIOCHI
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 01038 VA POLYTECHNIC INST & ST UNIV
 GSRP
 09/10/2001 - 12/31/2002 FY03: \$0 Total: \$56,031
Prin. Invest.: M AHMADIAN
Tech. Officer: LARC/D L PALUMBO
CASE Category: 46 – MECHANICAL ENGR

NGT 1 02014 VA POLYTECHNIC INST & ST UNIV
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 06/07/2002 - 06/30/2005 FY03: \$34,000 Total: \$48,000
Prin. Invest.: D J INMAN, R B WILLIAMS
Tech. Officer: LARC/W K WILKE
CASE Category: 46 – MECHANICAL ENGR

NGT 1 03020 VA POLYTECHNIC INST & ST UNIV
 GRADUATE STUDENT RESEARCHERS PROGRAM
 08/08/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D J INMAN, H A SODANO
Tech. Officer: LARC/K W BELVIA
CASE Category: 46 – MECHANICAL ENGR

NGT 1 03024 VA POLYTECHNIC INST & ST UNIV
 GRADUATE STUDENT RESEARCHERS PROGRAM
 09/15/2003 - 06/30/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: E R JOHNSON, L O PILKINGTON
Tech. Officer: LARC/R L BOITNOTT
CASE Category: 41 – AERONAUTICAL ENGR

NGT 1 52224 VA POLYTECHNIC INST & ST UNIV
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 09/27/1999 - 08/31/2002 FY03: \$0 Total: \$60,500
Prin. Invest.: G J OGLE
Tech. Officer: LARC/J M SEATON
CASE Category: 22 – COMPUTER SCIENCE

NGT 1 52248 VA POLYTECHNIC INST & ST UNIV
 GRADUATE STUDENT RESEARCHERS PROGRAM (GSRP)
 08/01/2000 - 06/30/2002 FY03: -\$1 Total: \$44,000
Prin. Invest.: A M SMITH, J R MAHAN
Tech. Officer: LARC/K J PRIESTLEY, LARC/R B LEE III
CASE Category: 46 – MECHANICAL ENGR

NGT 5 147 VA POLYTECHNIC INST & ST UNIV
 TEAM EFFORT IN FORMATION FLYING: TYING VA TECH'S DISTRIBUTED SPACECRAFT ATTITUDE CONTROL SYSTEM
 08/14/2003 - 08/14/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: C D HALL
Tech. Officer: GSFC/M S BURRELL
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 50260 VA POLYTECHNIC INST & ST UNIV
 A SHARED AUGMENTED REALITY SYSTEM FOR COMMUNICATION ACROSS ENVIRONMENTS STUDENT: WILLIAM STADERMAN
 07/07/1999 - 08/31/2002 FY03: -\$17 Total: \$65,983
Prin. Invest.: B M KLEINER
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50425 VA POLYTECHNIC INST & ST UNIV
 NOVEL APPROACHES TO ESTABLISHING VALIDITY & RELIABILITY OF MECHANICAL RESPONSE TISSUE ANALYSIS: T
 08/14/2002 - 08/14/2005 FY03: \$0 Total: \$24,000
Prin. Invest.: W G HERBERT
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52909 VA POLYTECHNIC INST & ST UNIV
 DEVELOPMENT OF SELF-MONITORING AND SELF-HEALING BOLTED JOINTS
 05/25/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: D J INMAN
Tech. Officer: MSFC/S NASH-STEVENSON
CASE Category: 46 – MECHANICAL ENGR

NASA'S UNIVERSITY PROGRAM

WASHINGTON

NAG 1 01042 **VIRGINIA COMMONWEALTH UNIV**
 A MINIATURE EMBEDDED RECONFIGURABLE COMPUTER AND LOGIC
 MODULE
 04/09/2001 - 05/22/2002 FY03: -\$966 Total: \$43,991
Prin. Invest.: J H TUCKER
Tech. Officer: LARC/Q A SHAMS
CASE Category: 45 – ELECTRICAL ENGR

NAG 1 03002 **VIRGINIA COMMONWEALTH UNIV**
 FLOW CONTROL IN SYNTHETIC JET TYPE APPLICATIONS USING PIEZO-
 ELECTRIC ACTUATORS
 11/01/2002 - 10/31/2003 FY03: \$64,943 Total: \$64,943
Prin. Invest.: K MOSSI
Tech. Officer: LARC/R G BRUFORT
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 03032 **VIRGINIA COMMONWEALTH UNIV**
 2003-2005 NASA/VCU REGIONAL FIRST ROBOTICS COMPETITION
 03/19/2003 - 03/18/2006 FY03: \$125,000 Total: \$125,000
Prin. Invest.: T M CAMERON
Tech. Officer: LARC/J M SEATON
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 12560 **VIRGINIA COMMONWEALTH UNIV**
 FUEL CELL AND BATTERY RESEARCH
 11/05/2002 - 11/14/2004 FY03: \$899,539 Total: \$899,539
Prin. Invest.: G WNEK
Tech. Officer: GSFC/H THRONSON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 8 1484 **VIRGINIA COMMONWEALTH UNIV**
 R/S GAS PHASE POLYMERIZATION AND NUCLEATION EXPERIMENTS IN
 MICROGRAVITY
 02/01/1998 - 01/31/2003 FY03: \$0 Total: \$450,000
Prin. Invest.: M S EL-SHALL
Tech. Officer: MSFC/P M DOTY
CASE Category: 12 – CHEMISTRY

NAG 9 1467 **VIRGINIA COMMONWEALTH UNIV**
 COMPUTER BASED VIRTUAL REALITY SURGICAL TRAINING IN MICROGRAV-
 ITY
 01/08/2003 - 01/09/2004 FY03: \$257,871 Total: \$257,871
Prin. Invest.: T BRODERICK
Tech. Officer: JSC/C LLYOD
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAS 9 19539 **VIRGINIA COMMONWEALTH UNIV**
 NEUROLAB EXPERIMENT DOCUMENT FOR E-049
 02/22/1996 - 09/30/2002 FY03: \$0 Total: \$915,438
Prin. Invest.: D ECKBURG
Tech. Officer: JSC/A LEE
CASE Category: 56 – MEDICAL

NCC 1 02013 **VIRGINIA COMMONWEALTH UNIV**
 FLEXIBLE, HIGH PERFORMANCE, HIGH STABILITY SENSORS/ ACTUATORS
 FOR AEROSPACE APPLICATIONS
 02/14/2002 - 02/13/2004 FY03: \$66,561 Total: \$131,722
Prin. Invest.: Z OUNAIES
Tech. Officer: LARC/J S HARRISON
CASE Category: 46 – MECHANICAL ENGR

NCC 1 03007 **VIRGINIA COMMONWEALTH UNIV**
 PROCESSING AND CHARACTERIZATION OF MULTIFUNCTIONAL POLY-
 MERIC COMPOSITES
 02/07/2003 - 02/06/2005 FY03: \$63,879 Total: \$63,879
Prin. Invest.: Z OUNAIES
Tech. Officer: LARC/E J SIOCH
CASE Category: 12 – CHEMISTRY

NCC 8 264 **VIRGINIA COMMONWEALTH UNIV**
 PROMOTE COMMERCIALY FUNDED RESEARCH & TECH. DEVL. IN MEDI-
 CAL COMMUNICATIONS & TELECOMMUNICATIONS DI
 10/29/2002 - 10/31/2003 FY03: \$1,000,000 Total: \$1,000,000
Prin. Invest.: R C MERRELL
Tech. Officer: MSFC/J CASAS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 9 148 **VIRGINIA COMMONWEALTH UNIV**
 MEDICAL INFORMATICS & TECHNOLOGY APPLICATIONS TEST BED
 01/22/2002 - 10/30/2002 FY03: \$0 Total: \$1,000,764
Prin. Invest.: R C MERRELL
Tech. Officer: JSC/J S LOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

WASHINGTON

NAG 5 7672 **CENTRAL WASHINGTON UNIV**
 FUNDING FOR 'VARIATIONS IN SEA LEVEL CHANGE ALONG THE CASCADIA
 MARGIN..' (SENH98-0083)
 09/01/1998 - 06/30/2002 FY03: \$0 Total: \$294,208
Prin. Invest.: M MILLER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10501 **CENTRAL WASHINGTON UNIV**
 APPLICATIONS OF DIGITAL ELEVATION MODELS TO THE ACTIVE TECTON-
 ICS & PALEOCLIMATE OF CENTRAL ASIA
 03/02/2001 - 02/29/2004 FY03: \$19,000 Total: \$38,000
Prin. Invest.: C RUBIN
Tech. Officer: GSFC/H V FREY
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 13728 **CENTRAL WASHINGTON UNIV**
 CURRENT DEFORMATION ABOVE SEDUCTION ZONES OVER TIME SCALES
 OF HOURS TO CENTURIES: GLOBAL & REGION
 09/25/2003 - 09/30/2006 FY03: \$91,115 Total: \$91,115
Prin. Invest.: M M MILLER
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG13 02057 **HERITAGE COLLEGE**
 PAIR-INCORPORATION OF SATELLITE IMAGERY ANALYSIS IN ENVIRON-
 MENT AND COMPUTER SCIENCE CURRICULA
 09/23/2002 - 09/30/2006 FY03: \$0 Total: \$399,208
Prin. Invest.: D FALCO
Tech. Officer: SSC/D TRAVIS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11836 **UNIV OF PUGET SOUND**
 EVOLUTION OF SEA ICE THICKNESS DISTRIBUTION DERIVED FROM
 MODELING AND REMOTE SENSING
 03/18/2002 - 03/14/2003 FY03: \$0 Total: \$27,946
Prin. Invest.: A THORNDIKE
Tech. Officer: GSFC/W ABDALATI
CASE Category: 33 – OCEANOGRAPHY

NAG 5 12328 **UNIV OF PUGET SOUND**
 BIOGEOCHEMISTRY OF IRON IN A NEAR-NEUTRAL PH IRON- DEPOSITING
 HOT SPRING WITH PHOTOTROPHIC MICROBIAL
 06/27/2002 - 06/30/2005 FY03: \$145,351 Total: \$255,408
Prin. Invest.: B PIERSON
Tech. Officer: GSFC/M MEYER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2079 **UNIV OF WASHINGTON**
 AIRBORNE STUDIES IN THE ARCTIC IN SUPPORT OF FIRE III
 06/12/1998 - 03/11/2003 FY03: \$0 Total: \$736,064
Prin. Invest.: P V HOBBS, D A HEGG
Tech. Officer: LARC/D S MCDUGAL, LARC/J RAPER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 2193 **UNIV OF WASHINGTON**
 DYNAMICAL COUPLING OF STRATOSPHERE & TROPOSPHERE
 05/12/1999 - 09/30/2002 FY03: -\$3,005 Total: \$351,989
Prin. Invest.: J R HOLTON
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2296 **UNIV OF WASHINGTON**
 PROBABILISTIC STRUCTURAL INSPECTION OPTIMIZATION WITH BAYESIAN
 UPDATING OF DAMAGE CHARACTERISTICS
 06/01/2000 - 06/30/2002 FY03: -\$21 Total: \$129,979
Prin. Invest.: K Y LIN
Tech. Officer: LARC/W J STLOUD, LARC/I S RAJU
CASE Category: 49 – ENGINEERING, OTHER

NAG 1 01029 **UNIV OF WASHINGTON**
 INTEGRATED AEROSERVOELASTIC OPTIMIZATION OF FULL- SCALE
 STRAIN-ACTUATED AIRPLANES: TOOLS DEVELOP-
 02/15/2001 - 12/31/2003 FY03: \$66,014 Total: \$190,014
Prin. Invest.: E LIVNE
Tech. Officer: LARC/C D WIESEMAN, LARC/R C SCOTT
CASE Category: 41 – AERONAUTICAL ENGR

NAG 1 01078 **UNIV OF WASHINGTON**
 TOUGHENED RESIN DEVELOPMENT AND COMPOSITE SYSTEMS FOR
 VARTM APPLICATIONS
 05/24/2001 - 05/30/2004 FY03: \$0 Total: \$157,997
Prin. Invest.: J C SEFERIS
Tech. Officer: LARC/B J JENSEN, LARC/R J CANO
CASE Category: 47 – METAL & MATERIALS ENGR

NAG 1 03051 **UNIV OF WASHINGTON**
 STATE-SPACE/FREQUENCY DOMAIN DESIGN ORIENTED UN- STEAD AERO-
 DYNAMICS FOR AEROSERVOELASTIC SHAPE...
 05/08/2003 - 05/07/2006 FY03: \$80,000 Total: \$80,000
Prin. Invest.: E LIVNE
Tech. Officer: LARC/J F BARTHELEMY, LARC/P G COEN
CASE Category: 41 – AERONAUTICAL ENGR

NAG 2 1450 **UNIV OF WASHINGTON**
 NETWORK SERVER PARADIGMS FOR AIR TRAFFIC MANAGEMEN T AUTO-
 MATION
 12/14/2000 - 02/28/2004 FY03: \$45,000 Total: \$101,766
Prin. Invest.: S DEVASIA
Tech. Officer: ARC/G MEYER
CASE Category: 49 – ENGINEERING, OTHER

NAG 2 1514 **UNIV OF WASHINGTON**
 THE ROLE OF THE HOMEBOX TRANSCRIPTION FACTOR, CPRO X1, IN
 DEVELOPMENT OF THE VESTIBULAR PERIPHERY IN
 08/17/2001 - 07/14/2004 FY03: \$145,920 Total: \$357,669
Prin. Invest.: J S STONE
Tech. Officer: ARC/G C JAHNS, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1538 **UNIV OF WASHINGTON**
 INTERLEAVED CONTINGENT PLANNING AND EXECUTION
 02/25/2002 - 02/14/2004 FY03: \$0 Total: \$107,321
Prin. Invest.: D WELD
Tech. Officer: ARC/R A MORRIS, ARC/D SMITH
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2379 **UNIV OF WASHINGTON**
 BUOYANCY-DRIVEN INSTABILITIES IN SINGLE-BUBBLE SON OLUMINES-
 CENCE (REF.# 123814)
 04/04/2000 - 11/30/2003 FY03: \$100,000 Total: \$355,000
Prin. Invest.: T J MATULA
Tech. Officer: GRC/N R HALL
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2455 **UNIV OF WASHINGTON**
 PRESSURE SENSITIVE (PSP) FOR TWO SENSOR LIFETIME M EASUREMENT
 OF PRESSURE AND TEMPERATURE
 06/07/2000 - 06/30/2003 FY03: \$0 Total: \$145,815
Prin. Invest.: D GOUTERMAN
Tech. Officer: GRC/T BENCIC
CASE Category: 12 – CHEMISTRY

NAG 3 2517 **UNIV OF WASHINGTON**
 INVESTIGATION OF THE LIFTOFF AND BLOWOUT OF TRANSITIONAL AND
 TURBULENT JET FLAMES
 01/09/2001 - 11/30/2004 FY03: \$100,000 Total: \$265,500
Prin. Invest.: D RILEY
Tech. Officer: GRC/J E BROOKER
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2879 **UNIV OF WASHINGTON**
 STABILITY AND HEAT TRANSFER CHARACTERISTICS OF CONDENSING
 FILMS IN REDUCED GRAVITY
 06/02/2003 - 11/30/2003 FY03: \$104,817 Total: \$104,817
Prin. Invest.: J C HERMANSON
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 3 2889 **UNIV OF WASHINGTON**
 FUNDING FEASIBILITY STUDY FOR A SPACE-BASED TEST OF THE STRONG
 EQUIVALANCE PRINCIPLE USING LUNAR
 05/01/2003 - 03/31/2006 FY03: \$120,000 Total: \$120,000
Prin. Invest.: E G ADELBERGER
Tech. Officer: GRC/M C HICKS
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 4540 **UNIV OF WASHINGTON**
 THERMAL HISTORY OF LUNAR CRUSTAL ROCKS
 05/06/1997 - 06/14/2002 FY03: -\$233 Total: \$164,767
Prin. Invest.: D S MCCALLUM
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 5183 **UNIV OF WASHINGTON**
 DROPPS: DISTRIBUTION AND ROLE OF PARTICLES IN THE POLAR SUMMER MESOSPHERE
 03/13/1998 - 03/31/2002 FY03: \$0 Total: \$168,353
Prin. Invest.: R H HOLZWORTH
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 - PHYSICS

NAG 5 5190 **UNIV OF WASHINGTON**
 ATMOSPHERIC LIGHTNING ATMOSPHERIC LIGHTNING
 04/16/1998 - 04/20/2002 FY03: -\$126 Total: \$201,834
Prin. Invest.: M MCCARTHY
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 - PHYSICS

NAG 5 5294 **UNIV OF WASHINGTON**
 IONOSPHERIC NANOSATELLITE FORMATION (ION-F) SCIENCE
 06/01/2000 - 11/25/2003 FY03: \$0 Total: \$156,783
Prin. Invest.: J D SAHR
Tech. Officer: GSFC/J C BRINTON
CASE Category: 13 - PHYSICS

NAG 5 6463 **UNIV OF WASHINGTON**
 BROADBAND INFRARED THERMOMETER MEASUREMENTS FOR MO DIS VALIDATION
 10/14/1997 - 03/31/2003 FY03: \$0 Total: \$901,285
Prin. Invest.: A T JESSUP
Tech. Officer: GSFC/D O STARR
CASE Category: 19 - PHYSICAL SCIENCE, OTHER

NAG 5 7114 **UNIV OF WASHINGTON**
 WIND DATA ANALYSIS USING THE 3-D INSTRUMENT
 03/31/1998 - 03/31/2002 FY03: -\$42 Total: \$391,958
Prin. Invest.: G PARKS
Tech. Officer: GSFC/K OGILVIE
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 7330 **UNIV OF WASHINGTON**
 XTE PROPOSAL - TIMING THE X-RAY SOURCE IN NCG 6652 : THE REMAINING LUMINOUS GLOBULAR CLUSTER
 04/24/1998 - 04/30/2002 FY03: -\$38 Total: \$20,162
Prin. Invest.: B MARGON
Tech. Officer: GSFC/L KALUZIENSKI
CASE Category: 11 - ASTRONOMY

NAG 5 7526 **UNIV OF WASHINGTON**
 EVALUATION OF OCEANIC COOL-SKIN AND WARM LAYER MODELS USING LONG-TERM MEASUREMENTS
 06/08/1998 - 05/31/2002 FY03: \$0 Total: \$435,721
Prin. Invest.: A T JESSUP
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 7550 **UNIV OF WASHINGTON**
 AIRBORNE MICROWAVE IMAGING OF RIVER VELOCITIES
 06/30/1998 - 12/31/2001 FY03: -\$662 Total: \$329,338
Prin. Invest.: W J PLANT
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 32 - GEOLOGICAL SCIENCE

NAG 5 7675 **UNIV OF WASHINGTON**
 UTILIZATION OF THE UNIV OF WASHINGTON'S AIRBORNE MEASUREMENTS FOR STUDIES OF THE RADIATIVE EFFECTS OF
 09/09/1998 - 08/31/2003 FY03: \$0 Total: \$396,062
Prin. Invest.: P V HOBBS
Tech. Officer: GSFC/M I MISHCHENKO
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 5 7732 **UNIV OF WASHINGTON**
 POLAR UVI MISSION DATA ANALYSIS EXTENDED MISSION
 09/29/1998 - 09/30/2001 FY03: -\$124 Total: \$1,141,616
Prin. Invest.: G K PARKS
Tech. Officer: GSFC/R HOFFMAN
CASE Category: 13 - PHYSICS

NAG 5 7847 **UNIV OF WASHINGTON**
 VARIABILITY OF NET PRECIPITATION OVER ANTARCTIC SEA ICE AND ITS EFFECTS ON ICE-OCEAN INTERACTIONS
 11/23/1998 - 06/30/2003 FY03: \$0 Total: \$328,625
Prin. Invest.: A SCHWEIGER
Tech. Officer: GSFC/S GOGINENI
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 7886 **UNIV OF WASHINGTON**
 VALIDATION OF ACOUSTICAL RAINFALL MEASUREMENTS
 12/02/1998 - 09/30/2001 FY03: \$0 Total: \$201,504
Prin. Invest.: J A NYSTUEN
Tech. Officer: GSFC/O W THIELE
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 5 7932 **UNIV OF WASHINGTON**
 THE COUNTERPARTS OF THE LUMINOUS, BURSTING X-RAY SOURCES IN GLOBULAR CLUSTERS - LTS A98
 01/04/1999 - 01/14/2004 FY03: \$52,818 Total: \$245,213
Prin. Invest.: S F ANDERSON
Tech. Officer: GSFC/D K WEST
CASE Category: 11 - ASTRONOMY

NAG 5 8089 **UNIV OF WASHINGTON**
 SOLAR WIND/IONOSPHERIC COUPLING IN THE MASS LOADING OF THE MAGNETOSPHERE AND THE FORMATION OF THE GE
 01/28/1999 - 02/28/2003 FY03: \$0 Total: \$224,963
Prin. Invest.: R M WINGLEE
Tech. Officer: GSFC/J SHARBER
CASE Category: 11 - ASTRONOMY

NAG 5 8109 **UNIV OF WASHINGTON**
 AIRBORNE IN SITU MEASUREMENTS FOR TRMM VALIDATION STUDIES AT KWAJALEIN
 02/08/1999 - 02/14/2003 FY03: \$0 Total: \$690,698
Prin. Invest.: P V HOBBS
Tech. Officer: GSFC/R W LAWRENCE
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 5 8164 **UNIV OF WASHINGTON**
 TOOLS TO PROBE THE OUTER COMETARY SYSTEM AND TO SIMULATE THE FORMATION AND EVOLUTION OF THE SOLAR
 02/08/1999 - 01/31/2003 FY03: \$0 Total: \$470,969
Prin. Invest.: G LAKE
Tech. Officer: GSFC/P HUNTER
CASE Category: 11 - ASTRONOMY

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NAG 5 8296 **UNIV OF WASHINGTON**
 DYNAMICS AND THERMODYNAMICS OF THE NORTH PACIFIC OCEAN
 02/23/1999 - 08/31/2002 FY03: \$0 Total: \$456,973
Prin. Invest.: K KELLY
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8684 **UNIV OF WASHINGTON**
 INVESTIGATION OF THE RELATIONSHIPS BETWEEN AEROSOL PHYSICAL
 AND CHEMICAL PROPERTIES
 07/16/1999 - 07/14/2002 FY03: -\$295 Total: \$43,546
Prin. Invest.: D A HEGG
Tech. Officer: GSFC/M I MISHCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8784 **UNIV OF WASHINGTON**
 MOTOR PROTEINS AS SHUTTLES FOR DIRECTED TRANSPORT IN SYN-
 THETIC MATRICES
 09/27/1999 - 07/31/2003 FY03: \$0 Total: \$633,620
Prin. Invest.: V VOGEL
Tech. Officer: GSFC/S DAVISON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8966 **UNIV OF WASHINGTON**
 O VI EMISSION LINES IN HYADES F STARS - FUSE
 01/24/2000 - 01/31/2004 FY03: \$0 Total: \$33,400
Prin. Invest.: E H BOHM-VITENSE
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 8981 **UNIV OF WASHINGTON**
 THE ORIGIN OF PECULIAR UV LINE RATIOS IN MAGNETIC CATAclysmic
 VARIABLES - FUSE
 01/24/2000 - 01/31/2002 FY03: -\$35 Total: \$14,865
Prin. Invest.: P SZKODY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9022 **UNIV OF WASHINGTON**
 "UNIV OF WASHINGTON PARTICIPATION IN SAFARI- 2000"
 02/08/2000 - 02/14/2004 FY03: \$0 Total: \$667,000
Prin. Invest.: P V HOBBS
Tech. Officer: GSFC/M D KING
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9086 **UNIV OF WASHINGTON**
 ENHANCING THE LASER-LUNAR RANGING TEST OF THE STRONG EQUIVA-
 LENCE PRINCIPLE
 02/17/2000 - 01/31/2004 FY03: \$0 Total: \$117,500
Prin. Invest.: J GUNDLACH
Tech. Officer: GSFC/P CRANE
CASE Category: 11 – ASTRONOMY

NAG 5 9334 **UNIV OF WASHINGTON**
 ROLE OF THE POLAR OCEANS IN GLOBAL CLIMATE
 06/19/2000 - 08/31/2003 FY03: \$127,000 Total: \$937,000
Prin. Invest.: D A ROTHROCK
Tech. Officer: GSFC/K PATRINGTON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9416 **UNIV OF WASHINGTON**
 UNDERSTANDING WATER, CLIMATE AND GLOBAL CHANGE: A GEWEX
 GLOBAL WATER AND ENERGY PATHFINDER DATA SET
 04/25/2000 - 04/30/2004 FY03: \$0 Total: \$210,000
Prin. Invest.: D LETTENMAIER
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9454 **UNIV OF WASHINGTON**
 TERRESTRIAL HYDROLOGY & CLIMATE STUDIES USING EOS- ERA DATA
 05/17/2000 - 04/14/2004 FY03: \$0 Total: \$276,745
Prin. Invest.: D LETTENMAIER
Tech. Officer: GSFC/P HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9657 **UNIV OF WASHINGTON**
 RELATIONSHIP BETWEEN PRECIPITATING CONVECTION AND EASTERLY
 WAVE DYNAMICS IN THE WESTERN CENTRAL PACI
 06/22/2000 - 05/31/2004 FY03: \$0 Total: \$278,000
Prin. Invest.: C BRETHERTON
Tech. Officer: GSFC/R LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9668 **UNIV OF WASHINGTON**
 COMBINED USE OF TRMM SATELLITE GROUND-VALIDATION DATA TO MAP
 CONVECTIVE & STRATIFORM PRECIPITATION
 06/19/2000 - 05/31/2004 FY03: \$175,000 Total: \$685,070
Prin. Invest.: R A HOUZE
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 11 – ASTRONOMY

NAG 5 9720 **UNIV OF WASHINGTON**
 JOINT-PROBABILITY ANALYSIS OF THE NATURAL VARIABILITY OF TROPIC-
 AL OCEANIC PRECIPITATION
 06/21/2000 - 06/30/2004 FY03: \$0 Total: \$512,000
Prin. Invest.: S E YUTER
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9830 **UNIV OF WASHINGTON**
 USE OF TRMM DATA TO EVALUATE BENEFITS OF POST-2002 GLOBAL
 PRECIPITATION MISSION FOR LAND SURFACE HYD
 08/23/2000 - 08/31/2004 FY03: \$62,000 Total: \$186,000
Prin. Invest.: D LETTENMAIER
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9835 **UNIV OF WASHINGTON**
 MICROWAVE PASSIVE REMOTE SENSING OF SNOW: SCATTERING MOD-
 ELS
 07/26/2000 - 05/31/2003 FY03: \$0 Total: \$44,104
Prin. Invest.: L TSANG
Tech. Officer: GSFC/A T CHANG
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9854 **UNIV OF WASHINGTON**
 SEA ICE KINEMATICS & THICKNESS FROM RGPS: OBSERVATIONS &
 THEORY
 08/03/2000 - 09/30/2003 FY03: \$178,982 Total: \$575,127
Prin. Invest.: H STERN
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9906 **UNIV OF WASHINGTON**
 ESTIMATION OF WEST ANTARCTIC MASS BALANCE USING ICESAT/GLAS
 09/08/2000 - 09/14/2004 FY03: \$21,543 Total: \$108,644
Prin. Invest.: C F RAYMOND
Tech. Officer: GSFC/J ZWALLY
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10092 **UNIV OF WASHINGTON**
 USE OF RADARSAT DATA TO PREDICT THE EFFECTS OF LAKE &
 WETLAND STORAGE ON THE FLOW OF ARCTIC RIVERS
 11/20/2000 - 11/30/2003 FY03: \$0 Total: \$148,930
Prin. Invest.: D LETTENMAIER
Tech. Officer: GSFC/K PARTINGTON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10114 **UNIV OF WASHINGTON**
 SURFACE WIND SPEED & FLUXES FROM SYNTHETIC APERTURE RADAR:
 VALIDATION & APPLICATION TO THE
 11/22/2000 - 11/30/2003 FY03: \$132,165 Total: \$446,032
Prin. Invest.: P MOURAD
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10225 **UNIV OF WASHINGTON**
 ICE SHEETS SURFACE AND BED BOUNDARY CONDITIONS FROM REMOTE
 SENSING
 01/04/2001 - 07/14/2002 FY03: -\$733 Total: \$115,930
Prin. Invest.: D WINEBRENNER
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10246 **UNIV OF WASHINGTON**
 UNDERSTANDING THE ENIGMATIC SW SEX STARS (FUSE 00)
 02/12/2001 - 02/14/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: P SZKODY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10342 **UNIV OF WASHINGTON**
 MODELING CONTINENTAL SCALE EROSION IN MOUNTAINOUS REGIONS
 02/05/2001 - 01/31/2004 FY03: \$0 Total: \$200,000
Prin. Invest.: D R MONTGOMERY
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10343 **UNIV OF WASHINGTON**
 ACCRETION ONTO MAGNETIC WHITE DWARFS (FUSE 00)
 01/31/2001 - 01/31/2004 FY03: \$0 Total: \$48,845
Prin. Invest.: P SZKODY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10400 **UNIV OF WASHINGTON**
 THE ORIGIN OF PECULIAR UV LINE RATIOS IN THE MAGNETIC CATAclysmic
 VARIABLE AE AQR (FUSE 2000)
 04/02/2001 - 05/31/2004 FY03: \$0 Total: \$14,440
Prin. Invest.: P SZKODY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 10404 **UNIV OF WASHINGTON**
 VALIDATION OF LIDAR RETRIEVAL OF AEROSOL EXTINCTION
 04/02/2001 - 03/31/2003 FY03: \$0 Total: \$85,488
Prin. Invest.: D S COVERT
Tech. Officer: GSFC/M I MISHCHENKO
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10499 **UNIV OF WASHINGTON**
 INTERPLANETARY DUST
 03/13/2001 - 03/14/2004 FY03: \$0 Total: \$716,000
Prin. Invest.: D E BROWNLEE
Tech. Officer: GSFC/J M BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 10570 **UNIV OF WASHINGTON**
 NUMERICAL CALCULATION OF THE MAGNETIC FIELDS GENERATED BY
 OCEAN TIDES & THEIR COMPARISON WITH SATELLITE
 03/13/2001 - 03/14/2004 FY03: \$0 Total: \$164,000
Prin. Invest.: R TYLER
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10621 **UNIV OF WASHINGTON**
 LAGRANGIAN ASSIMILATION OF SATELLITE DATA FOR CLIMATE STUDIES
 03/19/2001 - 03/31/2004 FY03: \$98,092 Total: \$274,862
Prin. Invest.: R LINDSAY
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10624 **UNIV OF WASHINGTON**
 CLIMATE PROCESSES OVER THE OCEANS
 03/20/2001 - 03/31/2004 FY03: \$636,706 Total: \$1,857,928
Prin. Invest.: D L HARTMANN
Tech. Officer: GSFC/A ANDERSON
CASE Category: 33 – OCEANOGRAPHY

NAG 5 10745 **UNIV OF WASHINGTON**
 "UNIV OF WASHINGTON AIRBORNE STUDIES IN SUPPORT OF THE
 CLAMS-2001 FIELD STUDY"
 04/17/2001 - 09/30/2003 FY03: \$0 Total: \$384,511
Prin. Invest.: P V HOBBS
Tech. Officer: GSFC/M D KING
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10903 **UNIV OF WASHINGTON**
 A KINETIC STUDY OF PARTICLE ACCELERATION IN MAGNETOSPHERIC
 CURRENT SHEETS & COMPARISON WITH OBSERVATION
 05/08/2001 - 05/14/2004 FY03: \$93,938 Total: \$272,451
Prin. Invest.: M J BRITTNACHER
Tech. Officer: GSFC/J F SPANN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10962 **UNIV OF WASHINGTON**
 MODELING IONOSPHERIC OUTFLOW IN GEOPHYSICALLY RELEVANT CO-
 ORDINATE SYSTEMS
 05/23/2001 - 05/31/2004 FY03: \$0 Total: \$138,729
Prin. Invest.: R M WINGLEE
Tech. Officer: GSFC/J SPANN
CASE Category: 11 – ASTRONOMY

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NAG 5 11057 **UNIV OF WASHINGTON**
 MULTISENSOR ASSESSMENT OF ARCTIC POLYNYA VARIABILITY & ITS ASSOCIATION WITH LARGE-SCALE CHANGE
 06/22/2001 - 06/30/2004 FY03: \$0 Total: \$163,702
Prin. Invest.: S MARTIN
Tech. Officer: GSFC/W ABDALATI
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11079 **UNIV OF WASHINGTON**
 A ONE-YEAR PILOT STUDY FOR THE INCLUSION OF ACTIVE OPTICAL SENSORS INTO PALACE FLOATS
 08/06/2001 - 11/14/2003 FY03: \$0 Total: \$56,557
Prin. Invest.: S RISER
Tech. Officer: GSFC/J MARRA
CASE Category: 33 – OCEANOGRAPHY

NAG 5 11359 **UNIV OF WASHINGTON**
 SUPPLEMENT TO MICROWAVE PASSIVE REMOTE SENSING OF SNOW: SCATTERING MODELS
 10/05/2001 - 09/14/2003 FY03: \$0 Total: \$45,000
Prin. Invest.: L TSANG
Tech. Officer: GSFC/A T CHANG
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11372 **UNIV OF WASHINGTON**
 INVESTIGATION OF THE FEASIBILITY OF PARASITIC MICROWAVE REMOTE SENSING OF PRECIPITATION
 10/29/2001 - 07/15/2003 FY03: \$0 Total: \$50,000
Prin. Invest.: J D SAHR
Tech. Officer: GSFC/J A WEINMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11386 **UNIV OF WASHINGTON**
 WORKSHOP ON LARGE-SCALE OBSERVING SYSTEMS IN SUPPORT OF SEARCH
 11/05/2001 - 10/31/2002 FY03: \$0 Total: \$14,992
Prin. Invest.: J MORRISON
Tech. Officer: GSFC/W ABDALATI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11446 **UNIV OF WASHINGTON**
 EQUILIBRIUM SHAPES OF SOLID SOLAR SYSTEM BODIES
 12/21/2001 - 12/31/2004 FY03: \$55,000 Total: \$110,000
Prin. Invest.: K HOLSAPPLE
Tech. Officer: GSFC/D SENSEK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11499 **UNIV OF WASHINGTON**
 AQUEOUS CHEMICAL MODELING OF SEDIMENTATION ON EARLY MARS WITH APPLICATION TO SURFACE-ATMOSPHERE
 12/28/2001 - 12/31/2002 FY03: \$0 Total: \$45,700
Prin. Invest.: D CATLING
Tech. Officer: GSFC/D SENSEK
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 11542 **UNIV OF WASHINGTON**
 EVOLUTION OF OXYGEN ATMOSPHERES
 01/04/2002 - 01/14/2004 FY03: \$31,899 Total: \$85,619
Prin. Invest.: D CATLING
Tech. Officer: GSFC/M MEYER
CASE Category: 11 – ASTRONOMY

NAG 5 11587 **UNIV OF WASHINGTON**
 THERMAL HISTORY OF LUNAR CRUSTAL ROCKS
 01/10/2002 - 01/14/2005 FY03: \$53,000 Total: \$106,000
Prin. Invest.: S MCCALLUM
Tech. Officer: GSFC/J BOYCE
CASE Category: 12 – CHEMISTRY

NAG 5 11622 **UNIV OF WASHINGTON**
 "EVALUATION OF HYDROLOGIC REMOTE SENSING OBSERVATIONS FOR IMPROVED WEATHER PREDICTION"
 02/01/2002 - 01/31/2005 FY03: \$56,907 Total: \$111,769
Prin. Invest.: D LETTENMAIER
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11632 **UNIV OF WASHINGTON**
 TOWARD IMPROVED PROCESS-BASED PAN-ARTIC PREDICTION OF LAND SURFACE MOISTURE AND ENERGY FLUXES
 02/13/2002 - 02/14/2005 FY03: \$75,000 Total: \$147,000
Prin. Invest.: D P LETTENMAIER
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11665 **UNIV OF WASHINGTON**
 ARCHIVE & ANALYSIS OF DATA COLLECTED ABROAD THE UNIV WASHINGTON'S CONVAIR-580 RESEARCH AIRCRAFT
 02/01/2002 - 02/28/2004 FY03: \$0 Total: \$105,965
Prin. Invest.: P V HOBBS
Tech. Officer: GSFC/M D KING
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11679 **UNIV OF WASHINGTON**
 OPTICAL LIGHTNING DETECTOR (OLD) FOR C/NOFS SATELLITE
 01/31/2002 - 01/31/2004 FY03: \$30,000 Total: \$70,000
Prin. Invest.: R H HOLZWORTH
Tech. Officer: GSFC/R PFAFF
CASE Category: 11 – ASTRONOMY

NAG 5 11685 **UNIV OF WASHINGTON**
 "GLOBAL ASSESSMENT OF OROGRAPHIC FLOODS AND HEAVY RAIN FROM TRMM SATELLITE DATA"
 02/07/2002 - 02/14/2004 FY03: \$76,000 Total: \$150,000
Prin. Invest.: R A HOUZE
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11800 **UNIV OF WASHINGTON**
 A POLAR-SPECIFIC 20-YEAR DATA SET OF CLOUD FRACTION AND HEIGHT DERIVED FROM SATELLITE RADIANCES
 02/28/2002 - 03/31/2004 FY03: \$70,676 Total: \$140,768
Prin. Invest.: A SCHWEIGER
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11869 **UNIV OF WASHINGTON**
 SOLAR WIND AND IONOSPHERIC INFLUENCES ON GLOBAL CIRCULATION AND ENERGIZATION
 03/22/2002 - 03/14/2005 FY03: \$89,005 Total: \$177,515
Prin. Invest.: R M WINGLEE
Tech. Officer: GSFC/J SHARBER
CASE Category: 11 – ASTRONOMY

NAG 5 11892 **UNIV OF WASHINGTON**
 N-CHILADA: A FRAMEWORK FOR PARALLEL DATA ANALYSIS AND VISUALIZATION.
 04/11/2002 - 05/31/2005 FY03: \$148,320 Total: \$306,519
Prin. Invest.: T R QUINN
Tech. Officer: GSFC/P E HUNTER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12203 **UNIV OF WASHINGTON**
 A STUDY OF THE INNER DISK AND HOT WHITE DWARF IN NOVALIKES ABOVE THE PERIOD GAP
 05/16/2002 - 05/14/2004 FY03: \$0 Total: \$41,100
Prin. Invest.: P SZKODY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12374 **UNIV OF WASHINGTON**
 ENSEMBLE STREAMFLOW FORECASTING FOR THE WESTERN U.S. USING NSIPP EXPERIMENTAL PREDICTIONS&LAND-
 07/30/2002 - 07/31/2005 FY03: \$115,997 Total: \$231,994
Prin. Invest.: D P LETTENMAIER
Tech. Officer: GSFC/M RIENECKER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 12410 **UNIV OF WASHINGTON**
 COLLABORATIVE PROJECT: THE ROLE OF UNDERGRADUATE EDUCATION IN WORKFORCE DEVELOPMENT FOR APPLICATIONS
 08/01/2002 - 07/31/2004 FY03: \$0 Total: \$53,528
Prin. Invest.: J DECOSMO
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12539 **UNIV OF WASHINGTON**
 AIR-SEA COUPLING IN THE CALIFORNIA CURRENT REGION
 08/29/2002 - 08/31/2005 FY03: \$61,408 Total: \$151,547
Prin. Invest.: K KELLY
Tech. Officer: GSFC/E LINDSTROM
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12548 **UNIV OF WASHINGTON**
 "DEVELOPMENT OF HYDROLOGIC NOWCAST AND FORECAST PRODUCTS USING LAND DATA ASSIMILATION SYSTEM OUTPUT
 09/05/2002 - 09/14/2003 FY03: \$0 Total: \$65,000
Prin. Invest.: D P LETTENMAIER
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12672 **UNIV OF WASHINGTON**
 CLIMATOLOGY & MESOSCALE MODEL SIMULATION OF WATER ICE CLOUDS DETECTED BY MGS
 11/08/2002 - 11/14/2004 FY03: \$35,590 Total: \$35,590
Prin. Invest.: D CATLING
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12907 **UNIV OF WASHINGTON**
 COMPOSITIONAL IMAGING OF FINE GRAINED SOLAR SYSTEM MATERIALS
 02/27/2003 - 02/28/2004 FY03: \$515,335 Total: \$515,335
Prin. Invest.: D BROWNLEE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12938 **UNIV OF WASHINGTON**
 NEW SDSS MAGNETIC CVs WITH UNUSUAL ACCRETION RATES
 03/03/2003 - 02/29/2004 FY03: \$59,430 Total: \$59,430
Prin. Invest.: P SZKODY
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 12947 **UNIV OF WASHINGTON**
 STUDY OF INTERPLANETARY DUST FROM COMETS AND ASTEROIDS
 02/27/2003 - 03/14/2006 FY03: \$190,000 Total: \$190,000
Prin. Invest.: D BROWNLEE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 12 – CHEMISTRY

NAG 5 12995 **UNIV OF WASHINGTON**
 ENHANCING THE LUNAR LASER RANGING TEST OF THE STRONG EQUIVALENCE PRINCIPLE
 03/07/2003 - 02/29/2004 FY03: \$40,000 Total: \$40,000
Prin. Invest.: J GUNDLACH
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13069 **UNIV OF WASHINGTON**
 COMET DUST IN ASTROPHYSICS MEETING
 03/12/2003 - 03/14/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: D BROWNLEE
Tech. Officer: GSFC/D LINDSTROM
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13111 **UNIV OF WASHINGTON**
 INVESTIGATION OF THE STELLAR/SUBSTELLAR LUMINOSITY AND MASS FUNCTIONS
 03/15/2003 - 03/14/2005 FY03: \$52,567 Total: \$52,567
Prin. Invest.: S HAWLEY
Tech. Officer: GSFC/J FROGEL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13117 **UNIV OF WASHINGTON**
 MODELS AND CODE CALCULATIONS OF IMPACT PROCESSES IN ASTEROIDS AND SOLAR-SYSTEM BODIES: CALIBRATION
 03/14/2003 - 03/31/2006 FY03: \$35,000 Total: \$35,000
Prin. Invest.: K HOLSAPPLE
Tech. Officer: GSFC/S SAUNDERS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13128 **UNIV OF WASHINGTON**
 A MULTI-SENSOR/SATELLITE STUDY OF THE SUB-FOOT PRINT VARIABILITY IN REMOTELY SENSED AIR-SEA FLUX
 03/27/2003 - 03/31/2006 FY03: \$67,438 Total: \$67,438
Prin. Invest.: R FOSTER
Tech. Officer: GSFC/B EMERY
CASE Category: 33 – OCEANOGRAPHY

NAG 5 13372 **UNIV OF WASHINGTON**
 SKIN SEA SURFACE TEMPERATURE CALIBRATION/VALIDATION
 04/16/2003 - 04/14/2006 FY03: \$92,000 Total: \$92,000
Prin. Invest.: A JESSUP
Tech. Officer: GSFC/B EMERY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

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NAG 5 13384 **UNIV OF WASHINGTON**
 RADIATIVE TRANSFER IN SNOW TERRAIN FOR APPLICATION IN MICRO-
 WAVE REMOTE SENSING
 04/28/2003 - 05/31/2004 FY03: \$25,000 Total: \$25,000
Prin. Invest.: L TSANG
Tech. Officer: GSFC/A T CHANG
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 13473 **UNIV OF WASHINGTON**
 RELATIONSHIPS BETWEEN SURFACE TEXTURES ON MARS & PREDICTED
 WIND EROSION
 04/26/2003 - 04/30/2004 FY03: \$67,000 Total: \$67,000
Prin. Invest.: C LEOVY
Tech. Officer: GSFC/C NIEBUR
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13564 **UNIV OF WASHINGTON**
 MESOSCALE MODELING & ANALYSIS OF TROPICAL OCEANIC CONVECTION
 OBSERVED BY KWAJEX AND TRMM
 09/05/2003 - 08/31/2006 FY03: \$100,000 Total: \$100,000
Prin. Invest.: C S BRETHERTON
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13654 **UNIV OF WASHINGTON**
 RESEARCH TO OBSERVE AND INTERPRET TROPICAL AND MID LATITUDE
 PRECIPITATION REGIMES KEY TO TRMM AND GP
 09/09/2003 - 10/31/2006 FY03: \$65,000 Total: \$65,000
Prin. Invest.: R A HOUZE
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 13656 **UNIV OF WASHINGTON**
 HOT WHITE DWARFS IN NEW CV5
 09/12/2003 - 10/31/2004 FY03: \$24,700 Total: \$24,700
Prin. Invest.: P SZKODY
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 7 99001 **UNIV OF WASHINGTON**
 GRANT FOR PI OF THE STARDUST PROGRAM (PHASE E)
 05/21/1999 - 06/30/2004 FY03: \$0 Total: \$357,721
Prin. Invest.: D E BROWNLEE
Tech. Officer: HQ/M DAHL
CASE Category: 11 – ASTRONOMY

NAG 8 1756 **UNIV OF WASHINGTON**
 FEASIBILITY STUDY FOR A SPACE-BASED TEST OF THE STRONG EQUIVA-
 LENCE PRINCIPLE USING LUNAR RANGING.
 04/23/2001 - 02/01/2006 FY03: \$0 Total: \$290,000
Prin. Invest.: E G ADELBERGER, K NORDVEDT, C STUBBS
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1776 **UNIV OF WASHINGTON**
 ULTRHIGH RESOLUTION OPTICAL FREQUENCY STANDARD USING INDI-
 VIDUAL INDIUM IONS
 04/20/2001 - 02/01/2004 FY03: \$17,125 Total: \$200,000
Prin. Invest.: W NAGOURNEY
Tech. Officer: MSFC/D HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 9 1271 **UNIV OF WASHINGTON**
 DNA MICROCHIP BASED MICROBIAL MONITORING
 12/08/2000 - 11/30/2002 FY03: \$0 Total: \$260,856
Prin. Invest.: D STAHL
Tech. Officer: JSC/D L JAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 9 1343 **UNIV OF WASHINGTON**
 MICROARRAYS OF CELLULAR MEMBRANE PATCHES FOR INFLIGHT
 STUDIES OF ION CHANNEL FUNCTION
 08/01/2001 - 09/30/2004 FY03: \$114,000 Total: \$278,000
Prin. Invest.: A FOLCH
Tech. Officer: JSC/D RISIN
CASE Category: 43 – CHEMICAL ENGR

NAG 9 1471 **UNIV OF WASHINGTON**
 CUSTOM EVA LASER-SCANNED MICRODISPLAY
 01/06/2003 - 01/05/2004 FY03: \$68,000 Total: \$68,000
Prin. Invest.: E J SEIBEL
Tech. Officer: JSC/R C TREVINO, JSC/G A THOMAS
CASE Category: 22 – COMPUTER SCIENCE

NAS 1 18940 **UNIV OF WASHINGTON**
 SAGE III SCIENCE INVESTIGATION SUPPORT, P.I. PETER V. HOBBS
 10/27/1989 - 12/31/2002 FY03: \$0 Total: \$428,027
Prin. Invest.: P V HOBBS
Tech. Officer: LARC/G MADDREA
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 1 99105 **UNIV OF WASHINGTON**
 COUPLING PICASSO-CENA TO IN SITU MEASUREMENTS FOR ESTIMATION
 OF DIRECT AEROSOL RADIATIVE FORCING
 05/17/1999 - 05/16/2004 FY03: \$27,665 Total: \$266,284
Prin. Invest.: R J CHARLSON
Tech. Officer: LARC/G GIBSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 00212 **UNIV OF WASHINGTON**
 MATLAB-BASED ADAPTIVE COMPUTING FOR NASA IMAGE
 09/29/2000 - 09/28/2003 FY03: \$227,703 Total: \$687,262
Prin. Invest.: S HAUCK
Tech. Officer: GSFC/J STEPHENS
CASE Category: 22 – COMPUTER SCIENCE

NAS 5 00213 **UNIV OF WASHINGTON**
 RECONFIGURABLE COMPUTING BASED COMPRESSION FOR SPACE-
 BORNE HYPERSPECTRAL IMAGES.
 09/29/2000 - 09/28/2003 FY03: \$192,531 Total: \$570,947
Prin. Invest.: S HAUCK
Tech. Officer: GSFC/J STEPHENS
CASE Category: 22 – COMPUTER SCIENCE

NAS 5 03075 **UNIV OF WASHINGTON**
 SMALL FORCE STUDY
 12/20/2002 - 12/19/2003 FY03: \$134,103 Total: \$134,103
Prin. Invest.: J GUNDLACH
Tech. Officer: GSFC/S MERKOWITZ
CASE Category: 11 – ASTRONOMY

NAS 5 31372 **UNIV OF WASHINGTON**
 INTERMEDIATE THERMAL INFRARED RADIOMETER (EOS INVESTIGATION)
 02/19/1992 - 12/14/2003 FY03: \$329,913 Total: \$4,231,064
Prin. Invest.: A R GILLESPIE
Tech. Officer: GSFC/H BLODGET
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 402 **UNIV OF WASHINGTON**
 REMOTE & IN-SITU MEASUREMENT OF AEROSOL OPTICAL PROPERTIES IN
 THE BOUNDARY LAYER
 07/24/2000 - 09/14/2003 FY03: \$0 Total: \$3,200
Prin. Invest.: T L COVERT, T L ANDERSON
Tech. Officer: LARC/C A HOSTETLER
CASE Category: 31 - ATMOSPHERIC SCIENCE

NCC 1 02034 **UNIV OF WASHINGTON**
 ELECTRICALLY CONDUCTIVE STRUCTURES FOR DAMAGE DETECTION
 06/18/2002 - 10/30/2003 FY03: \$40,277 Total: \$59,448
Prin. Invest.: T A ANDERSON
Tech. Officer: LARC/D R AMBUR
CASE Category: 41 - AERONAUTICAL ENGR

NCC 2 1273 **UNIV OF WASHINGTON**
 HABITABLE PLANETS AND EVOLUTION OF BIOLOGICAL COMPLEXITY
 07/20/2001 - 06/30/2006 FY03: \$1,021,399 Total: \$2,599,048
Prin. Invest.: P D WARD, J T STALEY, D A KRING
Tech. Officer: ARC/R A GRYMES, ARC/W W DOLCI
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NCC 2 5463 **UNIV OF WASHINGTON**
 MATHEMATICAL MODELING OF METABOLIC NETWORKS AND ALGORITHMIC
 DEVELOPMENT FOR HIGH-THROUGHPUT MULTIDIMENSIONAL
 09/14/2001 - 09/14/2002 FY03: \$0 Total: \$29,994
Prin. Invest.: H QIAN
Tech. Officer: ARC/S LIANG, ARC/B A BIEGEL
CASE Category: 29 - MATH/COMPUTER SCI, OTHER

NCC 3 970 **UNIV OF WASHINGTON**
 DEVELOPING, VERIFYING AND IMPLEMENTING NATIONAL AND INTERNATIONAL
 STANDARDS FOR MONOLITHIC AND COMPOSITE
 06/11/2002 - 05/31/2003 FY03: \$0 Total: \$28,000
Prin. Invest.: M G JENKINS
Tech. Officer: GRC/J SALEM
CASE Category: 46 - MECHANICAL ENGR

NCC 3 1072 **UNIV OF WASHINGTON**
 DEVELOPING, VERIFYING & IMPLEMENTING NATIONAL & INTERNATIONAL
 STANDARDS FOR MONOLITHIC & COMPOSITE
 06/12/2003 - 01/13/2004 FY03: \$18,000 Total: \$18,000
Prin. Invest.: M G JENKINS
Tech. Officer: GRC/J A SALEM
CASE Category: 46 - MECHANICAL ENGR

NCC 5 345 **UNIV OF WASHINGTON**
 BIOGEOCHEMICAL DYNAMICS IN RIVER CORRIDORS OF THE AMAZON
 BASIN AND THEIR RESPONSE TO ANTHROPOGENIC CHANGES
 06/25/1998 - 12/31/2002 FY03: \$0 Total: \$693,635
Prin. Invest.: J E RICHEY
Tech. Officer: GSFC/D W DEERING
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NCC 5 550 **UNIV OF WASHINGTON**
 SUPPORT OF THE UNIV OF WASHINGTON'S RESEARCH AIRCRAFT FOR
 NASA STUDIES
 05/11/2001 - 04/30/2003 FY03: \$0 Total: \$340,214
Prin. Invest.: P HOBBS
Tech. Officer: GSFC/C YUHAS
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NCC 5 584 **UNIV OF WASHINGTON**
 MICROWAVE REMOTE SENSING OF FROZEN PRECIPITATION
 08/23/2001 - 08/31/2004 FY03: \$137,000 Total: \$244,000
Prin. Invest.: R HOUBE
Tech. Officer: GSFC/J A WEINMAN
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NCC 5 605 **UNIV OF WASHINGTON**
 SPACE SCIENCE NETWORK NORTHWEST
 12/13/2001 - 12/31/2006 FY03: \$315,000 Total: \$630,000
Prin. Invest.: J H LUTZ
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NCC 5 689 **UNIV OF WASHINGTON**
 HORIZONTAL AND VERTICAL FLUXES OF CARBON IN RIVER CORRIDORS
 OF THE AMAZON BASIN
 01/10/2003 - 01/14/2006 FY03: \$217,465 Total: \$217,465
Prin. Invest.: J RICHEY
Tech. Officer: GSFC/D WILLIAMS
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NCC 8 231 **UNIV OF WASHINGTON**
 MINI-MAGNETOSPHERIC PLASMA PROPULSION-RADIATION SHIELDING
 (M2PS-S)
 09/05/2001 - 12/31/2003 FY03: \$0 Total: \$193,311
Prin. Invest.: R M WINGLEE
Tech. Officer: MSFC/J H ADAMS
CASE Category: 31 - ATMOSPHERIC SCIENCE

NCC 9 56 **UNIV OF WASHINGTON**
 RESEARCH GRANT
 02/22/2000 - 03/31/2003 FY03: \$0 Total: \$84,356
Prin. Invest.: D E PARKER
Tech. Officer: JSC/D HARM, JSC/J J BLOOMBERG
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NGT 2 52219 **UNIV OF WASHINGTON**
 INFRARED STUDY OF HERBIG AE/BE SYSTEMS
 08/19/1996 - 08/31/2002 FY03: \$0 Total: \$76,000
Prin. Invest.: D BROWNLEE
Tech. Officer: ARC/D H WOODEN, ARC/F C WITTEBORN
CASE Category: 11 - ASTRONOMY

NGT 2 52281 **UNIV OF WASHINGTON**
 A PRESSURE SENSITIVE PAINT FOR THE STUDY OF UNSTEADY FLOWS
 OVER FLEXIBLE BOUNDARIES
 07/27/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: J B CALLIS
Tech. Officer: ARC/B J COLLINS, ARC/J BELL
CASE Category: 51 - BIOLOGY (EXCLUDING ENVIR)

NGT 2 52288 **UNIV OF WASHINGTON**
 1 KM PLANETESIMALS TO PLANETS
 06/05/2002 - 08/31/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: T QUINN
Tech. Officer: ARC/J J LISSAUER
CASE Category: 11 - ASTRONOMY

NGT 2 52294 **UNIV OF WASHINGTON**
 DETERMINING THE PHYSICAL PROPERTIES OF HIGHLY EMBE DDED
 ACTIVELY ACCRETING PROTOSTARS ANDPROTO BROW
 08/07/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S HAWLEY
Tech. Officer: ARC/B J COLLINS, ARC/T P GREENE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 2 52295 **UNIV OF WASHINGTON**
 EVOLUTION OF ATMOSPHERIC OXYGEN ON EARTH LIKE PLAN ETS
 08/07/2003 - 07/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: D CATLING
Tech. Officer: ARC/B J COLLINS, ARC/K J ZAHNLE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 98 **UNIV OF WASHINGTON**
 A NEW MECHANISM FOR DEGASSING AT HIGH-SULFUR VOLCA NOES
 08/23/1999 - 08/31/2002 FY03: -\$267 Total: \$65,733
Prin. Invest.: C NEWHALL
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 126 **UNIV OF WASHINGTON**
 SIMULATING GALAXY GROUPS. STUDENT: DARREN S. REED
 06/11/2001 - 06/30/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: T QUINN
Tech. Officer: GSFC/M S BURRELL
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NGT 5 30157 **UNIV OF WASHINGTON**
 MODELING THE FLAMMABILITY OF BRAZILIAN AMAZON FORE STS AT THE
 FOREST- SAVANNA ECOTONE
 08/28/1998 - 02/28/2002 FY03: -\$1,433 Total: \$42,567
Prin. Invest.: T M HINCKLEY
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30213 **UNIV OF WASHINGTON**
 IMPROVING MODEL PARAMETERIZATIONS OF GAS EXCHANGE: QUANTIFI-
 CATION OF BUBBLE DYNAMICS BY MEASUREMENT
 08/20/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: S R EMERSON
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30220 **UNIV OF WASHINGTON**
 OPPORTUNITIES FOR IMPROVING WESTREN WATER MANAGEME NT
 THROUGH REMOTE SENSING & HYDROLOGICMODEL
 08/24/1999 - 08/31/2002 FY03: -\$114 Total: \$65,886
Prin. Invest.: D P LETTENMAIER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30343 **UNIV OF WASHINGTON**
 TROPICAL FOREST PHENOLOGY ACROSS ENVIRONMENTAL GRA DIENTS
 IN PANAMA: A MULTIPLE SCALE STUDY USING RE
 08/21/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: T HINCKLEY
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30378 **UNIV OF WASHINGTON**
 TRMM-OBSERVED STARTIFORM PRECIPITATION FRACTION RE LATED TO
 LARGE-SCALE TROPICAL CIRCULATION/COURTN
 08/13/2001 - 08/31/2004 FY03: \$0 Total: \$46,000
Prin. Invest.: R HOUZE, JR
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30445 **UNIV OF WASHINGTON**
 ESTIMATION OF WEST ANTARTIC ICE SHEET STABILITY TH ROUGH INVER-
 SION OF RE-MOTELY SENSED DATA (STUDENT
 08/23/2002 - 08/31/2005 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C RAYMOND
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30474 **UNIV OF WASHINGTON**
 DEVELOPMENT OF GROUND AND REMOTELY-BASED FLUX MODE LS FOR
 PLAYA ENVIRON- MENTS/STEPHANIE KAMPP
 11/06/2002 - 08/31/2004 FY03: \$24,000 Total: \$24,000
Prin. Invest.: S BURGESS
Tech. Officer: GSFC/K BLANDING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 40084 **UNIV OF WASHINGTON**
 WASHINGTON SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/09/2001 - 01/31/2005 FY03: \$536,593 Total: \$1,523,590
Prin. Invest.: J DECOSMO
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50285 **UNIV OF WASHINGTON**
 THREE DIMENTIONAL SIMULATIONS OF THE SOLAR WIND INTERACTION
 WITH MAGNETIC ANOMALIES ON THE SURFACE
 06/23/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: R WINGLEE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50298 **UNIV OF WASHINGTON**
 CALCULATION OF THE MERGER PHASE OF BINARY BLACK HOLES USING
 NUMERICAL RELATIVITY/STUDENT LUISA BU
 06/28/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: J BARDEEN
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50299 **UNIV OF WASHINGTON**
 AN EMPIRICAL MEASURE OF GALAXY EVOLUTION IN CLUSTERS
 06/28/2000 - 06/30/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: J DALCANTON
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 50334 **UNIV OF WASHINGTON**
 DETERMINING THE EFFECTS OF CLOUDS & SEA ICE ON THE EARTH
 RADIATION BUDGET IN THE SOUTHERNOCEAN
 08/17/2000 - 08/31/2003 FY03: \$0 Total: \$68,000
Prin. Invest.: S WARREN
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 50448 **UNIV OF WASHINGTON**
 ENGINEERING A SELF-REPLICATING RNA; STRUCTURE D GUIDED OPTIMIZATION OF AN RNA DEPENDANT RNA PLOY
 04/28/2003 - 05/31/2006 FY03: \$24,000 Total: \$24,000
Prin. Invest.: H ROELINKE
Tech. Officer: GSFC/K BLANDING
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 2 1198 **WASHINGTON STATE UNIV**
 LIGNIFICATION: A NEW PARADIGM
 04/02/1998 - 05/31/2002 FY03: -\$205 Total: \$374,795
Prin. Invest.: N G LEWIS
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NAG 2 1513 **WASHINGTON STATE UNIV**
 DETERMINING THE COMPLEX ORGANIZATIONAL NATURE OF PH ENOLIC RADICAL-RADICAL COUPLING IN VASCULAR PLANT
 08/17/2001 - 07/14/2004 FY03: \$125,001 Total: \$315,000
Prin. Invest.: N G LEWIS
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2378 **WASHINGTON STATE UNIV**
 PASSIVE AND ACTIVE STABILIZATION OF LIQUID BRIDGES IN LOW GRAVITY
 04/04/2000 - 03/09/2004 FY03: \$210,000 Total: \$566,250
Prin. Invest.: D MARSTON
Tech. Officer: GRC/C NIEDERHAUS
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 9345 **WASHINGTON STATE UNIV**
 ACCRETION OF INTERPLANETARY DUST: A NEW RECORD FROM 3-HE IN POLAR ICE CORES
 03/30/2000 - 08/31/2002 FY03: \$0 Total: \$60,000
Prin. Invest.: E BROOK
Tech. Officer: GSFC/J BOYCE
CASE Category: 11 – ASTRONOMY

NAG 5 10462 **WASHINGTON STATE UNIV**
 PHYSICAL MODELING OF ASTEROIDS USING RADAR & OPTICAL DATA
 02/26/2001 - 03/31/2004 FY03: \$45,000 Total: \$134,500
Prin. Invest.: D HUDSON
Tech. Officer: GSFC/D SENSKE
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10637 **WASHINGTON STATE UNIV**
 USING SATELLITE OBSERVATIONS TO QUANTIFY BIOMASS BURNING EMISSIONS OF NOX & HYDROCARBONS IN THE
 03/19/2001 - 03/14/2004 FY03: \$70,921 Total: \$237,776
Prin. Invest.: L JAEGLE
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11364 **WASHINGTON STATE UNIV**
 CALCIUM/CALMODULIN MEDIATED GRAVITROPIC RESPONSE IN PLANTS
 09/27/2001 - 09/30/2002 FY03: \$0 Total: \$163,806
Prin. Invest.: B W POOVAIAH
Tech. Officer: GSFC/M AVERNER
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12837 **WASHINGTON STATE UNIV**
 DATA ANALYSIS STRATEGIES AND ALGORITHMS FOR THE LASER INTERFEROMETER SPACE ANTENNA (LISA)
 02/06/2003 - 02/14/2005 FY03: \$65,000 Total: \$65,000
Prin. Invest.: S BODE
Tech. Officer: GSFC/M SALAMON
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12959 **WASHINGTON STATE UNIV**
 GEOSTATIONARY SPECTROGRAPH FOR EARTH & ATMOSPHERIC SCIENCE APPLICATIONS.
 03/10/2003 - 03/14/2004 FY03: \$30,113 Total: \$30,113
Prin. Invest.: G MOUNT
Tech. Officer: GSFC/S JANZ
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 8 1477 **WASHINGTON STATE UNIV**
 R/S A COMPARATIVE MODELING STUDY OF MAGNETIC AND ELECTROSTATIC LEVITATION IN MICROGRAVITY
 03/26/1998 - 03/31/2003 FY03: \$45,833 Total: \$365,000
Prin. Invest.: B Q LI
Tech. Officer: MSFC/C TALLEY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1693 **WASHINGTON STATE UNIV**
 R/S "STUDY OF MAGNETIC FIELD EFFECTS ON CONVECTION AND SOLIDIFICATION IN NORMAL AND MICROGRAVITY"
 06/02/2000 - 11/30/2003 FY03: \$190,000 Total: \$235,000
Prin. Invest.: B Q LI
Tech. Officer: MSFC/P M DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAS 5 00177 **WASHINGTON STATE UNIV**
 PARTICIPATION IN THE OZONE MONITORING INSTRUMENT SCIENCE TEAM
 06/09/2000 - 10/31/2004 FY03: \$87,406 Total: \$275,161
Prin. Invest.: G MOUNT
Tech. Officer: GSFC/J C RIVERA
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 2 5407 **WASHINGTON STATE UNIV**
 TRANSPORT IN MOLECULAR STRUCTURES
 10/30/2000 - 12/31/2002 FY03: \$0 Total: \$126,910
Prin. Invest.: M A OSMAN
Tech. Officer: ARC/N HALL
CASE Category: 13 – PHYSICS

NAG 5 9249 **WHITMAN COLLEGE**
 FUV EXTINCTION: UNIQUE INSIGHTS INTO THE NATURE & ROLE OF SMALL DUST GRAINS - FUSE
 03/16/2000 - 03/14/2003 FY03: \$0 Total: \$21,954
Prin. Invest.: U SOFIA
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 3 2510 **WHITWORTH COLLEGE**
 DEVELOPMENT OF A METHOD TO SPECTROSCOPICALLY ANALYZE CARBON GRID EROSION IN ION THRUSTERS
 12/07/2000 - 12/31/2002 FY03: -\$39 Total: \$43,970
Prin. Invest.: D STEVENS
Tech. Officer: GRC/D DOMOMKOS
CASE Category: 13 – PHYSICS

NAG 3 2822 **WHITWORTH COLLEGE**
 PROPOSAL FOR TESTING AND VALIDATION OF VACUUM ULTR A-VIOLET
 LASER-INDUCED FLUORESCENCE AS A METHOD T
 12/04/2002 - 12/31/2003 FY03: \$14,421 Total: \$14,421
Prin. Invest.: R STEVENS
Tech. Officer: GRC/M T DOMONKOS
CASE Category: 13 – PHYSICS

NAG 5 13499 **WEST VIRGINIA STATE COLLEGE**
 THE DEVELOPMENT OF A COLLABORATIVE RELATIONSHIP BETWEEN
 WEST VIRGINIA STATE COLLEGE & NASA/IV&V
 05/05/2003 - 05/14/2004 FY03: \$45,831 Total: \$45,831
Prin. Invest.: J TOLEDO
Tech. Officer: GSFC/D MENCHAN
CASE Category: 11 – ASTRONOMY

WEST VIRGINIA

NAG 5 13537 **FAIRMONT STATE COLLEGE**
 HIGH SPEED OPTICAL NETWORK
 06/25/2003 - 08/14/2003 FY03: \$12,000 Total: \$12,000
Prin. Invest.: R WILSON
Tech. Officer: GSFC/G BLANEY
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 5364 **WEST VIRGINIA UNIV**
 A STUDY ON CONVERGENCE OF THE HILBERT-HUANG TRANSFORM
 04/24/2002 - 04/14/2004 FY03: \$0 Total: \$50,000
Prin. Invest.: Y XU
Tech. Officer: WFF/B R LONG
CASE Category: 33 – OCEANOGRAPHY

NCC 5 542 **MARSHALL UNIV**
 RCBI ADVANCED COMPOSITES TECHNOLOGY INITIATIVE
 03/20/2001 - 06/30/2002 FY03: \$0 Total: \$2,300,000
Prin. Invest.: M R JULIAN
Tech. Officer: GSFC/M KIENLEN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 10218 **WEST VIRGINIA UNIV**
 LABORATORY MEASUREMENTS OF BROADBAND EXTREMELY-LOW
 -FREQUENCY(BB-ELF) WAVE EXCITATION THRESHOLDS &
 01/05/2001 - 01/14/2004 FY03: \$101,273 Total: \$300,064
Prin. Invest.: M KOEPKE
Tech. Officer: GSFC/M MELLOTT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 646 **MARSHALL UNIV**
 ADVANCED COMPOSITES TECHNOLOGY INITIATIVES
 06/17/2002 - 06/30/2004 FY03: \$247,929 Total: \$2,747,929
Prin. Invest.: M R JULIAN
Tech. Officer: GSFC/M E KIELEN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 11915 **WEST VIRGINIA UNIV**
 SOLAR WIND ELECTRONS DURING SOLAR MAXIMUM
 03/22/2002 - 04/30/2004 FY03: \$49,932 Total: \$102,054
Prin. Invest.: J E LITTLETON
Tech. Officer: GSFC/W WAGNER
CASE Category: 13 – PHYSICS

NCC 5 741 **MARSHALL UNIV**
 ADVANCED COMPOSITES TECHNOLOGY INITIATIVES
 09/17/2003 - 09/30/2004 FY03: \$1,860,000 Total: \$1,860,000
Prin. Invest.: M R JULIAN
Tech. Officer: GSFC/S M STANFORD
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 12608 **WEST VIRGINIA UNIV**
 NASA IV&V FACILITY EDUCATIONAL OUTREACH PROPOSAL
 09/27/2002 - 09/30/2005 FY03: \$0 Total: \$196,041
Prin. Invest.: E J PYLE
Tech. Officer: GSFC/G BLANEY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11088 **WEST VIRGINIA STATE COLLEGE**
 APPLICATION OF NASA'S REMOTE SENSING SATELLITES TO ENVIRONMENTAL
 RESEARCH AND EARTH SCIENCE EDUCATION
 07/25/2001 - 09/30/2002 FY03: \$0 Total: \$70,000
Prin. Invest.: J MAYHUGH
Tech. Officer: GSFC/M MATHEWS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 5 03126 **WEST VIRGINIA UNIV**
 O & M SERVICES FOR THE IV & V FACILITY
 09/30/2003 - 09/30/2008 FY03: \$1,185,743 Total: \$1,185,743
Prin. Invest.: D DIAL, A MARTIN
Tech. Officer: GSFC/G BLANEY
CASE Category: 22 – COMPUTER SCIENCE

NAG 5 11103 **WEST VIRGINIA STATE COLLEGE**
 NASA SCIENCE AND TECHNOLOGY SCHOLAR PROGRAM
 07/31/2001 - 12/31/2002 FY03: \$965 Total: \$30,965
Prin. Invest.: E V GRIFFIN, SR
Tech. Officer: GSFC/M MATHEWS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 2 979 **WEST VIRGINIA UNIV**
 APPLIED RESEARCH IN SOFTWARE VERIFICATION & VALIDATION TRANSFER FROM
 ARC 10/1/00 START MOD 21 HERE
 02/27/1997 - 05/31/2003 FY03: \$4,262,740 Total: \$19,698,939
Prin. Invest.: A C COGLEY, J SHAUB, S M EASTERBROOK
Tech. Officer: ARC/D S OSBURN
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG 5 12269 **WEST VIRGINIA STATE COLLEGE**
 REVIEW OF BUSINESS PRACTICES OF THE NASA IV&V FACILITY
 06/26/2002 - 05/31/2003 FY03: \$0 Total: \$15,000
Prin. Invest.: C W SCHAFFER
Tech. Officer: GSFC/K MCGILL
CASE Category: 22 – COMPUTER SCIENCE

NCC 4 159 **WEST VIRGINIA UNIV**
 ADDRESSING CONTROL RESEARCH ISSUES LEADING TO PILET SIMULATIONS
 IN SUPPORT OF THE NASA/IV&V F-15
 03/31/2003 - 02/28/2004 FY03: \$94,000 Total: \$94,000
Prin. Invest.: M NAPOLITANO
Tech. Officer: DFRC/J BURKEN
CASE Category: 41 – AERONAUTICAL ENGRNG

NASA'S UNIVERSITY PROGRAM

WISCONSIN

NCC 4 162 **WEST VIRGINIA UNIV**
 DESIGN AND FLIGHT TESTING OF INTELLIGENT CONTROL LAWS WITH THE WVU YF-22 RESEARCH AIRCRAFT MODEL
 08/01/2003 - 07/31/2004 FY03: \$200,000 Total: \$200,000
Prin. Invest.: M J NAPOLITANO
Tech. Officer: DFRC/J BURKEN
CASE Category: 41 – AERONAUTICAL ENGR

NCC 5 570 **WEST VIRGINIA UNIV**
 WEST VIRGINIA NASA EPSCOR PROGRAM
 07/13/2001 - 07/31/2005 FY03: \$943,514 Total: \$1,415,271
Prin. Invest.: M JARAIEDI
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 685 **WEST VIRGINIA UNIV**
 A COOPERATIVE RESEARCH AGREEMENT BETWEEN WEST VIRGINIA UNIV AND THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
 01/10/2003 - 12/31/2007 FY03: \$719,000 Total: \$719,000
Prin. Invest.: G TRAPP
Tech. Officer: GSFC/K MCGILL
CASE Category: 22 – COMPUTER SCIENCE

NGT 4 52431 **WEST VIRGINIA UNIV**
 VOLTERRA SYSTEMS FOR NONLINEAR ESTIMATION OF AEROSPACE SYSTEMS
 06/19/2002 - 06/30/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: Y XU
Tech. Officer: DFRC/M BRENNER
CASE Category: 41 – AERONAUTICAL ENGR

NGT 5 40120 **WEST VIRGINIA UNIV**
 WEST VIRGINIA SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 03/14/2001 - 02/28/2005 FY03: \$329,000 Total: \$843,084
Prin. Invest.: M JARAIEDI
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8628 **WHEELING JESUIT UNIV**
 EARTH SYSTEM SCIENCE EDUCATION ALLIANCE
 06/24/1999 - 06/30/2004 FY03: \$0 Total: \$759,732
Prin. Invest.: R J MEYERS
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 12489 **WHEELING JESUIT UNIV**
 CHALLENGER LEARNING CENTER AT WHEELING JESUIT UNIVERSITY
 08/28/2002 - 08/31/2004 FY03: \$0 Total: \$460,735
Prin. Invest.: N STRUM
Tech. Officer: GSFC/P STEFFEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 13782 **WHEELING JESUIT UNIV**
 NASA EXPLORER SCHOOLS, EVALUATION FRAMEWORK
 09/30/2003 - 09/30/2006 FY03: \$300,000 Total: \$300,000
Prin. Invest.: N NAIK
Tech. Officer: GSFC/P STEFFEN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 3 858 **WHEELING JESUIT UNIV**
 THE SYNTHESIS OF INDIUM, GALLIUM AND COPPER DITHIO CARBAMATE COMPLEXES FOR DEPOSITION FOR SPACE AND AEROSPACE
 02/01/2001 - 05/31/2002 FY03: \$0 Total: \$9,020
Prin. Invest.: N N DUFFY
Tech. Officer: GRC/A F HEPP
CASE Category: 12 – CHEMISTRY

NCC 5 440 **WHEELING JESUIT UNIV**
 NATIONAL TECHNOLOGY TRANSFER CENTER: NASA TECHN. TRANSFER & COMMERCIALIZATION PROGRAM
 11/09/1999 - 10/31/2004 FY03: \$7,550,600 Total: \$29,807,600
Prin. Invest.: J P ALLEN
Tech. Officer: GSFC/N CHEEKS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 451 **WHEELING JESUIT UNIV**
 CLASSROOM OF THE FUTURE PROGRAM
 01/28/2000 - 12/31/2004 FY03: \$2,782,000 Total: \$8,826,622
Prin. Invest.: N NAIK
Tech. Officer: GSFC/S CANRIGHT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 604 **WHEELING JESUIT UNIV**
 THE CENTER FOR EDUCATIONAL TECHNOLOGIES BROKER/FACILITATOR PROGRAM: SPACE SCIENCE EDUCATION INT
 12/17/2001 - 12/31/2006 FY03: \$295,000 Total: \$590,000
Prin. Invest.: N NAIK
Tech. Officer: GSFC/P SAKIMOTO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

WISCONSIN

NAG 9 1156 **MARQUETTE UNIV**
 LIMB MUSCLE FUNCTION WITH UNLOADING AND COUNTERMEASURES
 09/15/1999 - 09/30/2003 FY03: \$0 Total: \$555,360
Prin. Invest.: R H FITTS
Tech. Officer: JSC/C W LLOYD
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 9 116 **MARQUETTE UNIV**
 LIFE SCIENCE EXPERIMENT EFFECT OF PROLONGED SPACEFLIGHT ON HUMAN SKELETAL MUSCLE
 01/05/2001 - 01/04/2004 FY03: \$552,500 Total: \$1,132,500
Prin. Invest.: D L COSTILL, D R RILEY, R H FITTS
Tech. Officer: JSC/D BAUMANN
CASE Category: 59 – LIFE SCIENCE, OTHER

NAG 2 1422 **MEDICAL COLLEGE OF WISCONSIN**
 EVALUATION OF THE QUALITY OF PRESERVATION OF ARCHIVED FIXED TISSUE SAMPLES FOR ULTRASTRUCTURAL STUDY
 07/18/2000 - 07/31/2002 FY03: \$0 Total: \$42,000
Prin. Invest.: D A RILEY
Tech. Officer: ARC/R D MACELROY, ARC/M M AVERNER
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 5 13437 **UNIV OF WISCONSIN - GREEN BAY**
 QUANTITATIVE MORPHOLOGY OF MARS PATHFINDER ROCKS AND CORRELATION WITH MULTISPECTRAL DATA
 04/29/2003 - 04/30/2006 FY03: \$49,104 Total: \$49,104
Prin. Invest.: A R YINGST
Tech. Officer: GSFC/C NIEBUR
CASE Category: 11 – ASTRONOMY

NGT 5 40097 **UNIV OF WISCONSIN - GREEN BAY**
 WISCONSIN SPACE GRANT COLLEGE & FELLOWSHIP PROGRAM
 03/06/2001 - 02/28/2005 FY03: \$805,231 Total: \$1,534,731
Prin. Invest.: R A YINGST
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 2162 **UNIV OF WISCONSIN - MADISON**
 MODELING AND ANALYSIS OF SAGE CONSTITUENT MIXING IN THE LOWER STRATOSPHERE AND UPPER TROPOSPHERE
 03/16/1999 - 12/31/2002 FY03: -\$1 Total: \$337,480
Prin. Invest.: M H HITCHMAN
Tech. Officer: LARC/G L MADDREA, LARC/L R POOLE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02020 **UNIV OF WISCONSIN - MADISON**
 ANALYSIS OF HISTORICAL CIRRUS IN SITU IN SUPPORT OF TERRA AQUA AND GIFTS CIRRUS RETRIEVAL EFFORTS
 12/13/2001 - 12/14/2004 FY03: \$49,956 Total: \$149,937
Prin. Invest.: S A ACKERMAN
Tech. Officer: LARC/V E DELNORE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 1 02057 **UNIV OF WISCONSIN - MADISON**
 SUPPORT FOR THE SCANNING HIS INSTRUMENT TO PARTICIPATE IN THE INTERNATIONAL H2O PROJECT
 03/08/2002 - 11/07/2003 FY03: \$0 Total: \$150,000
Prin. Invest.: H E REVERCOMB
Tech. Officer: LARC/E V BROWELL, LARC/S ISMAIL
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 2 1336 **UNIV OF WISCONSIN - MADISON**
 MOLECULAR CLONING & CHARACTERIZATION OF THE AGR1 GENE OF ARABIDOPSIS THALIANA
 07/15/1999 - 06/30/2003 FY03: \$0 Total: \$476,495
Prin. Invest.: P MASSON
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1492 **UNIV OF WISCONSIN - MADISON**
 MOLECULAR GENETICS OF ROOT THIGMOPRESPONSIVENESS IN ARABIDOPSIS
 07/05/2001 - 08/31/2004 FY03: \$193,012 Total: \$439,650
Prin. Invest.: G C JAHNS
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1510 **UNIV OF WISCONSIN - MADISON**
 SKELETAL MUSCLE GROWTH AND REPAIR DURING MICROGRAVITY
 07/24/2001 - 11/30/2003 FY03: \$177,871 Total: \$350,075
Prin. Invest.: E SCHULTZ
Tech. Officer: ARC/M M AVERNER, ARC/R D MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 2 1602 **UNIV OF WISCONSIN - MADISON**
 COMBINED PROTEOMIC AND MOLECULAR GENETIC APPROACHES TO THE STUDY OF EARLY PHASES OF ROOT GRAVITROPISM
 12/05/2002 - 11/30/2003 FY03: \$188,980 Total: \$188,980
Prin. Invest.: P H MASSON
Tech. Officer: ARC/M M AVERNER, ARC/R MACELROY
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NAG 3 2823 **UNIV OF WISCONSIN - MADISON**
 REPLACING HOLLOW CATHODE ELECTRON BEAMS WITH HELIC ON SOURCE ELECTRON BEAMS FOR ION BEAM NEUTRALIZATION
 01/16/2003 - 09/30/2003 FY03: \$25,250 Total: \$25,250
Prin. Invest.: N HERSHKOWITZ
Tech. Officer: GRC/V K RAWLIN
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2919 **UNIV OF WISCONSIN - MADISON**
 ALL OPTICAL HIGH DENSITY COLD ATOM SOURCES
 06/30/2003 - 04/30/2006 FY03: \$65,000 Total: \$65,000
Prin. Invest.: T G WALKER
Tech. Officer: GRC/M M HASAN
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 674 **UNIV OF WISCONSIN - MADISON**
 SPARTIAL HETERODYNE SPECTROMETER FOR INVESTIGATION OF INTERSTELLAR FAR ULTRAVIOLET EMISSION LINES
 11/30/1990 - 01/31/2002 FY03: \$0 Total: \$2,125,999
Prin. Invest.: R J REYNOLDS
Tech. Officer: GSFC/L J EARLY, GSFC/R H PLESS
CASE Category: 13 – PHYSICS

NAG 5 3524 **UNIV OF WISCONSIN - MADISON**
 STUDIES OF THE HOT INTERSTELLAR MEDIUM AND HALO OF STRUCTURE & SPECTRAL CHARACTERISTICS OF THE LOW E
 11/13/1996 - 05/14/2003 FY03: \$0 Total: \$575,390
Prin. Invest.: W T SANDERS
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 3769 **UNIV OF WISCONSIN - MADISON**
 NEW MATHEMATICAL METHODS FOR VARIATIONAL OBJECTIVE ESTIMATION
 02/13/1997 - 09/30/2002 FY03: -\$494 Total: \$359,506
Prin. Invest.: G WAHBA
Tech. Officer: GSFC/K H BERGMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 5252 **UNIV OF WISCONSIN - MADISON**
 FLIGHT OF FAR-ULTRAVIOLET SPECTROPOLARIMETER (FUSP) AND DEVELOPMENT AND FLIGHT OF CUPID PI NORDSIECK
 02/04/2000 - 08/03/2003 FY03: \$0 Total: \$1,235,640
Prin. Invest.: K H NORDSIECK
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5253 **UNIV OF WISCONSIN - MADISON**
 UV POLARIMETRIC OBSERVATIONS OR RESONANCE LINE AND DUST SCATTERING
 02/18/2000 - 02/03/2004 FY03: \$0 Total: \$436,000
Prin. Invest.: W HARRIS
Tech. Officer: GSFC/W B JOHNSON
CASE Category: 13 – PHYSICS

NAG 5 5270 **UNIV OF WISCONSIN - MADISON**
 STUDIES OF THE COSMIC X-RAY BACKGROUND FIRST YEAR FUNDING
 04/11/2000 - 04/06/2004 FY03: \$0 Total: \$1,007,000
Prin. Invest.: D MCCAMMON
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5272 **UNIV OF WISCONSIN - MADISON**
 FIRST FUNDING FOR PHASE 1 OF CIRRHUS PROJECT FIRST FUNDING FOR
 PHASE 1 OF CIRRHUS PROJECT
 04/17/2000 - 04/13/2006 FY03: \$0 Total: \$299,808
Prin. Invest.: S ACKERMAN
Tech. Officer: GSFC/D L PIERCE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 5404 **UNIV OF WISCONSIN - MADISON**
 COSMIC X-RAY PHYSICS. INCREMENTAL FUNDING FOR YEAR 1 OF 3 YEAR
 GRANT
 04/04/2003 - 03/31/2006 FY03: \$200,000 Total: \$200,000
Prin. Invest.: D MCCAMMON
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 5408 **UNIV OF WISCONSIN - MADISON**
 FLIGHT OF FAR-ULTRAVIOLET SPECTROPOLARIMETER (FUSP) & DEVEL-
 OPMENT & FLIGHT OF COSMIC ULTRAVIOLET
 02/25/2003 - 02/17/2006 FY03: \$460,000 Total: \$460,000
Prin. Invest.: K NORDSIECK
Tech. Officer: GSFC/J BRINTON
CASE Category: 13 – PHYSICS

NAG 5 6032 **UNIV OF WISCONSIN - MADISON**
 THE EVOLUTION OF GALAXY IMAGE STRUCTURE TO Z=3
 10/08/1997 - 10/14/2003 FY03: \$0 Total: \$270,000
Prin. Invest.: M BERSHADY
Tech. Officer: GSFC/D WEST
CASE Category: 11 – ASTRONOMY

NAG 5 6457 **UNIV OF WISCONSIN - MADISON**
 VALIDATION OF ASTER AND MODIS SURFACE-TEMPERATURE AND VEG-
 ETATION PRODUCTS WITH SURFACE-FLUX APPLICAT
 10/15/1997 - 06/30/2003 FY03: \$0 Total: \$974,815
Prin. Invest.: S T GOWER
Tech. Officer: GSFC/D O STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 7214 **UNIV OF WISCONSIN - MADISON**
 PRESIDENTIAL EARLY CAREER AWARD FOR SCIENTISTS AND ENGINEERS
 04/06/1998 - 04/30/2004 FY03: \$0 Total: \$499,988
Prin. Invest.: J FOLEY
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 7605 **UNIV OF WISCONSIN - MADISON**
 CRITICAL REVIEW OF CHINESE RESEARCH ON THE SOLAR I NFLUENCES
 ON CLIMATE
 07/22/1998 - 07/31/2002 FY03: \$0 Total: \$218,976
Prin. Invest.: P WANG
Tech. Officer: GSFC/J SHARBER
CASE Category: 11 – ASTRONOMY

NAG 5 7931 **UNIV OF WISCONSIN - MADISON**
 PHYSICS OF AN UNSTABLE WIND FROM THE UNSTABLE STAR P CYGNI
 ADP-98
 12/14/1998 - 06/14/2002 FY03: \$0 Total: \$121,000
Prin. Invest.: K H NORDSIECK
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 7952 **UNIV OF WISCONSIN - MADISON**
 INTEGRATED STUDIES OF COMET C/199501 (HALE-BOPP) USING THE
 RESULTS OF THE UNIV WI/GSFC OBSER CAMPAI
 12/17/1998 - 12/31/2002 FY03: \$0 Total: \$276,256
Prin. Invest.: D M HARRIS
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 8057 **UNIV OF WISCONSIN - MADISON**
 INTERPRETATION OF RADIATIVE ENERGY FLUXES IN JUPIT ER'S ATMO-
 SPHERE
 01/15/1999 - 07/31/2002 FY03: \$0 Total: \$128,085
Prin. Invest.: L A SROMOVSKY
Tech. Officer: GSFC/R BEEBE
CASE Category: 11 – ASTRONOMY

NAG 5 8069 **UNIV OF WISCONSIN - MADISON**
 BIGFOOT--CHARACTERIZING LAND COVER, LAI AND NPP AT THE LAND-
 SCAPE SCALE FOR EOS/MODIS VALIDATION
 01/28/1999 - 06/30/2002 FY03: \$0 Total: \$575,038
Prin. Invest.: S T GOWER
Tech. Officer: GSFC/D E WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8417 **UNIV OF WISCONSIN - MADISON**
 THEORETICAL STUDIES OF THE DIFFUSE INTERSTELLAR ME DIUM (ATP 98)
 03/25/1999 - 03/31/2003 FY03: \$0 Total: \$290,025
Prin. Invest.: D P COX
Tech. Officer: GSFC/D K WEST
CASE Category: 11 – ASTRONOMY

NAG 5 8537 **UNIV OF WISCONSIN - MADISON**
 X-RAY DETECTORS FOR SPECTROSCOPY OF 0.1-0.3 KEV EXTENDED
 SOURCES WITH SUB-EV RESOLUTION.
 07/09/1999 - 07/14/2002 FY03: \$0 Total: \$284,116
Prin. Invest.: D MCCAMMON
Tech. Officer: GSFC/G MUCKLOW
CASE Category: 13 – PHYSICS

NAG 5 8554 **UNIV OF WISCONSIN - MADISON**
 LONG-TERM WATER FLUX CHANGES FROM COVERTING OLD- GROWTH
 PINE FOREST TO HARDWOOD FORESTS IN NORTH
 06/17/1999 - 06/30/2003 FY03: \$0 Total: \$359,177
Prin. Invest.: D MACKAY
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 8597 **UNIV OF WISCONSIN - MADISON**
 THE ROLE OF LAND USE AND LAND COVER CHANGE ON THE TERRES-
 TRIAL WATER BALANCE OF THE MISSISSIPPI BASIN
 06/11/1999 - 06/30/2003 FY03: \$0 Total: \$331,970
Prin. Invest.: J A FOLEY
Tech. Officer: GSFC/E T ENGMAN
CASE Category: 39 – ENVIRONMENTALSCI, OTHER

NAG 5 8967 **UNIV OF WISCONSIN - MADISON**
 OBSERVATIONAL CONSTRAINTS FOR THE GALACTIC FOUNDATION - FUSE
 01/24/2000 - 01/31/2004 FY03: \$0 Total: \$56,200
Prin. Invest.: R BENJAMIN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9024 **UNIV OF WISCONSIN - MADISON**
 OBSERVATIONAL CONSTRAINTS FOR THE GALACTIC FOUNTAIN-FUSE
 HIGH VELOCITY CLOUDS: ORIGIN
 02/28/2000 - 02/28/2003 FY03: \$0 Total: \$70,459
Prin. Invest.: B P WAKKER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 9028 **UNIV OF WISCONSIN - MADISON**
 EARTH SCIENCE COMPONENT FOR ACADEMIC PROFESSIONAL ENHANCE-
 MENT (ESCAPE)
 02/04/2000 - 02/14/2004 FY03: \$0 Total: \$131,566
Prin. Invest.: S S LIMAYE
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9179 **UNIV OF WISCONSIN - MADISON**
 THE ORIGINS OF GALACTIC HALO GAS: ACCRETION AND FOUNTAIN
 FLOWS (LTSA 99)
 03/07/2000 - 03/14/2005 FY03: \$107,879 Total: \$412,548
Prin. Invest.: B P WAKKER
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9226 **UNIV OF WISCONSIN - MADISON**
 SPECTRAL DIAGNOSTICS FOR EARLY-TYPE STARS IN SUPPO RT OF
 HIGH-RESOLUTION SATELLITE OBSERVATIONS (LTS
 03/09/2000 - 03/14/2005 FY03: \$22,205 Total: \$82,357
Prin. Invest.: J CASSINELLI
Tech. Officer: GSFC/R OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 9295 **UNIV OF WISCONSIN - MADISON**
 DIAGNOSTIC & PREDICTIVE STUDIES OF THE EARTH'S HYDROLOGIC
 CYCLE USING MODEL-ASSIMILATED & REMOTE
 04/13/2000 - 06/30/2003 FY03: \$0 Total: \$423,800
Prin. Invest.: D R JOHNSON
Tech. Officer: GSFC/R ATLAS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9389 **UNIV OF WISCONSIN - MADISON**
 INTERNATIONAL MODIS/AIRS PROCESSING PACKAGE (IMAPP) FOR EOS
 DIRECT BROADCAST DATA
 04/04/2000 - 04/14/2003 FY03: \$0 Total: \$750,000
Prin. Invest.: A HUANG
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9436 **UNIV OF WISCONSIN - MADISON**
 MONITORING AND MODELING OF LAND-SURFACE ENERGY AND WATER
 FLUXES USING ANENHANCEDPATHFINDER DATABASE
 04/13/2000 - 04/30/2004 FY03: \$47,367 Total: \$580,559
Prin. Invest.: G DIAK
Tech. Officer: GSFC/J DODGE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9452 **UNIV OF WISCONSIN - MADISON**
 HUMAN ACTIVITY AND A CHANGING BIOSPHERE
 04/13/2000 - 04/30/2004 FY03: \$99,622 Total: \$894,528
Prin. Invest.: J FOLEY
Tech. Officer: GSFC/D WICKLAND
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 9673 **UNIV OF WISCONSIN - MADISON**
 DETERMINATION OF MOMENTUM TRANSPORT, ORGANIZATION, & TEMPO-
 RAL INTENSITY OF DEEP TROPICAL CONVECTION
 06/01/2000 - 05/31/2003 FY03: \$0 Total: \$114,867
Prin. Invest.: J R MECIKALSKI
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 9688 **UNIV OF WISCONSIN - MADISON**
 APPLICATION OF REMOTE SENSING TO ASSESS THE IMPACT OF SHORT
 TERM CLIMATEVARIABILITY ON COASTAL SEDIM
 06/14/2000 - 12/14/2003 FY03: \$0 Total: \$300,000
Prin. Invest.: P MENZEL
Tech. Officer: GSFC/H V FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 9712 **UNIV OF WISCONSIN - MADISON**
 GLAST: A GEV ALL-SKY MONITOR OF TRANSIENT PHENOME NA
 06/15/2000 - 01/31/2003 FY03: -\$49,331 Total: \$105,657
Prin. Invest.: P DINGUS
Tech. Officer: GSFC/S LAMBROS
CASE Category: 13 – PHYSICS

NAG 5 9894 **UNIV OF WISCONSIN - MADISON**
 IMPROVED TRMM RAINFALL ESTIMATES FROM A COMBINA- TION OF
 SATELLITE & SURFACE HYDROLOGICAL OBSERVA
 08/25/2000 - 11/30/2003 FY03: \$51,980 Total: \$320,000
Prin. Invest.: G W PETTY
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 10204 **UNIV OF WISCONSIN - MADISON**
 MINIATURE ADIABATIC DEMAGNETIZATION REFRIGERATOR
 12/28/2000 - 12/31/2003 FY03: \$150,000 Total: \$468,000
Prin. Invest.: P TIMBIE
Tech. Officer: GSFC/G STRINGFELLOW
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10258 **UNIV OF WISCONSIN - MADISON**
 ANTENNA COUPLED TRANSITION EDGE MICROBOLOMETERS WITH ON-
 CHIP FILTERING & DUAL POLARIZATION SENSITI
 01/31/2001 - 01/31/2004 FY03: \$270,212 Total: \$716,135
Prin. Invest.: P TIMBIE
Tech. Officer: GSFC/J CHERVENAK
CASE Category: 13 – PHYSICS

NAG 5 10273 **UNIV OF WISCONSIN - MADISON**
 SOME NEW MATHEMATICAL METHODS FOR VARIATIONAL OBJECTIVE
 ANALYSIS & ACCURACY ESTIMATION, WITH EM
 01/16/2001 - 01/14/2004 FY03: \$0 Total: \$130,000
Prin. Invest.: G WAHBA
Tech. Officer: GSFC/T LEE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10415 **UNIV OF WISCONSIN - MADISON**
 LMC 1995, THE THIRD SUPERSOFT X-RAY NOVA
 02/21/2001 - 02/29/2004 FY03: \$0 Total: \$21,667
Prin. Invest.: M ORIO
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 – ASTRONOMY

NAG 5 10770 **UNIV OF WISCONSIN - MADISON**
 STAR FORMATION FEEDBACK ON GALAXY EVOLUTION (L TSA 2000)
 04/26/2001 - 08/31/2002 FY03: -\$117,827 Total: \$106,445
Prin. Invest.: H A KOBULNICKY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11085 **UNIV OF WISCONSIN - MADISON**
 CLIMATE AND HUMAN IMPACTS ON WATER RESOURCES IN AFRICA
 07/20/2001 - 08/14/2004 FY03: \$98,944 Total: \$319,316
Prin. Invest.: M COE
Tech. Officer: GSFC/G GUTMAN
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11155 **UNIV OF WISCONSIN - MADISON**
 VALIDATION OF THE ATMOSPHERIC INFRARED SOUNDER (AIRS) OVER
 THE ANTARCTIC PLATEAU (AQUA-0080-033) NRA
 08/08/2001 - 08/31/2004 FY03: \$10,901 Total: \$42,695
Prin. Invest.: D C TOBIN
Tech. Officer: GSFC/D STARR
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11221 **UNIV OF WISCONSIN - MADISON**
 MAGNETIC FIELDS ON OB STARS (ATP 2000)
 08/09/2001 - 08/14/2004 FY03: \$5,018 Total: \$15,064
Prin. Invest.: J P CASSINELLI
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 11242 **UNIV OF WISCONSIN - MADISON**
 LINKING IN-SITU MEASUREMENTS, REMOTE SENSING, AND MODELS TO
 VALIDATE MODIS PRODUCTS RELATED TO TH
 08/17/2001 - 08/31/2004 FY03: \$210,496 Total: \$434,182
Prin. Invest.: S T GOWER
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11245 **UNIV OF WISCONSIN - MADISON**
 INTERANNUAL TO DECADE AIR-SEA CARBON FLUXES: ANALYSIS OF
 MARINE PRODUCTIVITY AND NUTRIENT D
 08/16/2001 - 08/31/2004 FY03: \$75,453 Total: \$230,384
Prin. Invest.: A WINGUTH
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11303 **UNIV OF WISCONSIN - MADISON**
 ANALYSIS OF DYNAMICAL PROCESSES IMPORTANT TO CLIMATE CHANGE
 08/31/2001 - 08/31/2004 FY03: \$131,247 Total: \$231,249
Prin. Invest.: M HITCHMAN
Tech. Officer: GSFC/P DECOLA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11322 **UNIV OF WISCONSIN - MADISON**
 HIGH PERFORMANCE IMAGING ARRAYS OF X-RAY CALORIMETERS USING
 IMPLANTED SILICON.
 11/05/2001 - 11/14/2003 FY03: \$35,999 Total: \$53,999
Prin. Invest.: D MCCAMMON
Tech. Officer: GSFC/C K STAHL
CASE Category: 13 – PHYSICS

NAG 5 11436 **UNIV OF WISCONSIN - MADISON**
 PRECISION MEASUREMENTS OF OSCILLATOR STRENGTHS FOR NEUTRAL
 OXYGEN AND NITROGEN IN THE FUSE BAND
 12/03/2001 - 12/31/2003 FY03: \$0 Total: \$40,000
Prin. Invest.: J E LAWLER
Tech. Officer: GSFC/H HASAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11449 **UNIV OF WISCONSIN - MADISON**
 VALIDATION OF GLAS LIDAR DATA AND THE INVESTIGATION OF LIDAR
 MULTIPLE SCATTERING
 12/17/2001 - 12/31/2004 FY03: \$80,000 Total: \$184,814
Prin. Invest.: E W ELORANTA
Tech. Officer: GSFC/J D SPINHIRNE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 11529 **UNIV OF WISCONSIN - MADISON**
 CLOUD MICROPHYSICS AND ABSORPTION VALIDATION
 01/03/2002 - 12/14/2003 FY03: \$30,000 Total: \$70,000
Prin. Invest.: S A ACKERMAN
Tech. Officer: GSFC/D ANDERSON
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 11849 **UNIV OF WISCONSIN - MADISON**
 OVI EMISSION FROM HVCS
 04/02/2002 - 04/14/2003 FY03: \$0 Total: \$86,300
Prin. Invest.: R BENJAMIN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12012 **UNIV OF WISCONSIN - MADISON**
 NEPTUNE'S CLOUD STRUCTURE
 04/22/2002 - 04/30/2005 FY03: \$0 Total: \$102,601
Prin. Invest.: L A SROMOVSKY
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12057 **UNIV OF WISCONSIN - MADISON**
 GAS AND DUST STRUCTURE IN ACTIVE COMETS
 04/19/2002 - 04/30/2005 FY03: \$0 Total: \$94,119
Prin. Invest.: W M HARRIS
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12128 **UNIV OF WISCONSIN - MADISON**
 THEORETICAL STUDIES OF THE DIFFUSE INTERSTELLAR MATTER IN THE
 LOCAL BUBBLE, BULGE, DISK, & HALO
 04/30/2002 - 04/30/2005 FY03: \$73,093 Total: \$165,662
Prin. Invest.: D P COX
Tech. Officer: GSFC/M SALAMON
CASE Category: 11 – ASTRONOMY

NAG 5 12196 **UNIV OF WISCONSIN - MADISON**
 MOLECULAR GAS IN THE DISK-HALO INTERFACE
 05/14/2002 - 05/14/2003 FY03: \$12,794 Total: \$41,494
Prin. Invest.: R BENJAMIN
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 – ASTRONOMY

NAG 5 12206 **UNIV OF WISCONSIN - MADISON**
 ADAPTIVE OPTICS IMAGING AND SPECTROSCOPY OF NEPTUNE
 06/03/2002 - 05/31/2005 FY03: \$127,749 Total: \$236,359
Prin. Invest.: L A SROMOVSKY
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12258 **UNIV OF WISCONSIN - MADISON**
 GRADUATE RESEARCH ASSISTANTS AT THE UNIV WISCONSIN IN
 COOPERATION WITH THE EARTH SCIENCES
 07/02/2002 - 07/14/2005 FY03: \$24,662 Total: \$74,189
Prin. Invest.: S A ACKERMAN
Tech. Officer: GSFC/V V SALOMONSON
CASE Category: 41 - AERONAUTICAL ENGRN

NAG 5 12270 **UNIV OF WISCONSIN - MADISON**
 CLOUD RADIATION MODELING FOR GLOBAL PRECIPITATION MISSION
 06/27/2002 - 06/30/2003 FY03: \$0 Total: \$70,000
Prin. Invest.: G J TRIPOLI
Tech. Officer: GSFC/R J LAWRENCE
CASE Category: 31 - ATMOSPHERIC SCIENCE

NAG 5 12422 **UNIV OF WISCONSIN - MADISON**
 PRECISION BALLOON-BORNE MEASUREMENTS OF THE ANISOTROPY IN
 THE COSMIC MICROWAVE BACKGROUND RADIATION
 08/01/2002 - 07/31/2003 FY03: \$0 Total: \$16,000
Prin. Invest.: P TIMBIE
Tech. Officer: GSFC/E S CHENG
CASE Category: 13 - PHYSICS

NAG 5 12536 **UNIV OF WISCONSIN - MADISON**
 PROCESSING METEOROLOGICAL SATELLITE INFORMATION TO NOWCAST
 CONVECTIVE INITIATION AND CONVECTIVE CH
 09/26/2002 - 09/14/2005 FY03: \$0 Total: \$108,359
Prin. Invest.: J MECIKALSKI
Tech. Officer: GSFC/M WEI
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 12557 **UNIV OF WISCONSIN - MADISON**
 X-RAY EMISSION FROM SINGLE WOLF-RAYET STARS
 09/23/2002 - 09/30/2003 FY03: \$0 Total: \$22,557
Prin. Invest.: R IGNACE
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 - ASTRONOMY

NAG 5 12579 **UNIV OF WISCONSIN - MADISON**
 VALIDATION OF AMSR-E & AMSU/HSB LEVEL 1 BRIGHTNESS TEMPERA-
 TURES & LEVEL 2 CLOUD & PRECIPITATION PARA
 11/25/2002 - 08/31/2004 FY03: \$346,205 Total: \$346,205
Prin. Invest.: R BENNARTZ
Tech. Officer: GSFC/D STARR
CASE Category: 19 - PHYSICAL SCIENCE, OTHER

NAG 5 12812 **UNIV OF WISCONSIN - MADISON**
 DEVELOPMENT OF A COMPACT, ALL-REFLECTIVE SPATIAL HETERODYNE
 SPECTROMETER FOR VERY HIGH RESOLUTION FU
 03/17/2003 - 03/31/2006 FY03: \$205,186 Total: \$205,186
Prin. Invest.: W HARRIS
Tech. Officer: GSFC/W PETERSON
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 13255 **UNIV OF WISCONSIN - MADISON**
 H2 FLUORESCENCE IN NGC 2023 FUZE 2001
 04/14/2003 - 04/14/2004 FY03: \$16,442 Total: \$16,442
Prin. Invest.: E B BURGH
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 - ASTRONOMY

NAG 5 13297 **UNIV OF WISCONSIN - MADISON**
 INVESTIGATION OF JOVIAN CLOUD MODELS USING HST, GA LILEO, AND
 GROUND-BASED MULTI-SPECTRAL
 04/05/2003 - 04/14/2006 FY03: \$95,000 Total: \$95,000
Prin. Invest.: L SROMOVSKY
Tech. Officer: GSFC/J HILLMAN
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 13319 **UNIV OF WISCONSIN - MADISON**
 NOVA LMC 1995, A BRIGHT SUPERSOFT X-RAY SOURCE
 04/15/2003 - 04/14/2004 FY03: \$43,600 Total: \$43,600
Prin. Invest.: M ORIO
Tech. Officer: GSFC/R MUSHOTZKY
CASE Category: 11 - ASTRONOMY

NAG 5 13351 **UNIV OF WISCONSIN - MADISON**
 ESTIMATING CARBON EMISSIONS FROM HISTORICAL CHANGE S IN GLO-
 BAL AGRICULTURAL LAND
 04/11/2003 - 04/30/2006 FY03: \$126,262 Total: \$126,262
Prin. Invest.: N RAMANKUTTY
Tech. Officer: GSFC/D WICKLAND
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 13361 **UNIV OF WISCONSIN - MADISON**
 "IMPACT OF FIELD-SCALE HETEROGENEITY IN SURFACE MOISTURE &
 VEGETATION COVER ON REGIONAL-SCALE FLUX
 04/17/2003 - 04/30/2005 FY03: \$48,500 Total: \$48,500
Prin. Invest.: G DIAK
Tech. Officer: GSFC/P R HOUSER
CASE Category: 39 - ENVIRONMENTAL SCI, OTHER

NAG 5 13402 **UNIV OF WISCONSIN - MADISON**
 INTERNATIONAL MODIS/AIRS PROCESSING PACKAGE (IMAPP) FOR EOS
 DIRECT BROADCAST DATA - A CONTINU
 04/22/2003 - 04/14/2006 FY03: \$250,000 Total: \$250,000
Prin. Invest.: A HUANG
Tech. Officer: GSFC/J DODGE
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 13687 **UNIV OF WISCONSIN - MADISON**
 MOLECULAR HYDROGEN IN THE LOWER GALACTIC HALO
 09/23/2003 - 09/30/2004 FY03: \$34,000 Total: \$34,000
Prin. Invest.: B P WAKKER
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 99 - MULTI INTERDISCIPL, OTHER

NAG 5 13722 **UNIV OF WISCONSIN - MADISON**
 FLUORESCENT MOLECULAR HYDROGEN IN IC 405 AND NGC 7023-- THE
 ROLE OF ENVIRONMENT
 09/24/2003 - 09/30/2004 FY03: \$8,400 Total: \$8,400
Prin. Invest.: E S BURGH
Tech. Officer: GSFC/G SONNEBORN
CASE Category: 11 - ASTRONOMY

NAG 8 1460 **UNIV OF WISCONSIN - MADISON**
 R/S DYNAMIC REDUCTION AND THE CREATION OF FINE GRAINED CERAM-
 ICS FROM INVISCID MELTS
 02/01/1998 - 01/31/2003 FY03: \$0 Total: \$320,750
Prin. Invest.: R F COOPER
Tech. Officer: MSFC/C TALLEY
CASE Category: 13 - PHYSICS

NAG 8 1672 **UNIV OF WISCONSIN - MADISON**
 ANALYSIS OF CONTAINERLESS SOLIDIFICATION MICRO- STRUCTURES IN
 UNDERCOOLED MELTSAND COMPOSITE SYS
 05/26/2000 - 11/30/2003 FY03: \$90,000 Total: \$305,500
Prin. Invest.: J N PEREPEZKO
Tech. Officer: MSFC/P DOTY
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1719 **UNIV OF WISCONSIN - MADISON**
 FILED REVERSED CONFIGURATION FUSION PROPULSION
 05/04/2000 - 09/30/2003 FY03: \$0 Total: \$109,000
Prin. Invest.: J SANTARIUS
Tech. Officer: MSFC/F THEO
CASE Category: 22 – COMPUTER SCIENCE

NAG 8 1783 **UNIV OF WISCONSIN - MADISON**
 ALL-OPTICAL HIGH DENSITY COLD ATOM SOURCES
 05/04/2001 - 03/30/2005 FY03: \$0 Total: \$122,000
Prin. Invest.: T G WALKER
Tech. Officer: MSFC/D S HUBBARD
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 8 1820 **UNIV OF WISCONSIN - MADISON**
 INVESTIGATION OF TECHNIQUES FOR SENSOR PLACEMENT, ACTUATOR
 PLACEMENT, AND TARGETMODE SELECTION...
 05/15/2001 - 05/15/2003 FY03: \$0 Total: \$39,940
Prin. Invest.: D C KAMMER
Tech. Officer: MSFC/M L TINKER
CASE Category: 46 – MECHANICAL ENGR

NAG13 99008 **UNIV OF WISCONSIN - MADISON**
 MIDWEST CENTER FOR NATURAL RESOURCE MGMT SAME
 03/03/1999 - 03/02/2003 FY03: \$0 Total: \$1,500,000
Prin. Invest.: G DIAK
Tech. Officer: SSC/C HILL
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 1 00072 **UNIV OF WISCONSIN - MADISON**
 ALGORITHM DEVELOPMENT, MEASUREMENT CONCEPT VALIDATION, DATA
 PROCESSING AND ED./PUBLIC OUTREACH
 11/06/2000 - 01/31/2006 FY03: \$569,657 Total: \$3,004,110
Prin. Invest.: H REVERCOMB
Tech. Officer: LARC/V PARSONS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 1 99106 **UNIV OF WISCONSIN - MADISON**
 ANALYSIS OF COMBINED PICASSO-CENA AND MODIS DATA
 05/17/1999 - 05/16/2004 FY03: \$42,798 Total: \$227,303
Prin. Invest.: S A ACKERMAN
Tech. Officer: LARC/G GIBSON
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 02089 **UNIV OF WISCONSIN - MADISON**
 XRS-Z SALTPILL
 06/25/2002 - 06/30/2003 FY03: \$0 Total: \$119,835
Prin. Invest.: R PAULOS
Tech. Officer: GSFC/J PANEK
CASE Category: 45 – ELECTRICAL ENGR

NAS 5 31367 **UNIV OF WISCONSIN - MADISON**
 EOS STUDY
 12/30/1991 - 12/14/2003 FY03: \$749,350 Total: \$7,199,350
Prin. Invest.: P MENZEL
Tech. Officer: GSFC/D TOLL, GSFC/B CONBOY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 31375 **UNIV OF WISCONSIN - MADISON**
 EOS AIRS INVESTIGATION
 01/13/1992 - 12/14/2003 FY03: \$280,000 Total: \$3,312,889
Prin. Invest.: H REVERCOMB
Tech. Officer: GSFC/E KREINS
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAS 5 31377 **UNIV OF WISCONSIN - MADISON**
 EOS INVESTIGATION: ALGORITHM DEVELOPMENT WITH HIS/ AIRS
 01/08/1992 - 12/14/2003 FY03: \$100,000 Total: \$2,197,640
Prin. Invest.: W L SMITH
Tech. Officer: GSFC/E KREINS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAS 5 99004 **UNIV OF WISCONSIN - MADISON**
 GLAS SCIENCE TEAM LEADER.
 11/25/1998 - 04/30/2005 FY03: \$94,311 Total: \$394,311
Prin. Invest.: C BENTLEY
Tech. Officer: GSFC/G SMITH
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 01011 **UNIV OF WISCONSIN - MADISON**
 TROPOSPHERIC MODEL STUDIES OF TRACE P FIELD DATA: REGIONAL
 ASSEMT OF STRATOSPHERIC-TROPOSPHERIC EXCHANGE
 01/19/2001 - 01/31/2004 FY03: \$0 Total: \$83,695
Prin. Invest.: M H HITCHMAN, G J TRIPOLI
Tech. Officer: LARC/J H CRAWFORD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 1 02017 **UNIV OF WISCONSIN - MADISON**
 DEVELOPMENT WITHIN THE REGIONAL AIR QUALITY MODELING SYSTEM
 (RAQMS)
 03/19/2002 - 03/31/2005 FY03: \$214,836 Total: \$429,748
Prin. Invest.: D R JOHNSON
Tech. Officer: LARC/R B PIERCE
CASE Category: 12 – CHEMISTRY

NCC 2 5449 **UNIV OF WISCONSIN - MADISON**
 FE ISOTOPE STUDIES OF MICROBIAL ECOLOGY
 07/27/2001 - 07/31/2004 FY03: \$47,000 Total: \$187,664
Prin. Invest.: C M JOHNSON, B L BEARD
Tech. Officer: ARC/W W DOLCI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 335 **UNIV OF WISCONSIN - MADISON**
 THE EFFECTS OF TROPICAL FOREST CONVERSION: ECOLOGICAL RE-
 SEARCH IN THE LARGE-SCALE BIOSPHERE-ATMOSPHERE
 06/16/1998 - 06/30/2003 FY03: \$0 Total: \$238,042
Prin. Invest.: J FOLEY
Tech. Officer: GSFC/D DEERING
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 5 365 **UNIV OF WISCONSIN - MADISON**
 MODELING WETLANDS AND THEIR ROLE IN HYDROLOGICAL AND BIO-
 GEOCHEMICAL CYCLES
 09/24/1998 - 09/30/2001 FY03: -\$3,771 Total: \$46,262
Prin. Invest.: J A FOLEY
Tech. Officer: HQ/L TRAVIS
CASE Category: 31 – ATMOSPHERIC SCIENCE

WYOMING

NASA'S UNIVERSITY PROGRAM

NCC 5 687 UNIV OF WISCONSIN - MADISON
 EXPLORING INTERACTIONS AMONG THE ECOLOGICAL, HYDRO LOGICAL
 AND CLIMATE SYSTEMS OF AMAZONIA
 01/30/2003 - 01/14/2006 FY03: \$210,958 Total: \$210,958
Prin. Invest.: J A FOLEY
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NCC 8 241 UNIV OF WISCONSIN - MADISON
 PROMOTE COMMERCIALY FUNDED RESEARCH AND TECH DEV. IN THE
 FIELD OF SPACE POWER AUTOMATION AND ROBOTI
 01/29/2002 - 10/31/2003 FY03: \$2,357,000 Total: \$4,567,000
Prin. Invest.: W ZHOU
Tech. Officer: MSFC/A MATISAK
CASE Category: 49 – ENGINEERING, OTHER

NCC13 00004 UNIV OF WISCONSIN - MADISON
 MAXIMIZING MUTUAL OPPORTUNITIES:PARTNERSHIP AMONG NASA, UW-
 MAD AND PRIVATE INDUSTRY
 03/06/2000 - 03/05/2004 FY03: \$280,000 Total: \$725,000
Prin. Invest.: T LILLESAND
Tech. Officer: SSC/A PEEK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 115 UNIV OF WISCONSIN - MADISON
 THREE-DIMENSIONAL MULTIWAVELENGTH MODELING TECHNIQUES FOR
 ANALYSIS OF ASPHERICALSTELLAR
 06/04/2001 - 06/30/2003 FY03: \$0 Total: \$21,383
Prin. Invest.: K H NORDSIECK
Tech. Officer: GSFC/M S BURRELL
CASE Category: 11 – ASTRONOMY

NGT 5 30146 UNIV OF WISCONSIN - MADISON
 POROELASTIC ANALYSIS OF COSEISMIC AND POSTSEISMIC DEFORMA-
 TION ASSOCIATEDWITH THE1992 LANDERS, CALIF
 08/31/1998 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: H F WANG
Tech. Officer: GSFC/M Y WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 30176 UNIV OF WISCONSIN - MADISON
 EFFECTS OF LOGGING ACTIVITY ON BIOPHYSICAL PROCESS ES AND
 CARBON CYCLING WITHIN CANADIAN BOREAL FORE
 08/12/1999 - 08/31/2002 FY03: \$0 Total: \$66,000
Prin. Invest.: J FOLEY
Tech. Officer: GSFC/L SMITH
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30396 UNIV OF WISCONSIN - MADISON
 THE IMPACT OF CLIMATE AND AGRICULTURE ACTIVITY ON NITRATE
 EXPORT TO THE OCEAN
 08/14/2001 - 08/31/2004 FY03: \$0 Total: \$43,000
Prin. Invest.: J FOLEY
Tech. Officer: GSFC/M WEI
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 8 52865 UNIV OF WISCONSIN - MADISON
 PARAMETERIZATION AND SCALE ISSUES ASSOCIATED WITH MACROSCALE
 WATERSHET MODELING
 07/27/1998 - 08/31/2004 FY03: \$0 Total: \$66,000
Prin. Invest.: J F CRUISE
Tech. Officer: MSFC/J F DOWDY
CASE Category: 49 – ENGINEERING, OTHER

NCC 1 354 UNIV OF WISCONSIN - MILWAUKEE
 PION PRODUCTION CROSS SECTIONS
 08/02/1999 - 12/31/2002 FY03: \$0 Total: \$158,671
Prin. Invest.: J W NORBURY
Tech. Officer: LARC/R C SINGLETERRY, JR., LARC/J W WILSON
CASE Category: 13 – PHYSICS

WYOMING

NAG 1 01063 UNIV OF WYOMING
 SYNTHETIC JET INTERACTION WITH A TURBULENT BOUNDARY LAYER
 FLOW
 04/11/2001 - 04/10/2002 FY03: \$0 Total: \$32,885
Prin. Invest.: D R SMITH
Tech. Officer: LARC/F J CHEN
CASE Category: 41 – AERONAUTICAL ENGRN

NAG 2 1570 UNIV OF WYOMING
 MECHANICAL VERIFICATION OF SYNTHESIZED CODE
 07/12/2002 - 10/14/2003 FY03: \$0 Total: \$26,387
Prin. Invest.: J R COWLES
Tech. Officer: ARC/M LOWRY, ARC/S LAU
CASE Category: 22 – COMPUTER SCIENCE

NAG 2 1576 UNIV OF WYOMING
 IN SITU AEROSOL PROFILE MEASUREMENTS AND COMPARI SO NS WITH
 SAGE III AEROSOL EXTINCTION AND SURFACE A
 08/06/2002 - 11/30/2003 FY03: \$0 Total: \$179,513
Prin. Invest.: T DESHLER
Tech. Officer: ARC/C P SCOFIELD
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 5 8904 UNIV OF WYOMING
 THERMAL EMISSION FROM LAVA FLOWS
 12/28/1999 - 12/31/2002 FY03: \$0 Total: \$14,400
Prin. Invest.: R HOWELL
Tech. Officer: GSFC/J GRANT
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 8917 UNIV OF WYOMING
 MULTI-WAVELENGTH MODELING OF HOT SPOTS ON LO
 01/18/2000 - 12/31/2002 FY03: \$0 Total: \$20,100
Prin. Invest.: R N HOWELL
Tech. Officer: GSFC/D BOGAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 11191 UNIV OF WYOMING
 TO ENHANCE GROUND-BASED OBSERVATIONAL SUPPORT FOR TRAN-
 SIENT ASTRONOMY RESEARCH
 09/07/2001 - 09/14/2002 FY03: \$11,713 Total: \$29,873
Prin. Invest.: R CANTERNA
Tech. Officer: GSFC/J P NORRIS
CASE Category: 11 – ASTRONOMY

NAG 5 11730 UNIV OF WYOMING
 INTERPRETATION OF X-RAY AND INFRARED EMISSION FROM IO AND
 OTHER PLANETARY BODIES
 02/14/2002 - 02/14/2004 FY03: \$0 Total: \$14,000
Prin. Invest.: R R HOWELL
Tech. Officer: GSFC/D SENSKE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 12642 **UNIV OF WYOMING**
 STAR FORMATION FEEDBACK ON GALAXY EVOLUTION (L TSA 2000)
 10/29/2002 - 04/30/2006 FY03: \$240,086 Total: \$240,086
Prin. Invest.: H A KOBULNICKY
Tech. Officer: GSFC/R J OLIVERSEN
CASE Category: 11 – ASTRONOMY

NAG 5 13554 **UNIV OF WYOMING**
 X-RAYS FROM BROAD ABSORPTION LINE QUASARS WITH EXTREME
 PROPERTIES
 07/31/2003 - 07/31/2004 FY03: \$38,640 Total: \$38,640
Prin. Invest.: M S BROTHERTON
Tech. Officer: GSFC/R F MUSHOTZKY
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAS 1 18945 **UNIV OF WYOMING**
 SAGE III SCIENCE INVESTIGATION SUPPORT P.I. - DR. GABOR VALI
 01/17/1990 - 12/30/2002 FY03: \$0 Total: \$458,300
Prin. Invest.: G VALI
Tech. Officer: LARC/G L MADDREA, LARC/L R MCMASTER
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 414 **UNIV OF WYOMING**
 EPSCOR PREPARATION PROGRAM
 06/18/1999 - 08/31/2002 FY03: \$0 Total: \$428,236
Prin. Invest.: P JOHNSON
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 578 **UNIV OF WYOMING**
 WYOMING NASA EPSCOR PROGRAM
 10/31/2001 - 09/30/2004 FY03: \$494,053 Total: \$988,106
Prin. Invest.: P E JOHNSON
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 5 30350 **UNIV OF WYOMING**
 EFFECTS OF WIND ON SNOWPACK DISTRIBUTION & SUBSEQUENT
 MELT-WATER ROUTING ON ECOSYSTEM PROPERTIES/STU
 08/24/2000 - 08/31/2003 FY03: \$0 Total: \$43,992
Prin. Invest.: W REINER
Tech. Officer: GSFC/M WEI
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NGT 5 40102 **UNIV OF WYOMING**
 WYOMING SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 03/01/2001 - 02/28/2005 FY03: \$318,250 Total: \$779,754
Prin. Invest.: P E JOHNSON
Tech. Officer: GSFC/D D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

PUERTO RICO

NAG 5 11711 **POLYTECHNIC UNIV PUERTO RICO**
 LIVING WITH A STAR, FUTURE ON SPACE RESEARCH & EXPLORATION
 02/20/2002 - 02/28/2003 FY03: \$0 Total: \$47,500
Prin. Invest.: E LEAL-QUIROS
Tech. Officer: GSFC/G MOAK
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 652 **UNIV DEL ESTE**
 A MODEL: THE INST FOR ENHANCING KNOWLEDGE AND IMPROVING
 INSTRUCTION IN EARTHSCIENCE
 09/04/2002 - 08/31/2005 FY03: \$0 Total: \$197,602
Prin. Invest.: M HUERTAS
Tech. Officer: HQ/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 1 02074 **UNIV OF PUERTO RICO - MAYAGUEZ**
 MICROWAVE REMOTE SENSING OF THE MICROPHYSICAL PROPERTIES OF
 CLOUDS
 03/25/2002 - 03/31/2005 FY03: \$199,829 Total: \$299,818
Prin. Invest.: S CRUZPOL
Tech. Officer: LARC/R A HATHAWAY
CASE Category: 31 – ATMOSPHERIC SCIENCE

NAG 3 2707 **UNIV OF PUERTO RICO - MAYAGUEZ**
 MATHEMATICS, SCIENCE & TECHNOLOGY CIRCLES: A PILOT MATHEMATICS,
 SCIENCE & TECHNOLOGY CIRCLES: A PILO
 03/19/2002 - 01/31/2003 FY03: \$0 Total: \$99,894
Prin. Invest.: B RAMIREZ
Tech. Officer: GRC/R ROMERO
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 5302 **UNIV OF PUERTO RICO - MAYAGUEZ**
 CORAL REEF MONITORING BY REMOTE SENSING OF CORAL SPAWN
 09/05/2000 - 12/31/2003 FY03: \$0 Total: \$17,000
Prin. Invest.: E WEIL, J LOPEZ, R ARMSTRONG
Tech. Officer: WFF/C W WRIGHT
CASE Category: 33 – OCEANOGRAPHY

NAG 5 6031 **UNIV OF PUERTO RICO - MAYAGUEZ**
 DYNAMIC TOPOGRAPHY, GRAVITY, & SURFACE DEFORMATION : APPLICATION
 TO HAZARD ASSESSMENT OF ERUPTING IS
 10/02/1997 - 03/30/2003 FY03: \$0 Total: \$194,327
Prin. Invest.: G MATTIOLI
Tech. Officer: GSFC/H FREY
CASE Category: 32 – GEOLOGICAL SCIENCE

NAG 5 10255 **UNIV OF PUERTO RICO - MAYAGUEZ**
 CURRICULUM INTEGRATION THROUGH SOLAR EDUCATION PROGRAM
 (CITSEP)
 01/12/2001 - 01/14/2006 FY03: \$66,676 Total: \$175,746
Prin. Invest.: J G GONZALEZ LAGOA
Tech. Officer: GSFC/G COLON
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11296 **UNIV OF PUERTO RICO - MAYAGUEZ**
 CATS CARIBBEAN TIME SERIES: A SERIAL OBSERVING STATION IN THE
 NORTHEASTERN CARIBBEAN SEA
 08/29/2001 - 09/30/2002 FY03: \$0 Total: \$65,200
Prin. Invest.: J CORREDOR
Tech. Officer: GSFC/J MARRA
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 257 **UNIV OF PUERTO RICO - MAYAGUEZ**
 SODIUM CHLORIDE AND NITRATE SEPARATION/RECOVERY FROM CELLS
 WASTES
 04/20/1999 - 04/19/2003 FY03: \$0 Total: \$264,146
Prin. Invest.: G COLON
Tech. Officer: KSC/J SAYER
CASE Category: 59 – LIFE SCIENCE, OTHER

PUERTO RICO

NASA'S UNIVERSITY PROGRAM

NAG13 02031 UNIV OF PUERTO RICO - MAYAGUEZ
 INVESTIGATION OF FLOW-INDUCED VIBRATION AT THE E2 FACILITY
 01/23/2002 - 12/31/2003 FY03: \$29,207 Total: \$131,414
Prin. Invest.: Y JIA
Tech. Officer: SSC/R TRAVIS
CASE Category: 47 – METAL & MATERIALS ENGR

NAG13 99029 UNIV OF PUERTO RICO - MAYAGUEZ
 DEVELOPMENT AND VALIDATION OF BIO-OPTICAL ALGOR- ITHMS IN
 COASTAL WATER
 09/15/1999 - 09/25/2002 FY03: -\$5,472 Total: \$194,508
Prin. Invest.: F GILBES
Tech. Officer: SSC/R TRAVIS
CASE Category: 51 – BIOLOGY (EXCLUDING ENVIR)

NCC 5 215 UNIV OF PUERTO RICO - MAYAGUEZ
 "TROPICAL ATMOSPHERIC SCIENCES CENTER"/ THE NASA/PUERTO RICO
 EPSCOR PROGRAM.
 07/07/1997 - 06/30/2002 FY03: \$1,898 Total: \$1,801,898
Prin. Invest.: B G WEINER
Tech. Officer: GSFC/D DETROYE
CASE Category: 31 – ATMOSPHERIC SCIENCE

NCC 5 340 UNIV OF PUERTO RICO - MAYAGUEZ
 PARTNERSHIP FOR SPATIAL AND COMPUTATIONAL RESEARCH
 06/22/1998 - 05/31/2004 FY03: \$74,375 Total: \$2,465,662
Prin. Invest.: L MORELL
Tech. Officer: GSFC/M MATHEWS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 518 UNIV OF PUERTO RICO - MAYAGUEZ
 TROPICAL CENTER FOR EARTH AND SPACE STUDIES
 10/05/2000 - 09/30/2005 FY03: \$1,200,000 Total: \$4,511,259
Prin. Invest.: R FERNANDEZ-SEIN
Tech. Officer: GSFC/D L WILLIAMS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT13 52746 UNIV OF PUERTO RICO - MAYAGUEZ
 VERTICAL VARIABILITY IN BIO-OPTICAL PROPERTIES OF COASTAL WATERS
 -ROLE IN DEV OF NEW REMOTE SENSING
 09/25/2000 - 01/21/2004 FY03: \$12,000 Total: \$69,000
Prin. Invest.: M ROSADO
Tech. Officer: SSC/R TRAVIS
CASE Category: 22 – COMPUTER SCIENCE

NAG 3 2636 UNIV OF PUERTO RICO HUMACAO UNIV COLLEGE
 RF PROPAGATION EFFECTS IN TROPICAL RAIN ZONE RF PROPAGATION
 EFFECTS IN TROPICAL RAIN ZONE
 09/24/2001 - 09/14/2002 FY03: \$0 Total: \$50,988
Prin. Invest.: J C CERSOSIMO
Tech. Officer: GRC/R ACOSTA
CASE Category: 45 – ELECTRICAL ENGR

NAG 3 2842 UNIV OF PUERTO RICO HUMACAO UNIV COLLEGE
 RF PROPAGATION EFFECTS IN TROPICAL RAIN ZONE RF PROPAGATION
 EFFECTS IN TROPICAL RAIN ZONE
 01/27/2003 - 01/19/2004 FY03: \$39,605 Total: \$39,605
Prin. Invest.: J C CERSOSIMO
Tech. Officer: GRC/R ACOSTA
CASE Category: 45 – ELECTRICAL ENGR

NCC 3 963 UNIV OF PUERTO RICO HUMACAO UNIV COLLEGE
 POLYMER NANOFIBERS FOR NANO-ELECTRONIC FIELD EFFECT TRANSIS-
 TORS
 05/06/2002 - 12/01/2002 FY03: \$0 Total: \$19,623
Prin. Invest.: N J PINTO
Tech. Officer: GRC/F MIRANDA
CASE Category: 13 – PHYSICS

NCC 3 1066 UNIV OF PUERTO RICO HUMACAO UNIV COLLEGE
 NANO-ELECTRONIC FIELD EFFECT TRANSISTORS BASED ON CONDUCTIVE
 POLYMERS
 05/28/2003 - 02/28/2004 FY03: \$19,026 Total: \$19,026
Prin. Invest.: N J PINTO
Tech. Officer: GRC/F A MIRANDA
CASE Category: 13 – PHYSICS

NAG 3 2676 UNIV OF PUERTO RICO- RIO PIEDRAS
 NANO-CRYSTALLINE LITHIUM ION INTERCALATED TRANSITION METAL
 OSIDE THIN FILMS FOR RECHARGEABLE BATTERY
 01/25/2002 - 12/11/2004 FY03: \$99,729 Total: \$199,458
Prin. Invest.: R S KATIYAR
Tech. Officer: GRC/T B MILLER
CASE Category: 12 – CHEMISTRY

NAG 3 2749 UNIV OF PUERTO RICO- RIO PIEDRAS
 TRAINING FOR EXCELLENCE ON NANOTECHNOLOGY EDUCATION AND
 RESEARCH (TENER)
 03/27/2002 - 02/28/2003 FY03: \$0 Total: \$99,811
Prin. Invest.: C R CABRERA
Tech. Officer: GRC/M E PEREZ-DAVIS
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 3 2769 UNIV OF PUERTO RICO- RIO PIEDRAS
 SELF-ASSEMBLY OF CARBON NANOTUBES ON Pt AND Si ELECTRODES
 04/15/2002 - 04/14/2003 FY03: \$0 Total: \$24,947
Prin. Invest.: C CABRERA
Tech. Officer: GRC/T B MILLER
CASE Category: 12 – CHEMISTRY

NAG 5 9050 UNIV OF PUERTO RICO- RIO PIEDRAS
 INTERACTIONS AND DIVERSITY: EARTH SYSTEM SCIENCE & BEYOND
 03/01/2000 - 02/14/2003 FY03: \$0 Total: \$119,890
Prin. Invest.: I L APONTE-AVELLANE
Tech. Officer: GSFC/N KHAZENIE
CASE Category: 39 – ENVIRONMENTAL SCI, OTHER

NAG 5 10321 UNIV OF PUERTO RICO- RIO PIEDRAS
 FUNDING FOR GRANT FOR PROPOSAL NUMBER NRA-99-05-05 5-1085
 TITLED "DIAMOND ULTRAVIOLET SENSORS
 01/31/2001 - 01/31/2004 FY03: \$183,380 Total: \$600,000
Prin. Invest.: D MORELL
Tech. Officer: GSFC/B MOTT
CASE Category: 19 – PHYSICAL SCIENCE, OTHER

NAG 5 11814 UNIV OF PUERTO RICO- RIO PIEDRAS
 UPR- RIO PIEDRAS BUSINESS ADMINISTRATION INTERNSHIP PROGRAM
 03/05/2002 - 03/14/2003 FY03: \$0 Total: \$42,449
Prin. Invest.: J AYALA
Tech. Officer: GSFC/M MENCHAN
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NASA'S UNIVERSITY PROGRAM

RUSSIA

NAG 8 1709 UNIV OF PUERTO RICO-RIO PIEDRAS
 LAND MANAGEMENT IN THE TROPIC AND ITS EFFECTS ON THE GLOBAL ENVIRONMENT
 03/20/2000 - 03/19/2004 FY03: \$0 Total: \$1,500,000
Prin. Invest.: B R WEINER
Tech. Officer: MSFC/W J LOVE
CASE Category: 54 – ENVIRONMENTAL BIOLOGY

NCC 3 1034 UNIV OF PUERTO RICO-RIO PIEDRAS
 CENTER FOR NANOSCALE MATERIALS CENTER FOR NANOSCALE MATERIALS
 03/10/2003 - 01/02/2008 FY03: \$1,200,000 Total: \$1,200,000
Prin. Invest.: C R CABRERA
Tech. Officer: GRC/F A MIRANDA
CASE Category: 13 – PHYSICS

NCC 5 407 UNIV OF PUERTO RICO-RIO PIEDRAS
 NASA EPSCOR: PREPARATORY GRANT PROPOSAL
 05/17/1999 - 07/31/2002 FY03: \$3,223 Total: \$453,223
Prin. Invest.: B R WEINER
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NCC 5 595 UNIV OF PUERTO RICO-RIO PIEDRAS
 PUERTO RICO NASA EPSCOR PROGRAM
 09/24/2001 - 08/31/2004 FY03: \$350,000 Total: \$700,000
Prin. Invest.: B WEINER
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NGT 3 52376 UNIV OF PUERTO RICO-RIO PIEDRAS
 GRADUATE STUDENT RESEARCH
 06/08/2001 - 08/31/2004 FY03: \$24,000 Total: \$70,000
Prin. Invest.: C R CABRERA
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 12 – CHEMISTRY

NGT 3 52381 UNIV OF PUERTO RICO-RIO PIEDRAS
 GRADUATE STUDENT RESEARCHERS PROGRAM - DEVELOPMENT OF A METHODOLOGY FOR THE PREPARATION OF ORDERED
 07/09/2002 - 07/31/2004 FY03: \$24,000 Total: \$48,000
Prin. Invest.: C R CABRERA
Tech. Officer: GRC/F J MONTEGANI
CASE Category: 12 – CHEMISTRY

NGT 5 40091 UNIV OF PUERTO RICO-RIO PIEDRAS
 PUERTO RICO SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM
 02/22/2001 - 02/28/2005 FY03: \$447,000 Total: \$1,259,500
Prin. Invest.: W WEINER
Tech. Officer: GSFC/D DETROYE
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG 5 10240 UNIV OF TURABO
 ENGINEERING PREPARATORY PROJECT FOR HISPANIC HIGH SCHOOL STUDENTS
 01/05/2001 - 02/28/2002 FY03: \$0 Total: \$192,998
Prin. Invest.: A COURTIER
Tech. Officer: GSFC/M MATEU
CASE Category: 49 – ENGINEERING, OTHER

NAG 5 13347 UNIV OF TURABO
 ENGINEERING PREPARATORY PROJECT FOR HISPANIC HIGH SCHOOL STUDENTS
 04/11/2003 - 04/14/2004 FY03: \$192,998 Total: \$192,998
Prin. Invest.: A COURTIER
Tech. Officer: GSFC/M MATEU
CASE Category: 99 – MULTI INTERDISCIPL, OTHER

NAG10 327 UNIV OF TURABO
 PRECOLLEGE ACHIEVEMENT OF EXCELLENCE IN MATHEMATIC S, SCIENCE, ENGINEERING, AND TECHNOLOGY (PACE/MSE)
 09/30/2002 - 08/31/2003 FY03: \$184,434 Total: \$184,434
Prin. Invest.: T L RUIZ
Tech. Officer: KSC/P LEONARD
CASE Category: 29 – MATH/COMPUTER SCI, OTHER

NAG10 335 UNIV OF TURABO
 SYNTHESIS, PHASE ANALYSIS AND CHARACTERIZATION OF ZEOLITE BASED CERAMIC PERM-SELECTIVE MEMBRANES FOR
 02/26/2003 - 12/31/2003 FY03: \$119,938 Total: \$119,938
Prin. Invest.: R ROQUE-MALHERBE
Tech. Officer: KSC/C F PARRISH
CASE Category: 13 – PHYSICS

NETHERLANDS

NAG 1 2129 DELFT UNIV OF TECHNOLOGY-NETHERLANDS
 INVESTIGATION OF THE SENSITIVITY OF THE BUCKLING LOAD TO VARIATIONS IN DESIGN PARAMETERS AND GEOMET
 01/14/1999 - 06/30/2002 FY03: -\$1 Total: \$75,000
Prin. Invest.: J ARBOCZ
Tech. Officer: LARC/J H STARNES, JR., LARC/M P NEMETH
CASE Category: 41 – AERONAUTICAL ENGR

PERU

NAS 5 99121 UNIV NACIONAL DE SAN AGUSTIN - AREQUIPA
 OPERATE & MAINTAIN LASER TRACKING STATION AT AREQUIPA PERU
 03/18/1999 - 01/23/2004 FY03: \$154,922 Total: \$738,317
Prin. Invest.: N APPLICABLE
Tech. Officer: GSFC/D L CARTER
CASE Category: 32 – GEOLOGICAL SCIENCE

RUSSIA

NCC 1 01005 MOSCOW INST OF PHYSICS & TECHNOLOGY
 INVEST A/C WAKE MOD 4 MITIGATN/REDUCTN OF HARMFUL ATMOSPHERIC EFFECTS SUBSONIC/SUPRSONIC A/C ENGINE EXH
 09/20/2001 - 09/19/2004 FY03: \$0 Total: \$100,000
Prin. Invest.: M L KOGAN, W L GROSS
Tech. Officer: LARC/W L GROSS, LARC/R S ECKMAN
CASE Category: 31 – ATMOSPHERIC SCIENCE

NASA'S UNIVERSITY PROGRAM APPENDIX CROSS INDEX BY FIELD OF SCIENCE AND ENGINEERING

The fields used here are specified by Amendment J, "Standard Classification of Fields of Science and Engineering," to Office of Management and Budget (OMB) Circular A-46, "Standards for Statistical Surveys." Field codes are interpreted as follows:

<i>PHSICAL SCIENCES</i>	<i>ENVIRONMENTAL SCIENCES (Terrestrial and extraterrestrial)</i>	<i>LIFE SCIENCES</i>	<i>SOCIAL SCIENCES</i>
11 ASTRONOMY	31 ATMOSPHERIC SCIENCES	51 BIOLOGICAL SCIENCES	71 ANTHROPOLOGY
12 CHEMISTRY	32 GEOLOGICAL SCIENCES	54 ENVIRONMENTAL BIOLOGY	72 ECONOMICS
13 PHYSICS	33 OCEANOGRAPHY	55 AGRICULTURAL SCIENCES	73 HISTORY
19 PHYSICAL SCIENCES, NEC*	39 ENVIRONMENTAL SCIENCES, NEC*	56 MEDICAL SCIENCES	74 LINGUISTICS
		59 LIFE SCIENCES, NEC*	75 POLITICAL SCIENCE
			76 SOCIOLOGY
			79 SOCIAL SCIENCE, NEC*
<i>MATHEMATICAL/ COMPUTER SCIENCE</i>	<i>ENGINEERING</i>	<i>PSYCHOLOGY</i>	<i>OTHER SCIENCES**</i>
21 MATHEMATICS	41 AERONAUTICAL	61 BIOLOGICAL	99 ALL DISCIPLINE(S)
22 COMPUTER SCIENCES	42 ASTRONAUTICAL	62 SOCIAL SCIENCES	
29 MATHEMATICAL COMPUTER SCIENCES, NEC*	43 CHEMICAL	69 PSYCHOLOGICAL, NEC*	
	44 CIVIL		
	45 ELECTRICAL		
	46 MECHANICAL		
	47 METALLURGY AND MATERIALS		
	49 ENGINEERING, NEC*		

* Not elsewhere classified (for interdisciplinary projects and others not listed by discipline name)

** For interdisciplinary projects which cannot be classified within any of the preceding main fields

Abbreviations used in the *Technical Officer Location* column are discussed in the prefatory pages.

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC.	FIRST PRINCIPAL INVESTIGATOR	AGREEMENT NUMBER	PAGE NUM.
11	ARIZONA STATE UNIV	D BOGAN	GSFC	R GREELY	NAG 5 8897	16
11	ARIZONA STATE UNIV	D BOGAN	GSFC	S A FAGENTS	NAG 5 8898	16
11	ARIZONA STATE UNIV	D K WEST	GSFC	S G STARRFIELD	NAG 5 8278	16
11	ARIZONA STATE UNIV	D K WEST	GSFC	M POLITANO	NAG 5 8481	16
11	ARIZONA STATE UNIV	D LINDSTROM	GSFC	T G SHARP	NAG 5 12977	19
11	ARIZONA STATE UNIV	D LINDSTROM	GSFC	P BUSECK	NAG 5 13022	19
11	ARIZONA STATE UNIV	D NAVA	GSFC	T G SHARP	NAG 5 9381	17
11	ARIZONA STATE UNIV	D SENSKE	GSFC	R GREELY	NAG 5 10460	18
11	ARIZONA STATE UNIV	G SONNEBORN	GSFC	A P COWLEY	NAG 5 8805	16
11	ARIZONA STATE UNIV	G SONNEBORN	GSFC	S G STARRFIELD	NAG 5 9395	17
11	ARIZONA STATE UNIV	J BOYCE	GSFC	R GREELEY	NAG 5 8721	16
11	ARIZONA STATE UNIV	J BOYCE	GSFC	P R BUSECK	NAG 5 9352	17
11	ARIZONA STATE UNIV	J BOYCE	GSFC	R GREELY	NAG 5 9773	17
11	ARIZONA STATE UNIV	J BOYCE	GSFC	S WYCKOFF	NAG 5 10077	17
11	ARIZONA STATE UNIV	J BOYCE	GSFC	P R CHRISTIANSON	NAG 5 10310	17
11	ARIZONA STATE UNIV	J BOYCE	GSFC	G HUSS	NAG 5 10449	17
11	ARIZONA STATE UNIV	J BOYCE	GSFC	H VANHALA	NAG 5 11566	18
11	ARIZONA STATE UNIV	J BOYCE	GSFC	G R HUSS	NAG 5 11770	18
11	ARIZONA STATE UNIV	J BOYCE	GSFC	L A LESHIN	NAG 5 11809	18
11	ARIZONA STATE UNIV	J BOYCE	GSFC	P WILLIAMS	NAG 5 11899	18
11	ARIZONA STATE UNIV	J BOYCE	GSFC	M A PRESLEY	NAG 5 12141	18
11	ARIZONA STATE UNIV	J BOYCE	GSFC	R GREELEY	NAG 5 12142	19
11	ARIZONA STATE UNIV	J GRANT	GSFC	R GREELEY	NAG 5 8948	17
11	ARIZONA STATE UNIV	J M BOYCE	GSFC	S WYCKOFF	NAG 5 10753	18
11	ARIZONA STATE UNIV	J M BOYCE	GSFC	S FAGENTS	NAG 5 11199	18
11	ARIZONA STATE UNIV	M GREENHOUSE	GSFC	R A WINDHORST	NAG 5 12460	19
11	ARIZONA STATE UNIV	R OLIVERSEN	GSFC	S STARRFIELD	NAG 5 9263	17
11	ARIZONA STATE UNIV	J BOYCE	HQ	L LESHIN	NAG 5 7540	16
11	ARIZONA STATE UNIV	J BOYCE	HQ	D R HUSS	NAG 5 8158	16
11	ARIZONA STATE UNIV	J BOYCE	HQ	R GREELEY	NAG 5 8453	16
11	AUBURN UNIV	D EVANS	GSFC	D LIN	NAG 5 8081	3
11	BOSTON COLL	R J OLIVERSEN	GSFC	S J CAREY	NAG 5 10824	272
11	BOSTON UNIV	J M BOYCE	GSFC	M MENDILLO	NAG 5 11077	274

FIELD CODE	INSTITUTION	TECHNICAL OFFICER	TECH OFF LOC.	FIRST PRINCIPAL INVESTIGATOR	AGREEMENT NUMBER	PAGE NUM.
11	BOSTON UNIV	J R BYRD	GSFC	P CHAKRABARTI	NAG 5 10801	273
11	BOSTON UNIV	K BLANDING	GSFC	K BRECHER	NGT 5 50482	276
11	BOSTON UNIV	R J OLIVERSEN	GSFC	J M JACKSON	NAG 5 10808	274
11	BOSTON UNIV	R J OLIVERSEN	GSFC	A P MARSCHER	NAG 5 11811	274
11	BOSTON UNIV	R OLIVERSEN	GSFC	A MARSCHER	NAG 5 9161	273
11	BOSTON UNIV	T GEHRINGER	GSFC	S CHAKRABARTI	NAS 5 03013	275
11	BOSTON UNIV	T MORGAN	GSFC	J BAUMGARDNER	NAG 5 10496	273
11	BROWN UNIV	C STAHLE	GSFC	G SEIDEL	NAG 5 10383	447
11	BROWN UNIV	D BOGAN	GSFC	D T PAPPALARDO	NAG 5 8046	446
11	BROWN UNIV	D NAVA	GSFC	M J RUTHERFRD	NAG 5 9522	447
11	BROWN UNIV	D SENSKE	GSFC	P H SCHULTZ	NAG 5 10188	447
11	BROWN UNIV	D SENSKE	GSFC	J HEAD	NAG 5 10690	447
11	BROWN UNIV	G STRINGFELLOW	GSFC	G TUCKER	NAG 5 9453	447
11	BROWN UNIV	J BOYCE	GSFC	D C HESS	NAG 5 8174	446
11	BROWN UNIV	J BOYCE	GSFC	J F MUSTARD	NAG 5 9589	447
11	BROWN UNIV	J BOYCE	GSFC	C M PIETERS	NAG 5 10010	447
11	BROWN UNIV	J BOYCE	GSFC	J W HEAD III	NAG 5 10031	447
11	BROWN UNIV	J BOYCE	GSFC	M J RUTHERFORD	NAG 5 12225	448
11	BROWN UNIV	J BOYCE	GSFC	M KRESLAVSKY	NAG 5 12286	448
11	BROWN UNIV	J BOYCE	GSFC	J HEAD	NAG 5 12474	448
11	BROWN UNIV	L SMITH	GSFC	P H SCHULTZ	NGT 5 50166	449
11	BROWN UNIV	M MEYER	GSFC	Y HUANG	NAG 5 10665	447
11	BROWN UNIV	J BOYCE	HQ	M J RUTHERFORD	NAG 5 8181	446
11	CALIFORNIA INST OF TECH	B A MERRITT	GSFC	S BOGGS	NAG 5 5286	37
11	CALIFORNIA INST OF TECH	B BETTS	GSFC	J KIRSCHVINK	NAG 5 10410	40
11	CALIFORNIA INST OF TECH	B TEEGARDEN	GSFC	R SARI	NAG 5 13245	43
11	CALIFORNIA INST OF TECH	B WORRALL	GSFC	E STONE	NAG 5 6912	38
11	CALIFORNIA INST OF TECH	D K WEST	GSFC	S KULKARNI	NAG 5 6402	38
11	CALIFORNIA INST OF TECH	D K WEST	GSFC	J M CARPENTER	NAG 5 8217	38
11	CALIFORNIA INST OF TECH	D NAVA	GSFC	D S BURNETT	NAG 5 4319	37
11	CALIFORNIA INST OF TECH	E J WOLLACK	GSFC	A E LANGE	NAG 5 10317	39
11	CALIFORNIA INST OF TECH	F SNOW	GSFC	C MARTIN	NAS 5 98034	44
11	CALIFORNIA INST OF TECH	G STRINGFELLOW	GSFC	A LANGE	NAG 5 9344	39
11	CALIFORNIA INST OF TECH	J BOYCE	GSFC	D A PAPANASTASSIOU	NAG 5 8251	38
11	CALIFORNIA INST OF TECH	J BOYCE	GSFC	S SARGENT	NAG 5 9530	39
11	CALIFORNIA INST OF TECH	J BOYCE	GSFC	A P INGERSOL	NAG 5 9601	39
11	CALIFORNIA INST OF TECH	J BOYCE	GSFC	B C MURRAY	NAG 5 9606	39
11	CALIFORNIA INST OF TECH	J BOYCE	GSFC	G BLAKE	NAG 5 10467	40
11	CALIFORNIA INST OF TECH	J BOYCE	GSFC	Y YUNG	NAG 5 10724	40
11	CALIFORNIA INST OF TECH	J BOYCE	GSFC	A INGERSOLL	NAG 5 11288	41
11	CALIFORNIA INST OF TECH	J BOYCE	GSFC	M RICHARDSON	NAG 5 12156	42
11	CALIFORNIA INST OF TECH	J M BOYCE	GSFC	S KULKARNI	NAG 5 10558	40
11	CALIFORNIA INST OF TECH	J M BOYCE	GSFC	D STEVENSON	NAG 5 10587	40
11	CALIFORNIA INST OF TECH	J R BYRD	GSFC	D A MEWALDT	NAG 5 10804	40
11	CALIFORNIA INST OF TECH	M MEYER	GSFC	J L KIRSCHVINK	NAG 5 10618	40
11	CALIFORNIA INST OF TECH	M SALAMON	GSFC	M P KAMIONKOWSKI	NAG 5 11985	41
11	CALIFORNIA INST OF TECH	M SALAMON	GSFC	R D BLANDFORD	NAG 5 12032	42
11	CALIFORNIA INST OF TECH	M SALAMON	GSFC	P M GOLDREICH	NAG 5 12037	42
11	CALIFORNIA INST OF TECH	P E HUNTER	GSFC	S G DJORGOVSKI	NAG 5 12118	42
11	CALIFORNIA INST OF TECH	R F MUSHOTZKY	GSFC	F WALTER	NAG 5 9919	39
11	CALIFORNIA INST OF TECH	R J OLIVERSEN	GSFC	M P KAMIONKOWSKI	NAG 5 9821	39
11	CALIFORNIA INST OF TECH	R J OLIVERSEN	GSFC	E PHINNEY	NAG 5 10707	40
11	CALIFORNIA INST OF TECH	R J OLIVERSEN	GSFC	R J BRUNNER	NAG 5 10885	40
11	CALIFORNIA INST OF TECH	R J OLIVERSEN	GSFC	D THOMPSON	NAG 5 10955	40
11	CALIFORNIA INST OF TECH	R J OLIVERSEN	GSFC	L HILLENBRAND	NAG 5 11645	41
11	CALIFORNIA INST OF TECH	R MUSHOTZKY	GSFC	F A HARRISON	NAG 5 10047	39
11	CALIFORNIA INST OF TECH	R MUSHOTZKY	GSFC	R E RUTLEDGE	NAG 5 11419	41
11	CALIFORNIA INST OF TECH	R MUSHOTZKY	GSFC	S R KULKARNI	NAG 5 12925	42
11	CALIFORNIA INST OF TECH	R OLIVERSEN	GSFC	R SARI	NAG 5 10761	40
11	CALIFORNIA STATE UNIV - FULLERTON	G SONNEBORN	GSFC	K CHEN	NAG 5 10312	46
11	CALIFORNIA STATE UNIV - FULLERTON	J BOYCE	GSFC	D WOODLUM	NAG 5 9433	46
11	CALIFORNIA STATE UNIV - FULLERTON	J BOYCE	GSFC	D WOOLUM	NAG 5 10695	46
11	CALIFORNIA STATE UNIV - LOS ANGELES	D BOGAN	GSFC	K KHURANA	NAG 5 8945	46
11	CALIFORNIA STATE UNIV - NORTHRIDGE	J SHARBER	GSFC	D A CHAPMAN	NAG 5 7778	47
11	CALIFORNIA STATE UNIV - NORTHRIDGE	W WAGNER	GSFC	G A CHAPMAN	NAG 5 7191	47
11	CARNEGIE - MELLON UNIV	B H HANKS	GSFC	T KANADE	NCC 5 223	430

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11	CARNEGIE - MELLON UNIV	D K WEST	GSFC	A K ROMER	NAG 5 7926	428
11	CARNEGIE - MELLON UNIV	D WEST	GSFC	R NICHOL	NAG 5 6548	428
11	CARNEGIE - MELLON UNIV	N WHITE	GSFC	R E GRIFFITHS	NAG 5 9902	428
11	CARNEGIE - MELLON UNIV	R J OLIVERSEN	GSFC	T MIYAJI	NAG 5 10875	428
11	CARNEGIE - MELLON UNIV	R J OLIVERSEN	GSFC	A K ROMER	NAG 5 11634	428
11	CARNEGIE - MELLON UNIV	R MUSHOTZKY	GSFC	R C NICHOL	NAG 5 10014	428
11	CARNEGIE - MELLON UNIV	R MUSHOTZKY	GSFC	T MIYAJI	NAG 5 10043	428
11	CARNEGIE - MELLON UNIV	R MUSHOTZKY	GSFC	T DIMATTEO	NAG 5 11888	428
11	CARNEGIE - MELLON UNIV	R MUSHOTZKY	GSFC	P L GOMEZ	NAG 5 12999	428
11	CARNEGIE - MELLON UNIV	R MUSHOTZKY	GSFC	C J MILLER	NAG 5 13138	428
11	CARNEGIE - MELLON UNIV	R MUSHOTZKY	GSFC	N J SCHURCH	NAG 5 13359	428
11	CASE WESTERN RESERVE UNIV	D K WEST	GSFC	C MIHOS	NAG 5 7019	399
11	CASE WESTERN RESERVE UNIV	J BOYCE	GSFC	R HARVEY	NAG 5 11122	399
11	CASE WESTERN RESERVE UNIV	J FROGEL	GSFC	J E RUHL	NAG 5 12638	399
11	CHRISTOPHER NEWPORT UNIV	D STARR	GSFC	N POUGATCHEV	NAG 5 6503	496
11	CITY U COLEGE OF NY YORK COLL	P SAKIMOTO	GSFC	M SPERGEL	NAG 5 10152	361
11	CLAREMONT MCKENNA COLL	M C GUHATHAKURTA	GSFC	D C HIGDON	NAG 5 8017	48
11	CLEMSON UNIV - CLEMSON	B TEEGARDEN	GSFC	M D LEISING	NAG 5 12922	452
11	CLEMSON UNIV - CLEMSON	J BOYCE	GSFC	D D CLAYTON	NAG 5 11808	452
11	CLEMSON UNIV - CLEMSON	J P NORRIS	GSFC	L THE	NAG 5 9702	452
11	CLEMSON UNIV - CLEMSON	R J OLIVERSEN	GSFC	M D LEISING	NAG 5 10764	452
11	COLL OF CHARLESTON	G SONNEBORN	GSFC	J E NEFF	NAG 5 10313	453
11	COLL OF CHARLESTON	J BOYCE	GSFC	C R COOMBS	NAG 5 7183	453
11	COLL OF CHARLESTON	J M BOYCE	GSFC	C RUNYON	NAG 5 10633	454
11	COLL OF CHARLESTON	J ROSENDHAL	GSFC	M COLGAN	NCC 5 263	454
11	COLL OF CHARLESTON	R J OLIVERSEN	GSFC	T W GIBLIN	NAG 5 11017	454
11	COLORADO SCH OF MINES	J BOYCE	GSFC	M B DUKE	NAG 5 9684	114
11	COLUMBIA UNIV	B A MERRITT	GSFC	E APRILE	NAG 5 5280	363
11	COLUMBIA UNIV	B TEEGARDEN	GSFC	J VINK	NAG 5 12923	366
11	COLUMBIA UNIV	D F MUSHOTZKY	GSFC	F B PAERLES	NAG 5 9929	365
11	COLUMBIA UNIV	D K WEST	GSFC	D HELFAND	NAG 5 6035	363
11	COLUMBIA UNIV	D K WEST	GSFC	E V GOTTHELF	NAG 5 7935	364
11	COLUMBIA UNIV	D K WEST	GSFC	J O PATTERSON	NAG 5 7977	364
11	COLUMBIA UNIV	J BOYCE	GSFC	D LONGHI	NAG 5 4649	363
11	COLUMBIA UNIV	J BRINTON	GSFC	N AVAILABLE	NAG 5 5403	363
11	COLUMBIA UNIV	J BRINTON	GSFC	N AVAILABLE	NAG 5 5406	363
11	COLUMBIA UNIV	N E WHITE	GSFC	S M KAHN	NAG 5 7737	364
11	COLUMBIA UNIV	P ATKINS	GSFC	D HELFAND	NAG 5 9870	364
11	COLUMBIA UNIV	R F MUSHOTZKY	GSFC	F B PAERELS	NAG 5 9898	365
11	COLUMBIA UNIV	R F MUSHOTZKY	GSFC	D J HELFAND	NAG 5 9946	365
11	COLUMBIA UNIV	R F MUSHOTZKY	GSFC	F PAERELS	NAG 5 13354	366
11	COLUMBIA UNIV	R J OLIVERSEN	GSFC	J P HALPERN	NAG 5 9094	364
11	COLUMBIA UNIV	R J OLIVERSEN	GSFC	E V GOTTHELF	NAG 5 9136	364
11	COLUMBIA UNIV	R M MUSHOTZKY	GSFC	E V GOTTHELF	NAG 5 9911	365
11	COLUMBIA UNIV	R MUSHOTZKY	GSFC	J P HALPERN	NAG 5 9950	365
11	COLUMBIA UNIV	R MUSHOTZKY	GSFC	C A SCHARF	NAG 5 10082	365
11	COLUMBIA UNIV	R MUSHOTZKY	GSFC	J P HALPERN	NAG 5 12800	366
11	COLUMBIA UNIV	R MUSHOTZKY	GSFC	D HELFAND	NAG 5 13184	366
11	COLUMBIA UNIV	R MUSHOTZKY	GSFC	A RASMUSSEN	NAG 5 13185	366
11	COLUMBIA UNIV	R MUSHOTZKY	GSFC	S M KAHN	NAG 5 13266	366
11	COLUMBIA UNIV	R MUSHOTZKY	GSFC	F PAERELS	NAG 5 13353	366
11	CORNELL UNIV	D K WEST	GSFC	D F CHERNOFF	NAG 5 8356	369
11	CORNELL UNIV	D SENSKE	GSFC	J VEVERKA	NAG 5 10434	370
11	CORNELL UNIV	D SENSKE	GSFC	J F BELL	NAG 5 10636	371
11	CORNELL UNIV	F M FLASAR	GSFC	P J GIERASCH	NCC 5 539	373
11	CORNELL UNIV	F M FLASAR	GSFC	B J CONRATH	NCC 5 622	373
11	CORNELL UNIV	G MUCKLOW	GSFC	G J STACEY	NAG 5 8673	369
11	CORNELL UNIV	G STRINGFELLOW	GSFC	D L HERTER	NAG 5 6495	369
11	CORNELL UNIV	J BOYCE	GSFC	R LOVELACE	NAG 5 9735	370
11	CORNELL UNIV	J BOYCE	GSFC	J F BELL	NAG 5 9774	370
11	CORNELL UNIV	J BOYCE	GSFC	P GIERASCH	NAG 5 10579	370
11	CORNELL UNIV	J BOYCE	GSFC	R O POHL	NAG 5 10584	371
11	CORNELL UNIV	J M BOYCE	GSFC	R SULLIVAN	NAG 5 10574	370
11	CORNELL UNIV	J M BOYCE	GSFC	B CONRATH	NAG 5 10580	370
11	CORNELL UNIV	L D DEMING	GSFC	J HARRINGTON	NAG 5 9594	370
11	CORNELL UNIV	M MELLOTT	GSFC	P KINTNER	NAG 5 12894	372

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11	CORNELL UNIV	P CRANE	GSFC	A SIEVERS	NAG 5 9140	370
11	CORNELL UNIV	R OLIVERSEN	GSFC	R LOVELACE	NAG 5 9047	370
11	CORNELL UNIV	T MORGAN	GSFC	P NICHOLSON	NAG 5 10438	370
11	CORNELL UNIV	D B JARRETT	JPL	J F VEVERKA	NASW 00005	373
11	DARTMOUTH COLL	D EVANS	GSFC	B U SONNERUP	NAG 5 7185	337
11	DARTMOUTH COLL	R OLIVERSEN	GSFC	B CHABOYER	NAG 5 9225	338
11	DEPAUL UNIV	J ROSENDHAL	GSFC	C C NARASIMHAN	NCC 5 272	195
11	DEPAUL UNIV	P SAKIMOTO	GSFC	C C NARASIMHAN	NCC 5 641	195
11	DINE COLL (FORMERLY NAVAJO COMM COLL)	P SAKIMOTO	GSFC	S SEMKEN	NAG 5 10254	21
11	DREXEL UNIV	J CENTRELLA	GSFC	M VALLIERES	NAG 5 11119	431
11	DREXEL UNIV	R J OLIVERSEN	GSFC	S L MCMILLAN	NAG 5 10775	431
11	DREXEL UNIV	R J OLIVERSEN	GSFC	M VOGELEY	NAG 5 12243	431
11	DREXEL UNIV	R OLIVERSEN	GSFC	S MCMILLAN	NAG 5 9264	431
11	EAST TENNESSEE STATE UNIV	G SONNEBORN	GSFC	D G LUTTERMOSE	NAG 5 10344	456
11	FAIRFIELD UNIV	G MUCKLOW	GSFC	N HAEGEL	NAG 5 8650	140
11	FLORIDA A&M UNIV	P SAKIMOTO	GSFC	C A WEATHERFORD	NAG 5 10148	159
11	FLORIDA INST OF TECH	R J OLIVERSEN	GSFC	M ZHANG	NAG 5 10888	160
11	FLORIDA STATE UNIV	J BOYCE	GSFC	J C CAIN	NAG 5 12475	162
11	GEORGE MASON UNIV	D K WEST	GSFC	J WALLIN	NAG 5 8834	498
11	GEORGE MASON UNIV	M MCCUMBER	GSFC	M KAFATOS	NCC 5 555	499
11	GEORGE MASON UNIV	R J OLIVERSEN	GSFC	R M SAMBRUNA	NAG 5 10073	498
11	GEORGE MASON UNIV	R J OLIVERSEN	GSFC	R M SAMBRUNA	NAG 5 10243	498
11	GEORGE MASON UNIV	R J OLIVERSEN	GSFC	R M SAMBRUNA	NAG 5 10244	498
11	GEORGE MASON UNIV	R J OLIVERSEN	GSFC	R M SAMBRUNA	NAG 5 10708	498
11	GEORGE MASON UNIV	R J OLIVERSEN	GSFC	L OZNEROY	NAG 5 10776	498
11	GEORGE MASON UNIV	R MUSHOTZKY	GSFC	R M SAMBRUNA	NAG 5 10038	498
11	GEORGE WASHINGTON UNIV	J BOYCE	GSFC	G M KEATING	NAG 5 8287	146
11	GEORGE WASHINGTON UNIV	J SWANK	GSFC	W PARKE	NAG 5 11951	147
11	GEORGE WASHINGTON UNIV	J SWANK	GSFC	W PARKE	NAG 5 12805	147
11	GEORGE WASHINGTON UNIV	J SWANK	GSFC	W PARKE	NAG 5 13186	147
11	GEORGE WASHINGTON UNIV	R BEEBE	GSFC	D A LEVIN	NAG 5 8068	146
11	GEORGIA INST OF TECH	J M BOYCE	GSFC	J BRADLEY	NAG 5 10632	179
11	GEORGIA STATE UNIV	T P GREENE	ARC	T J HENRY	NCC 2 5479	183
11	GEORGIA STATE UNIV	H THRONSON	GSFC	D PERERA	NAG 5 4950	183
11	HAMPTON UNIV	J R BYRD	GSFC	D M RUSSELL	NAG 5 10796	501
11	HAMPTON UNIV	P SAKIMOTO	GSFC	A OMAR	NAG 5 10163	501
11	HARVARD UNIV	G SONNEBORN	GSFC	J C RAYMOND	NAG 5 9019	278
11	HARVARD UNIV	J BOYCE	GSFC	D B JACOBSEN	NAG 5 4430	278
11	HARVARD UNIV	J BOYCE	GSFC	S JACOBSEN	NAG 5 11925	279
11	HARVARD UNIV	M MEYER	GSFC	H D HOLLAND	NAG 5 10631	278
11	HARVARD UNIV	M SALAMON	GSFC	L E HERNQUIST	NAG 5 12140	279
11	HARVARD UNIV	P CRANE	GSFC	A H DALGARNO	NAG 5 4348	278
11	HARVARD UNIV	R J OLIVERSEN	GSFC	R NARAYAN	NAG 5 10780	278
11	HARVARD UNIV	R MUSHOTZKY	GSFC	J E GRINDLAY	NAG 5 10040	278
11	HARVARD UNIV	R MUSHOTZKY	GSFC	J E GRINDLAY	NAG 5 10046	278
11	HARVARD UNIV	R MUSHOTZKY	GSFC	B M GAENSLER	NAG 5 13087	279
11	HARVARD UNIV	R MUSHOTZKY	GSFC	B M GAENSLER	NAG 5 13203	279
11	HAVERFORD COLL	R J OLIVERSEN	GSFC	S P BOUGHN	NAG 5 9285	432
11	HOWARD UNIV	W R HOEGY	GSFC	E JOSEPH	NAG 5 12674	149
11	INDIANA UNIV - BLOOMINGTON	D WEST	GSFC	STEIMAN-CAMERON	NAG 5 6773	210
11	INDIANA UNIV - BLOOMINGTON	G SONNEBORN	GSFC	S SHORE	NAG 5 9236	210
11	INDIANA UNIV - BLOOMINGTON	J BOYCE	GSFC	D H DURISEN	NAG 5 4295	210
11	INDIANA UNIV - BLOOMINGTON	J BOYCE	GSFC	R DURISEN	NAG 5 11964	210
11	INDIANA UNIV - BLOOMINGTON	B MERRIT	WFF	J MUSSER	NAG 5 5224	210
11	IOWA STATE UNIV	D K WEST	GSFC	S D KAWALER	NAG 5 8352	217
11	IOWA STATE UNIV	W WAGNER	GSFC	L A WILLSON	NAG 5 8465	217
11	JOHNS HOPKINS UNIV	B BETTS	GSFC	R L MCNUTT	NAG 5 8516	236
11	JOHNS HOPKINS UNIV	B BETTS	GSFC	W BRINCKERHOFF	NAG 5 10693	239
11	JOHNS HOPKINS UNIV	B CAMPBELL	GSFC	A F CHENG	NAG 5 7080	235
11	JOHNS HOPKINS UNIV	C NIEBUR	GSFC	O BARINOUIIN-JA	NAG 5 13312	246
11	JOHNS HOPKINS UNIV	D C LING	GSFC	D M RUST	NAG 5 7921	236
11	JOHNS HOPKINS UNIV	D EVANS	GSFC	D Y LUI	NAG 5 7797	236
11	JOHNS HOPKINS UNIV	D K WEST	GSFC	K R SEMBACH	NAG 5 3485	235
11	JOHNS HOPKINS UNIV	D K WEST	GSFC	A S SZALAY	NAG 5 3503	235
11	JOHNS HOPKINS UNIV	D K WEST	GSFC	G R MEURER	NAG 5 8279	236

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11	JOHNS HOPKINS UNIV	G H MUCKLOW	GSFC	D G MITCHELL	NAG 5 8687	236
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	L BIANCHI	NAG 5 8965	237
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	R SANKRIT	NAG 5 10248	238
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	T M HECKMAN	NAG 5 10302	238
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	S D FRIEDMAN	NAG 5 10355	238
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	L BIANCHI	NAG 5 10364	238
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11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	R L SHELTON	NAG 5 10394	239
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	S R MCCANLISS	NAG 5 10403	239
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	W V DIXON	NAG 5 10405	239
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	P CHAYER	NAG 5 10647	239
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	A FULLERTON	NAG 5 10650	239
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	H A WEAVER	NAG 5 10921	240
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	C HOWK	NAG 5 10957	240
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	J DUPUIS	NAG 5 11570	241
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	W P BLAIR	NAG 5 11581	241
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	J DUPUIS	NAG 5 11717	242
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	W ZHENG	NAG 5 11728	242
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	C HOWK	NAG 5 11945	242
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	J KRUK	NAG 5 11967	242
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	R SANKRIT	NAG 5 12017	242
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	T M HECKMAN	NAG 5 12213	243
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	A FULLERTON	NAG 5 12261	243
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	L BIANCHI	NAG 5 12294	243
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	W P BLAIR	NAG 5 12423	243
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	W P BLAIR	NAG 5 12448	243
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	G WILLIGER	NAG 5 12456	243
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11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	L BIANCHI	NAG 5 12518	244
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	S R MCCANLISS	NAG 5 12791	244
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	P D FELDMAN	NAG 5 12963	244
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	S R MCCANLISS	NAG 5 13085	245
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	L BIANCHI	NAG 5 13268	246
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	J KRUK	NAG 5 13357	246
11	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	S R MCCANLISS	NAG 5 13719	247
11	JOHNS HOPKINS UNIV	J BOYCE	GSFC	S L MURCHIE	NAG 5 8171	236
11	JOHNS HOPKINS UNIV	J BOYCE	GSFC	E RHODES	NAG 5 11783	242
11	JOHNS HOPKINS UNIV	J E ROBINSON	GSFC	N AVAILABLE	NAS 5 01072	248
11	JOHNS HOPKINS UNIV	J J WOLFF	GSFC	D GRANT	NAS 5 97179	248
11	JOHNS HOPKINS UNIV	J JELETIC	GSFC	H FORD	NAG 5 7697	236
11	JOHNS HOPKINS UNIV	J M BOYCE	GSFC	O BARNOUIN-JHA	NAG 5 11211	241
11	JOHNS HOPKINS UNIV	J R BYRD	GSFC	D ZHENG	NAG 5 10798	240
11	JOHNS HOPKINS UNIV	J SPANN	GSFC	S WING	NAG 5 10971	240
11	JOHNS HOPKINS UNIV	J WOLFF	GSFC	T COUGHLIN	NAS 5 97271	248
11	JOHNS HOPKINS UNIV	K E WEAVER	GSFC	E T VISHNIAC	NCC 5 447	248
11	JOHNS HOPKINS UNIV	M GUTATHAKURTA	GSFC	S M KRIMIGIS	NAG 5 12291	243
11	JOHNS HOPKINS UNIV	P HUNTER	GSFC	S R NYLUND	NAG 5 8149	236
11	JOHNS HOPKINS UNIV	R A HOFFMAN	GSFC	N J FOX	NAG 5 9903	237
11	JOHNS HOPKINS UNIV	R F MUSHOTZKY	GSFC	A F PTAK	NAG 5 11378	241
11	JOHNS HOPKINS UNIV	R J OLIVERSEN	GSFC	M A HOUDASHELT	NAG 5 10922	240
11	JOHNS HOPKINS UNIV	R J OLIVERSEN	GSFC	T HECKMAN	NAG 5 6400	235
11	JOHNS HOPKINS UNIV	R J OLIVERSEN	GSFC	J H KROLIK	NAG 5 9187	237
11	JOHNS HOPKINS UNIV	R J OLIVERSEN	GSFC	E COLBERT	NAG 5 9878	237
11	JOHNS HOPKINS UNIV	R J OLIVERSEN	GSFC	S RIDGWAY	NAG 5 10762	239
11	JOHNS HOPKINS UNIV	R J OLIVERSEN	GSFC	T YAQOUB	NAG 5 10769	239
11	JOHNS HOPKINS UNIV	R J OLIVERSEN	GSFC	C A NORMAN	NAG 5 10807	240
11	JOHNS HOPKINS UNIV	R J OLIVERSEN	GSFC	W V DIXON	NAG 5 10916	240
11	JOHNS HOPKINS UNIV	R J OLIVERSEN	GSFC	E COLBERT	NAG 5 11670	242
11	JOHNS HOPKINS UNIV	R M MUSHOTZKY	GSFC	T HECKMAN	NAG 5 9910	237
11	JOHNS HOPKINS UNIV	R MUSHOTZKY	GSFC	J H KROLIK	NAG 5 10304	238
11	JOHNS HOPKINS UNIV	R MUSHOTZKY	GSFC	M E KAISER	NAG 5 9837	237
11	JOHNS HOPKINS UNIV	R MUSHOTZKY	GSFC	T HECKMAN	NAG 5 9948	238
11	JOHNS HOPKINS UNIV	R MUSHOTZKY	GSFC	W BLAIR	NAG 5 9963	238
11	JOHNS HOPKINS UNIV	R MUSHOTZKY	GSFC	H FORD	NAG 5 10176	238

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11	JOHNS HOPKINS UNIV	R MUSHOTZKY	GSFC	A F PTAK	NAG 5 11572	241
11	JOHNS HOPKINS UNIV	R MUSHOTZKY	GSFC	T M HECKMAN	NAG 5 13159	245
11	JOHNS HOPKINS UNIV	R MUSHOTZKY	GSFC	D K STRICKLAND	NAG 5 13162	245
11	JOHNS HOPKINS UNIV	R MUSHOTZKY	GSFC	R SHELTON	NAG 5 13188	245
11	JOHNS HOPKINS UNIV	R OLIVERSEN	GSFC	L BIANCHI	NAG 5 9219	237
11	JOHNS HOPKINS UNIV	R OLIVERSEN	GSFC	J DUPUIS	NAG 5 11844	242
11	JOHNS HOPKINS UNIV	S SAUNDERS	GSFC	P SPUDIS	NAG 5 12695	244
11	JOHNS HOPKINS UNIV	T MORGAN	GSFC	H WEAVER	NAG 5 7186	235
11	JOHNS HOPKINS UNIV	W WAGNER	GSFC	D M RUST	NAG 5 8331	236
11	JOHNS HOPKINS UNIV	M SMITH	MSFC	R GIACCONI	NAG 8 1527	247
11	LOUISIANA STATE UNIV - BATON ROUGE	D K WEST	GSFC	G C CLAYATON	NAG 5 7933	227
11	LOUISIANA STATE UNIV - BATON ROUGE	G SONNEBORN	GSFC	G C CLAYTON	NAG 5 10185	227
11	LOUISIANA STATE UNIV - BATON ROUGE	R J OLIVERSEN	GSFC	J FRANK	NAG 5 8497	227
11	LOUISIANA STATE UNIV - BATON ROUGE	R J OLIVERSEN	GSFC	G C CLAYTON	NAG 5 9709	227
11	LOUISIANA STATE UNIV - BATON ROUGE	R OLIVERSEN	GSFC	G CLAYTON	NAG 5 9203	227
11	MASSACHUSETTS INST OF TECH	B TEEGARDEN	GSFC	W H LEWIN	NAG 5 13283	289
11	MASSACHUSETTS INST OF TECH	D C LING	GSFC	D J LAZARUS	NAG 5 7794	284
11	MASSACHUSETTS INST OF TECH	D C LING	GSFC	D J LAZARUS	NAG 5 7967	284
11	MASSACHUSETTS INST OF TECH	D K WEST	GSFC	W H LEWIN	NAG 5 3558	283
11	MASSACHUSETTS INST OF TECH	D K WEST	GSFC	M H VAN PUTTEN	NAG 5 7012	284
11	MASSACHUSETTS INST OF TECH	D K WEST	GSFC	V M KASPI	NAG 5 8063	285
11	MASSACHUSETTS INST OF TECH	D K WEST	GSFC	S A RAPPAPORT	NAG 5 8368	285
11	MASSACHUSETTS INST OF TECH	D SENSKE	GSFC	J WISDOM	NAG 5 11536	287
11	MASSACHUSETTS INST OF TECH	D SENSKE	GSFC	A S RIVKIN	NAG 5 11617	287
11	MASSACHUSETTS INST OF TECH	J BOYCE	GSFC	M T ZUBER	NAG 5 8707	285
11	MASSACHUSETTS INST OF TECH	J BOYCE	GSFC	J I RICHARDSON	NAG 5 8720	285
11	MASSACHUSETTS INST OF TECH	J BOYCE	GSFC	T L GROVE	NAG 5 9525	286
11	MASSACHUSETTS INST OF TECH	J BOYCE	GSFC	T GROVE	NAG 5 10728	287
11	MASSACHUSETTS INST OF TECH	J BRINTON	GSFC	N AVAILABLE	NAG 5 5405	284
11	MASSACHUSETTS INST OF TECH	J H SWANK	GSFC	D CHAKRABARTY	NAG 5 13756	290
11	MASSACHUSETTS INST OF TECH	K HARTMAN	GSFC	M L SCHATTENBURG	NAG 5 12583	288
11	MASSACHUSETTS INST OF TECH	M MEYER	GSFC	S A BOWRING	NAG 5 8814	285
11	MASSACHUSETTS INST OF TECH	P CRANE	GSFC	B F BURKE	NAG 5 12877	289
11	MASSACHUSETTS INST OF TECH	R E MCGUIRE	GSFC	A J LAZARUS	NAG 5 8031	284
11	MASSACHUSETTS INST OF TECH	R J OLIVERSEN	GSFC	W H LEWIN	NAG 5 9135	285
11	MASSACHUSETTS INST OF TECH	R J OLIVERSEN	GSFC	W H LEWIN	NAG 5 10815	287
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	C R CANIZARES	NAG 5 10008	286
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	D S DAVIS	NAG 5 10107	286
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	W LEWIN	NAG 5 10192	286
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	W LEWIN	NAG 5 11683	287
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	W LEWIN	NAG 5 11878	288
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	W LEWIN	NAG 5 11930	288
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	D CHAKRABARTY	NAG 5 13179	289
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	D CHAKRABARTY	NAG 5 13249	289
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	W H LEWIN	NAG 5 13282	289
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	W H LEWIN	NAG 5 13318	290
11	MASSACHUSETTS INST OF TECH	R MUSHOTZKY	GSFC	N S SCHULZ	NAG 5 13360	290
11	MASSACHUSETTS INST OF TECH	R OLIVERSEN	GSFC	G ALLEN	NAG 5 9237	286
11	MASSACHUSETTS INST OF TECH	R PETRE	GSFC	M L SCHATTENBURG	NCC 5 633	293
11	MASSACHUSETTS INST OF TECH	R PETRE	GSFC	M L SCHATTENBURG	NCC 5 719	293
11	MASSACHUSETTS INST OF TECH	T MORGAN	GSFC	J ELLIOT	NAG 5 10444	286
11	MASSACHUSETTS INST OF TECH	T MORGAN	GSFC	A RIVKIN	NAG 5 10604	286
11	MASSACHUSETTS INST OF TECH	W DAVIS	GSFC	H BRADT	NAS 5 30612	292
11	MASSACHUSETTS INST OF TECH	M C SMITH	MSFC	C R CANIZARIES	NAS 8 01129	292
11	MEDGAR EVERS COLL	P SAKIMOTO	GSFC	L P JOHNSON	NAG 5 10142	375
11	MICHIGAN STATE UNIV	R J OLIVERSEN	GSFC	S SEPF	NAG 5 11319	302
11	MICHIGAN STATE UNIV	R J OLIVERSEN	GSFC	S ZEPF	NAG 5 11320	302
11	MICHIGAN STATE UNIV	W J WAGNER	GSFC	R F STEIN	NAG 5 9563	302
11	MONTANA STATE UNIV	D DETROYE	GSFC	W HISCOCK	NCC 5 240	331
11	MONTANA STATE UNIV	J GURMAN	GSFC	P MARTENS	NAG 5 12081	330
11	MONTANA STATE UNIV	M MEYER	GSFC	T R MCDERMOTT	NAG 5 8807	330
11	MONTANA STATE UNIV	M MEYER	GSFC	D M WARD	NAG 5 8824	330
11	MONTANA STATE UNIV	M SALAMON	GSFC	S TSURUTA	NAG 5 12079	330
11	MONTANA STATE UNIV	W WAGNER	GSFC	D CANFIELD	NAG 5 6110	330
11	MONTANA STATE UNIV	W WAGNER	GSFC	R C CANFIELD	NAG 5 11873	330
11	MONTANA STATE UNIV	M J HAGYARD	MSFC	R C CANFIELD	NAG 8 1399	331

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11	NEW JERSEY INST OF TECH	W WAGNER	GSFC	M F WOODARD	NAG 5 8485	344
11	NEW JERSEY INST OF TECH	W WAGNER	GSFC	P R GOODE	NAG 5 11007	345
11	NEW MEXICO HIGHLANDS UNIV	T MORGAN	GSFC	D V RYAN	NAG 5 8734	353
11	NEW MEXICO STATE UNIV - LAS CRUCES	B A MERRITT	GSFC	S J STOCHAJ	NAG 5 5159	355
11	NEW MEXICO STATE UNIV - LAS CRUCES	C NIEBUR	GSFC	V SOLOMATOV	NAG 5 10578	355
11	NEW MEXICO STATE UNIV - LAS CRUCES	D C LING	GSFC	D R WEBBER	NAG 5 7795	355
11	NEW MEXICO STATE UNIV - LAS CRUCES	D K WEST	GSFC	A KLYPIN	NAG 5 8242	355
11	NEW MEXICO STATE UNIV - LAS CRUCES	F C JONES	GSFC	W R WEBBER	NAG 5 7524	355
11	NEW MEXICO STATE UNIV - LAS CRUCES	F C JONES	GSFC	W R WEBBER	NAG 5 12661	356
11	NEW MEXICO STATE UNIV - LAS CRUCES	J HARRINGTON	GSFC	H BAPTISTE	NAG 5 11311	355
11	NEW MEXICO STATE UNIV - LAS CRUCES	J M BOYCE	GSFC	J R MURPHY	NAG 5 11164	355
11	NEW MEXICO STATE UNIV - LAS CRUCES	R J OLIVERSEN	GSFC	M S MARLEY	NAG 5 9273	355
11	NEW MEXICO STATE UNIV - LAS CRUCES	T MORGAN	GSFC	D J CHANOVER	NAG 5 7904	355
11	NY UNIV	M SALAMON	GSFC	R SCOCCIMARRO	NAG 5 12100	376
11	NY UNIV	R J OLIVERSEN	GSFC	D W HOGG	NAG 5 11669	376
11	NY UNIV	R OLIVERSEN	GSFC	G FARRAR	NAG 5 9246	375
11	NORFOLK STATE UNIV	P SAKIMOTO	GSFC	C W SALGADO	NAG 5 10140	503
11	NORTH CAROLINA STATE UNIV. - RALEIGH	B TEEGARADEN	GSFC	S P REYNOLDS	NAG 5 13092	393
11	NORTH CAROLINA STATE UNIV. - RALEIGH	R J OLIVERSEN	GSFC	S P REYNOLDS	NAG 5 10940	393
11	NORTHERN ARIZONA UNIV	J BOYCE	GSFC	D CORNELISON	NAG 5 11729	21
11	NORTHERN ARIZONA UNIV	J BOYCE	GSFC	N BARLOW	NAG 5 12510	21
11	NORTHWESTERN UNIV	B WOODGATE	GSFC	M P ULMER	NAG 5 12643	197
11	NORTHWESTERN UNIV	D K WEST	GSFC	R E TAAM	NAG 5 7011	197
11	NORTHWESTERN UNIV	D SENSKE	GSFC	M S ROBINSON	NAG 5 12018	197
11	NORTHWESTERN UNIV	G SONNEBORN	GSFC	D M MEYER	NAG 5 10323	197
11	NORTHWESTERN UNIV	G SONNEBORN	GSFC	J T LAUROESCH	NAG 5 10324	197
11	NORTHWESTERN UNIV	G SONNEBORN	GSFC	D M MEYER	NAG 5 10465	197
11	NORTHWESTERN UNIV	G SONNEBORN	GSFC	J T LAUROESCH	NAG 5 13005	198
11	NORTHWESTERN UNIV	J BOYCE	GSFC	D JURDY	NAG 5 12157	197
11	NORTHWESTERN UNIV	M SALAMON	GSFC	F A RASIO	NAG 5 12044	197
11	NORTHWESTERN UNIV	R J OLIVERSEN	GSFC	F YUSEF-ZADEH	NAG 5 9188	197
11	NORTHWESTERN UNIV	R J OLIVERSEN	GSFC	F A RASIO	NAG 5 11396	197
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11	NORTHWESTERN UNIV	J BOYCE	HQ	M S ROBINSON	NAG 5 8294	197
11	NORTHWESTERN UNIV	J D JORDAN	LARC	C A MIRKIN	NAG 1 01058	196
11	OHIO STATE UNIV	D K WEST	GSFC	M H PINSONNEAULT	NAG 5 7150	407
11	OHIO STATE UNIV	D K WEST	GSFC	B M PETERSON	NAG 5 8397	407
11	OHIO STATE UNIV	D K WEST	GSFC	A K PRADHAN	NAG 5 8423	407
11	OHIO STATE UNIV	G SONNEBORN	GSFC	S MATHUR	NAG 5 10320	408
11	OHIO STATE UNIV	H HASAN	GSFC	D K PRADHAN	NAG 5 7903	407
11	OHIO STATE UNIV	H THRONSON	GSFC	E HERBST	NAG 5 7252	407
11	OHIO STATE UNIV	J BOYCE	GSFC	D DEPOY	NAG 5 10678	408
11	OHIO STATE UNIV	M SALAMON	GSFC	A K PRADHAN	NAG 5 11984	409
11	OHIO STATE UNIV	R K OLIVERSEN	GSFC	D H WEINBERG	NAG 5 3525	407
11	OHIO STATE UNIV	R MUSHOTZKY	GSFC	S MATHUR	NAG 5 9936	408
11	OHIO STATE UNIV	R MUSHOTZKY	GSFC	S MATHUR	NAG 5 9937	408
11	OHIO UNIV	B TEEGARDEN	GSFC	M BOETTCHER	NAG 5 13205	411
11	OHIO UNIV	R J OLIVERSEN	GSFC	B MCNAMARA	NAG 5 11025	411
11	OREGON STATE UNIV	J BOYCE	GSFC	J R BARNES	NAG 5 9771	423
11	PENN STATE UNIV. - UNIV. PARK	D F MUSHOTZKY	GSFC	W N BRANDT	NAG 5 9932	436
11	PENN STATE UNIV. - UNIV. PARK	D F MUSHOTZKY	GSFC	W N BRANDT	NAG 5 9933	436
11	PENN STATE UNIV. - UNIV. PARK	D K WEST	GSFC	J CHARLTON	NAG 5 6399	435
11	PENN STATE UNIV. - UNIV. PARK	D K WEST	GSFC	W N BRANDT	NAG 5 8107	435
11	PENN STATE UNIV. - UNIV. PARK	D NAVA	GSFC	D WOLSZCZAN	NAG 5 4301	434
11	PENN STATE UNIV. - UNIV. PARK	G SONNEBORN	GSFC	W N BRANDT	NAG 5 13010	438
11	PENN STATE UNIV. - UNIV. PARK	J BOYCE	GSFC	A WOLSKZCZAN	NAG 5 12181	437
11	PENN STATE UNIV. - UNIV. PARK	M MEYER	GSFC	J F KASTING	NAG 5 8710	435
11	PENN STATE UNIV. - UNIV. PARK	M MEYER	GSFC	H OHMOTO	NAG 5 9089	435
11	PENN STATE UNIV. - UNIV. PARK	M S BURRELL	GSFC	JIAN GE	NGT 5 119	441
11	PENN STATE UNIV. - UNIV. PARK	N GEHRELS	GSFC	P I MESZAROS	NAG 5 9153	435
11	PENN STATE UNIV. - UNIV. PARK	P M ATKINS	GSFC	W N BRANDT	NAG 5 9924	436
11	PENN STATE UNIV. - UNIV. PARK	R BORELLI	GSFC	J A NOUSEK	NAS 5 00136	439
11	PENN STATE UNIV. - UNIV. PARK	R F MUSHOTZKY	GSFC	G PAVLOV	NAG 5 9938	436
11	PENN STATE UNIV. - UNIV. PARK	R F MUSHOTZKY	GSFC	W N BRANDT	NAG 5 9940	436
11	PENN STATE UNIV. - UNIV. PARK	R F MUSKOTZKY	GSFC	W N BRANDT	NAG 5 9918	436

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11	PENN STATE UNIV. - UNIV. PARK	R J OLIVERSEN	GSFC	S PARK	NAG 5 10706	436
11	PENN STATE UNIV. - UNIV. PARK	R J OLIVERSEN	GSFC	M ERACLEOUS	NAG 5 10817	437
11	PENN STATE UNIV. - UNIV. PARK	R J OLIVERSEN	GSFC	G PAVLOV	NAG 5 10865	437
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	G CHARTAS	NAG 5 9934	436
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	W BRANDT	NAG 5 9939	436
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	G CHARTAS	NAG 5 9949	436
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	Y TSUBOI	NAG 5 9970	436
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	Y MAEDA	NAG 5 9976	436
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	M ERACLEOUS	NAG 5 9982	436
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	D N BURROWS	NAG 5 10079	436
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	D N BURROWS	NAG 5 10080	436
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	N BRANDT	NAG 5 10089	436
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	W N BRANDT	NAG 5 12804	437
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	S PARK	NAG 5 13181	438
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	S PARK	NAG 5 13253	438
11	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	G PAVLOV	NAG 5 13265	438
11	PENN STATE UNIV. - UNIV. PARK	R OLIVERSEN	GSFC	P MESZAROS	NAG 5 9192	435
11	PENN STATE UNIV. - UNIV. PARK	S H MOSELEY	GSFC	D GE	NAG 5 13320	438
11	POMONA COLL	J BOYCE	GSFC	E GROSFILS	NAG 5 10498	48
11	PRAIRIE VIEW A&M UNIV	J HARRINGTON	GSFC	D HUANG	NCC 5 591	464
11	PRAIRIE VIEW A&M UNIV	J L HARRINGTON	GSFC	T HUANG	NCC 5 670	464
11	PRAIRIE VIEW A&M UNIV	K KRISHEN	JSC	T S HWANG	NAG 9 1405	464
11	PRAIRIE VIEW A&M UNIV	J M DAVIS	MSFC	T HUANG	NAG 8 1338	463
11	PRINCETON UNIV	C BENNET	GSFC	L PAGE	NAG 5 10481	346
11	PRINCETON UNIV	D K WEST	GSFC	D N SPERGEL	NAG 5 7154	346
11	PRINCETON UNIV	D K WEST	GSFC	R CEN	NAG 5 8365	346
11	PRINCETON UNIV	D VITAGLINO	GSFC	E JENKINS	NAS 5 30110	348
11	PRINCETON UNIV	G SONNEBORN	GSFC	D V BOWEN	NAG 5 11947	347
11	PRINCETON UNIV	G SONNEBORN	GSFC	E L JENKINS	NAG 5 12519	347
11	PRINCETON UNIV	J BOYCE	GSFC	J GOODMAN	NAG 5 8385	346
11	PRINCETON UNIV	J BOYCE	GSFC	S TREMAINE	NAG 5 10456	346
11	PRINCETON UNIV	J BOYCE	GSFC	J GOODMAN	NAG 5 11664	347
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11	PRINCETON UNIV	M SALAMON	GSFC	U SELJAK	NAG 5 11983	347
11	PRINCETON UNIV	R J OLIVERSEN	GSFC	J P OSTRICKER	NAG 5 9284	346
11	PRINCETON UNIV	R J OLIVERSEN	GSFC	B T DRAINE	NAG 5 10811	346
11	PRINCETON UNIV	R J OLIVERSEN	GSFC	G R KNAPP	NAG 5 11094	346
11	PRINCETON UNIV	R J OLIVERSEN	GSFC	T M TRIPP	NAG 5 11136	347
11	PRINCETON UNIV	R J OLIVERSEN	GSFC	U SELJAK	NAG 5 11489	347
11	PRINCETON UNIV	R OLIVERSEN	GSFC	E TURNER	NAG 5 9274	346
11	PURDUE UNIV	D BOGAN	GSFC	T ZWIER	NAG 5 8155	212
11	PURDUE UNIV	J BOYCE	GSFC	M LIPSCHUTZ	NAG 5 10422	212
11	PURDUE UNIV	R J OLIVERSEN	GSFC	W CUI	NAG 5 9998	212
11	RENSSELAER POLYTECH INST	D K WEST	GSFC	D C WHITTET	NAG 5 7884	377
11	RENSSELAER POLYTECH INST	D SENSKE	GSFC	D J GAFFEY	NAG 5 10345	377
11	RENSSELAER POLYTECH INST	J BOYCE	GSFC	D WHITTET	NAG 5 11662	377
11	RENSSELAER POLYTECH INST	M A MEYER	GSFC	D P FERRIS	NAG 5 7598	377
11	RENSSELAER POLYTECH INST	M A MEYER	GSFC	J P FERRIS	NAG 5 12750	377
11	RENSSELAER POLYTECH INST	T MORGAN	GSFC	M J GAFFEY	NAG 5 8976	377
11	RICE UNIV	B TEEGARDEN	GSFC	U OBERLACK	NAG 5 12924	466
11	RICE UNIV	B TEEGARDEN	GSFC	M BARING	NAG 5 13246	466
11	RICE UNIV	D EVANS	GSFC	D W HILL	NAG 5 8131	465
11	RICE UNIV	G SONNEBORN	GSFC	P HARTIGAN	NAG 5 9011	465
11	RICE UNIV	G SONNEBORN	GSFC	R J DUFOUR	NAG 5 12266	466
11	RICE UNIV	J BOYCE	GSFC	A LENARDIC	NAG 5 12166	465
11	RICE UNIV	J P NORRIS	GSFC	E P LIANG	NAG 5 7980	465
11	RICE UNIV	R J OLIVERSEN	GSFC	M G BARING	NAG 5 10841	465
11	RICE UNIV	R J OLIVERSEN	GSFC	D FOSSATI	NAG 5 11796	465
11	RICE UNIV	R J OLIVERSEN	GSFC	G FOSSATI	NAG 5 11853	465
11	RICE UNIV	R OLIVERSEN	GSFC	E LIANG	NAG 5 9223	465
11	RICE UNIV	S NASH-STEVENSON	MSFC	E P LIANG	NGT 8 52899	467
11	ROCHESTER INST OF TECH	P CRANE	GSFC	Z NINKOV	NAG 5 9090	378
11	ROCHESTER INST OF TECH	R MUSHOTZKY	GSFC	J H KASTNER	NAG 5 13158	378
11	ROWAN UNIV	J M BOYCE	GSFC	D R KLASSEN	NAG 5 11076	349
11	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	D F MUSHOTZKY	GSFC	J P HUGHES	NAG 5 9927	350

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11	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	J BOYCE	GSFC	J S DELANEY	NAG 5 9528	350
11	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	J BOYCE	GSFC	R HEWINS	NAG 5 10495	350
11	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	KRUEGER	GSFC	C L JOSEPH	NAG 5 3158	349
11	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	R J OLIVERSEN	GSFC	D MERRITT	NAG 5 9046	350
11	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	R J OLIVERSEN	GSFC	L FERRARESE	NAG 5 10003	350
11	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	R K OLIVERSEN	GSFC	J P HUGHES	NAG 5 3432	349
11	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	R MUSHOTZKY	GSFC	J P HUGHES	NAG 5 9979	350
11	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	R MUSHOTZKY	GSFC	J P HUGHES	NAG 5 9990	350
11	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	W WAGNER	GSFC	C L JOSEPH	NAG 5 7148	349
11	RUTGERS STATE UNIV OF NJ NEW BRUNS	J BOYCE	GSFC	J S DELANEY	NAG 5 12148	352
11	RUTGERS STATE UNIV OF NJ NEW BRUNS	R J OLIVERSEN	GSFC	P J COTE	NAG 5 11714	352
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11	UNIV OF CALIFORNIA - BERKELEY	L SMITH	GSFC	C F MCKEE	NGT 5 50253	74
11	UNIV OF CALIFORNIA - BERKELEY	M L KAISER	GSFC	S BALE	NAG 5 9115	65
11	UNIV OF CALIFORNIA - BERKELEY	M SALAMON	GSFC	J ARONS	NAG 5 12031	69
11	UNIV OF CALIFORNIA - BERKELEY	M SALAMON	GSFC	R I KLEIN	NAG 5 12042	69
11	UNIV OF CALIFORNIA - BERKELEY	M SALAMON	GSFC	E QUATAERT	NAG 5 12043	69
11	UNIV OF CALIFORNIA - BERKELEY	M SALAMON	GSFC	C M MA	NAG 5 12173	69
11	UNIV OF CALIFORNIA - BERKELEY	M SALAMON	GSFC	M WHITE	NAG 5 12437	69
11	UNIV OF CALIFORNIA - BERKELEY	N GEHRELS	GSFC	K HURLEY	NAG 5 9210	65
11	UNIV OF CALIFORNIA - BERKELEY	P CRANE	GSFC	J EDELSTEIN	NAG 5 9091	65
11	UNIV OF CALIFORNIA - BERKELEY	P CRANE	GSFC	O SIEGMUND	NAG 5 9149	65
11	UNIV OF CALIFORNIA - BERKELEY	R J OLIVERSEN	GSFC	G F SMOOT	NAG 5 6552	64
11	UNIV OF CALIFORNIA - BERKELEY	R J OLIVERSEN	GSFC	K C HURLEY	NAG 5 10710	67
11	UNIV OF CALIFORNIA - BERKELEY	R J OLIVERSEN	GSFC	G H FISHER	NAG 5 10839	67
11	UNIV OF CALIFORNIA - BERKELEY	R J OLIVERSEN	GSFC	I ROTH	NAG 5 10866	67
11	UNIV OF CALIFORNIA - BERKELEY	R J OLIVERSEN	GSFC	K C HURLEY	NAG 5 11451	67
11	UNIV OF CALIFORNIA - BERKELEY	R MUSHOTZKY	GSFC	E QUATAERT	NAG 5 11333	68
11	UNIV OF CALIFORNIA - BERKELEY	R MUSHOTZKY	GSFC	A V FILIPPENKO	NAG 5 11689	68
11	UNIV OF CALIFORNIA - BERKELEY	R MUSHOTZKY	GSFC	K HURLEY	NAG 5 12956	70
11	UNIV OF CALIFORNIA - BERKELEY	R PFAFF	GSFC	D W CARLSON	NAG 5 12590	69
11	UNIV OF CALIFORNIA - DAVIS	D K WEST	GSFC	S STANFORD	NAG 5 8430	75
11	UNIV OF CALIFORNIA - DAVIS	M MEYER	GSFC	D Y SUMNER	NAG 5 10591	75
11	UNIV OF CALIFORNIA - DAVIS	R F MUSHOTZKY	GSFC	R H BECKER	NAG 5 9947	75
11	UNIV OF CALIFORNIA - DAVIS	R J OLIVERSEN	GSFC	N ARAV	NAG 5 11607	76
11	UNIV OF CALIFORNIA - DAVIS	R MUSHOTZKY	GSFC	L M LUBIN	NAG 5 12373	76
11	UNIV OF CALIFORNIA - DAVIS	R OLIVERSEN	GSFC	L KNOX	NAG 5 11098	75

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11	UNIV OF CALIFORNIA - IRVINE	R F MUSHOTZKY	GSFC	D A BUOTE	NAG 5 13643	80
11	UNIV OF CALIFORNIA - IRVINE	R MUSHOTZKY	GSFC	D BUOTE	NAG 5 10758	79
11	UNIV OF CALIFORNIA - IRVINE	R MUSHOTZKY	GSFC	D A BUOTE	NAG 5 13143	80
11	UNIV OF CALIFORNIA - LOS ANGELES	C BENNET	GSFC	E L WRIGHT	NAG 5 8540	84
11	UNIV OF CALIFORNIA - LOS ANGELES	C SAVINELLI	GSFC	E WRIGHT	NAS 5 02100	89
11	UNIV OF CALIFORNIA - LOS ANGELES	D K WEST	GSFC	M A JURA	NAG 5 7924	83
11	UNIV OF CALIFORNIA - LOS ANGELES	D NAVA	GSFC	D E RUBIN	NAG 5 4766	82
11	UNIV OF CALIFORNIA - LOS ANGELES	D NAVA	GSFC	F T KYTE	NAG 5 9441	84
11	UNIV OF CALIFORNIA - LOS ANGELES	D SENSKE	GSFC	G SCHUBERT	NAG 5 11691	86
11	UNIV OF CALIFORNIA - LOS ANGELES	G SONNEBORN	GSFC	M A JURA	NAG 5 10351	85
11	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	GSFC	G SCHUBERT	NAG 5 8530	83
11	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	GSFC	P H WARREN	NAG 5 9027	84
11	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	GSFC	K D MCKEEGAN	NAG 5 9789	84
11	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	GSFC	A E RUBIN	NAG 5 12215	87
11	UNIV OF CALIFORNIA - LOS ANGELES	J H SWANK	GSFC	R EDELSON	NAG 5 13757	89
11	UNIV OF CALIFORNIA - LOS ANGELES	J M BOYCE	GSFC	W MOORE	NAG 5 10615	85
11	UNIV OF CALIFORNIA - LOS ANGELES	J M BOYCE	GSFC	B ZUCKERMAN	NAG 5 10663	85
11	UNIV OF CALIFORNIA - LOS ANGELES	J M BOYCE	GSFC	D PAIGE	NAG 5 10973	85
11	UNIV OF CALIFORNIA - LOS ANGELES	L ZANETTI	GSFC	L R LYONS	NAG 5 7962	83
11	UNIV OF CALIFORNIA - LOS ANGELES	R BEEBE	GSFC	D G KIVELSON	NAG 5 7959	83
11	UNIV OF CALIFORNIA - LOS ANGELES	R BEEBE	GSFC	D K KHURANA	NAG 5 8050	83
11	UNIV OF CALIFORNIA - LOS ANGELES	R BEEBE	GSFC	D M THORNE	NAG 5 8065	83
11	UNIV OF CALIFORNIA - LOS ANGELES	R BEEBE	GSFC	D SCHUBERT	NAG 5 8066	83
11	UNIV OF CALIFORNIA - LOS ANGELES	R J OLIVERSEN	GSFC	S SAKAI	NAG 5 9826	85
11	UNIV OF CALIFORNIA - LOS ANGELES	R MUSHOTZKY	GSFC	R EDELSON	NAG 5 10032	85
11	UNIV OF CALIFORNIA - LOS ANGELES	W J WAGNER	GSFC	R K ULRICH	NAG 5 10905	85
11	UNIV OF CALIFORNIA - LOS ANGELES	W WAGNER	GSFC	J M PAP	NAG 5 8507	83
11	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	HQ	A GHEZ	NAG 5 6975	83
11	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	HQ	D JURA	NAG 5 8335	83
11	UNIV OF CALIFORNIA - LOS ANGELES	D JARRETT	JPL	C RUSSELL	NASW 03006	89
11	UNIV OF CALIFORNIA - RIVERSIDE	M MEYER	GSFC	C Y SWITZER	NAG 5 9812	91
11	UNIV OF CALIFORNIA - RIVERSIDE	N WHITE	GSFC	C FOSTER	NAG 5 12382	92
11	UNIV OF CALIFORNIA - RIVERSIDE	N WHITE	GSFC	F CORDOVA	NAG 5 12390	92
11	UNIV OF CALIFORNIA - RIVERSIDE	R MUSHOTZKY	GSFC	F A CORDOVA	NAG 5 12934	92
11	UNIV OF CALIFORNIA - RIVERSIDE	W WAGNER	GSFC	G P ZANK	NAG 5 11393	91
11	UNIV OF CALIFORNIA - RIVERSIDE	A B MERRITT	WFF	A D ZYCHE	NAG 5 5211	91
11	UNIV OF CALIFORNIA - SAN DIEGO	D H WOODEN	ARC	D E HARKER	NCC 2 5520	99
11	UNIV OF CALIFORNIA - SAN DIEGO	B BETTS	GSFC	J L BADA	NAG 5 9659	95
11	UNIV OF CALIFORNIA - SAN DIEGO	B TEEGARDEN	GSFC	R E ROTHSCHILD	NAG 5 12957	98
11	UNIV OF CALIFORNIA - SAN DIEGO	B TEEGARDEN	GSFC	J MATTESON	NAG 5 12960	98
11	UNIV OF CALIFORNIA - SAN DIEGO	C SHRADER	GSFC	J A TOMSICK	NAG 5 12703	97
11	UNIV OF CALIFORNIA - SAN DIEGO	D NAVA	GSFC	M H THIEMENS	NAG 5 11660	96
11	UNIV OF CALIFORNIA - SAN DIEGO	F A HERRERO	GSFC	J L MATTESON	NAG 5 8731	94
11	UNIV OF CALIFORNIA - SAN DIEGO	F HERRERO	GSFC	R E ROTHSCHILD	NAG 5 10968	95
11	UNIV OF CALIFORNIA - SAN DIEGO	G SONNEBORN	GSFC	C HOWK	NAG 5 12345	97
11	UNIV OF CALIFORNIA - SAN DIEGO	J BOYCE	GSFC	D MARTI	NAG 5 8167	93
11	UNIV OF CALIFORNIA - SAN DIEGO	J BOYCE	GSFC	G W LUNGMAIR	NAG 5 8172	93
11	UNIV OF CALIFORNIA - SAN DIEGO	J BOYCE	GSFC	D GUIRRENBAC	NAG 5 8272	94
11	UNIV OF CALIFORNIA - SAN DIEGO	J BOYCE	GSFC	M H THIEMENS	NAG 5 10487	95
11	UNIV OF CALIFORNIA - SAN DIEGO	J P MURPHY	GSFC	J L MATTESON	NAS 5 97121	99
11	UNIV OF CALIFORNIA - SAN DIEGO	J SHARBER	GSFC	C MCILWAIN	NAG 5 9036	94
11	UNIV OF CALIFORNIA - SAN DIEGO	M MEYER	GSFC	M N FOMENKOVA	NAG 5 8551	94
11	UNIV OF CALIFORNIA - SAN DIEGO	M MEYER	GSFC	G ARRHENIUS	NAG 5 10667	95
11	UNIV OF CALIFORNIA - SAN DIEGO	N WHITE	GSFC	R D COHEN	NAG 5 7362	93
11	UNIV OF CALIFORNIA - SAN DIEGO	R J OLIVERSEN	GSFC	J TOMSICK	NAG 5 10886	95
11	UNIV OF CALIFORNIA - SAN DIEGO	R OLIVERSEN	GSFC	D TYTLER	NAG 5 9224	94
11	UNIV OF CALIFORNIA - SAN DIEGO	R OLIVERSEN	GSFC	W HEINDL	NAG 5 10691	95
11	UNIV OF CALIFORNIA - SAN DIEGO	R OLIVERSON	GSFC	Y REPHAEI	NAG 5 10871	95
11	UNIV OF CALIFORNIA - SAN DIEGO	T MORGAN	GSFC	J R ARNOLD	NAG 5 9005	94
11	UNIV OF CALIFORNIA - SAN DIEGO	W D DAVIS	GSFC	R E ROTHSCHILD	NAS 5 30720	99
11	UNIV OF CALIFORNIA - SAN DIEGO	W WAGNER	GSFC	B V JACKSON	NAG 5 8504	94
11	UNIV OF CALIFORNIA - SAN DIEGO	B MERRITT	WFF	D LINGENFELTER	NAG 5 5332	93
11	UNIV OF CALIFORNIA - SANTA BARBARA	D K WEST	GSFC	O M BLAES	NAG 5 7075	102
11	UNIV OF CALIFORNIA - SANTA BARBARA	J BOYCE	GSFC	S J PEALE	NAG 5 7177	102
11	UNIV OF CALIFORNIA - SANTA BARBARA	J BOYCE	GSFC	L BECKER	NAG 5 11385	103
11	UNIV OF CALIFORNIA - SANTA BARBARA	J BOYCE	GSFC	S PEALE	NAG 5 12087	104

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11	UNIV OF CALIFORNIA - SANTA BARBARA	N E WHITE	GSFC	D A CORDOVA	NAG 5 7714	102
11	UNIV OF CALIFORNIA - SANTA BARBARA	N E WHITE	GSFC	D FOSTER	NAG 5 7940	102
11	UNIV OF CALIFORNIA - SANTA BARBARA	R DONNELLY	GSFC	D CORDOVA	NAG 5 6911	102
11	UNIV OF CALIFORNIA - SANTA BARBARA	R J OLIVERSEN	GSFC	L BILDSTEN	NAG 5 8658	103
11	UNIV OF CALIFORNIA - SANTA BARBARA	R MUSHOTZKY	GSFC	R E SHIREY	NAG 5 9971	103
11	UNIV OF CALIFORNIA - SANTA CRUZ	D HOLLENBACH	ARC	P BODENHEIMER	NCC 2 5523	110
11	UNIV OF CALIFORNIA - SANTA CRUZ	D HOLLENBACH	ARC	G LAUGHLIN	NCC 2 5546	110
11	UNIV OF CALIFORNIA - SANTA CRUZ	D HOLLENBACK	ARC	G LAUGHLIN	NCC 2 5501	109
11	UNIV OF CALIFORNIA - SANTA CRUZ	D J HOLLENBACH	ARC	P H BODENHEIMER	NCC 2 1081	109
11	UNIV OF CALIFORNIA - SANTA CRUZ	D J HOLLENBACH	ARC	P BODENHEIMER	NCC 2 5418	109
11	UNIV OF CALIFORNIA - SANTA CRUZ	I CUZZI	ARC	E A ASPHAUG	NCC 2 5545	110
11	UNIV OF CALIFORNIA - SANTA CRUZ	J J LISSAUR	ARC	P BODENHEIMER	NCC 2 5436	109
11	UNIV OF CALIFORNIA - SANTA CRUZ	M MARLEY	ARC	P BODENHEIMER	NCC 2 5537	110
11	UNIV OF CALIFORNIA - SANTA CRUZ	D K WEST	GSFC	S E WOOSLEY	NAG 5 8128	107
11	UNIV OF CALIFORNIA - SANTA CRUZ	D K WEST	GSFC	P GUHATHAKURTA	NAG 5 8348	107
11	UNIV OF CALIFORNIA - SANTA CRUZ	D K WEST	GSFC	W G MATHEWS	NAG 5 8409	107
11	UNIV OF CALIFORNIA - SANTA CRUZ	D LINDSTROM	GSFC	P BODENHEIMER	NAG 5 13285	109
11	UNIV OF CALIFORNIA - SANTA CRUZ	G SONNEBORN	GSFC	B J WEINER	NAG 5 10683	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	G SONNEBORN	GSFC	J X PROCHASKA	NAG 5 12496	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	G SONNEBORN	GSFC	J X PROCHASKA	NAG 5 12743	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	J A GRANT	GSFC	E ASPHAUG	NAG 5 8914	107
11	UNIV OF CALIFORNIA - SANTA CRUZ	J BOYCE	GSFC	P BODENHEIMER	NAG 5 9526	107
11	UNIV OF CALIFORNIA - SANTA CRUZ	J BOYCE	GSFC	P BODENHEIMER	NAG 5 9661	107
11	UNIV OF CALIFORNIA - SANTA CRUZ	J BOYCE	GSFC	D LIN	NAG 5 10727	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	J BOYCE	GSFC	D LIN	NAG 5 11779	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	J M BOYCE	GSFC	D LIN	NAG 5 10612	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	M MEYER	GSFC	D DEAMER	NAG 5 9403	107
11	UNIV OF CALIFORNIA - SANTA CRUZ	M SALAMON	GSFC	S E WOOSLEY	NAG 5 12036	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	M SALAMON	GSFC	J R PRIMACK	NAG 5 12326	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	M SALOMON	GSFC	D C LIN	NAG 5 12151	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	R F MUSHOTZKY	GSFC	B J WEINER	NAG 5 10053	107
11	UNIV OF CALIFORNIA - SANTA CRUZ	R J OLIVERSEN	GSFC	P MADAU	NAG 5 11513	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	R MUSHOTZKY	GSFC	W G MATHEWS	NAG 5 9956	107
11	UNIV OF CALIFORNIA - SANTA CRUZ	R OLIVERSEN	GSFC	P MADAU	NAG 5 10232	108
11	UNIV OF CALIFORNIA - SANTA CRUZ	S LAMBROS	GSFC	D E THORSETT	NAG 5 9711	107
11	UNIV. OF CALIFORNIA	M GOLDSTEIN	GSFC	F S MOZER	NAG 5 11944	63
11	UNIV OF CHICAGO	B J TEEGARDEN	GSFC	A HEGER	NAG 5 13700	202
11	UNIV OF CHICAGO	C BENNETT	GSFC	S MEYER	NAG 5 8539	200
11	UNIV OF CHICAGO	D K WEST	GSFC	A KONIGL	NAG 5 3687	200
11	UNIV OF CHICAGO	D K WEST	GSFC	J E CARLSTROM	NAG 5 7986	200
11	UNIV OF CHICAGO	E S CHENG	GSFC	S S MEYER	NAG 5 11380	201
11	UNIV OF CHICAGO	G SONNEBORN	GSFC	D E WELTY	NAG 5 10370	200
11	UNIV OF CHICAGO	J BOYCE	GSFC	F RICHTER	NAG 5 9378	200
11	UNIV OF CHICAGO	J BOYCE	GSFC	T E ECONOMOU	NAG 5 11793	201
11	UNIV OF CHICAGO	J BOYCE	GSFC	R S LEWIS	NAG 5 11903	201
11	UNIV OF CHICAGO	J KING	GSFC	C LOPATE	NAG 5 11860	201
11	UNIV OF CHICAGO	N LAL	GSFC	P C FRISCH	NAG 5 13558	202
11	UNIV OF CHICAGO	P HUNTER	GSFC	P C FRISCH	NAG 5 8163	200
11	UNIV OF CHICAGO	R J OLIVERSEN	GSFC	A KONIGL	NAG 5 9063	200
11	UNIV OF CHICAGO	R J OLIVERSEN	GSFC	D Q LAMB	NAG 5 10759	201
11	UNIV OF CHICAGO	R J OLIVERSEN	GSFC	W HU	NAG 5 10840	201
11	UNIV OF CHICAGO	R J OLIVERSEN	GSFC	J J CONNELL	NAG 5 10878	201
11	UNIV OF CHICAGO	R J OLIVERSEN	GSFC	D E WELTY	NAG 5 11413	201
11	UNIV OF CHICAGO	T MORGAN	GSFC	P PALMER	NAG 5 8708	200
11	UNIV OF CHICAGO	S NASH-STEVENSON	MSFC	J CARLSTROM	NGT 8 52906	202
11	UNIV OF CHICAGO	S NASH-STEVENSON	MSFC	J CARLSTORM	NGT 8 52921	202
11	UNIV OF CINCINNATI	G SONNEBORN	GSFC	M L SITKO	NAG 5 8986	414
11	UNIV OF CINCINNATI	M MEYER	GSFC	A I MILLER	NAG 5 9418	414
11	UNIV OF COLORADO - BOULDER	D BOGAN	GSFC	D R PRYOR	NAG 5 8096	122
11	UNIV OF COLORADO - BOULDER	D BOGAN	GSFC	L W ESPOSITO	NAG 5 8338	122
11	UNIV OF COLORADO - BOULDER	D K WEST	GSFC	M BEGELMAN	NAG 5 6337	121
11	UNIV OF COLORADO - BOULDER	D K WEST	GSFC	A J HAMILTON	NAG 5 7128	121
11	UNIV OF COLORADO - BOULDER	D K WEST	GSFC	M C BEGELMAN	NAG 5 7723	121
11	UNIV OF COLORADO - BOULDER	D K WEST	GSFC	J BALLY	NAG 5 8108	122
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11	UNIV OF COLORADO - BOULDER	D WEST	GSFC	G S STRINGFELLOW	NAG 5 3394	120
11	UNIV OF COLORADO - BOULDER	D WEST	GSFC	G HARPER	NAG 5 4804	120
11	UNIV OF COLORADO - BOULDER	DBOGAN	GSFC	W PRYOR	NAG 5 8256	122
11	UNIV OF COLORADO - BOULDER	F HERRERO	GSFC	A L BETZ	NAG 5 8538	122
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	G HARPER	NAG 5 9010	123
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	J A MORSE	NAG 5 10319	125
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	G HARPER	NAG 5 10339	125
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	J SHULL	NAG 5 10948	126
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	J SHULL	NAG 5 10950	126
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	T AYRES	NAG 5 11848	129
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11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	G HARPER	NAG 5 12210	130
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	A BROWN	NAG 5 12233	130
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	J A MORSE	NAG 5 12240	130
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	G HARPER	NAG 5 12438	130
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	C FRONING	NAG 5 12698	131
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11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	J L LINSKY	NAG 5 13011	131
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	T R AYRES	NAG 5 13012	132
11	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	J SHULL	NAG 5 13013	132
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11	UNIV OF COLORADO - BOULDER	H HASAN	GSFC	T P SNOW	NAG 5 6758	121
11	UNIV OF COLORADO - BOULDER	H HASAN	GSFC	D WILKINSON	NAG 5 7465	121
11	UNIV OF COLORADO - BOULDER	J BOYCE	GSFC	J M FORBES	NAG 5 8755	122
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11	UNIV OF COLORADO - BOULDER	J BOYCE	GSFC	G R STEWART	NAG 5 10508	125
11	UNIV OF COLORADO - BOULDER	J BOYCE	GSFC	M MELON	NAG 5 10581	125
11	UNIV OF COLORADO - BOULDER	J BOYCE	GSFC	T SNOW	NAG 5 10601	125
11	UNIV OF COLORADO - BOULDER	J BOYCE	GSFC	G R STEWART	NAG 5 11766	129
11	UNIV OF COLORADO - BOULDER	J BOYCE	GSFC	K OHTSUKI	NAG 5 11895	129
11	UNIV OF COLORADO - BOULDER	J JELETIC	GSFC	D GREEN	NAG 5 12279	130
11	UNIV OF COLORADO - BOULDER	J M BOYCE	GSFC	B JAKOSKY	NAG 5 10616	125
11	UNIV OF COLORADO - BOULDER	J M BOYCE	GSFC	F BAGENAL	NAG 5 11177	127
11	UNIV OF COLORADO - BOULDER	J M GREBOWSKY	GSFC	J TOOMRE	NAG 5 8133	122
11	UNIV OF COLORADO - BOULDER	J R BYRD	GSFC	D M SCHNEIDER	NAG 5 10797	126
11	UNIV OF COLORADO - BOULDER	L D DEMING	GSFC	L W ESPOSITO	NAG 5 9694	124
11	UNIV OF COLORADO - BOULDER	L FEINBERG	GSFC	J GREEN	NAS 5 98043	134
11	UNIV OF COLORADO - BOULDER	M L KAISER	GSFC	R ERGUN	NAG 5 9114	123
11	UNIV OF COLORADO - BOULDER	M MELLOTT	GSFC	M V GOLDMAN	NAG 5 9026	123
11	UNIV OF COLORADO - BOULDER	M SALAMON	GSFC	N GNEDIN	NAG 5 12029	129
11	UNIV OF COLORADO - BOULDER	M SALAMON	GSFC	M C BEGELMAN	NAG 5 12035	129
11	UNIV OF COLORADO - BOULDER	P CRANE	GSFC	J GREEN	NAG 5 9092	123
11	UNIV OF COLORADO - BOULDER	R BEEBE	GSFC	O TOON	NAG 5 6900	121
11	UNIV OF COLORADO - BOULDER	R J OLIVERSEN	GSFC	G S STRINGFELLOW	NAG 5 7223	121
11	UNIV OF COLORADO - BOULDER	R J OLIVERSEN	GSFC	J SHULL	NAG 5 7262	121
11	UNIV OF COLORADO - BOULDER	R J OLIVERSEN	GSFC	B WOOD	NAG 5 9041	123
11	UNIV OF COLORADO - BOULDER	R J OLIVERSEN	GSFC	A J HAMILTON	NAG 5 10763	125
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11	VILLANOVA UNIV	G SONNEBORN	GSFC	E M SION	NAG 5 12067	446
11	VILLANOVA UNIV	G SONNEBORN	GSFC	E F QUINAN	NAG 5 12125	446
11	VILLANOVA UNIV	G SONNEBORN	GSFC	E FITZPATRICK	NAG 5 12137	446
11	VILLANOVA UNIV	G SONNEBORN	GSFC	E M SION	NAG 5 13765	446
11	VILLANOVA UNIV	R J OLIVERSEN	GSFC	E M SION	NAG 5 11482	445
11	WASHINGTON STATE UNIV	J BOYCE	GSFC	E BROOK	NAG 5 9345	529
11	WASHINGTON UNIV - ST. LOUIS	B BETTS	GSFC	L HASKIN	NAG 5 10703	328
11	WASHINGTON UNIV - ST. LOUIS	D BOGAN	GSFC	W MCKINNON	NAG 5 8899	327
11	WASHINGTON UNIV - ST. LOUIS	D LINDSTROM	GSFC	C M HOHENBERG	NAG 5 12776	329
11	WASHINGTON UNIV - ST. LOUIS	D S SENSKE	GSFC	R E ARVIDSON	NAG 5 11620	328
11	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	R L KOROTEV	NAG 5 8609	327
11	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	J T GLEAVES	NAG 5 8717	327
11	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	R M WALKER	NAG 5 8729	327
11	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	C M HOHENBERG	NAG 5 9442	327
11	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	F PODOSEK	NAG 5 9449	327
11	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	R M WALKER	NAG 5 9801	327
11	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	B FEGLEY	NAG 5 10553	328
11	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	F S STADERMANN	NAG 5 11865	328
11	WASHINGTON UNIV - ST. LOUIS	J M BOYCE	GSFC	R J PHILLIPS	NAG 5 11202	328
11	WASHINGTON UNIV - ST. LOUIS	J R BYRD	GSFC	W BINNS	NAG 5 10802	328
11	WASHINGTON UNIV - ST. LOUIS	M MEYER	GSFC	E L SHOCK	NAG 5 7696	327
11	WASHINGTON UNIV - ST. LOUIS	R BEEBE	GSFC	W B MCKINNON	NAG 5 8056	327
11	WASHINGTON UNIV - ST. LOUIS	R MUSHOTZKY	GSFC	H S KRAWCZYNSKI	NAG 5 13086	329
11	WASHINGTON UNIV - ST. LOUIS	J BOYCE	HQ	D A PODOSEK	NAG 5 4098	326
11	WASHINGTON UNIV - ST. LOUIS	J BOYCE	HQ	T J BERNATOWICZ	NAG 5 8336	327
11	WELLESLEY COLL	D SENSKE	GSFC	R G FRENCH	NAG 5 10197	300
11	WESLEYAN UNIV	DNAVA	GSFC	D HERBST	NAG 5 4821	142
11	WESLEYAN UNIV	J M BOYCE	GSFC	W HERBST	NAG 5 12502	142
11	WEST VIRGINIA STATE COLL	D MENCHAN	GSFC	J TOLEDO	NAG 5 13499	530
11	WESTERN KENTUCKY UNIV	JD ROSENDHAL	GSFC	C H MCGRUDER	NAG 5 8762	226
11	WHITMAN COLL	G SONNEBORN	GSFC	U SOFIA	NAG 5 9249	529
11	WICHITA STATE UNIV	D K WEST	GSFC	D ALEXANDER	NAG 5 3435	224
11	YALE UNIV	D K WEST	GSFC	P F DEMARQUE	NAG 5 8406	142
11	YALE UNIV	G MUCKLOW	GSFC	R J SCHOELKOPF	NAG 5 8589	143
11	YALE UNIV	R J OLIVERSEN	GSFC	C BAILYN	NAG 5 6404	142
11	YALE UNIV	R J OLIVERSON	GSFC	C URRY	NAG 5 12873	143
11	YALE UNIV	R J OLIVERSON	GSFC	C D BAILYN	NAG 5 13336	143
12	ARIZONA STATE UNIV	J BOYCE	GSFC	L A LESHIN	NAG 5 10523	18
12	ARIZONA STATE UNIV	J BOYCE	GSFC	G HUSS	NAG 5 11543	18
12	ARIZONA STATE UNIV	M MEYER	GSFC	S PIZZARELLO	NAG 5 9451	17
12	BOSTON UNIV	M WEI	GSFC	P DAVIDOVITS	NGT 5 30509	276
12	BROWN UNIV	D LINDSTROM	GSFC	Y LIANG	NAG 5 12830	448
12	BROWN UNIV	D LINDSTROM	GSFC	T HIROI	NAG 5 12847	448
12	BROWN UNIV	D LINDSTROM	GSFC	P HESS	NAG 5 13021	448
12	BROWN UNIV	J BOYCE	GSFC	C PIETERS	NAG 5 11763	447

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12	CALIFORNIA INST OF TECH	J BOYCE	GSFC	E STOLPER	NAG 5 10423	40
12	CALIFORNIA INST OF TECH	J BOYCE	GSFC	D BURNETT	NAG 5 11640	41
12	CALIFORNIA INST OF TECH	J BOYCE	GSFC	G WASSERBURG	NAG 5 11725	41
12	CARNEGIE - MELLON UNIV	B GUYNES	MSFC	R D TILTON	NAG 8 1842	429
12	CARNEGIE - MELLON UNIV	P DOTY	MSFC	G S ROHRER	NAG 8 1674	429
12	CASE WESTERN RESERVE UNIV	D L BRITTON	GRC	D A SCHERSON	NAG 3 2644	398
12	CASE WESTERN RESERVE UNIV	D LINDSTROM	GSFC	N CHABOT	NAG 5 12831	399
12	CHARLES COUNTY COMM COLL	J A NUTH	GSFC	G KRAUSE	NCC 5 400	233
12	CHRISTOPHER NEWPORT UNIV	E J SIOCHI	LARC	T M ABDEL-FATTAH	NCC 1 02021	496
12	CITY UNIV NY KINGSBOROUGH COMM COLL	J BOYCE	HQ	M WEISBERG	NAG 5 11546	361
12	CITY UNIV OF NY CITY COLL	J C GOLDSBY	GRC	A COUZIS	NAG 3 2849	361
12	CLARK ATLANTA UNIV	M A MEADOR	GRC	E A MINTZ	NAS 3 01201	175
12	CLARK ATLANTA UNIV	M A MEADOR	GRC	D R BU	NCC 3 910	175
12	CLARK ATLANTA UNIV	M A MEADOR	GRC	D PANG	NCC 3 911	175
12	CLARK ATLANTA UNIV	M A MEADOR	GRC	E A MINTZ	NCC 3 1044	175
12	CLARKSON UNIV	P DOTY	MSFC	W R WILCOX	NAG 8 1703	362
12	CLEMSON UNIV - CLEMSON	J BOYCE	GSFC	B MEYER	NAG 5 10454	452
12	CLEMSON UNIV - CLEMSON	J BOYCE	GSFC	D CLAYTON	NAG 5 11871	452
12	CLEMSON UNIV - CLEMSON	J W CONNELL	LARC	Y P SUN	NGT 1 01036	453
12	CLEMSON UNIV - CLEMSON	J W CONWELL	LARC	Y SUN	NCC 1 01036	453
12	CLEVELAND STATE UNIV	S G BAILEY	GRC	D HEHEMANN	NAG 3 2802	403
12	CLEVELAND STATE UNIV	S G BAILEY	GRC	J D HARRIS	NCC 3 869	404
12	COLL OF WILLIAM AND MARY	J W CONNELL	LARC	R A ORWOLL	NAG 1 02109	496
12	COLL OF WILLIAM AND MARY	J W CONNELL	LARC	R A ORWOLL	NAG 1 01107	496
12	COLUMBIA UNIV	D J BOGAN	GSFC	R BERSOHN	NAG 5 11049	365
12	COLUMBIA UNIV	J BOYCE	GSFC	J LONGHI	NAG 5 12074	365
12	ECKERD COLL	M H MOORE	GSFC	R L HUDSON	NAG 5 11097	157
12	FLORIDA STATE UNIV	J D JORDAN	LARC	S HONG	NAG 1 03037	161
12	GEORGIA INST OF TECH	P T LILLEHEI	LARC	L A BOTTOMLEY	NGT 1 02002	181
12	HARVARD UNIV	J BOYCE	GSFC	S JACOBSEN	NAG 5 10484	278
12	HARVEY MUDD COLL	D F BLAKE	ARC	J A KING	NCC 2 5510	48
12	INDIANA STATE UNIV	D BRITTON	GRC	D W ZWANZIGER	NAG 3 2588	209
12	INDIANA UNIV - BLOOMINGTON	J BOYCE	GSFC	A BASU	NAG 5 10459	210
12	IOWA STATE UNIV	N H HAGEDORN	GRC	S W MARTIN	NAG 3 2540	216
12	JACKSON STATE UNIV	A POHORILLE	ARC	J LESZCZYNSKI	NCC 2 5398	320
12	JOHNS HOPKINS UNIV	M SHIRLEY	ARC	D P WATSON	NAG 2 1559	234
12	LAFAYETTE COLL	D LINDSTROM	GSFC	D HOGENBOOM	NAG 5 12829	432
12	MASSACHUSETTS INST OF TECH	D LINDSTROM	GSFC	T GROVE	NAG 5 13051	289
12	MICHIGAN STATE UNIV	S G CAMPBELL	GRC	T J PINNAVAIA	NAG 3 2472	302
12	MICHIGAN TECHNOLOGICAL UNIV	J HINKLEY	LARC	L DRZAL	NAG 1 01004	304
12	MT HOLYOKE COLL	D LINDSTROM	GSFC	M DYAR	NAG 5 12848	295
12	MT HOLYOKE COLL	J BOYCE	GSFC	D DYAR	NAG 5 10424	294
12	NEW MEXICO STATE UNIV - LAS CRUCES	D M RUSSO	JSC	G A EICEMAN	NAG 9 01477	356
12	NORFOLK STATE UNIV	A F HEPP	GRC	S SUN	NAG 3 2289	503
12	NORFOLK STATE UNIV	W J LOVE	MSFC	L SALARY	NAG 8 1862	503
12	NORTHWESTERN UNIV	R S BALDWIN	GRC	D F SHRIVER	NAG 3 2628	196
12	OAKWOOD COLL	W BRANTLEY	MSFC	A VOLKOV	NAG 8 1734	4
12	OREGON STATE UNIV	J BOYCE	GSFC	R DUNCAN	NAG 5 11652	424
12	PORTLAND STATE UNIV	D LINDTRsom	GSFC	A RUZICKA	NAG 5 12856	426
12	PRAIRIE VIEW A&M UNIV	M A MEADOR	GRC	L E CARSON-ISABELLE	NCC 3 577	464
12	PRAIRIE VIEW A&M UNIV	M MEADOR	GRC	D CARSON-ISABELLE	NCC 3 980	464
12	PRINCETON UNIV	T L STCLAIR	WFF	A AKSAY	NAG 1 01010	345
12	RENSSELAER POLYTECH INST	D LARKIN	GRC	D INTERRANTE	NAG 3 2525	377
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12	RICE UNIV	G K HORIUCHI	JSC	R C SMALLEY	NCC 9 77	467
12	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	J BOYCE	GSFC	R HEWINS	NAG 5 10494	350
12	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	J BOYCE	GSFC	G F HERZOG	NAG 5 11719	351
12	SAN JOSE STATE UNIV	L T IRACI	ARC	P J HAMILL	NCC 2 5452	53
12	SOUTHWEST TEXAS STATE UNIV	D M STOAKLEY	LARC	P E CASSIDY	NCC 1 01033	468
12	SOUTHWEST TEXAS STATE UNIV	D M STOAKLEY	LARC	P E CASSIDY	NCC 1 03027	468
12	SOUTHWEST TEXAS STATE UNIV	G A MINER	LARC	P E CASSIDY	NCC 1 02030	468
12	SPELMAN COLL	Q NGUYEN	GRC	D C CHEN	NAG 3 2758	184
12	STANFORD UNIV	H PARTIDGE	ARC	K J CHO	NCC 2 5400	60
12	STANFORD UNIV	H PARTRIDGE	ARC	R W DAVIS	NCC 2 5488	61
12	STANFORD UNIV	H PATRIDGE	ARC	Z X SHEN	NCC 2 5446	60

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12	STATE UNIV OF NY - STONY BROOK	D LINDSTROM	GSFC	S MCLENNAN	NAG 5 12916	382
12	STATE UNIV OF NY - STONY BROOK	J BOYCE	GSFC	S MCLENNAN	NAG 5 10506	382
12	STATE UNIV OF NY - STONY BROOK	P DOTY	MSFC	M RAFAILOVICH	NAG 8 1698	383
12	STATE UNIV OF NY COL - PLATTSBURGH	D LINDSTROM	GSFC	G FLYNN	NAG 5 12976	383
12	TEXAS A&M UNIV	R BALDWIN	GRC	D APPLEBY	NAG 3 2617	469
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12	THE CATHOLIC UNIV OF AMERICA	D LINDSTROM	GSFC	T DICKINSON	NAG 5 12993	155
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12	THE UNIV OF CENTRAL FLORIDA	J W QUINN	KSC	C L GIEGER	NAG10 340	165
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12	TUFTS UNIV	N HAGEDORN	GRC	D B GOLDNER	NAG 3 2563	295
12	UNIV OF AKRON	C CHUANG	GRC	F W HARRIS	NAG 3 2572	412
12	UNIV OF AKRON	F J MONTEGANI	GRC	D PERRY	NGT 3 52364	414
12	UNIV OF AKRON	M MEADOR	GRC	C PUGH	NCC 3 794	413
12	UNIV OF AKRON	M MEADOR	GRC	F W HARRIS	NCC 3 802	413
12	UNIV OF AKRON	J W CONNELL	LARC	F W HARRIS	NAG 1 02035	412
12	UNIV OF ALABAMA - UNIV	D E LUECK	KSC	R D ROGERS	NAG10 305	13
12	UNIV OF ALBUQUERQUE	D LINDSTROM	GSFC	R REEDY	NAG 5 12918	357
12	UNIV OF ARIZONA	D LINDSTROM	GSFC	D LAURETTA	NAG 5 11355	28
12	UNIV OF ARIZONA	D LINDSTROM	GSFC	M J DRAKE	NAG 5 12795	30
12	UNIV OF ARIZONA	D LINDSTROM	GSFC	D KRING	NAG 5 12881	30
12	UNIV OF ARIZONA	J BOYCE	GSFC	J GANGULY	NAG 5 10486	26
12	UNIV OF ARIZONA	J BOYCE	GSFC	W BOYNTON	NAG 5 11745	29
12	UNIV OF ARIZONA	J BOYCE	GSFC	A JULL	NAG 5 11979	29
12	UNIV OF ARIZONA	J BOYCE	GSFC	T SWINDLE	NAG 5 12059	29
12	UNIV OF CALIFORNIA - BERKELEY	J F BOYCE	GSFC	D NISHIZUMI	NAG 5 4992	64
12	UNIV OF CALIFORNIA - BERKELEY	M MEYER	GSFC	J BLANK	NAG 5 9260	66
12	UNIV OF CALIFORNIA - BERKELEY	R F PFAFF, JR.	GSFC	C W CARLSON	NAG 5 3596	64
12	UNIV OF CALIFORNIA - BERKELEY	C C FAY	LARC	A M STACY	NGT 1 03003	73
12	UNIV OF CALIFORNIA - BERKELEY	N AVAILABLE	LARC	A M STACY	NGT 1 03009	73
12	UNIV OF CALIFORNIA - IRVINE	D HUBBARD	MSFC	P TABOREK	NAG 8 1437	80
12	UNIV OF CALIFORNIA - LOS ANGELES	D LINDSTROM	GSFC	P WARREN	NAG 5 12819	88
12	UNIV OF CALIFORNIA - LOS ANGELES	D LINDSTROM	GSFC	J WASSON	NAG 5 12887	88
12	UNIV OF CALIFORNIA - LOS ANGELES	D LINDSTROM	GSFC	F KYTE	NAG 5 12895	88
12	UNIV OF CALIFORNIA - LOS ANGELES	D LINDSTROM	GSFC	K MCKEEGAN	NAG 5 12898	88
12	UNIV OF CALIFORNIA - LOS ANGELES	D LINDSTROM	GSFC	A RUBIN	NAG 5 12967	88
12	UNIV OF CALIFORNIA - LOS ANGELES	D LINDSTROM	GSFC	E YOUNG	NAG 5 13227	88
12	UNIV OF CALIFORNIA - LOS ANGELES	D NAVA	GSFC	J WASSON	NAG 5 10421	85
12	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	GSFC	D H WARREN	NAG 5 4215	82
12	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	GSFC	P WARREN	NAG 5 10490	85
12	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	GSFC	P WARREN	NAG 5 11541	86
12	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	GSFC	P WARREN	NAG 5 11556	86
12	UNIV OF CALIFORNIA - LOS ANGELES	J BOYCE	GSFC	J WASSON	NAG 5 12058	87
12	UNIV OF CALIFORNIA - SAN DIEGO	D LINDSTROM	GSFC	K MARTI	NAG 5 12983	98
12	UNIV OF CALIFORNIA - SAN DIEGO	J BOYCE	GSFC	K MARTI	NAG 5 11554	96
12	UNIV OF CALIFORNIA - SAN DIEGO	J BOYCE	GSFC	G W LUGMAIR	NAG 5 11768	96
12	UNIV OF CALIFORNIA - SAN FRANCISCO	M H NEW	ARC	M A WILSON	NCC 2 1126	101
12	UNIV OF CALIFORNIA - SANTA BARBARA	E J SIOCHI	LARC	D E MORSE	NAG 1 01003	101
12	UNIV OF CALIFORNIA - SANTA CRUZ	H PARTRIDGE	ARC	W E BERRY	NAG 2 1580	107
12	UNIV OF CHICAGO	D LINDTSROM	GSFC	A DAVIS	NAG 5 12997	201
12	UNIV OF CHICAGO	J BOYCE	GSFC	R N CLAYTON	NAG 5 11568	201
12	UNIV OF CHICAGO	J BOYCE	GSFC	L GROSSMAN	NAG 5 11588	201
12	UNIV OF CINCINNATI	F J MONTEGANI	GRC	C BURDA	NGT 3 52383	415
12	UNIV OF COLORADO - BOULDER	P L LOYSELLE	GRC	J MICHL	NAG 3 2651	120
12	UNIV OF COLORADO - BOULDER	D L THOMSEN	LARC	D M WALBA	NAG 1 02079	118
12	UNIV OF CONNECTICUT	C F PARRISH	KSC	S L SUIB	NGT10 52645	142
12	UNIV OF FLORIDA	F ADAMS	KSC	R A YOST	NGT10 52626	170
12	UNIV OF HAWAII AT MANOA - HONOLULU	D LINDSTROM	GSFC	A KROT	NAG 5 12882	191
12	UNIV OF HAWAII AT MANOA - HONOLULU	D NAVA	GSFC	D KEIL	NAG 5 4212	186
12	UNIV OF HAWAII AT MANOA - HONOLULU	D SENSKE	GSFC	K KEIL	NAG 5 11591	190
12	UNIV OF HAWAII AT MANOA - HONOLULU	J BOYCE	GSFC	T MCCORD	NAG 5 10514	189
12	UNIV OF MARYLAND - COLL PARK	J BOYCE	GSFC	J FARGUHAR	NAG 5 11544	258
12	UNIV OF MASSACHUSETTS - AMHERST	J BOYCE	GSFC	J GOLDSTEIN	NAG 5 10515	297

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12	UNIV OF MINN	N H HAGEDORN	GRC	W H SMYRL	NAG 3 2600	315
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12	UNIV OF MISSOURI - ROLLA	M A MEADOR	GRC	C SOTIRIOU-LEVENTIS	NCC 3 1064	325
12	UNIV OF MISSOURI - SAINT LOUIS	M J ZEHE	GRC	J CHICKOS	NAG 3 2592	325
12	UNIV OF MISSOURI - SAINT LOUIS	M ZEHE	GRC	J S CHICKOS	NAG 3 2797	325
12	UNIV OF NEW MEXICO-ALBUQUERQUE	J BOYCE	GSFC	L BORG	NAG 5 11555	359
12	UNIV OF NEW MEXICO-ALBUQUERQUE	J BOYCE	GSFC	F J RIETMEIJER	NAG 5 11762	359
12	UNIV OF NEW MEXICO-ALBUQUERQUE	J BOYCE	GSFC	R C REEDY	NAG 5 11764	359
12	UNIV OF NORTH CAROLINA - CHAPEL HILL	M KURYLO	GSFC	R E MILLER	NAG 5 12809	395
12	UNIV OF NORTH CAROLINA - CHAPEL HILL	E J SIOCHI	LARC	E T SAMULSKI	NAG 1 2301	395
12	UNIV OF NOTRE DAME	D LINDTSROM	GSFC	C NEAL	NAG 5 12982	216
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12	UNIV OF PUERTO RICO-RIO PIEDRAS	F J MONTEGANI	GRC	C R CABRERA	NGT 3 52376	541
12	UNIV OF PUERTO RICO-RIO PIEDRAS	F J MONTEGANI	GRC	C R CABRERA	NGT 3 52381	541
12	UNIV OF PUERTO RICO-RIO PIEDRAS	T B MILLER	GRC	R S KATIYAR	NAG 3 2676	540
12	UNIV OF PUERTO RICO-RIO PIEDRAS	T B MILLER	GRC	C CABRERA	NAG 3 2769	540
12	UNIV OF TENNESSEE - KNOXVILLE	D LINDSTROM	GSFC	H MCSWEEN	NAG 5 12896	459
12	UNIV OF TENNESSEE - KNOXVILLE	J BOYCE	GSFC	H Y MCSWEEN	NAG 5 11744	459
12	UNIV OF TENNESSEE - KNOXVILLE	J BOYCE	GSFC	L A TAYLOR	NAG 5 11978	459
12	UNIV OF TEXAS - AUSTIN	L JOHNSON	GSFC	A COCHRAN	NAG 5 13617	484
12	UNIV OF TOLEDO	M J RABINOWITZ	GRC	K DEWITT	NAG 3 2674	417
12	UNIV OF UTAH	J A HINKLEY	LARC	G D SMITH	NAG 1 2319	490
12	UNIV OF VERMONT	J BOYCE	GSFC	T RUCHMER	NAG 5 10463	495
12	UNIV OF VIRGINIA	H PARTRIDGE	ARC	L S ANDREWS	NCC 2 5415	514
12	UNIV OF VIRGINIA	J BOYCE	GSFC	R A BARAGIOLA	NAG 5 12055	512
12	UNIV OF WASHINGTON	T BENCIC	GRC	D GOUTERMAN	NAG 3 2455	520
12	UNIV OF WASHINGTON	D LINDSTROM	GSFC	D BROWNLEE	NAG 5 12947	525
12	UNIV OF WASHINGTON	J BOYCE	GSFC	S MCCALLUM	NAG 5 11587	524
12	UNIV OF WASHINGTON	J M BOYCE	GSFC	D E BROWNLEE	NAG 5 10499	523
12	UNIV OF WISCONSIN - MADISON	R B PIERCE	LARC	D R JOHNSON	NCC 1 02017	537
12	VA POLYTECH INST & ST UNIV	M B MEADOR	GRC	J E MCGRATH	NCC 3 866	518
12	VA POLYTECH INST & ST UNIV	M ZEHE	GRC	T CRAWFORD	NAG 3 2796	517
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12	VA POLYTECH INST & ST UNIV	E J SIOCHI	LARC	T C WARD	NAG 1 2310	515
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12	VIRGINIA COMMONWEALTH UNIV	E J SIOCH	LARC	Z OUNALES	NCC 1 03007	519
12	VIRGINIA COMMONWEALTH UNIV	P M DOTY	MSFC	M S EL-SHALL	NAG 8 1484	519
12	WASHINGTON UNIV - ST. LOUIS	G MUCKLOW	GSFC	D LEOPOLD	NAG 5 8536	327
12	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	T BERNATOWICZ	NAG 5 10426	328
12	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	L HASKIN	NAG 5 10485	328
12	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	F PODOSEK	NAG 5 10513	328
12	WASHINGTON UNIV - ST. LOUIS	J BOYCE	GSFC	E ZINNER	NAG 5 11545	328
12	WHEELING JESUIT UNIV	A F HEPP	GRC	N N DUFFY	NCC 3 858	531
13	ALABAMA A&M UNIV	G ADAMOVSKY	GRC	D CURLEY	NCC 3 736	2
13	ALABAMA A&M UNIV	D MENCHAN	GSFC	R B LAL	NAG 5 11752	1
13	ALABAMA A&M UNIV	H A ABDELDAYEM	GSFC	M EDWARDS	NAG 5 12028	1
13	ALABAMA A&M UNIV	D PIERSON	JSC	M TADROS	NAG 9 1095	2
13	ALABAMA A&M UNIV	P HUANG	KSC	M DOKHANIAN	NAG10 332	2
13	ALABAMA A&M UNIV	B G PENN	MSFC	N KUKHATAREV	NAG 8 1620	1
13	ALABAMA A&M UNIV	S NASH-STEVENSON	MSFC	J C WANG	NGT 8 52902	2
13	ALABAMA A&M UNIV	W T POWERS	MSFC	D ILA	NAG 8 1933	2
13	ARIZONA STATE UNIV	I KRAINSKY	GRC	N NEWMAN	NAG 3 2591	16
13	AUBURN UNIV	G E SCHWARZE	GRC	J R WILLIAMS	NAG 3 2639	3
13	AUBURN UNIV	R REED	GSFC	J D CRESSLER	NAG 5 11121	3
13	AUBURN UNIV	R REED	GSFC	G NIU	NAG 5 12316	3
13	BETHUNE - COOKMAN COLL	S E HETHERINGTON	GSFC	E F EKPO	NCC 5 426	156
13	BOSTON COLL	N P BARNES	LARC	B DIBARTOLO	NAG 1 01019	272
13	BOSTON UNIV	N R HALL	GRC	R G HOLT	NAG 3 2143	272
13	BOSTON UNIV	J GREBOWSKY	GSFC	G L SISCOE	NAG 5 8135	273
13	BOSTON UNIV	M GOLDSTEIN	GSFC	T FRITZ	NAG 5 10108	273
13	BOSTON UNIV	P CRANE	GSFC	S CHAKRABARTI	NAG 5 9582	273
13	BOSTON UNIV	W J WAGNER	GSFC	N U CROOKER	NAG 5 10856	274
13	BOSTON UNIV	J BRINTIN	WFF	J CLARKE	NAG 5 5383	273

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13	BROWN UNIV	B S SINGH	GRC	D ELBAUM	NAG 3 1929	446
13	BROWN UNIV	D HUBBARD	MSFC	H J MARIS	NAG 8 1774	449
13	CALIFORNIA INST OF TECH	B LAUB	ARC	H G HORNUNG	NCC 2 1410	44
13	CALIFORNIA INST OF TECH	B A MERRITT	GSFC	E C STONE	NAG 5 5227	37
13	CALIFORNIA INST OF TECH	B A MERRITT	GSFC	E C STONE	NAG 5 5228	37
13	CALIFORNIA INST OF TECH	B A MERRITT	GSFC	F HARRISON	NAG 5 5289	38
13	CALIFORNIA INST OF TECH	B MERRITT	GSFC	E STONE	NAG 5 5346	38
13	CALIFORNIA INST OF TECH	B MERRITT	GSFC	D HARRISON	NAG 5 5394	38
13	CALIFORNIA INST OF TECH	B MERRITT	GSFC	F HARRISON	NAG 5 5398	38
13	CALIFORNIA INST OF TECH	C STAHLE	GSFC	J ZMUZINAS	NAG 5 10358	39
13	CALIFORNIA INST OF TECH	G MUCKLOW	GSFC	F A HARRISON	NAG 5 8535	38
13	CALIFORNIA INST OF TECH	C D ARMSTRONG	LARC	H A ATWATER	NAG 1 01038	36
13	CALIFORNIA INST OF TECH	B A MERRITT	WFF	F HARRISON	NAG 5 5322	38
13	CALIFORNIA INST OF TECH	J C BRINTON	WFF	C MARTIN	NAG 5 5303	38
13	CARNEGIE - MELLON UNIV	B S SINGH	GRC	S GAROFF	NAG 3 2449	427
13	CARNEGIE - MELLON UNIV	R B ROGERS	GRC	P J SIDES	NAG 3 2159	427
13	CASE WESTERN RESERVE UNIV	A CHIT	GRC	P L TAYLOR	NCC 3 587	400
13	CASE WESTERN RESERVE UNIV	R OKOJIE	GRC	P PIROUZ	NCC 3 895	400
13	CASE WESTERN RESERVE UNIV	J BRUNSON	MSFC	D H MATTHIESEN	NCC 8 152	402
13	CHRISTOPHER NEWPORT UNIV	R A WINCHESKI	LARC	R SELIM	NAG 1 02055	496
13	CITY UNIV OF NY CITY COLL	N P BARNES	LARC	R A ALFANO	NAG 1 2259	361
13	CLEMSON UNIV - CLEMSON	M MEYYAPPAN	ARC	A M RAO	NCC 2 5421	453
13	CLEMSON UNIV - CLEMSON	H SHAW	GSFC	D L CARROLL	NAG 5 11293	452
13	CLEMSON UNIV - CLEMSON	J BRINTON	GSFC	M LARSON	NAG 5 5320	451
13	CLEMSON UNIV - CLEMSON	J BRINTON	GSFC	M LARSEN	NAG 5 5413	452
13	CLEMSON UNIV - CLEMSON	J C BRINTON	GSFC	M F LARSEN	NAG 5 5317	451
13	CLEMSON UNIV - CLEMSON	W B JOHNSON	GSFC	M F LARSEN	NAG 5 5186	451
13	CLEMSON UNIV - CLEMSON	W B JOHNSON	GSFC	M F LARSEN	NAG 5 5242	451
13	CLEMSON UNIV - CLEMSON	W B JOHNSON	GSFC	M F LARSEN	NAG 5 5259	451
13	CLEMSON UNIV - CLEMSON	B A MERRITT	WFF	D H HARTMANN	NAG 5 5325	451
13	CLEMSON UNIV - CLEMSON	J BRINTON	WFF	M LARSEN	NAG 5 5372	451
13	CLEMSON UNIV - CLEMSON	J BRINTON	WFF	M LARSON	NAG 5 5373	451
13	CLEMSON UNIV - CLEMSON	J BRINTON	WFF	M LARSEN	NAG 5 5378	451
13	CLEMSON UNIV - CLEMSON	J BRINTON	WFF	M LARSEN	NAG 5 5379	451
13	CLEMSON UNIV - CLEMSON	J BRINTON	WFF	G LEHMACHER	NAG 5 5385	452
13	CLEVELAND STATE UNIV	A DECKER	GRC	J LOCK	NAG 3 2774	403
13	CLEVELAND STATE UNIV	G ADAMOVSKY	GRC	J A LOCK	NCC 3 909	404
13	CLEVELAND STATE UNIV	S K MILLER	GRC	P HAMBOURGER	NCC 3 1033	404
13	CLEVELAND STATE UNIV	S K MILLER	GRC	P HAMBOURGER	NCC 3 1065	405
13	CLEVELAND STATE UNIV	S K RUTLEDGE	GRC	P HAMBOURGER	NCC 3 740	403
13	COLL OF WILLIAM AND MARY	M A SMITH	LARC	M D VENKATARAMAN	NCC 1 03010	497
13	COLL OF WILLIAM AND MARY	M H SMITH	LARC	D C BENNER	NCC 1 390	497
13	COLL OF WILLIAM AND MARY	P DANELY	LARC	J A WILKES	NGT 1 03014	497
13	COLL OF WILLIAM AND MARY	R K TRIPATHI	LARC	W J KOSSLER	NAG 1 03019	496
13	COLL OF WILLIAM AND MARY	S A THIBEAULT	LARC	R L KIEFER	NCC 1 02032	497
13	COLL OF WOOSTER	J W POE	MSFC	D T JACOBS	NAG 8 1433	405
13	COLORADO STATE UNIV	V K RAWLIN	GRC	P J WILBUR	NAG 3 1801	115
13	COLORADO STATE UNIV	V K RAWLIN	GRC	P J WILBUR	NAG 8 1801	117
13	COLORADO STATE UNIV	M MELLOTT	GSFC	C SHE	NAG 5 13567	116
13	COLUMBIA UNIV	B MERRITT	GSFC	D HAILEY	NAG 5 5393	363
13	COLUMBIA UNIV	B MERRITT	GSFC	C HAILEY	NAG 5 5407	363
13	COLUMBIA UNIV	J BRINTON	GSFC	D SAVIN	NAG 5 5420	363
13	COLUMBIA UNIV	W B JOHNSON	GSFC	S M KAHN	NAG 5 5123	363
13	COLUMBIA UNIV	W B JOHNSON	GSFC	D L WINDT	NAG 5 5254	363
13	COLUMBIA UNIV	W B JOHNSON	GSFC	D W SAVIN	NAG 5 5261	363
13	COLUMBIA UNIV	W J WAGNER	GSFC	D W SAVIN	NAG 5 9581	364
13	COLUMBIA UNIV	W J WAGNER	GSFC	D WINDT	NAG 5 9615	364
13	CORNELL UNIV	J BRINTON	GSFC	P KINTNER	NAG 5 5417	369
13	CORNELL UNIV	W B JOHNSON	GSFC	M C KELLEY	NAG 5 5244	369
13	CORNELL UNIV	J W POE	MSFC	D M LEE	NAG 8 1445	373
13	CORNELL UNIV	W B JOHNSON	MSFC	P M KINTNER	NAG 5 5233	369
13	CORNELL UNIV	J BRINTON	WFF	P KINTNER	NAG 5 5366	369
13	CORNELL UNIV	J BRINTON	WFF	L GELINAS	NAG 5 5370	369
13	CORNELL UNIV	J BRINTON	WFF	D HYSSELL	NAG 5 5380	369
13	DARTMOUTH COLL	J BRINTON	GSFC	M LESSARD	NAG 5 5367	337

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13	DARTMOUTH COLL	J BRINTON	GSFC	K LYNCH	NAG 5 5415	337
13	DARTMOUTH COLL	J C BRINTON	GSFC	J W LABELLE	NAG 5 5318	337
13	DARTMOUTH COLL	J M GREBOWSKY	GSFC	W LOTKO	NAG 5 8441	337
13	DARTMOUTH COLL	J M GREBOWSKY	GSFC	W LOTKO	NAG 5 11735	338
13	DARTMOUTH COLL	M H ACUNA	GSFC	W LOTKO	NAG 5 7803	337
13	DARTMOUTH COLL	S A CURTIS	GSFC	M K HUDSON	NAG 5 11712	338
13	DARTMOUTH COLL	W B JOHNSON	GSFC	J W LABELLE	NAG 5 5238	337
13	DARTMOUTH COLL	W B JOHNSON	GSFC	J W LABELLE	NAG 5 5239	337
13	DREXEL UNIV	E HILSENDRATH	GSFC	D R BROOKS	NAG 5 12920	431
13	DUKE UNIV	B S SINGH	GRC	H MEYER	NAG 3 1838	386
13	EMBRY-RIDDLE AERONAUTICAL UNIV	W B JOHNSON	GSFC	P J ESPY	NAG 5 5199	157
13	EMBRY-RIDDLE AERONAUTICAL UNIV	W B JOHNSON	GSFC	P W ERDMAN	NAG 5 5265	157
13	FISK UNIV	D O FRAZIER	MSFC	E SILHERMAN	NCC 8 133	456
13	FLA INTERNATIONAL UNIV	R HARTLE	GSFC	K HARDY	NAG 5 8791	158
13	FLORIDA INST OF TECH	W WAGNER	GSFC	J R DWYER	NAG 5 11921	160
13	FLORIDA STATE UNIV	J D JORDAN	LARC	S HONG	NAG 1 02022	161
13	GEORGE MASON UNIV	W WAGNER	GSFC	J ZHANG	NAG 5 11874	498
13	GEORGE WASHINGTON UNIV	B MERRITT	GSFC	F BAGINSKI	NAG 5 5353	146
13	GEORGE WASHINGTON UNIV	M LI	GSFC	M ZAGHLOUL	NAG 5 12594	147
13	GEORGIA INST OF TECH	R A REED	GSFC	J D CRESSLER	NAG 5 12268	179
13	GEORGIA INST OF TECH	S NASH-STEVENSON	MSFC	J OLDS	NGT 8 52898	183
13	GEORGIA STATE UNIV	J H SAWNK	GSFC	H R MILLER	NAG 5 13766	183
13	HAMPTON UNIV	R HATHAWAY	LARC	D A TEMPLE	NCC 1 251	502
13	HARVARD UNIV	B S SINGH	GRC	D WEITZ	NAG 3 2284	277
13	HARVARD UNIV	B A MERRITT	GSFC	G GRINDLAY	NAG 5 5279	278
13	HARVARD UNIV	B A MERRITT	WFF	J GRINDLAY	NAG 5 5396	278
13	HOWARD UNIV	D MENCHAN	GSFC	A N THORPE	NAG 5 12110	149
13	HOWARD UNIV	J TUTTLE	GSFC	T HUBER	NAG 5 10371	149
13	IONA COLL	M J MUMMA	GSFC	R NOVAK	NAG 5 11398	375
13	IOWA STATE UNIV	W P WINFREE	LARC	R B THOMPSON	NAG 1 02098	216
13	JOHN CARROLL UNIV	M L TUMA	GRC	R L HANSLER	NCC 3 945	405
13	JOHN CARROLL UNIV	M L TUMA	GRC	R HANSLER	NCC 3 948	405
13	JOHNS HOPKINS UNIV	D EVANS	GSFC	D OHTANI	NAG 5 6178	235
13	JOHNS HOPKINS UNIV	E SITTLER	GSFC	S LIVI	NAG 5 13016	245
13	JOHNS HOPKINS UNIV	F HERRERO	GSFC	J L CHAMPION	NAG 5 10084	238
13	JOHNS HOPKINS UNIV	J C BRINTON	GSFC	P D FELDMAN	NAG 5 5315	235
13	JOHNS HOPKINS UNIV	M H ACUNA	GSFC	N J FOX	NAG 5 8019	236
13	JOHNS HOPKINS UNIV	M MELLOTT	GSFC	D MORRISON	NAG 5 8062	236
13	JOHNS HOPKINS UNIV	M WEI	GSFC	C LEUSCHEN	NAG 5 12623	244
13	JOHNS HOPKINS UNIV	N LAL	GSFC	D MORRISON	NAG 5 9432	237
13	JOHNS HOPKINS UNIV	R HOFFMAN	GSFC	N FOX	NAG 5 12525	244
13	JOHNS HOPKINS UNIV	V JONES	GSFC	R E GOLD	NAG 5 11894	242
13	JOHNS HOPKINS UNIV	V JONESS	GSFC	R E GOLD	NAG 5 6113	235
13	JOHNS HOPKINS UNIV	W J WAGNER	GSFC	D M RUST	NAG 5 10998	240
13	JOHNS HOPKINS UNIV	W WAGNER	GSFC	D M RUST	NAG 5 11876	242
13	JOHNS HOPKINS UNIV	W P WINFREE	LARC	R E GREEN	NAG 1 03056	234
13	KANSAS STATE UNIV	F P CHIARAMONTE	GRC	C SORENSEN	NAG 3 2360	222
13	KENT STATE UNIV	J POUCH	GRC	P BROS	NAG 3 2539	405
13	KETTERING UNIV	M MANTENIEKS	GRC	S ROY	NAG 3 2520	302
13	LOMA LINDA UNIV	F A CUCINOTTA	JSC	G A NELSON	NCC 9 79	48
13	LOMA LINDA UNIV	F CUCINOTTA	JSC	G NELSON	NCC 9 118	48
13	LOMA LINDA UNIV	F CUCINOTTA	JSC	J SLATER	NCC 9 149	48
13	LOUISIANA STATE UNIV - BATON ROUGE	B A MERRITT	GSFC	J P WEFEL	NAG 5 5306	227
13	LOUISIANA STATE UNIV - BATON ROUGE	B A MERRITT	GSFC	M L CHERRY	NAG 5 5323	227
13	LOUISIANA STATE UNIV - BATON ROUGE	B MERRITT	GSFC	M CHERRY	NAG 5 5359	227
13	LOUISIANA STATE UNIV - BATON ROUGE	T ROBERTSON	MSFC	R G GOODRICH	NAG 8 1731	228
13	LOUISIANA STATE UNIV - BATON ROUGE	B MERRITT	WFF	D FAZELY	NAG 5 5307	227
13	MASSACHUSETTS INST OF TECH	J BRINTON	GSFC	A LEVINE	NAG 5 5329	284
13	MASSACHUSETTS INST OF TECH	J BRINTON	GSFC	G RICKER	NAG 5 5330	284
13	MASSACHUSETTS INST OF TECH	J BRINTON	GSFC	M BAUTZ	NAG 5 5401	284
13	MASSACHUSETTS INST OF TECH	J BRINTON	GSFC	G RICKER	NAG 5 5410	284
13	MASSACHUSETTS INST OF TECH	J C BRINTON	GSFC	M SCHATTENBURG	NAG 5 5271	284
13	MASSACHUSETTS INST OF TECH	J H SWANK	GSFC	W H LEVIN	NAG 5 13574	290
13	MASSACHUSETTS INST OF TECH	W J WAGNER	GSFC	T CHANG	NAG 5 9616	286
13	MASSACHUSETTS INST OF TECH	D GILMAN	HQ	G RICKER	NASW 4690	292

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13	MASSACHUSETTS INST OF TECH	F CHANG-DIAZ	JSC	K MOLVIG	NAG 9 1505	291
13	MASSACHUSETTS INST OF TECH	F R CHANG-DIAZ	JSC	K MOLVIG	NAG 9 1542	291
13	MASSACHUSETTS INST OF TECH	D HUBBARD	MSFC	W KETTERLE	NAG 8 1768	291
13	MASSACHUSETTS INST OF TECH	P DOTY	MSFC	M C FLEMING	NAG 8 1685	291
13	MICHIGAN STATE UNIV	E CHENG	GSFC	E D LOH	NAG 5 3218	302
13	MICHIGAN STATE UNIV	H SHAW	GSFC	V AYRES	NAG 5 12735	303
13	MICHIGAN TECHNOLOGICAL UNIV	M T DOMONKOS	GRC	L B KING	NCC 3 1030	304
13	MICHIGAN TECHNOLOGICAL UNIV	B A MERRITT	WFF	R NEMIROFF	NAG 5 5278	304
13	MIDDLEBURY COLL	W J WAGNER	GSFC	R WOLFSON	NAG 5 9733	495
13	MONTANA STATE UNIV	W J WAGNER	GSFC	C C KANKELBORG	NAG 5 10997	330
13	MORGAN STATE UNIV	J CHITWOOD	GSFC	C WILLIAMS	NAG 5 8857	249
13	NEW JERSEY INST OF TECH	W J WAGNER	GSFC	H WANG	NAG 5 9501	344
13	NEW JERSEY INST OF TECH	W J WAGNER	GSFC	P R GOODE	NAG 5 9682	344
13	NEW JERSEY INST OF TECH	W WAGNER	GSFC	D E GARY	NAG 5 11875	345
13	NEW MEXICO HIGHLANDS UNIV	B G PENN	MSFC	R D CLARK	NAG 8 1639	353
13	NEW MEXICO STATE UNIV - LAS CRUCES	J GRANT	GSFC	V SOLOMATOV	NAG 5 8803	355
13	NEW MEXICO STATE UNIV - LAS CRUCES	B A MERRITT	WSTF	S J STOCHAJ	NAG 5 5226	355
13	NORFOLK STATE UNIV	R E STREITMATTER	GSFC	C W SALGADO	NAG 5 8653	503
13	NORFOLK STATE UNIV	N P BARNES	LARC	M NOGINOV	NAG 1 2172	503
13	NORTH CAROLINA STATE UNIV. - RALEIGH	B MERRITT	GSFC	A SEYAM	NAG 5 5411	392
13	NORTH CAROLINA STATE UNIV. - RALEIGH	R F MUSHOTZKY	GSFC	K J BORKOWSKI	NAG 5 13641	393
13	NORTHWESTERN UNIV	L W GURKIN	GSFC	M P ULMER	NAG 5 5094	197
13	NORTHWESTERN UNIV	M S BURRELL	GSFC	G NOVAK	NGT 5 88	199
13	OHIO STATE UNIV	M P WERNET	GRC	W R LEMPERT	NCC 3 1017	410
13	OHIO STATE UNIV	W T YOST	LARC	S I ROKHLIN	NAG 1 02066	406
13	OHIO STATE UNIV	D HUBBARD	MSFC	T HO	NAG 8 1441	409
13	OHIO STATE UNIV	D HUBBARD	MSFC	T L HO	NAG 8 1765	410
13	OLD DOMINION UNIV	M N ABEDINE	LARC	R P JOSHI	NAG 1 02072	505
13	OLD DOMINION UNIV	R C SINGLETERRY	LARC	J TWEED	NCC 1 396	507
13	OLD DOMINION UNIV	T H HOU	LARC	R PRABHAKARAN	NCC 1 01052	507
13	PENN STATE UNIV. - UNIV. PARK	R S OKOJIE	GRC	P M LENAHAAN	NCC 3 973	440
13	PENN STATE UNIV. - UNIV. PARK	B A MERRITT	GSFC	J J BEATTY	NAG 5 5220	434
13	PENN STATE UNIV. - UNIV. PARK	B A MERRITT	GSFC	T N JACKSON	NAG 5 5356	434
13	PENN STATE UNIV. - UNIV. PARK	B MERRITT	GSFC	BEATTY	NAG 5 5248	434
13	PENN STATE UNIV. - UNIV. PARK	B MERRITT	GSFC	S COUTU	NAG 5 5363	435
13	PENN STATE UNIV. - UNIV. PARK	B MERRITT	GSFC	J BEATTY	NAG 5 5391	435
13	PENN STATE UNIV. - UNIV. PARK	J C BRINTON	GSFC	D N BURROWS	NAG 5 5277	434
13	PENN STATE UNIV. - UNIV. PARK	J C BRINTON	GSFC	C L CROSKY	NAG 5 5313	434
13	PENN STATE UNIV. - UNIV. PARK	M S BURRELL	GSFC	P LAGUNA	NGT 5 127	441
13	PENN STATE UNIV. - UNIV. PARK	W B JOHNSON	GSFC	J D MITCHELL	NAG 5 5169	434
13	PENN STATE UNIV. - UNIV. PARK	W B JOHNSON	GSFC	C L CROSKY	NAG 5 5256	434
13	PENN STATE UNIV. - UNIV. PARK	D HUBBARD	MSFC	M CHAN	NAG 8 1761	438
13	PENN STATE UNIV. - UNIV. PARK	D HUBBARD	MSFC	K GIBBLE	NAG 8 1854	439
13	PENN STATE UNIV. - UNIV. PARK	B A MERRITT	WFF	S E COUTU	NAG 5 5250	434
13	PENN STATE UNIV. - UNIV. PARK	J BRINTON	WFF	J MITCHELL	NAG 5 5369	435
13	PENN STATE UNIV. - UNIV. PARK	J BRINTON	WFF	T WHEELER	NAG 5 5375	435
13	PRINCETON UNIV	W B JOHNSON	GSFC	E B JENKINS	NAG 5 616	346
13	RENSSELAER POLYTECH INST	T R GOVINDAN	ARC	P M AJAYAN	NCC 2 5494	378
13	RENSSELAER POLYTECH INST	D MENCHAN	GSFC	C R MCINTYRE	NAG 5 13364	377
13	RENSSELAER POLYTECH INST	M N ABEDIN	LARC	P DUTTA	NAG 1 02089	376
13	RENSSELAER POLYTECH INST	D SCHAEFER	MSFC	A G OSTROGORSKY	NCC 8 97	378
13	RICE UNIV	B J TEEGARDEN	GSFC	U OBERLACK	NAG 5 13699	466
13	RICE UNIV	D EVANS	GSFC	D R TOFFOLETTO	NAG 5 4726	464
13	RICE UNIV	J GREBOWSKY	GSFC	R A WOLF	NAG 5 8136	465
13	RICE UNIV	J M GREBOWSKY	GSFC	R A WOLF	NAG 5 11881	465
13	RICE UNIV	M BURRELL	GSFC	P CLOUTIER	NGT 5 156	467
13	RICE UNIV	M H ACUNA	GSFC	P CLOUTIER	NAG 5 11417	465
13	RICE UNIV	M H ACUNA	GSFC	P CLOUTIER	NAG 5 11418	465
13	RICE UNIV	F CHANG-DIAZ	JSC	A A CHAN	NAG 9 978	466
13	RICE UNIV	D S HUBBARD	MSFC	R G HULET	NAG 8 1766	466
13	ROCHESTER INST OF TECH	A F HEPP	GRC	D P RAFAELLE	NCC 3 786	378
13	ROCHESTER INST OF TECH	G LANDIS	GRC	D RAFFAELLE	NCC 3 953	379
13	ROCHESTER INST OF TECH	S BAILEY	GRC	D RAFFAELLE	NAG 3 2593	378
13	ROCHESTER INST OF TECH	S BAILEY	GRC	D P RAFFAELLE	NAG 3 2595	378
13	ROCHESTER INST OF TECH	S BAILEY	GRC	D RAFFAELLE	NAG 3 2596	378

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13	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	N HAGEDORN	GRC	D H GAROFALINI	NAG 3 2589	349
13	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	C STAHL	GSFC	M GERSHENSON	NAG 5 10357	350
13	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	W J WAGNER	GSFC	C L JOSEPH	NAG 5 10809	350
13	RUTGERS STATE UNIV OF NJ NEW BRUNS	B MERRITT	GSFC	C JOSEPH	NAG 5 5344	351
13	SAN DIEGO STATE UNIV	W P WINFREE	LARC	R A KLINE	NAG 1 02082	49
13	SOUTHERN UNIV & A&M COLL	J TUELLER	GSFC	J STACY	NAG 5 7157	229
13	STANFORD UNIV	H PATRIDGE	ARC	K CHO	NCC 2 5439	60
13	STANFORD UNIV	C K STAHL	GSFC	B CABRERA	NAG 5 12315	58
13	STANFORD UNIV	D MENCHAN	GSFC	B CABRERA	NAG 5 10519	57
13	STANFORD UNIV	H V FREY	GSFC	H ZEBKER	NAG 5 13675	59
13	STANFORD UNIV	N DENNEHY	GSFC	P KASEVICH	NAG 5 13015	58
13	STANFORD UNIV	W B JOHNSON	GSFC	A B WALKER	NAG 5 5200	56
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13	UNIV OF TEXAS - DALLAS	W B JOHNSON	GSFC	G D EARLE	NAG 5 5257	487
13	UNIV OF TEXAS - EL PASO	M H ACUNA	GSFC	R E LOPEZ	NAG 5 8882	487
13	UNIV OF TOLEDO	D REDDY	GRC	T G KEITH	NCC 3 855	418
13	UNIV OF TOLEDO	MJ MUMMA	GSFC	P B JAMES	NCC 5 673	419
13	UNIV OF TURABO	C F PARRISH	KSC	R ROQUE-MALHERBE	NAG10 335	541
13	UNIV OF VIRGINIA	T L PARROTT	LARC	W E ZORUMSKI	NCC 1 361	514
13	UNIV OF VIRGINIA	B GUYNES	MSFC	M C WIENER	NAG 8 1567	513
13	UNIV OF WASHINGTON	J C BRINTON	GSFC	J D SAHR	NAG 5 5294	521
13	UNIV OF WASHINGTON	R HOFFMAN	GSFC	G K PARKS	NAG 5 7732	521
13	UNIV OF WASHINGTON	W B JOHNSON	GSFC	R H HOLZWORTH	NAG 5 5183	521
13	UNIV OF WASHINGTON	W B JOHNSON	GSFC	M MCCARTHY	NAG 5 5190	521
13	UNIV OF WISCONSIN - MADISON	C K STAHL	GSFC	D MCCAMMON	NAG 5 11322	535
13	UNIV OF WISCONSIN - MADISON	E S CHENG	GSFC	P TIMBIE	NAG 5 12422	536
13	UNIV OF WISCONSIN - MADISON	G MUCKLOW	GSFC	D MCCAMMON	NAG 5 8537	533
13	UNIV OF WISCONSIN - MADISON	J BRINTON	GSFC	D MCCAMMON	NAG 5 5270	532
13	UNIV OF WISCONSIN - MADISON	J BRINTON	GSFC	D MCCAMMON	NAG 5 5404	533
13	UNIV OF WISCONSIN - MADISON	J BRINTON	GSFC	K NORDSIECK	NAG 5 5408	533
13	UNIV OF WISCONSIN - MADISON	J CHERVENAK	GSFC	P TIMBIE	NAG 5 10258	534
13	UNIV OF WISCONSIN - MADISON	L J EARLY	GSFC	R J REYNOLDS	NAG 5 674	532
13	UNIV OF WISCONSIN - MADISON	S LAMBROS	GSFC	P DINGUS	NAG 5 9712	534
13	UNIV OF WISCONSIN - MADISON	W B JOHNSON	GSFC	K H NORDSIECK	NAG 5 5252	532
13	UNIV OF WISCONSIN - MADISON	W B JOHNSON	GSFC	W HARIS	NAG 5 5253	532
13	UNIV OF WISCONSIN - MADISON	C TALLEY	MSFC	R F COOPER	NAG 8 1460	536
13	UNIV OF WISCONSIN - MILWAUKEE	R C SINGLETERRY	LARC	J W NORBURY	NCC 1 354	538
13	UTAH STATE UNIV	J C BRINTON	GSFC	B G FEJER	NAG 5 5293	493
13	UTAH STATE UNIV	J M GREBOWSKY	GSFC	R W SCHUNK	NAG 5 11880	493
13	UTAH STATE UNIV	M M MELLOTT	GSFC	D G FEJER	NAG 5 4469	492
13	UTAH STATE UNIV	M S BURRELL	GSFC	R W SCHUNK	NGT 5 142	495
13	UTAH STATE UNIV	W B JOHNSON	GSFC	C M SWENSON	NAG 5 5187	493
13	UTAH STATE UNIV	W B JOHNSON	GSFC	J C ULWICK	NAG 5 5189	493
13	UTAH STATE UNIV	W B JOHNSON	GSFC	J C ULWICK	NAG 5 5245	493
13	UTAH STATE UNIV	W B JOHNSON	GSFC	C M SWENSON	NAG 5 5258	493
13	UTAH STATE UNIV	D HARDAGE	MSFC	J R DENNISON	NAS 8 02031	494
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13	VA POLYTECH INST & ST UNIV	M T DOMONKOS	GRC	J J WANG	NAG 3 2826	517
13	VA POLYTECH INST & ST UNIV	J C BRINTON	GSFC	W SCALES	NAG 5 5295	517
13	VANDERBILT UNIV	J GRANT	GSFC	D SAUMON	NAG 5 8906	460
13	WASHINGTON STATE UNIV	N HALL	ARC	M A OSMAN	NCC 2 5407	529
13	WASHINGTON UNIV - ST. LOUIS	B MERRITT	GSFC	R BINNS	NAG 5 5343	326
13	WASHINGTON UNIV - ST. LOUIS	H C NEDDLEMAN	GSFC	R W BINNS	NAG 5 5078	326
13	WASHINGTON UNIV - ST. LOUIS	J H SWANK	GSFC	H S KRAWCZYNSKI	NAG 5 13770	329
13	WASHINGTON UNIV - ST. LOUIS	B MERRITT	WFF	R BINNS	NAG 5 5357	326
13	WEST VIRGINIA UNIV	W WAGNER	GSFC	J E LITTLETON	NAG 5 11915	530
13	WESTERN KENTUCKY UNIV	G SONNEBORN	GSFC	S MARCHENKO	NAG 5 13716	226
13	WESTERN MICHIGAN UNIV	P CRANE	GSFC	T GORCZYCA	NAG 5 10448	315
13	WHITWORTH COLL	D DOMOMKOS	GRC	D STEVENS	NAG 3 2510	529
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13	WORCESTER POLYTECH INST	E J PENCIL	GRC	D GATSONIS	NAG 3 2405	301
13	WRIGHT STATE UNIV	M M MELLOTT, SR	GSFC	D L FOX	NAG 5 4188	420
13	YALE UNIV	F HERRERO	GSFC	R J SCHOELKOPF	NAG 5 10755	143
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13	YALE UNIV	R L KELLEY	GSFC	A SZYMKOWIAK	NAG 5 13530	144
13	YALE UNIV	W B JOHNSON	GSFC	D E PROBER	NAG 5 5255	142
13	YALE UNIV	D HUBBARD	MSFC	M A KASEVICH	NAG 8 1443	144
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19	ARIZONA STATE UNIV	J HARTMAN	ARC	R GREELEY	NCC 2 1405	20
19	BAYLOR COLL OF MED	S SCHNEIDER	JSC	A BEBLANC	NCC 9 88	463
19	BOSTON UNIV	J GURMAN	GSFC	N U CROOKER	NAG 5 10881	274
19	BOSTON UNIV	P BUCHANAN	GSFC	D SPENCE	NAG 5 10419	273
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19	CALIFORNIA INST OF TECH	E K STANSBERY	JSC	D S BURNETT	NAG 9 1013	43
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19	CALIFORNIA STATE UNIV - FULLERTON	E K STANSBERY	JSC	D S WOOLUM	NAG 9 1009	46
19	CALIFORNIA STATE UNIV - NORTHRIDGE	J GURMAN	GSFC	G A CHAPMAN	NAG 5 7878	47
19	CALIFORNIA STATE UNIV - NORTHRIDGE	J GURMAN	GSFC	A CADAVID	NAG 5 10880	47
19	CANDESKA CIKANA COMM COLL	D MENCHAN	GSFC	C PELTIER	NAG 5 12592	396
19	CARNEGIE - MELLON UNIV	K BLANDING	HQ	S SINGH	NGT 5 50347	430
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19	CASE WESTERN RESERVE UNIV	D HUBBARD	MSFC	C ROSENBLATT	NAG 8 1779	399
19	CITY UNIV OF NY SYSTEM	M MATEU	GSFC	M WEINER	NCC 5 654	362
19	CLARKSON UNIV	C TALLEY	MSFC	L L REGEL	NAG 8 1482	362
19	CLEMSON UNIV - CLEMSON	B J TEEGARDEN	GSFC	M D LEISING	NAG 5 13606	453
19	CLEVELAND STATE UNIV	D ADAMOVSKY	GRC	D FLANAGAN	NCC 3 914	404
19	CLEVELAND STATE UNIV	R C TEW	GRC	M IBRAHIM	NAS 3 03124	403
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19	COLL OF THE HOLY CROSS	A JACKSON	MSFC	M KOSS	NAG 8 1796	277
19	COLL OF WILLIAM AND MARY	S A THIBEAULT	LARC	R L KIEFER	NCC 1 327	497
19	COLL OF WILLIAM AND MARY	B V GUYNES	MSFC	R ORWOLL	NAG 8 1900	497
19	COLORADO STATE UNIV	D STARR	GSFC	G L STEPHENS	NAG 5 11109	115
19	COLUMBIA UNIV	W B JOHNSON	GSFC	C J HAILEY	NAG 5 5260	363
19	CORNELL UNIV	D HUBBARD	MSFC	L POLLACK	NAG 8 1778	373
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19	CORNELL UNIV	G GUYNES	MSFC	R E THORNE	NAG 8 1831	373
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19	HAHNEMANN UNIV	B GUYNES	MSFC	P J LOLL	NAG 8 1840	432
19	HAMPTON UNIV	D DESMARAIS	ARC	B FAISON	NGT 2 52261	502
19	HAMPTON UNIV	T KUCERA	GSFC	W R PRYOR	NAG 5 11818	501
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19	IOWA STATE UNIV	R C OEFTERING	GRC	J A MANN	NCC 3 1088	218
19	IOWA STATE UNIV	M HAMMOND	MSFC	R K TRIVEDI	NCC 8 98	218
19	JOHNS HOPKINS UNIV	H K NAHRA	GRC	H N OGUZ	NAG 3 2118	234
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19	JOHNS HOPKINS UNIV	W P WINFREE	LARC	J B SPICER	NAG 1 03057	234
19	JOHNS HOPKINS UNIV	P DOTY	MSFC	R MAUER	NAG 8 1695	247
19	JOHNS HOPKINS UNIV	S M SMITH	SSC	K O O'BRIEN	NAG 9 1146	247
19	KANSAS STATE UNIV	P DOTY	MSFC	C M KLABUNDE	NAG 8 1687	222
19	KANSAS STATE UNIV	P DOTY	MSFC	M D HOLLINGSWORTH	NAG 8 1702	222
19	LAMAR UNIV	G A MCKAY	SSC	S L JORDAN	NCC 9 126	463
19	LOUISIANA STATE UNIV - BATON ROUGE	B GUYNES	MSFC	K ALSHIBLI	NAS 8 01042	228
19	LOUISIANA STATE UNIV - BATON ROUGE	B A MERRITT	WFF	M CHERRY	NAG 5 5208	227
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19	MASSACHUSETTS INST OF TECH	T A KUCERA	GSFC	A J LAZARUS	NAG 5 12793	289
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19	MASSACHUSETTS INST OF TECH	P DOTY	MSFC	G BENEDEK	NAG 8 1659	291
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19	NORTH CAROLINA STATE UNIV. - RALEIGH	G MADDREA	LARC	V SAXENA	NAS 1 18944	394
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19	NORTH CAROLINA STATE UNIV. - RALEIGH	P DOTY	MSFC	N DIETZ	NAG 8 1686	393
19	NORTHWESTERN UNIV	P DOTY	MSFC	J ALKEMPER	NAG 8 1660	198
19	OHIO STATE UNIV	D W GRIFFIN	GRC	C D ANDERECK	NAG 3 2138	406
19	OHIO STATE UNIV	B V GUYNES	MSFC	P K DUTTA	NAG 8 1940	410
19	OHIO STATE UNIV	C TALLEY	MSFC	P K GUPTA	NAG 8 1470	409
19	OREGON STATE UNIV	D O STARR	GSFC	A NOLIN	NAG 5 13544	425
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19	PENN STATE UNIV. - UNIV. PARK	D L UBRAN	GRC	R A YETTER	NCC 3 718	440
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19	PRAIRIE VIEW A&M UNIV	F A CUCINOTTA	JSC	R WILKINS	NCC 9 114	464
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22	HOWARD UNIV	J STEPHENS	GSFC	C GLOTZER	NAS 5 00214	150
22	HOWARD UNIV	M G REPH	GSFC	T E SHURN	NAG 5 12241	149
22	INDIANA UNIV - BLOOMINGTON	M G SHAFTO	ARC	D B LEAKE	NCC 2 1216	211
22	INDIANA UNIV - BLOOMINGTON	P S MINER	LARC	S D JOHNSON	NGT 1 01009	211
22	IOWA STATE UNIV	M R LOWRY	ARC	A KELKAR	NAG 2 1471	216
22	JACKSON STATE UNIV	B A BIEGEL	ARC	Q MALLUHI	NAG 2 1485	320
22	JACKSON STATE UNIV	B A BIEGEL	ARC	Q MALLUHI	NCC 2 1296	320
22	JACKSONVILLE STATE UNIV	Y BARNIV	ARC	M AGUILAR	NCC 2 1330	4
22	JOHNS HOPKINS UNIV	H STEWART	ARC	K J HEERES	NAG 2 1476	234
22	JOHNS HOPKINS UNIV	M SHIRLEY	ARC	K J HEERES	NAG 2 1477	234
22	JOHNS HOPKINS UNIV	G H MUCKLOW	GSFC	S HAWKINS	NAG 5 8688	236
22	JOHNS HOPKINS UNIV	J BRISTOW	GSFC	D P WATSON	NAG 5 12555	244
22	JOHNS HOPKINS UNIV	J BRISTOW	GSFC	P A STADTER	NCC 5 635	248
22	JOHNS HOPKINS UNIV	N LAL	GSFC	P Z KUNSZT	NAG 5 10742	239
22	LOUISIANA STATE UNIV - BATON ROUGE	S SAINI	ARC	A NAKANO	NCC 2 5484	228
22	LOYOLA COLL	J LE MOIGNE	GSFC	P EASTMAN	NAG 5 10230	249
22	LOYOLA COLL	J LEMOIGNE	GSFC	P D EASTMAN	NAG 5 12313	249
22	MASSACHUSETTS INST OF TECH	M J AFTOSMIS	ARC	R HAIMES	NAG 2 1458	282
22	MASSACHUSETTS INST OF TECH	M LIVINGSTON	ARC	R HAIMES	NCC 2 1269	292
22	MASSACHUSETTS INST OF TECH	P M JONES	ARC	N G LEVESON	NCC 2 1223	292
22	MASSACHUSETTS INST OF TECH	R A MORRIS	ARC	S ZILBERSTEIN	NAG 2 1463	282
22	MASSACHUSETTS INST OF TECH	R MORRIS	ARC	L KAEHLING	NCC 2 1237	292
22	MASSACHUSETTS INST OF TECH	R MORRIS	ARC	B C WILLIAMS	NCC 2 1235	292
22	MASSACHUSETTS INST OF TECH	R MORRIS	ARC	B WILLIAMS	NAG 2 1466	282
22	MASSACHUSETTS INST OF TECH	R T SAVELY	JSC	C BREAZEL	NAG 9 1443	291
22	MASSACHUSETTS INST OF TECH	D E ECKMARDT	LARC	N LEVESON	NAG 1 2239	281
22	MICHIGAN TECHNOLOGICAL UNIV	J FISCHER	GSFC	P MERKEY	NAG 5 13385	304
22	MICHIGAN TECHNOLOGICAL UNIV	J R FISCHER	GSFC	D MERKEY	NAG 5 8796	304
22	MOREHEAD STATE UNIV	V OXENHAM	GSFC	B K MALPHRUS	NAG 5 12319	224
22	MORGAN STATE UNIV	J MOIGNE	GSFC	D COLE-RHODES	NAG 5 10934	249
22	MORGAN STATE UNIV	R E GILLIAN	LARC	E M DELOATCH	NCC 1 03033	250
22	NATIONAL HISPANIC UNIV	A CARDENAS	ARC	M PEREZ	NCC 2 1343	48
22	NEW MEXICO STATE UNIV - LAS CRUCES	R SLYWCZAK	GRC	D HORAN	NAG 3 2793	354
22	NEW MEXICO STATE UNIV - LAS CRUCES	M CAUFIELD	GSFC	N R PRASAD	NCC 5 697	357
22	NEW MEXICO STATE UNIV - LAS CRUCES	M CAULIELD	GSFC	N R PRASAD	NAG 5 12068	355
22	NEW MEXICO STATE UNIV - LAS CRUCES	R E STREITMATTER	GSFC	S STOCHAJ	NCC 5 422	357
22	NORTH CAROLINA A&T STATE UNIV	M G SHATTO	ARC	A C ESTERLINE	NAG 2 1413	389
22	NORTHEASTERN UNIV	S COLOMBANO	ARC	F KIRCHNER	NCC 2 1336	295
22	NORTHWESTERN UNIV	A GRADY	ARC	V E TAYLOR	NCC 2 1013	198
22	NOVA UNIV	S NASH-STEVENSON	MSFC	M COHEN	NGT 8 52933	164
22	OHIO STATE UNIV	D L KAO	ARC	H SHEN	NCC 2 1261	410
22	OHIO STATE UNIV	C L FARMER	JSC	D D WOODS	NAG 9 1460	410
22	OHIO UNIV	B B PFARR	GSFC	L WELCH	NAG 5 10349	411
22	OHIO UNIV	B PFAR	GSFC	L WELCH	NAS 5 00185	412
22	OLD DOMINION UNIV	R SAVELY	JSC	R LOFTIN	NAG 9 1270	506

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22	OLD DOMINION UNIV	J ELY	LARC	L VAHALA	NGT 1 03006	509
22	OLD DOMINION UNIV	J N MOSS	LARC	D E KEYES	NAG 1 01076	505
22	OLD DOMINION UNIV	M M LITTLE	LARC	K MALY	NAS 1 99160	506
22	OLD DOMINION UNIV	R DE YOUNG	LARC	H ELSAGED-ALI	NGT 1 03013	509
22	OLD DOMINION UNIV	S L VAZQUEZ	LARC	R MUKKAMALA	NAG 1 02039	505
22	OLD DOMINION UNIV	S L VAZQUEZ	LARC	R MUKKAMALA	NAG 1 2279	504
22	OREGON HEALTH SCIENCES UNIV	I TUMER	ARC	T LEEN	NCC 2 1264	422
22	OREGON HEALTH SCIENCES UNIV	J C COUGLAN	ARC	M PAVEL	NCC 2 1218	422
22	OREGON HEALTH SCIENCES UNIV	T R GOVINDAN	ARC	M A JABRI	NCC 2 1253	422
22	PENN STATE UNIV. - UNIV. PARK	J E PALLIX	ARC	J L WISE	NCC 2 1211	440
22	PENN STATE UNIV. - UNIV. PARK	S LIANG	ARC	H ZHA	NCC 2 5511	440
22	PORTLAND STATE UNIV	R MARTINEZ	GSFC	D RAFFO	NAG 5 12736	426
22	PRINCETON UNIV	M MEYAPPAN	ARC	I AKSAY	NAG 2 1475	345
22	PURDUE UNIV	C A HLAVKA	ARC	C BRODLEY	NCC 2 1245	214
22	PURDUE UNIV	A ROBERTS	GSFC	D S EBERT	NCC 5 627	214
22	RICE UNIV	D FOLTZ	GRC	D B JOHNSON	NAG 3 2534	464
22	RICE UNIV	C L FARMER	JSC	D SUBRAMANIAN	NAG 9 1457	467
22	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	M R LOWRY	ARC	S AMAREL	NAG 2 1234	349
22	RUTGERS STATE UNIV OF NJ NEW BRUNS	M SCHWABACHER	ARC	H HIRSCH	NCC 2 1259	352
22	SAN JOSE STATE UNIV	B J COLLINS	ARC	P HSU	NCC 2 1404	52
22	SOUTHERN UNIV & A&M COLL	B J COLLINS	ARC	G L ZHAO	NCC 2 1344	229
22	SOUTHERN UNIV & A&M COLL	R MORRIS	ARC	C DEBESSONER	NAG 2 1468	228
22	SOUTHERN UNIV - NEW ORLEANS	R E TRAVIS	SSC	W ZHANG	NAG13 03011	229
22	STANFORD UNIV	J A KURIEN	ARC	R E FIKES	NAG 2 1337	54
22	STANFORD UNIV	J HIERONYMUS	ARC	S PETERS	NCC 2 1397	60
22	STANFORD UNIV	J TRIMBLE	ARC	L J LEIFER	NCC 2 5478	61
22	STANFORD UNIV	K TURNER	ARC	I KROO	NCC 2 5495	61
22	STANFORD UNIV	M G BUALAT	ARC	S ROCK	NCC 2 1154	59
22	STANFORD UNIV	N N MANSOUR	ARC	E F DARVE	NCC 2 5467	60
22	STANFORD UNIV	R MORRIS	ARC	S M ROCK	NAG 2 1464	54
22	STANFORD UNIV	R MORRIS	ARC	R FIKES	NAG 2 1645	55
22	SYRACUSE UNIV	C COLES-HAMILTON	GRC	N AVAILABLE	NAS 3 00172	385
22	SYRACUSE UNIV	E J MASUOKA	GSFC	P K VARSHNEY	NAG 5 11227	384
22	TENNESSEE STATE UNIV	K A FREEMAN	ARC	W A SMITH	NAG 2 1419	457
22	TENNESSEE STATE UNIV	S COLOMBANO	ARC	M S ZIEN-SABATTO	NAG 2 1530	457
22	TEXAS A&M UNIV	A SANCHEZ	JSC	J DENTON	NCC 9 146	473
22	TEXAS TECH UNIV	J FRANK	ARC	R WATSON	NAG 2 1560	474
22	THE UNIV OF CENTRAL FLORIDA	J PENIX	ARC	G H WALTON	NAG 2 1465	164
22	THE UNIV OF CENTRAL FLORIDA	C STEVENSON	KSC	D GOMEZ	NAG10 318	165
22	UNIV HOUSTON-HOUSTON	R P KEHOE	JSC	G VALIAS	NAG 9 1223	476
22	UNIV HOUSTON-HOUSTON	R SAVELY	JSC	B LOFTIN	NAG 9 985	475
22	UNIV OF AKRON	S M ARNOLD	GRC	A SALEEB	NCC 3 992	414
22	UNIV OF ALABAMA - BIRMINGHAM	K TUCKER	MSFC	G CHENG	NAS 8 02062	6
22	UNIV OF ALABAMA - HUNTSVILLE	S LAU	ARC	M BOTTS	NAS 2 00102	11
22	UNIV OF ALABAMA - HUNTSVILLE	S LAU	ARC	S GRAVES	NAS 2 01003	11
22	UNIV OF ALABAMA - HUNTSVILLE	J BEHNKE	GSFC	D GRAVES	NAG 5 9585	8
22	UNIV OF ALABAMA - HUNTSVILLE	J BEHNKE	GSFC	D GRAVES	NAG 5 11633	9
22	UNIV OF ALABAMA - HUNTSVILLE	J HOPKINS	GSFC	L ETZKORN	NAG 5 12725	9
22	UNIV OF ALABAMA - HUNTSVILLE	K L MOE	GSFC	D GRAVES	NAG 5 10407	8
22	UNIV OF ALABAMA - HUNTSVILLE	K L MOE	GSFC	D GRAVES	NAG 5 12368	9
22	UNIV OF ALASKA - FAIRBANKS	B KOBLER	GSFC	K NANCE	NAG 5 13408	15
22	UNIV OF ARIZONA	S LAU	ARC	T MILSTER	NAS 2 00117	33
22	UNIV OF ARIZONA	N LAL	GSFC	M V SYKES	NAG 5 10749	27
22	UNIV OF CALIFORNIA - DAVIS	D KWAK	ARC	M HAFEZ	NCC 2 5387	77
22	UNIV OF CALIFORNIA - DAVIS	E TU	ARC	J J CHATTOT	NAG 2 1558	75
22	UNIV OF CALIFORNIA - IRVINE	J PENIX	ARC	D REDMIRE	NAG 2 1555	78
22	UNIV OF CALIFORNIA - SANTA CRUZ	D L KAO	ARC	A PANG	NCC 2 1260	109
22	UNIV OF COLORADO - BOULDER	D CAREK	GRC	E HANSEN	NAG 3 2643	120
22	UNIV OF COLORADO - BOULDER	K L MOE	GSFC	R L WEAVER	NAG 5 11292	127
22	UNIV OF DELAWARE	J RASH	GSFC	C SHEN	NAG 5 11232	145
22	UNIV OF FLORIDA	H PARTRIDGE	ARC	S SINNOTT	NCC 2 5403	169
22	UNIV OF HOUSTON - CLEAR LAKE	R T SAVELY	JSC	E T DICKERSON	NCC 9 30	479
22	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	K A FREEMAN	ARC	K NAHRSTEDT	NAG 2 1406	204
22	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	R MORRIS	ARC	B J WAH	NCC 2 1230	208
22	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	C CARLISLE	GSFC	M FOLK	NAG 5 2040	205

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22	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	B ALFONSO	KSC	G FRIED	NAG10 338	208
22	UNIV OF KENTUCKY	K MCGILL	GSFC	J HAYES	NAG 5 11732	225
22	UNIV OF KENTUCKY	S FERGUSON	GSFC	J HAYES	NAG 5 12868	225
22	UNIV OF MARYLAND - COLL PARK	H PARK	GSFC	C F MARTIN	NCC 5 353	265
22	UNIV OF MARYLAND - COLL PARK	J BREDEKAMP	GSFC	D C GOODRICH	NAG 5 4313	252
22	UNIV OF MARYLAND - COLL PARK	J LEMOIGNE	GSFC	D JAJA	NAG 5 13358	262
22	UNIV OF MARYLAND - COLL PARK	J LEMONIGNE	GSFC	J JAJA	NAG 5 6699	252
22	UNIV OF MARYLAND - COLL PARK	P BOELINER	HQ	A MOSLEH	NASW 02011	264
22	UNIV OF MARYLAND BALTIMORE COUNTY	J C COUGHLAN	ARC	H KARGUPTA	NCC 2 1252	272
22	UNIV OF MARYLAND BALTIMORE COUNTY	P E HUNTER	GSFC	A P KORATKAR	NAG 5 13415	271
22	UNIV OF MASSACHUSETTS - AMHERST	B J COLLINS	ARC	S ZILBERSTEIN	NGT 2 52276	299
22	UNIV OF MASSACHUSETTS - AMHERST	J BRESINA	ARC	S ZILBERSTEIN	NAG 2 1394	297
22	UNIV OF MASSACHUSETTS - AMHERST	M LIVINGSTON	ARC	A DESHMUKH	NCC 2 1265	299
22	UNIV OF MASSACHUSETTS - AMHERST	M LIVINGSTON	ARC	A DESHMUKH	NCC 2 1348	299
22	UNIV OF MASSACHUSETTS - AMHERST	M LIVINGSTON	ARC	A DESHMUKH	NCC 2 1353	299
22	UNIV OF MASSACHUSETTS - AMHERST	R A MORRIS	ARC	S ZILBERSTEIN	NCC 2 1311	299
22	UNIV OF MASSACHUSETTS - AMHERST	R SAVELY	JSC	R A GRUPEN	NAG 9 01445	299
22	UNIV OF MASSACHUSETTS - AMHERST	R SAVELY	JSC	R GRUPEN	NGT 9 61	299
22	UNIV OF MEMPHIS	T R GOVINDAN	ARC	R KOZMA	NCC 2 1244	458
22	UNIV OF MINN	C S POTTER	ARC	V KUMAR	NCC 2 1231	318
22	UNIV OF MINN	M LOWRY	ARC	M HEIMDAHL	NCC 2 1335	318
22	UNIV OF MINN	R MORRIS	ARC	M HEIMDAHL	NCC 2 1240	318
22	UNIV OF MINN	K MCGILL	GSFC	M HEIMDAHL	NAG 5 11971	317
22	U OF MONT	K P GOODEN	ARC	R NEMANI	NCC 2 1263	333
22	U OF MONT	K MCGILL	GSFC	D HENRY	NAG 5 11525	333
22	UNIV OF NEW MEXICO-ALBUQUERQUE	R MORRIS	ARC	M JAMSHIDI	NAG 2 1547	358
22	UNIV OF OKLAHOMA - NORMAN	W D IVANCIC	GRC	M ATIQUZZAMAN	NAG 3 2922	421
22	UNIV OF PUERTO RICO - MAYAGUEZ	R TRAVIS	SSC	M ROSADO	NGT13 52746	540
22	UNIV OF SOUTH CAROLINA-COLUMBIA	R TRAVIS	SSC	J JENSEN	NGT13 52723	455
22	UNIV OF SOUTHERN CALIFORNIA	C J PLAUNT	ARC	M TAMBE	NAG 2 1489	111
22	UNIV OF SOUTHERN CALIFORNIA	L STONE	ARC	T W BERGER	NCC 2 1242	113
22	UNIV OF SOUTHERN CALIFORNIA	T R GOVINDAN	ARC	L ADLEMAN	NCC 2 1224	113
22	UNIV OF SOUTHERN CALIFORNIA	R T SAVELY	JSC	M J MATARIC	NAG 9 1444	113
22	UNIV OF TENNESSEE - KNOXVILLE	J R FISCHER	GSFC	J DONGARRA	NAG 5 8773	458
22	UNIV OF TEXAS - ARLINGTON	R BISWAS	ARC	K DAS	NCC 2 5395	479
22	UNIV OF TEXAS - AUSTIN	K TUMER	ARC	J GHOSH	NCC 2 5482	485
22	UNIV OF TEXAS - AUSTIN	R T SAVELY	JSC	P STONE	NAG 9 1514	484
22	UNIV OF TEXAS - EL PASO	J L HARRINGTON	GSFC	H SCHULTE	NCC 5 655	488
22	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	P M JONES	ARC	J ZHANG	NCC 2 1234	478
22	UNIV OF VIRGINIA	K MOE	GSFC	J C FRENCH	NAG 5 12025	512
22	UNIV OF VIRGINIA	L H ROSENBERG	GSFC	D B DUGAN	NAG 5 11953	512
22	UNIV OF VIRGINIA	B L DIVITO	LARC	J C KNIGHT	NAG 1 02101	509
22	UNIV OF VIRGINIA	C M HOLLOWAY	LARC	J C KNIGHT	NAG 1 02103	510
22	UNIV OF VIRGINIA	K J HAYHURST	LARC	J C KNIGHT	NAG 1 2290	509
22	UNIV OF WASHINGTON	R A MORRIS	ARC	D WELD	NAG 2 1538	520
22	UNIV OF WASHINGTON	J STEPHENS	GSFC	S HAUCK	NAS 5 00212	526
22	UNIV OF WASHINGTON	J STEPHENS	GSFC	S HAUCK	NAS 5 00213	526
22	UNIV OF WASHINGTON	R C TREVINO	ARC	E J SEIBEL	NAG 9 1471	526
22	UNIV OF WEST FLORIDA	D CLANCY	ARC	J M BRADSHAW	NCC 2 1283	174
22	UNIV OF WEST FLORIDA	J C COUGHLAN	ARC	C GLYMOUR	NCC 2 1295	174
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22	UNIV OF WEST FLORIDA	J COUGHLAN	ARC	C GLYMOUR	NCC 2 1377	174
22	UNIV OF WEST FLORIDA	J SKILES	ARC	C M TENG	NCC 2 1239	174
22	UNIV OF WEST FLORIDA	M E DUENAS	ARC	K M FORD	NCC 2 1191	174
22	UNIV OF WEST FLORIDA	M SHAFTO	ARC	A CANAS	NCC 2 1297	174
22	UNIV OF WEST FLORIDA	R L ALENA	ARC	J M BRADSHAW	NCC 2 1254	174
22	UNIV OF WEST FLORIDA	R MORRIS	ARC	K FORD	NCC 2 1413	174
22	UNIV OF WISCONSIN - MADISON	F THEO	MSFC	J SANTARIUS	NAG 8 1719	537
22	UNIV OF WYOMING	M LOWRY	ARC	J R COWLES	NAG 2 1570	538
22	UTAH STATE UNIV	N LAL	GSFC	T BOSE	NAG 5 10716	493
22	VA POLYTECH INST & ST UNIV	T L HOLST	ARC	R K KAPANIA	NCC 2 5433	518
22	VA POLYTECH INST & ST UNIV	J M SEATON	LARC	G J OGLE	NGT 1 52224	518
22	VALENCIA COMM COLL	G BUCKINGHAM	KSC	K WOODBERRY	NAG10 165	174

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22	VANDERBILT UNIV	R T SAVELY	JSC	R A PETERS	NAG 9 1428	461
22	WEST VIRGINIA STATE COLL	K MCGILL	GSFC	C W SCHAFFER	NAG 5 12269	530
22	WEST VIRGINIA UNIV	G BLANEY	GSFC	D DIAL	NAS 5 03126	530
22	WEST VIRGINIA UNIV	K MCGILL	GSFC	G TRAPP	NCC 5 685	531
22	WESTERN MICHIGAN UNIV	J L DUNGAN	ARC	C W EMERSON	NCC 2 1246	315
22	WINSTON-SALEM STATE UNIV	G J FOLLEN	GRC	D RADENSKI	NAG 3 2515	396
22	WRIGHT STATE UNIV	J TRIMBLE	ARC	V L SHALIN	NAG 2 1529	419
22	WRIGHT STATE UNIV	W J CLANCEY	ARC	V L SHALIN	NCC 2 1203	420
22	WRIGHT STATE UNIV	W J CLANCEY	ARC	V L SHALIN	NCC 2 1411	420
22	YALE UNIV	R MORRIS	ARC	P HUDAK	NCC 2 1229	144
29	ANTELOPE VALLEY COLL	J LARSON	DFRC	L A LUCERO	NAG 4 235	36
29	ARIZONA STATE UNIV	P W GOODE	LARC	M P MIGNOLET	NAG 1 2233	16
29	BOWIE STATE UNIV	J L HARRINGTON	GSFC	P A SINSKY	NAG 5 12553	233
29	BROWN UNIV	H L ATKINS	LARC	C W SHU	NCC 1 01035	449
29	BROWN UNIV	H L ATKINS	LARC	C SHA	NGT 1 01037	449
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29	CALIFORNIA INST OF TECH	J J RENTHER	ARC	N A PIERRE	NCC 2 5431	44
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29	CARNEGIE - MELLON UNIV	Y HU	LARC	Y CAI	NAG 1 03024	427
29	CASE WESTERN RESERVE UNIV	C R MERCER	GRC	S H IZEN	NAG 3 2210	398
29	CLARK ATLANTA UNIV	D KWAK	ARC	S K ALIABALI	NCC 2 1396	175
29	ELIZABETH CITY STATE UNIV	D C ROBINSON	GRC	D PENDHARKAR	NAG 3 2556	389
29	FAYETTEVILLE STATE UNIV	R A HATHAWAY	LARC	L EDWARDS	NCC 1 03014	389
29	FLORIDA A&M UNIV	R A HATHAWAY	LARC	F HAMILTON	NAG 1 02114	158
29	GEORGE MASON UNIV	J J RENDER	LARC	T ARCISZEWSKI	NAG 1 01030	497
29	GEORGIA INST OF TECH	C T RAMOS	GRC	I F AKYILDIZ	NAG 3 2580	178
29	GEORGIA INST OF TECH	P W GOODE	LARC	A J CALISE	NAG 1 2243	176
29	MASSACHUSETTS INST OF TECH	G FOLLEN	GRC	R HAIMES	NAG 3 2523	283
29	MASSACHUSETTS INST OF TECH	M ANDRO	GRC	J HOW	NAG 3 2839	283
29	MASSACHUSETTS INST OF TECH	J FISCHER	GSFC	J MARSHALL	NCC 5 625	293
29	NEW JERSEY INST OF TECH	J LITT	GRC	D P DHAWAN	NAG 3 2475	344
29	NORTH CAROLINA STATE UNIV. - RALEIGH	J A WHITE	LARC	J R EDWARDS	NAG 1 02052	391
29	NORTHEASTERN UNIV	M S BURRELL	GSFC	M LEESER	NGT 5 122	295
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29	OLD DOMINION UNIV	D R JONES	LARC	D A DRYER	NAG 1 2330	504
29	OLD DOMINION UNIV	J J REHDER	LARC	A K NOOR	NCC 1 01040	507
29	OLD DOMINION UNIV	R A HATHAWAY	LARC	S N TIWARI	NCC 1 03002	507
29	OLD DOMINION UNIV	R C SINGLETERRY JR	LARC	J H HEINBOCKEL	NCC 1 404	507
29	OLD DOMINION UNIV	S D YOUNG	LARC	D A JACOBS	NGT 1 01011	508
29	SAINT THOMAS UNIV	M MATEU	HQ	A VYNNE	NAG 5 12298	164
29	SAN JOSE STATE UNIV	J D SMITH	ARC	K M CORKER	NAG 2 1528	50
29	SAN JOSE STATE UNIV	J SMITH	ARC	K CORKER	NCC 2 1384	52
29	STILLMAN COLL	E S ORDONEZ	MSFC	H PRADO	NAG 8 1866	4
29	TEXAS A&M UNIV-CORPUS CHRISTI	L M ARMENDARIZ	JSC	M MOORE	NAG 9 1401	474
29	TEXAS A&M UNIV-CORPUS CHRISTI	R TRAVIS	SSC	S D LYLE	NAG13 03002	474
29	UNIV OF AKRON	Y CHOO	GRC	L H DILL	NAG 3 2848	412
29	UNIV OF CALIFORNIA - DAVIS	D KWAK	ARC	M HAFEZ	NCC 2 5531	77
29	UNIV OF CALIFORNIA - DAVIS	D KWAK	ARC	M HAFEZ	NCC 2 5426	77
29	UNIV OF CALIFORNIA - LOS ANGELES	J FISCHER	GSFC	C MECHOSO	NCC 5 624	90
29	UNIV OF DAYTON	W D MORRIS	LARC	C E EBELING	NAS 1 99148	416
29	UNIV OF HOUSTON - DOWNTOWN	J L HARRINGTON	GSFC	D A ALO	NAG 5 12467	479
29	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	J FISCHER	GSFC	P E SAYLOR	NCC 5 615	208
29	UNIV OF MARYLAND - COLL PARK	N LAL	GSFC	M G WOLFIRE	NAG 5 10751	256
29	UNIV OF MICHIGAN - ANN ARBOR	J FISCHER	GSFC	T GOMBOSI	NCC 5 614	312
29	UNIV OF NEW HAMPSHIRE - DURHAM	M MAIDEN	GSFC	B MOORE	NCC 5 304	343
29	UNIV OF TENNESSEE SPACE INST-TULLAHOMA	G KLOPFER	ARC	S VENKATESWARAN	NCC 2 5493	460
29	UNIV OF TEXAS - AUSTIN	E L CHRISTIANSEN	JSC	E P FAHRENTHOLD	NCC 9 73	485
29	UNIV OF TOLEDO	J D STEGEMAN	GRC	D D JOHNSON	NAG 3 2594	416
29	UNIV OF TURABO	P LEONARD	KSC	T L RUIZ	NAG10 327	541
29	UNIV OF VIRGINIA	P A BELING	LARC	P W GOODE	NAG 1 03059	510
29	UNIV OF VIRGINIA	P M GOODE	LARC	B W JOHNSON	NGT 1 01016	514
29	UNIV OF VIRGINIA	B MERRITT	WFF	G WILLIAMS	NAG 5 10956	512

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29	UNIV OF WASHINGTON	M S BURRELL	GSFC	T QUINN	NGT 5 126	528
29	WEST VIRGINIA UNIV	D S OSBURN	ARC	A C COGLEY	NCC 2 979	530
29	XAVIER UNIV - LOUISIANA	R A HATHAWAY	LARC	T C TAYLOR	NAG 1 03063	230
31	ALABAMA A&M UNIV	P SAKIMOTO	GSFC	A TAN	NAG 5 10202	1
31	ALMA COLL	M J MCGILL	GSFC	J H GIBSON	NAG 5 11817	301
31	ARIZONA STATE UNIV	R LAWRENCE	GSFC	P R BUSECK	NAG 5 9838	17
31	BETHEL COLL	M G MLYNCZAK	LARC	B P BEECKEN	NAG 1 02012	315
31	BOSTON UNIV	C S POTTER	ARC	R B MYNENI	NAG 2 1432	272
31	BOSTON UNIV	D TOLL	GSFC	R B MYNENI	NAS 5 96061	275
31	BOSTON UNIV	H OSEROFF	GSFC	W STRAHLER	NAS 5 31369	275
31	BOSTON UNIV	W WISCOMBE	GSFC	Y KNYZAKHIN	NAG 5 12292	274
31	BRIGHAM YOUNG UNIV	R J LAWRENCE	GSFC	D G LONG	NAG 5 9638	490
31	CALIFORNIA INST OF TECH	D E SMITH	GSFC	D O MUHLEMAN	NAG 5 12384	42
31	CALIFORNIA INST OF TECH	E HILSENATH	GSFC	Y L YUNG	NAG 5 7230	38
31	CALIFORNIA INST OF TECH	G STRINGFELLOW	GSFC	G A BLAKE	NAG 5 11423	41
31	CALIFORNIA INST OF TECH	J BERGSTRALH	GSFC	D P INGERSOLL	NAG 5 4191	37
31	CALIFORNIA INST OF TECH	J HILLMAN	GSFC	D L YUNG	NAG 5 6263	38
31	CALIFORNIA INST OF TECH	P J DECOLA	GSFC	D OKUMURA	NAG 5 3911	37
31	CALIFORNIA INST OF TECH	R J LAWRENCE	GSFC	P O WENNBURG	NAG 5 11157	40
31	CALIFORNIA INST OF TECH	R LAWRENCE	GSFC	D O WENNBURG	NAG 5 9307	39
31	CALIFORNIA INST OF TECH	G L MADDREA	LARC	Y L YUNG	NAG 1 2151	36
31	CALIFORNIA INST OF TECH	G L MADDREA	LARC	Y L YUNG	NAG 1 02081	36
31	CALIFORNIA STATE UNIV - FULLERTON	N ROBERTSON	JSC	D WOOLUM	NAG 9 1462	46
31	CHRISTOPHER NEWPORT UNIV	G W SACHSE	LARC	N S POUGATCHEV	NCC 1 02018	496
31	CITY UNIV OF NY CITY COLL	L TRAVIS	GSFC	N A PARKER	NCC 5 520	362
31	CITY UNIV OF NY CITY COLL	O W THIELE	GSFC	S GEDZELMAN	NAG 5 7827	361
31	CLARK ATLANTA UNIV	M SHEPHERD	GSFC	C GARZA	NAG 5 12930	175
31	CLARK ATLANTA UNIV	R E TRAVIS	SSC	I FOMUNUNG	NAG13 03010	175
31	CLEMSON UNIV - CLEMSON	O W THIELE	GSFC	C W ULBRICH	NAG 5 7782	452
31	COLL OF CHARLESTON	N LAL	GSFC	J HAKKILA	NAG 5 10625	454
31	COLL OF WILLIAM AND MARY	W CHU	LARC	D BRENNER	NAS 1 00146	497
31	COLORADO STATE UNIV	A J NEGRI	GSFC	M T MONTGOMERY	NAG 5 11140	116
31	COLORADO STATE UNIV	D LEWIS	GSFC	G STEPHENS	NAS 5 99237	117
31	COLORADO STATE UNIV	E F STOCKER	GSFC	C KUMMEROW	NAG 5 11816	116
31	COLORADO STATE UNIV	J R HERMAN	GSFC	J SLUSSER	NAG 5 11018	115
31	COLORADO STATE UNIV	M WEI	GSFC	R PIELKE	NGT 5 30527	118
31	COLORADO STATE UNIV	O W THIELE	GSFC	V N BRINGI	NAG 5 7717	115
31	COLORADO STATE UNIV	R ADLER	GSFC	C D KUMMEROW	NAG 5 12273	116
31	COLORADO STATE UNIV	R J LAWRENCE	GSFC	S A RUTLEDGE	NAG 5 9642	115
31	COLORADO STATE UNIV	R J LAWRENCE	GSFC	D A RANDALL	NAG 5 9647	115
31	COLORADO STATE UNIV	R J LAWRENCE	GSFC	V CHANDRASEKAR	NAG 5 9655	115
31	COLORADO STATE UNIV	R J LAWRENCE	GSFC	R H JOHNSON	NAG 5 9665	115
31	COLORADO STATE UNIV	R J LAWRENCE	GSFC	W K BERG	NAG 5 10482	115
31	COLORADO STATE UNIV	R J LAWRENCE	GSFC	W H SCHUBERT	NAG 5 11010	115
31	COLORADO STATE UNIV	R J LAWRENCE	GSFC	W BERG	NAG 5 13637	117
31	COLORADO STATE UNIV	R J LAWRENCE	GSFC	R T AUSTIN	NAG 5 13640	117
31	COLORADO STATE UNIV	R L LAWRENCE	GSFC	C D KUMMEROW	NAG 5 11189	116
31	COLORADO STATE UNIV	R LAWRENCE	GSFC	S RUTLEDGE	NAG 5 13623	117
31	COLORADO STATE UNIV	V V SALOMONSON	GSFC	C KUMMEROW	NAG 5 12105	116
31	COLORADO STATE UNIV	B A WIELICKI	LARC	D A RANDALL	NAS 1 98125	117
31	COLORADO STATE UNIV	G G GIBSON	LARC	D A RANDALL	NAG 1 02008	115
31	COLORADO STATE UNIV	G GIBSON	LARC	G L STEPHENS	NAS 1 99103	117
31	COLORADO STATE UNIV	V DELNORE	LARC	G STEPHENS	NAG 1 2247	115
31	COLUMBIA UNIV	A LACIS	GSFC	L M DRUYAN	NCC 5 546	367
31	COLUMBIA UNIV	B CARLSON	GSFC	C HARRIS	NCC 5 549	367
31	COLUMBIA UNIV	B CARLSON	GSFC	C HARRIS	NCC 5 674	367
31	COLUMBIA UNIV	D RIND	GSFC	M CHANDLER	NCC 5 505	367
31	COLUMBIA UNIV	H V FREY	GSFC	C STARK	NAG 5 13772	367
31	COLUMBIA UNIV	R B STOTHERS	GSFC	C K CHU	NCC 5 547	367
31	COLUMBIA UNIV	R STOTHERS	GSFC	L M POLVANI	NCC 5 558	367
31	CORNELL UNIV	S NASH-STEVENSON	MSFC	K H COOK	NGT 8 52897	375
31	DREXEL UNIV	E HILSENATH	GSFC	D R BROOKS	NAG 5 8929	430
31	DREXEL UNIV	J L ROOPER	LARC	A R BANDY	NCC 1 297	431
31	DREXEL UNIV	V E DELUORE	LARC	A R BANDY	NCC 1 409	431
31	FLORIDA STATE UNIV	M HALL	GSFC	I NAVON	NAG 5 4873	161

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31	FLORIDA STATE UNIV	R ADLER	GSFC	G LIU	NAG 5 11889	162
31	FLORIDA STATE UNIV	R J LAWRENCE	GSFC	T N KRISHNAMURTI	NAG 5 9662	162
31	FLORIDA STATE UNIV	R J LAWRENCE	GSFC	H A COOPER	NAG 5 10001	162
31	FLORIDA STATE UNIV	R J LAWRENCE	GSFC	C A CLAYSON	NAG 5 12677	162
31	FLORIDA STATE UNIV	W B ROSSOW	GSFC	G LIU	NAG 5 8647	162
31	FLORIDA STATE UNIV	J L RAPER, SR	LARC	H E FUELBERG	NCC 1 412	163
31	FLORIDA STATE UNIV	J R RAPER	LARC	T N KRISHNAURTI	NAG 1 2127	161
31	FLORIDA STATE UNIV	B LAPENTA	MSFC	X ZOU	NAG 8 1882	163
31	FLORIDA STATE UNIV	J E ARNOLD	MSFC	T N KRISHNAMURTI	NAG 8 1848	162
31	FLORIDA STATE UNIV	R MILLER	SSC	J J O'BRIEN	NAG13 02011	163
31	GEORGE MASON UNIV	J S LEVINE	LARC	M E SUMMERS	NAG 1 03048	497
31	GEORGE WASHINGTON UNIV	R J LAWRENCE	GSFC	R H LANG	NAG 5 9550	146
31	GEORGIA INST OF TECH	C C WEY	GRC	A G RUSSELL	NAG 3 2931	178
31	GEORGIA INST OF TECH	A THOMPSON	GSFC	M CHIN	NAG 5 6022	178
31	GEORGIA INST OF TECH	J C RIVERA	GSFC	D M CUNNOLD	NAS 5 00171	180
31	GEORGIA INST OF TECH	M I MISHCHENKO	GSFC	M CHIN	NAG 5 7682	178
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31	GEORGIA INST OF TECH	P K BHARTIA	GSFC	M CHIN	NAG 5 13462	179
31	GEORGIA INST OF TECH	S SCHUBERT	GSFC	R X BLACK	NAG 5 10374	179
31	GEORGIA INST OF TECH	W B ROSSOW	GSFC	J A CURRY	NAG 5 12545	179
31	GEORGIA INST OF TECH	Y SUD	GSFC	R DICKINSON	NAG 5 10209	178
31	GEORGIA INST OF TECH	G L MADDREA	LARC	D M CUNNOLD	NAG 1 2202	176
31	GEORGIA INST OF TECH	G L MADDREA	LARC	D M CUNNOLD	NAS 1 18938	180
31	GEORGIA INST OF TECH	J L RAPER, SR	LARC	R J WEBER	NCC 1 411	181
31	GEORGIA INST OF TECH	J L RAPER, SR	LARC	S T SANDHOLM	NCC 1 417	181
31	GEORGIA INST OF TECH	J L RAPER, SR	LARC	F L EISELE	NCC 1 421	181
31	GEORGIA INST OF TECH	J M HOELL	LARC	D D DAVIS	NCC 1 306	180
31	GEORGIA INST OF TECH	V E DELUORE	LARC	D D DAVIS	NCC 1 01024	181
31	HAMPTON UNIV	B A CAMPBELL	GSFC	J M RUSSELL	NAG 5 11409	501
31	HAMPTON UNIV	C JACKMAN	GSFC	J M RUSSELL	NAG 5 11065	501
31	HAMPTON UNIV	D L PIERCE	GSFC	J M RUSSELL	NAG 5 03074	502
31	HAMPTON UNIV	G G GIBSON	LARC	N G LOEB	NAG 1 2318	500
31	HAMPTON UNIV	G G GIBSON	LARC	M P MCCORMICK	NAS 1 99108	501
31	HAMPTON UNIV	G L MADDREA	LARC	M P MCCORMICK	NAG 1 2170	500
31	HAMPTON UNIV	J YU	LARC	M P MCCORMICK	NAG 1 03087	500
31	HAMPTON UNIV	J YU	LARC	D A TEMPLE	NCC 1 01059	502
31	HAMPTON UNIV	P MINNIS	LARC	M P MCCORMICK	NAG 1 2135	500
31	HAMPTON UNIV	P MINNIS	LARC	D P DUDA	NAG 1 02044	500
31	HAMPTON UNIV	R L DUNCAN	LARC	P MCCORMICK	NAS 1 97042	501
31	HAMPTON UNIV	V E DELNORE	LARC	N G LOEB	NAG 1 2206	500
31	HAMPTON UNIV	V E DELNORE	LARC	N G LOEB	NAG 1 01096	500
31	HAMPTON UNIV	F J SCHMIDLIN	WFF	P MCCORMICK	NAG 5 5360	501
31	HARVARD UNIV	C P SCOFIELD	ARC	S C WOFYSY	NAG 2 1310	277
31	HARVARD UNIV	R S HIPSKIN	ARC	S C WOFYSY	NAG 2 1617	277
31	HARVARD UNIV	R J LAWRENCE	GSFC	A P BARROS	NAG 5 9823	278
31	HARVARD UNIV	G L MADDREA	LARC	D J JACOB	NAG 1 2307	277
31	HARVARD UNIV	J L RAPER, SR	LARC	D J JACOB	NAG 1 2328	277
31	HARVARD UNIV	L R POOLE	LARC	J G ANDERSON	NAG 1 01095	277
31	HOFSTRA UNIV	E LINDTSROM	GSFC	D WEISSMAN	NAG 5 11780	375
31	HOFSTRA UNIV	R MILLER	SSC	D E WEISSMAN	NAG13 02015	375
31	HOWARD UNIV	R J LAWRENCE	GSFC	E JOSEPH	NAG 5 13653	150
31	HOWARD UNIV	W HOEGY	GSFC	A THORPE	NCC 5 420	150
31	HOWARD UNIV	W R HOEGY	GSFC	S T SMITH	NCC 5 556	150
31	IOWA STATE UNIV	A DOUGLASS	GSFC	D L STANFORD	NAG 5 7133	217
31	IOWA STATE UNIV	M RIENECKER	GSFC	T C CHEN	NAG 5 8293	217
31	IOWA STATE UNIV	M RIENECKER	GSFC	T CHEN	NAG 5 12428	217
31	IOWA STATE UNIV	S CHANDRA	GSFC	S L STANFORD	NAG 5 7271	217
31	IOWA STATE UNIV	S SCHUBERT	GSFC	T CHEN	NAG 5 7530	217
31	JACKSON STATE UNIV	J JENNER	JSC	P CROFT	NAG13 99013	320
31	JACKSON STATE UNIV	R MILLER	JSC	R REDDY	NAG13 99012	320
31	JOHNS HOPKINS UNIV	A C AIKIN	GSFC	J YEE	NAG 5 9988	238
31	JOHNS HOPKINS UNIV	A R DOUGLASS	GSFC	D WAUGH	NCC 5 500	248
31	JOHNS HOPKINS UNIV	B A CAMPBELL	GSFC	L PAXTON	NAG 5 11412	241
31	JOHNS HOPKINS UNIV	D ANDERSON	GSFC	A ARKING	NAG 5 11909	242

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31	JOHNS HOPKINS UNIV	D J BOGAN	GSFC	R J VERVACK	NAG 5 11051	241
31	JOHNS HOPKINS UNIV	J F SPANN	GSFC	B J ANDERSON	NAG 5 10849	240
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31	JOHNS HOPKINS UNIV	P E HUNTER	GSFC	A F PTAK	NAG 5 11193	241
31	JOHNS HOPKINS UNIV	R MCPETERS	GSFC	S A LLOYD	NAG 5 11029	240
31	JOHNS HOPKINS UNIV	W LAU	GSFC	A ARKING	NAG 5 8572	236
31	JOHNS HOPKINS UNIV	G L MADDREA	LARC	D W WAUGH	NAG 1 2043	233
31	JOHNS HOPKINS UNIV	G L MADDREA	LARC	D W WAUGH	NAG 1 2194	233
31	KNOX COLL	J FISHMAN	LARC	C BUSH	NAG 1 02004	196
31	MASSACHUSETTS INST OF TECH	D BOGAN	GSFC	J D RICHARDSON	NAG 5 8947	285
31	MASSACHUSETTS INST OF TECH	G SMITH	GSFC	T A HERRING	NAS 5 99007	292
31	MASSACHUSETTS INST OF TECH	H V FREY	GSFC	B H HAGER	NAG 5 13759	290
31	MASSACHUSETTS INST OF TECH	J C SHIUE	GSFC	D STAELIN	NAG 5 11390	287
31	MASSACHUSETTS INST OF TECH	J E HANSEN	GSFC	P H STONE	NCC 5 678	293
31	MASSACHUSETTS INST OF TECH	J SHARBER	GSFC	T CHANG	NAG 5 9117	285
31	MASSACHUSETTS INST OF TECH	M J KURYLO	GSFC	R G PRINN	NAG 5 3974	283
31	MASSACHUSETTS INST OF TECH	M KURYLO	GSFC	R PRINN	NAG 5 12669	288
31	MASSACHUSETTS INST OF TECH	M KURYLO	GSFC	M MOLINA	NAG 5 12707	288
31	MASSACHUSETTS INST OF TECH	R J LAWRENCE	GSFC	E R WILLIAMS	NAG 5 9637	286
31	MASSACHUSETTS INST OF TECH	R J LAWRENCE	GSFC	R L BRAS	NAG 5 9640	286
31	MASSACHUSETTS INST OF TECH	R J LAWRENCE	GSFC	R L BRAS	NAG 5 13638	290
31	MASSACHUSETTS INST OF TECH	R J LAWRENCE	GSFC	D H STAELIN	NAG 5 13652	290
31	MASSACHUSETTS INST OF TECH	S NIEBUR	GSFC	Q HU	NAG 5 9080	285
31	MASSACHUSETTS INST OF TECH	W WILDES	GSFC	G CARRIGAN	NAS 5 99198	292
31	MASSACHUSETTS INST OF TECH	D L MODDREA	LARC	R E NEWELL	NAG 1 2306	281
31	MASSACHUSETTS INST OF TECH	G L MADDREA	LARC	R G PRINN	NAG 1 2152	281
31	MASSACHUSETTS INST OF TECH	G MADDREA	LARC	R PLUMB	NAG 1 2203	281
31	MASSACHUSETTS INST OF TECH	J L RAPER	LARC	R E NEWELL	NAG 1 2173	281
31	MASSACHUSETTS INST OF TECH	V E DELNORE	LARC	R E NEWELL	NCC 1 415	292
31	MICHIGAN TECHNOLOGICAL UNIV	R MVPETERS	GSFC	G BLUTH	NAG 5 11062	304
31	MOSCOW INST OF PHYSICS & TECH	W L GROSS	LARC	M L KOGAN	NCC 1 01005	541
31	NEW MEXICO HIGHLANDS UNIV	L ARMENDARIZ	JSC	J R JUAREZ	NAG 9 1375	354
31	NEW MEXICO HIGHLANDS UNIV	L ARMENDARIZ	JSC	J R JUAREZ	NAG 9 1922	354
31	NEW MEXICO STATE UNIV - LAS CRUCES	B A MERRITT	WFF	S HOTTMAN	NAS 5 03003	356
31	NIAGARA UNIV	R BLAKESLEE	MSFC	W BOECK	NCC 8 182	376
31	NORFOLK STATE UNIV	R A HATHAWAY	LARC	C COLEMAN	NAG 1 2226	503
31	NORTH CAROLINA STATE UNIV. - RALEIGH	D K RUTISHAUSER	LARC	M L KAPLAN	NAG 1 03043	392
31	NORTH CAROLINA STATE UNIV. - RALEIGH	F H PROCTOR	LARC	M L KAPLAN	NAG 1 03013	392
31	NORTH CAROLINA STATE UNIV. - RALEIGH	F H PROCTOR	LARC	M L KAPLAN	NAG 1 02007	391
31	NORTH CAROLINA STATE UNIV. - RALEIGH	J ARNOLD	MSFC	R ABT	NCC 8 159	394
31	OHIO STATE UNIV	M J KURYLO	GSFC	F C DEELUCIA	NAG 5 3983	407
31	OHIO STATE UNIV	M KURYLO	GSFC	F C ELUCIA	NAG 5 12715	409
31	OHIO STATE UNIV	M S BURRELL	GSFC	J HOBGOOD	NGT 5 131	411
31	OLD DOMINION UNIV	R DEYOUNG	LARC	D H ELSAYED-ALII	NGT 1 01014	508
31	OREGON STATE UNIV	R M HABERLE	ARC	J R BARNES	NAG 2 1546	423
31	OREGON STATE UNIV	C RABER	GSFC	D H FREILICH	NAS 5 32965	425
31	OREGON STATE UNIV	D BOGAN	GSFC	J BARNES	NAG 5 11046	424
31	OREGON STATE UNIV	M I MISHCHENKO	GSFC	J A COAKLEY	NAG 5 7686	423
31	OREGON STATE UNIV	M MEYER	GSFC	B T SIMONEIT	NAG 5 9428	423
31	OREGON STATE UNIV	B A WIELICKIL	ARC	J COAKLEY	NAS 1 98140	425
31	OREGON STATE UNIV	G GIBSON	LARC	J M COAKLEY	NAS 1 99104	425
31	PENN STATE UNIV. - UNIV. PARK	E P CONDON	ARC	W H BRUNE	NAG 2 1453	433
31	PENN STATE UNIV. - UNIV. PARK	R E YOUNG	ARC	J F KASTINGS	NCC 2 5410	440
31	PENN STATE UNIV. - UNIV. PARK	J GLEASON	GSFC	W BRUNE	NAG 5 12426	437
31	PENN STATE UNIV. - UNIV. PARK	R J LAWRENCE	GSFC	G JENKINS	NAG 5 12872	437
31	PENN STATE UNIV. - UNIV. PARK	S J JANZ	GSFC	W BRUNE	NAG 5 12955	438
31	PENN STATE UNIV. - UNIV. PARK	J L RAPER, SR	LARC	W H BRUNE	NCC 1 414	439
31	PRAIRIE VIEW A&M UNIV	J DAVIS	MSFC	T HUANG	NAG 8 1874	463
31	PRINCETON UNIV	R J LAWRENCE	GSFC	E F WOOD	NAG 5 9891	346
31	PURDUE UNIV	K H BERGMAN	GSFC	D HARSHVARDHAN	NAG 5 3992	212
31	PURDUE UNIV	M I MISHCHENKO	GSFC	H HARSHVARDHAN	NAG 5 7727	212
31	PURDUE UNIV	R J LAWRENCE	GSFC	C A CLAYTON	NAG 5 9822	212

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31	ROCKY MOUNTAIN COLL	F ROBINSON	MSFC	S MCDANIEL	NAG 8 1890	332
31	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	D J BOGAN	GSFC	T MADEY	NAG 5 11045	350
31	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	P CRANE	GSFC	C L JOSEPH	NAG 5 11437	351
31	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	R B STOTHERS	GSFC	A ROBOCK	NCC 5 553	351
31	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	G L MADDREA	LARC	A ROBOCK	NAG 1 2154	349
31	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	J ARNOLD	MSFC	Y LIU	NAG 8 1513	351
31	SAINT ANSELM COLL	A J NEGRI	GSFC	D GUERRA	NCC 5 384	339
31	SAN FRANCISCO STATE UNIV	C SCOFIELD	ARC	P FOSCHI	NCC 2 1278	50
31	SAN JOSE STATE UNIV	A TABAZADEH	ARC	P HAMILL	NCC 2 5498	53
31	SAN JOSE STATE UNIV	H SINGH	ARC	P HAMILL	NCC 2 1314	52
31	SAN JOSE STATE UNIV	P BUI	ARC	J GOODMAN	NCC 2 1106	51
31	SAN JOSE STATE UNIV	P BUI	ARC	J GOODMAN	NCC 2 1400	52
31	SAN JOSE STATE UNIV	P PILEWSKIE	ARC	P A HAMILL	NCC 2 5468	53
31	SAN JOSE STATE UNIV	PBUI	ARC	J GOODMAN	NCC 2 1045	51
31	SAN JOSE STATE UNIV	R E YOUNG	ARC	J L HOLLINGSWORTH	NCC 2 5451	53
31	SAN JOSE STATE UNIV	R HABERLE	ARC	A F BRIDGER	NCC 2 5550	53
31	SAN JOSE STATE UNIV	R YOUNG	ARC	A BRIDGER	NCC 2 5525	53
31	SAN JOSE STATE UNIV	C M NIEBUR	GSFC	S RAFKIN	NAG 5 11184	51
31	SAN JOSE STATE UNIV	D BOGAN	GSFC	S RAFKIN	NAG 5 9751	51
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31	UNIV OF WASHINGTON	D S MCDUGAL	LARC	P V HOBBS	NAG 1 2079	520
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32	UNIV OF CALIFORNIA - DAVIS	R MCKELLIP	SSC	K W TATE	NAG13 99023	76
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32	UNIV OF CALIFORNIA - LOS ANGELES	E T ENGMAN	GSFC	L C SMITH	NAG 5 7555	83
32	UNIV OF CALIFORNIA - LOS ANGELES	H V FREY	GSFC	D E ALSDORF	NAG 5 10685	85
32	UNIV OF CALIFORNIA - LOS ANGELES	H V FREY	GSFC	J KIM	NAG 5 13248	89
32	UNIV OF CALIFORNIA - LOS ANGELES	J SHARBER	GSFC	M EL-ALAOUI	NAG 5 9255	84
32	UNIV OF CALIFORNIA - LOS ANGELES	J SHARBER	GSFC	P L PRITCHETT	NAG 5 11823	86
32	UNIV OF CALIFORNIA - LOS ANGELES	J SHARBER	GSFC	K K KHURANA	NAG 5 11859	86
32	UNIV OF CALIFORNIA - LOS ANGELES	J SPANN	GSFC	D SCHRIVER	NAG 5 10473	85
32	UNIV OF CALIFORNIA - LOS ANGELES	M MELLOTT	GSFC	R M THORNE	NAG 5 11826	86
32	UNIV OF CALIFORNIA - LOS ANGELES	M MELLOTT	GSFC	L R LYONS	NAG 5 11858	86
32	UNIV OF CALIFORNIA - LOS ANGELES	M MELLOTT	GSFC	R L MCPHERRON	NAG 5 11898	87
32	UNIV OF CALIFORNIA - LOS ANGELES	M MELLOTT	GSFC	R M THORNE	NAG 5 11922	87
32	UNIV OF CALIFORNIA - LOS ANGELES	M MELLOTT	GSFC	M ASHOUR-ABDALLA	NAG 5 11923	87
32	UNIV OF CALIFORNIA - LOS ANGELES	M MEYER	GSFC	D F KERRIDGE	NAG 5 8470	83
32	UNIV OF CALIFORNIA - LOS ANGELES	P G ROGERS	GSFC	G SCHUBERT	NAG 5 3863	82
32	UNIV OF CALIFORNIA - LOS ANGELES	P G ROGERS	GSFC	W M KAULA	NAG 5 3956	82
32	UNIV OF CALIFORNIA - LOS ANGELES	W ABDALATI	GSFC	G PELTZER	NAG 5 11102	86
32	UNIV OF CALIFORNIA - SAN DIEGO	B BILLS	GSFC	J A ORCUTT	NAG 5 11682	96
32	UNIV OF CALIFORNIA - SAN DIEGO	D SENSKE	GSFC	C L JOHNSON	NAG 5 11563	96
32	UNIV OF CALIFORNIA - SAN DIEGO	D SENSKE	GSFC	C L JOHNSON	NAG 5 12281	97
32	UNIV OF CALIFORNIA - SAN DIEGO	H B FREY	GSFC	R L PARKER	NAG 5 7612	93
32	UNIV OF CALIFORNIA - SAN DIEGO	H V FREY	GSFC	C G CONSTABLE	NAG 5 7614	93
32	UNIV OF CALIFORNIA - SAN DIEGO	H V FREY	GSFC	D T SANDWELL	NAG 5 9623	95
32	UNIV OF CALIFORNIA - SAN DIEGO	J SHARBER	GSFC	K B QUEST	NAG 5 11824	96
32	UNIV OF CALIFORNIA - SANTA BARBARA	D G SENSKE	GSFC	S J PEALE	NAG 5 3646	102
32	UNIV OF CALIFORNIA - SANTA BARBARA	H V FREY	GSFC	L K MERTES	NAG 5 9811	103
32	UNIV OF CALIFORNIA - SANTA BARBARA	H V FREY	GSFC	D W BURBANK	NAG 5 10520	103
32	UNIV OF CALIFORNIA - SANTA BARBARA	R MCKELLIP	JSC	O CHADWICK	NAG13 99025	105
32	UNIV OF CALIFORNIA - SANTA CRUZ	D SENSKE	GSFC	D KORYCANSKY	NAG 5 11521	108
32	UNIV OF CINCINNATI	C T RAMOS	GRC	R BECK	NCC 3 981	415
32	UNIV OF CINCINNATI	T M SCOTT	GRC	R BECK	NCC 3 1083	415
32	UNIV OF COLORADO - BOULDER	C P MCKAY	ARC	B TOON	NGT 2 52279	135
32	UNIV OF COLORADO - BOULDER	D SENSKE	GSFC	M T MELLON	NAG 5 10155	124
32	UNIV OF COLORADO - BOULDER	D SENSKE	GSFC	B JAKOSKY	NAG 5 10413	125
32	UNIV OF COLORADO - BOULDER	E T ENGMAN	GSFC	A FREI	NAG 5 7543	121
32	UNIV OF COLORADO - BOULDER	H V FREY	GSFC	J M WAHR	NAG 5 7703	121
32	UNIV OF COLORADO - BOULDER	H V FREY	GSFC	J B RUNDLE	NAG 5 9448	123
32	UNIV OF COLORADO - BOULDER	H V FREY	GSFC	R G BILHAM	NAG 5 10418	125
32	UNIV OF COLORADO - BOULDER	H V FREY	GSFC	V GUPTA	NAG 5 10954	126
32	UNIV OF COLORADO - BOULDER	H V FREY	GSFC	S R NEREM	NAG 5 11192	127
32	UNIV OF COLORADO - BOULDER	J A GRANT	GSFC	R E GRIMM	NAG 5 9491	124
32	UNIV OF COLORADO - BOULDER	J SHARBER	GSFC	M HORANYI	NAG 5 9172	123
32	UNIV OF COLORADO - BOULDER	J SPANN	GSFC	X LI	NAG 5 10474	125
32	UNIV OF COLORADO - BOULDER	M MELLOTT	GSFC	J SU	NAG 5 11924	129
32	UNIV OF COLORADO - BOULDER	M WEI	GSFC	J MENNIS	NAG 5 12598	131
32	UNIV OF COLORADO - BOULDER	M WEI	GSFC	D KOWAL	NAG 5 12654	131
32	UNIV OF DELAWARE	S SAUNDERS	GSFC	B P GLASS	NAG 5 11522	145
32	UNIV OF GEORGIA	E T ENGMAN	GSFC	T L MOTE	NAG 5 8469	185
32	UNIV OF HAWAII AT MANOA - HONOLULU	D SENSKE	GSFC	P G LUCEY	NAG 5 11516	190
32	UNIV OF HAWAII AT MANOA - HONOLULU	H V FREY	GSFC	P J MOUGINIS-MARK	NAG 5 7578	187
32	UNIV OF HAWAII AT MANOA - HONOLULU	H V FREY	GSFC	P J MOUGINIS-MARK	NAG 5 9038	188
32	UNIV OF HAWAII AT MANOA - HONOLULU	J GRANT	GSFC	B HAWKE	NAG 5 8903	188
32	UNIV OF HAWAII AT MANOA - HONOLULU	P ROGERS	GSFC	T OWEN	NAG 5 6829	186
32	UNIV OF HAWAII AT MANOA - HONOLULU	T MORGAN	GSFC	D JEWITT	NAG 5 11445	190
32	UNIV OF HOUSTON - DOWNTOWN	E K GIBSON	JSC	P A MORRIS-SMITH	NAG 9 1113	479
32	UNIV OF HOUSTON - DOWNTOWN	E K GIBSON	JSC	P A MORRIS-SMITH	NAG 9 1114	479
32	UNIV OF IDAHO - MOSCOW	D SENSKE	GSFC	S KATTENHORN	NAG 5 11495	194
32	UNIV OF IOWA	M MELLOTT	GSFC	C A KLETZING	NAG 5 11867	220
32	UNIV OF KANSAS	R MCKALLIP	SSC	M JAKUBAUSKAS	NAG13 99019	223
32	UNIV OF MARYLAND - COLL PARK	B F CHAO	GSFC	M HOFTON	NAG 5 11654	258
32	UNIV OF MARYLAND - COLL PARK	H FREY	GSFC	R SOHLBERG	NAG 5 13193	262

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32	UNIV OF MARYLAND - COLL PARK	H V FREY	GSFC	C M BIRKETT	NAG 5 11700	258
32	UNIV OF MARYLAND - COLL PARK	H V FREY	GSFC	E KASISCHKE	NAG 5 13247	262
32	UNIV OF MARYLAND - COLL PARK	S B LUTHCKE	GSFC	M HOFTON	NAG 5 12112	259
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32	UNIV OF MARYLAND BALTIMORE COUNTY	H V FREY	GSFC	M H BULMER	NAG 5 12199	270
32	UNIV OF MASSACHUSETTS - AMHERST	H V FREY	GSFC	C C DUNCAN	NAG 5 10649	297
32	UNIV OF MASSACHUSETTS - AMHERST	P ROGERS	GSFC	D E MCGILL	NAG 5 4373	297
32	UNIV OF MEMPHIS	H V FREY	GSFC	M ELLIS	NAG 5 7617	458
32	UNIV OF MIAMI	H V FREY	GSFC	T H DIXON	NAG 5 9066	170
32	UNIV OF MIAMI	H V FREY	GSFC	T H DIXON	NAG 5 9068	170
32	UNIV OF MICHIGAN - ANN ARBOR	H V FREY	GSFC	K SARABANDI	NAG 5 8930	307
32	UNIV OF MICHIGAN - ANN ARBOR	H V FREY	GSFC	C DOBSON	NAG 5 11406	309
32	UNIV OF MICHIGAN - ANN ARBOR	M MELLOTT	GSFC	J U KOZYRA	NAG 5 11831	309
32	UNIV OF MINN	D SENKE	GSFC	D L KOHLSTEDT	NAG 5 10509	317
32	UNIV OF MINN	E T ENGMAN	GSFC	M PERSON	NAG 5 7599	316
32	UNIV OF MINN	J SHARBER	GSFC	N LIN	NAG 5 11856	317
32	UNIV OF MINN	J SHARBER	GSFC	R L LYSAK	NAG 5 11868	317
32	UNIV OF MINN	M MELLOTT	GSFC	R LYSAK	NAG 5 9254	316
32	UNIV OF MINN	C HILL	SSC	M E BAUER	NAG13 99002	318
32	UNIV OF MISSISSIPPI - UNIV	N SOVIK	SSC	G EASSON	NAG13 00037	321
32	UNIV OF MISSOURI - COLUMBIA	H V FREY	GSFC	M LIU	NAG 5 9145	323
32	U OF MONT	E K GIBSON	JSC	N C HINMAN	NAG 9 1112	333
32	UNIV OF NEBRASKA - LINCOLN	F HORZZ	JSC	D R ALEXANDER	NAG 9 1310	334
32	UNIV. OF NEVADA - DESERT RES. INST	D SENSKE	GSFC	G M MARION	NAG 5 10445	335
32	UNIV OF NEVADA - RENO	D A SENSKE	GSFC	R A SCHULTZ	NAG 5 11447	336
32	UNIV OF NEVADA - RENO	D SENKE	GSFC	W CALVIN	NAG 5 10290	336
32	UNIV OF NEVADA - RENO	D SENSKE	GSFC	W CALVIN	NAG 5 11491	336
32	UNIV OF NEW HAMPSHIRE - DURHAM	J SPANN	GSFC	K LYNCH	NAG 5 10472	341
32	UNIV OF NEW HAMPSHIRE - DURHAM	M MELLOTT	GSFC	R L KAUFMANN	NAG 5 11820	341
32	UNIV OF NEW MEXICO-ALBUQUERQUE	D SENSKE	GSFC	H NEWSOM	NAG 5 8804	358
32	UNIV OF NEW MEXICO-ALBUQUERQUE	D SENSKE	GSFC	H E NEWSOM	NAG 5 11496	359
32	UNIV OF NEW MEXICO-ALBUQUERQUE	E K GIBSON	JSC	J J PAPIKE	NAG 9 1111	360
32	UNIV OF NEW MEXICO-ALBUQUERQUE	L E NYQUIST	JSC	J EDMUNSON	NGT 9 68	360
32	UNIV OF PITTSBURGH	D SENSKE	GSFC	B W HAPKE	NAG 5 10222	444
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32	UNIV OF PITTSBURGH	H V FREY	GSFC	M S RAMSEY	NAG 5 9439	444
32	UNIV OF PITTSBURGH	J A GRANT	GSFC	D A CROWN	NAG 5 9466	444
32	UNIV OF PITTSBURGH	M S BURRELL	GSFC	D A CROWN	NGT 5 125	445
32	UNIV OF PUERTO RICO - MAYAGUEZ	H FREY	GSFC	G MATTIOLI	NAG 5 6031	539
32	UNIV OF SOUTH CAROLINA-COLUMBIA	B DAVIS	SSC	J JENSEN	NCC13 03008	455
32	UNIV OF TEXAS - AUSTIN	F HERBERT	GSFC	B TAPLEY	NAG 5 9163	481
32	UNIV OF TEXAS - AUSTIN	H V FREY	GSFC	J G PAINE	NAG 5 7582	480
32	UNIV OF TEXAS - AUSTIN	H V FREY	GSFC	J C GIBEAUT	NAG 5 7660	480
32	UNIV OF TEXAS - AUSTIN	H V FREY	GSFC	J C CARTER	NAG 5 7693	480
32	UNIV OF TEXAS - AUSTIN	H V FREY	GSFC	C R WILSON	NAG 5 8798	481
32	UNIV OF TEXAS - AUSTIN	B DAVIS	SSC	B TAPLEY	NAG13 02049	485
32	UNIV OF TEXAS - EL PASO	D MENCHAN	GSFC	D SCHULZ-MAKUCH	NAG 5 9542	487
32	UNIV OF TEXAS - EL PASO	J SPANN	GSFC	R LOPEZ	NAG 5 10507	488
32	UNIV OF UTAH	E LINDSTROM	GSFC	R L BRUHN	NAG 5 10136	491
32	UNIV OF VIRGINIA	D SENSKE	GSFC	R E JOHNSON	NAG 5 10173	511
32	UNIV OF VIRGINIA	J G GRANT	GSFC	A D HOWARD	NAG 5 3931	510
32	UNIV OF WASHINGTON	D SENSKE	GSFC	D CATLING	NAG 5 11499	524
32	UNIV OF WASHINGTON	E T ENGMAN	GSFC	W J PLANT	NAG 5 7550	521
32	UNIV OF WASHINGTON	H V FREY	GSFC	D R MONTGOMERY	NAG 5 10342	523
32	UNIV OF WISCONSIN - MADISON	H V FREY	GSFC	P MENZEL	NAG 5 9688	534
32	UTAH STATE UNIV	E T ENGMAN	GSFC	D G TARBOTON	NAG 5 7597	493
32	WASHINGTON STATE UNIV	D SENSKE	GSFC	D HUDSON	NAG 5 10462	529
32	WASHINGTON UNIV - ST. LOUIS	B CAMPBELL	GSFC	D FEGLEY	NAG 5 6125	326
32	WASHINGTON UNIV - ST. LOUIS	D SENSKE	GSFC	R E ARVIDSON	NAG 5 10190	327
32	WASHINGTON UNIV - ST. LOUIS	D SENSKE	GSFC	W B MCKINNON	NAG 5 11517	328
32	WASHINGTON UNIV - ST. LOUIS	H V FREY	GSFC	R E ARVIDSON	NAG 5 7613	326
32	WASHINGTON UNIV - ST. LOUIS	J GRANT	GSFC	B L JOLLIFF	NAG 5 8905	327
32	WASHINGTON UNIV - ST. LOUIS	P G ROGERS	GSFC	W B MCKINNON	NAG 5 3657	326
32	WASHINGTON UNIV - ST. LOUIS	P ROGERS	GSFC	D J PHILLIPS	NAG 5 4448	326

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33	CLEMSON UNIV - CLEMSON	L BLIVEN	WFF	J SAYLOR	NAG 5 5384	452
33	COLORADO STATE UNIV	S HAKKINEN	GSFC	C MATSUMOTO	NAG 5 12275	116
33	COLUMBIA UNIV	J A MARRA	GSFC	J A BISHOP	NAG 5 6450	364
33	DARTMOUTH COLL	C DEL CASTILLO	SSC	D R LYNCH	NAG13 00041	339
33	FLORIDA STATE UNIV	E LINDSRMOM	GSFC	D NOF	NAG 5 10860	162
33	FLORIDA STATE UNIV	M RIENECKER	GSFC	W WEWAR	NAG 5 8291	161
33	FLORIDA STATE UNIV	W ESAIAS	GSFC	R L IVERSON	NAG 5 7618	161
33	GEORGE MASON UNIV	M RIENECKER	GSFC	P S SCHOPF	NCC 5 522	499
33	GEORGIA INST OF TECH	M KURYLO	GSFC	P H WINE	NAG 5 12987	179
33	GEORGIA INST OF TECH	M WEI	GSFC	A PYRTL	NAG 5 12647	179
33	HOFSTRA UNIV	B EMERY	GSFC	D WEISSMANN	NAG 5 13230	375
33	JOHNS HOPKINS UNIV	S R LONG	GSFC	O PHILLIPS	NAG 5 5047	235
33	JOHNS HOPKINS UNIV	S R LONG	GSFC	E GROSS	NAG 5 5314	235
33	MASSACHUSETTS INST OF TECH	C TREES	GSFC	M FELLOWS	NAG 5 12490	288
33	MASSACHUSETTS INST OF TECH	E LINDSTROM	GSFC	P RIZZOLI	NAG 5 11746	288
33	MASSACHUSETTS INST OF TECH	S HAKKINEN	GSFC	C WUNSCH	NAG 5 12871	289
33	MISSISSIPPI STATE UNIV	D POWE	SSC	L RITCHIE	NAS13 98033	321
33	NY UNIV	M RIENECKER	GSFC	R KLEEMAN	NAG 5 12427	376
33	NORTH CAROLINA STATE UNIV. - RALEIGH	C A TREES	GSFC	D KAMYKOWSKI	NAG 5 6586	393
33	OHIO STATE UNIV	W ABDALATI	GSFC	C V DER VEEN	NAG 5 10978	408
33	OHIO STATE UNIV	W ABDALATI	GSFC	K JEZEK	NAG 5 11383	408
33	OHIO STATE UNIV	W ABDALATI	GSFC	C K SHUM	NAG 5 12585	409
33	OLD DOMINION UNIV	J MARRA	GSFC	G F COTA	NAG 5 10528	506
33	OREGON STATE UNIV	M FLYNN	ARC	G P KLINKHAMMER	NCC 2 5515	425
33	OREGON STATE UNIV	H OSEROFF	GSFC	M R ABBOTT	NAS 5 31360	425
33	OREGON STATE UNIV	J MARRA	GSFC	K S SHIFRIN	NAG 5 10623	423
33	OREGON STATE UNIV	J R MOISAN	GSFC	R M LETELIER	NAG 5 5311	423
33	OREGON STATE UNIV	R RAY	GSFC	G D EGBERT	NAG 5 9159	423
33	OREGON STATE UNIV	R RAY	GSFC	G D EGBERT	NCC 5 711	425
33	OREGON STATE UNIV	S HAKKINEN	GSFC	R P MATANO	NAG 5 12378	424
33	OREGON STATE UNIV	S HAKKINEN	GSFC	M H FREILICH	NAG 5 12757	425
33	PRINCETON UNIV	C TREES	GSFC	J SARMIENTO	NAG 5 12544	347
33	PRINCETON UNIV	S HAKKINEN	GSFC	G PHILANDER	NAG 5 12387	347
33	SALISBURY STATE UNIV	T MOISAN	WFF	T JONES	NAG 5 5342	250
33	SAN DIEGO STATE UNIV	C R CRANE	GSFC	J L MUELLER	NAS 5 00199	49
33	SAN DIEGO STATE UNIV	C R MCCLAIN	GSFC	C C TREES	NAS 5 00202	49
33	STANFORD UNIV	J MARRA	GSFC	K ARRIGO	NAG 5 11264	57
33	STATE UNIV OF NY - STONY BROOK	E LINDSTROM	GSFC	D WALISER	NAG 5 11033	382
33	TEXAS A&M UNIV	E LINDSTROM	GSFC	W NOWLIN	NAG 5 10829	469
33	TEXAS A&M UNIV	W ABDALATI	GSFC	A STOESSEL	NAG 5 10641	469
33	U OF MD CTR FOR ENVIR SCI - CAMBRIDGE	C R MCCLAIN	GSFC	L W HARDING	NAS 5 00195	250
33	UNIV OF CALIFORNIA - IRVINE	S R LONG	GSFC	J N YANG	NAG 5 5149	79
33	UNIV OF CALIFORNIA - LOS ANGELES	C TREES	GSFC	N GRUBER	NAG 5 12528	87
33	UNIV OF CALIFORNIA - SAN DIEGO	C J KOBLINSKY	GSFC	P NIILER	NAG 5 13485	98
33	UNIV OF CALIFORNIA - SAN DIEGO	C KOBLINSKY	GSFC	P P NIILER	NAG 5 8351	94
33	UNIV OF CALIFORNIA - SAN DIEGO	C R MCCAIN	GSFC	R FROUIN	NAS 5 00194	99
33	UNIV OF CALIFORNIA - SAN DIEGO	C R MCCLAIN	GSFC	B G MITCHELL	NAS 5 01002	99
33	UNIV OF CALIFORNIA - SAN DIEGO	E LINDSTROM	GSFC	W WHITE	NAG 5 7096	93
33	UNIV OF CALIFORNIA - SAN DIEGO	E LINDSTROM	GSFC	D STAMMER	NAG 5 11765	96
33	UNIV OF CALIFORNIA - SAN DIEGO	G A SOFFEN	GSFC	B G MITCHELL	NGT 5 106	100
33	UNIV OF CALIFORNIA - SAN DIEGO	H V FREY	GSFC	Y BOCK	NAG 5 13269	98
33	UNIV OF CALIFORNIA - SAN DIEGO	J MARRA	GSFC	R KEELING	NAG 5 10737	95
33	UNIV OF CALIFORNIA - SAN DIEGO	S HAKKINEN	GSFC	S G LLEWELLYN SMITH	NAG 5 12388	97
33	UNIV OF CALIFORNIA - SAN DIEGO	S HAKKINEN	GSFC	D STAMMER	NAG 5 12870	97
33	UNIV OF CALIFORNIA - SAN DIEGO	S LONG	WFF	D HUANG	NAG 5 5386	93
33	UNIV OF CALIFORNIA - SANTA BARBARA	C R MCCLAIN	GSFC	S MARITORENA	NAS 5 00196	105
33	UNIV OF CALIFORNIA - SANTA BARBARA	C R MCCLAIN	GSFC	D A SIEGEL	NAS 5 00200	105
33	UNIV OF CALIFORNIA - SANTA BARBARA	C R MCCLAIN	GSFC	D A SIEGEL	NAS 5 00201	105
33	UNIV OF CALIFORNIA - SANTA BARBARA	C TREES	GSFC	D SIEGEL	NAG 5 13277	104
33	UNIV OF CALIFORNIA - SANTA BARBARA	H OSEROFF	GSFC	Z WAN	NAS 5 31370	105
33	UNIV OF CALIFORNIA - SANTA CRUZ	W ABDALATI	GSFC	S TULACZYK	NAG 5 12574	108
33	UNIV OF DELAWARE	S HAKKINEN	GSFC	X YAN	NAG 5 12745	145
33	UNIV OF HAWAII AT MANOA - HONOLULU	C J KOBLINSKY	GSFC	N MAXIMENKO	NAG 5 13388	192
33	UNIV OF HAWAII AT MANOA - HONOLULU	S HAKKINEN	GSFC	T QU	NAG 5 12756	191
33	UNIV OF KANSAS	W ABDALATI	GSFC	P KANAGARATNAM	NAG 5 12588	223

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33	UNIV OF MARYLAND - COLL PARK	E LINDSTROM	GSFC	R WAJSOWICZ	NAG 5 3960	252
33	UNIV OF MARYLAND - COLL PARK	E LINDSTROM	GSFC	R MURTUGUDDE	NAG 5 10981	257
33	UNIV OF MARYLAND - COLL PARK	M RIENECKER	GSFC	R WAJSOWICZ	NAG 5 11291	257
33	UNIV OF MARYLAND - COLL PARK	S HAKKINEN	GSFC	R MURTUGUDDE	NAG 5 12376	260
33	UNIV OF MARYLAND - COLL PARK	G FLETCHERT	SSC	A SUBRAMANIAM	NAG13 02009	263
33	UNIV OF MARYLAND BALTIMORE COUNTY	C R MCCLAIN	GSFC	M WANG	NAS 5 00203	272
33	UNIV OF MIAMI	E LINDSTROM	GSFC	H GRABER	NAG 5 11864	171
33	UNIV OF MIAMI	H OSEROFF	GSFC	O B BROWN	NAS 5 31361	171
33	UNIV OF MIAMI	J DODGE	GSFC	R EVANS	NAG 5 10588	171
33	UNIV OF NORTH CAROLINA - CHAPEL HILL	T MOISAN	GSFC	J BANE	NAG 5 5423	395
33	UNIV OF PUERTO RICO - MAYAGUEZ	C W WRIGHT	WFF	E WEIL	NAG 5 5302	539
33	UNIV OF PUGET SOUND	W ABDALATI	GSFC	A THORNDIKE	NAG 5 11836	519
33	UNIV OF RHODE ISLAND	J MARRA	GSFC	J YODER	NAG 5 10555	450
33	UNIV OF RHODE ISLAND	M MAIDEN	GSFC	P CORNILLON	NCC 5 307	451
33	UNIV OF RHODE ISLAND	S HAKKINEN	GSFC	I BELKIN	NAG 5 12741	450
33	UNIV OF SOUTH FLORIDA	G S HAYNE	GSFC	G T MITCHUM	NAG 5 5202	172
33	UNIV OF SOUTH FLORIDA	J MARRA	GSFC	C CHU	NAG 5 10738	172
33	UNIV OF SOUTHERN MISSISSIPPI	J MARRA	GSFC	S E LOHRENZ	NAG 5 9770	322
33	UNIV OF WASHINGTON	A ANDERSON	GSFC	D L HARTMANN	NAG 5 10624	523
33	UNIV OF WASHINGTON	B EMERY	GSFC	R FOSTER	NAG 5 13128	525
33	UNIV OF WASHINGTON	J MARRA	GSFC	S RISER	NAG 5 11079	524
33	UTAH STATE UNIV	M FLYNN	ARC	L POWERS	NCC 2 5514	494
33	WEST VIRGINIA UNIV	B R LONG	WFF	Y XU	NAG 5 5364	530
33	WOODS HOLE OCEANOGRAPHIC INST	C R MCCLAIN	GSFC	J R MORRISON	NAS 5 00198	301
33	WOODS HOLE OCEANOGRAPHIC INST	C TREES	GSFC	S C DONEY	NAG 5 12488	300
33	WOODS HOLE OCEANOGRAPHIC INST	J MARRA	GSFC	D M GLOVER	NAG 5 9858	300
39	ALABAMA A&M UNIV	S NASH-STEVENSON	MSFC	W MCALLISTER	NGT 8 52918	2
39	ARIZONA STATE UNIV	D ANDERSON	GSFC	P BUSECK	NAG 5 11552	18
39	ARIZONA STATE UNIV	H BLODGET	GSFC	P CHRISTENSEN	NAS 5 31371	19
39	AUBURN UNIV	D DEERING	GSFC	K MCNABB	NCC 5 333	3
39	AUBURN UNIV	J R ARNOLD	MSFC	U HATCH	NCC 8 151	3
39	BOSTON UNIV	D L WILLIAMS	GSFC	C WOODCOCK	NAG 5 3439	273
39	BOSTON UNIV	D L WILLIAMS	GSFC	R K KAUFMANN	NAG 5 12840	275
39	BOSTON UNIV	D WICKLAND	GSFC	C SCHAAF	NAG 5 11263	274
39	BOSTON UNIV	DODGE	GSFC	R MYNENI	NAG 5 9547	273
39	BOSTON UNIV	G GUTMAN	GSFC	G SALVUCCI	NAG 5 11338	274
39	BOSTON UNIV	M WEI	GSFC	R MYNENI	NGT 5 30223	275
39	BOSTON UNIV	P R HOUSER	GSFC	G D SALVUCCI	NAG 5 11695	274
39	BOWIE STATE UNIV	E MIDDLETON	GSFC	W T LAWRENCE	NCC 5 507	233
39	BOWIE STATE UNIV	M L IMHOFF	GSFC	W LAWRENCE	NAG 5 6476	232
39	BOWIE STATE UNIV	M L IMHOFF	GSFC	W LAWRENCE	NAG 5 7669	232
39	BOWIE STATE UNIV	M L IMHOFF	GSFC	W LAWRENCE	NAG 5 10034	232
39	BOWIE STATE UNIV	M L IMHOFF	GSFC	W LAWRENCE	NAG 5 11450	233
39	BRANDEIS UNIV	C W LLOYD	JSC	J R LACKNER	NAG 9 1263	276
39	BRIGHAM YOUNG UNIV	E LINDSTROM	GSFC	D LONG	NAG 5 8746	490
39	BRIGHAM YOUNG UNIV	J DODGE	GSFC	D LONG	NAG 5 9625	490
39	BROWN UNIV	G GUTMAN	GSFC	J F MUSTARD	NAG 5 11145	447
39	BROWN UNIV	S G UNGAR	GSFC	J F MUSTARD	NCC 5 487	449
39	BUCKNELL UNIV	E T ENGMAN	GSFC	R D CRAGO	NAG 5 8679	427
39	BUCKNELL UNIV	E T ENGMAN	GSFC	R D CRAGO	NAG 5 8699	427
39	CALIFORNIA INST OF TECH	D ANDERSON	GSFC	R FLAGAN	NAG 5 11549	41
39	CALIFORNIA INST OF TECH	D WICKLAND	GSFC	J RANDERSON	NAG 5 9462	39
39	CALIFORNIA INST OF TECH	D WICKLAND	GSFC	P WENNBERG	NAG 5 12247	42
39	CALIFORNIA INST OF TECH	M KURYLO	GSFC	M OKAMURA	NAG 5 11657	41
39	CALIFORNIA INST OF TECH	M WEI	GSFC	M SIMONS	NAG 5 12564	42
39	CALIFORNIA INST OF TECH	M Y WEI	GSFC	B C MURRAY	NGT 5 30138	44
39	CALIFORNIA INST OF TECH	P DECOLA	GSFC	P WENNBERG	NAG 5 8922	38
39	CALIFORNIA INST OF TECH	P DECOLA	GSFC	P WENNBERG	NAG 5 11739	41
39	CALIFORNIA INST OF TECH	P HOUSER	GSFC	Y L YUNG	NAG 5 9487	39
39	CALIFORNIA POLYTECH STATE U-SAN LUIS	M WEI	GSFC	M A MOLINE	NAG 5 8674	45
39	CALIFORNIA STATE UNIV - LONG BEACH	A J TUYAHOV	GSFC	C T LEE	NAG 5 9310	46
39	CALIFORNIA STATE UNIV - LONG BEACH	B MEESON	GSFC	E AMBOS	NCC 5 329	46
39	CALIFORNIA STATE UNIV - MONTEREY BAY	J C COUGHLAN	ARC	S E ALEXANDER	NCC 2 1186	47
39	CALIFORNIA STATE UNIV - MONTEREY BAY	D L WILLIAMS	GSFC	S A KLOOSTER	NCC 5 703	47

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39	CALIFORNIA STATE UNIV - MONTEREY BAY	R MCKELLIP	SSC	L F JOHNSON	NAG13 99020	47
39	CALIFORNIA STATE UNIV - MONTEREY BAY	R MCKELLIP	SSC	F WATSON	NCC13 03009	47
39	CITY UNIV OF NY CITY COLL	M KURYLO	GSFC	P M SOLOMON	NAG 5 11690	361
39	CITY UNIV OF NY CITY COLL	H BARNES	LARC	R R ALFANO	NCC 1 03009	362
39	CLARK UNIV	S S WEGENER	ARC	S HERWITZ	NCC 2 1270	276
39	CLARK UNIV	M WEI	GSFC	B L TURNER	NGT 5 97	276
39	CLARK UNIV	M WEI	GSFC	B L TURNER	NGT 5 30197	277
39	CLARK UNIV	M WEI	GSFC	B L TURNER	NGT 5 30217	277
39	CLARK UNIV	M Y WEI	GSFC	J GEOGHEGAN	NAG 5 8559	276
39	CLARK UNIV	M Y WEI	GSFC	B L TURNER	NGT 5 30147	277
39	COLORADO STATE UNIV	D ANDERSON	GSFC	G L STEPHENS	NAG 5 11475	116
39	COLORADO STATE UNIV	D ANDERSON	GSFC	P J DEMOTT	NAG 5 11476	116
39	COLORADO STATE UNIV	D ANDERSON	GSFC	W R COTTON	NAG 5 11507	116
39	COLORADO STATE UNIV	D W DEERING	GSFC	A DENNING	NCC 5 284	117
39	COLORADO STATE UNIV	D WILLIAMS	GSFC	A DENNING	NCC 5 707	118
39	COLORADO STATE UNIV	G C GUTMAN	GSFC	D OJIMA	NAG 5 4646	115
39	COLORADO STATE UNIV	G GUTMAN	GSFC	D OJIMA	NAG 5 11073	115
39	COLORADO STATE UNIV	M WEI	GSFC	R CONANT	NAG 5 10593	115
39	COLORADO STATE UNIV	M WEI	GSFC	R BRUMMER	NAG 5 12655	116
39	COLORADO STATE UNIV	M WEI	GSFC	S A RUTLEDGE	NGT 5 30218	118
39	COLORADO STATE UNIV	M WEI	GSFC	V CHANDRAEKAR	NGT 5 30421	118
39	COLORADO STATE UNIV	P DECOLA	GSFC	A DENNING	NCC 5 621	117
39	COLORADO STATE UNIV	P R HOUSER	GSFC	R A PIELKE	NAG 5 11370	116
39	COLORADO STATE UNIV	P R HOUSER	GSFC	G LISTON	NAG 5 11710	116
39	COLORADO STATE UNIV	P R HOUSER	GSFC	D RANDALL	NAG 5 11737	116
39	COLORADO STATE UNIV	C DEL CASTILLO	SSC	I BURKE	NAG13 02005	117
39	COLUMBIA UNIV	C TREES	GSFC	T TAKAHASHI	NAG 5 11357	365
39	COLUMBIA UNIV	D ANDERSON	GSFC	B CAIRNS	NAG 5 11530	365
39	COLUMBIA UNIV	D L PIERCE	GSFC	B CAIRNS	NAG 5 5275	363
39	COLUMBIA UNIV	J MARRA	GSFC	O ANDERSON	NAG 5 11215	365
39	COLUMBIA UNIV	M WEI	GSFC	A SOBEL	NAG 5 10607	365
39	COLUMBIA UNIV	M WEI	GSFC	W MENKE	NGT 5 30374	368
39	COLUMBIA UNIV	M WEI	GSFC	D MARTINSON	NGT 5 30391	368
39	COLUMBIA UNIV	M WEI	GSFC	M CANE	NGT 5 50323	368
39	COLUMBIA UNIV	M Y WEI	GSFC	T TAKAHASHI	NGT 5 30167	368
39	COLUMBIA UNIV	P R HOUSER	GSFC	M STIEGLITZ	NAG 5 9759	364
39	COLUMBIA UNIV	P R HOUSER	GSFC	S MENON	NAG 5 11697	365
39	COLUMBIA UNIV	Q A BARKER	GSFC	R CHEN	NAS 5 03117	367
39	COLUMBIA UNIV	Q BARKER	GSFC	R S CHEN	NAS 5 98162	367
39	COLUMBIA UNIV	R KOSTER	GSFC	M STIEGLITZ	NCC 5 510	367
39	COLUMBIA UNIV	S GOGINENI	GSFC	D G MARTINSON	NAG 5 6876	364
39	COLUMBIA UNIV	S GOGINENI	GSFC	S S JACOBS	NAG 5 7461	364
39	COLUMBIA UNIV	S GOGINENI	GSFC	D MARTINSON	NAG 5 7922	364
39	COLUMBIA UNIV	W ABDALATI	GSFC	X YUAN	NAG 5 12586	365
39	CORNELL UNIV	D DEERING	GSFC	E FERNANDES	NCC 5 298	373
39	CORNELL UNIV	D L WILLIAMS	GSFC	E C FERNANDES	NCC 5 705	374
39	CORNELL UNIV	E R LEVINE	GSFC	S RIHA	NAG 5 12676	372
39	CORNELL UNIV	J BOYCE	GSFC	R J SULLIVAN	NAG 5 9794	370
39	CORNELL UNIV	J MARRA	GSFC	B MONGER	NAG 5 10848	371
39	CORNELL UNIV	M WEI	GSFC	L O HEDIN	NGT 5 30210	374
39	DARTMOUTH COLL	P HOUSER	GSFC	R BRAKENRIDGE	NAG 5 9470	338
39	DINE COLL (FORMERLY NAVAJO COMM COLL)	R E TRAVIS	SSC	D C ISELY	NAG13 03005	21
39	DREXEL UNIV	R MILLER	SSC	M PIASECKI	NAG13 00040	431
39	DUKE UNIV	B W MEESON	GSFC	R B JACKSON	NAG 5 12497	387
39	DUKE UNIV	E T ENGMAN	GSFC	S ROJSTACZER	NAG 5 8533	387
39	DUKE UNIV	J MARRA	GSFC	R T BARBER	NAG 5 9348	387
39	DUKE UNIV	M WEI	GSFC	J D ALBERTSON	NAG 5 12649	387
39	DUKE UNIV	M WEI	GSFC	J REYNOLDS	NGT 5 30355	388
39	DUKE UNIV	P DECOLA	GSFC	P KASIBHATLA	NAG 5 9605	387
39	DUKE UNIV	P HOUSER	GSFC	R AVISSAR	NAG 5 11401	387
39	DUKE UNIV	P R HOUSER	GSFC	R AVISSAR	NAG 5 11400	387
39	DUKE UNIV	P R HOUSER	GSFC	J ALBERTSON	NAG 5 11680	387
39	DUKE UNIV	T LEE	GSFC	R AVISSAR	NAG 5 13781	387
39	DUKE UNIV	Y SUD	GSFC	R AVISSAR	NAG 5 11402	387
39	ELIZABETH CITY STATE UNIV	B MEESON	GSFC	L HAYDEN	NAG 5 9371	389
39	ELIZABETH CITY STATE UNIV	B MEESON	GSFC	L B HAYDEN	NAG 5 9372	389

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39	FLORIDA STATE UNIV	E LINDSTROM	GSFC	W DEWAR	NAG 5 7630	161
39	FLORIDA STATE UNIV	E LINDSTROM	GSFC	J J O'BRIEN	NAG 5 8327	161
39	FLORIDA STATE UNIV	E LINDSTROM	GSFC	J O'BRIEN	NAG 5 12487	162
39	FLORIDA STATE UNIV	E T ENGMAN	GSFC	S E NICHOLSON	NAG 5 8598	161
39	FLORIDA STATE UNIV	J C DODGE	GSFC	H J COOPER	NAG 5 6665	161
39	FLORIDA STATE UNIV	J C DODGE	GSFC	P G ELLINGSON	NAG 5 12097	162
39	FLORIDA STATE UNIV	M Y WEI	GSFC	J J OBRIEN	NGT 5 30158	163
39	FLORIDA STATE UNIV	M Y WEI	GSFC	D NOF	NGT 5 30164	163
39	GEORGE MASON UNIV	A T CHANG	GSFC	L CHIU	NAG 5 10879	498
39	GEORGE MASON UNIV	A T CHANG	GSFC	L CHIU	NAG 5 11346	498
39	GEORGE MASON UNIV	A T CHANG	GSFC	L S CHIU	NAG 5 12640	499
39	GEORGE MASON UNIV	W GRAHAM	SSC	M KAFATOS	NAG13 01009	499
39	GEORGIA INST OF TECH	D ANDERSON	GSFC	J A CURRY	NAG 5 13515	179
39	GEORGIA INST OF TECH	E T ENGMAN	GSFC	C D PETERS-LIDARD	NAG 5 8698	178
39	GEORGIA INST OF TECH	M KURYLO	GSFC	P H WINE	NAG 5 8931	178
39	GEORGIA INST OF TECH	M WEI	GSFC	W L CHAMEIDES	NGT 5 50330	183
39	GEORGIA INST OF TECH	M Y WEI	GSFC	R E DICKINSON	NAG 5 8880	178
39	GEORGIA INST OF TECH	P DECOLA	GSFC	M CHIN	NAG 5 11479	179
39	GEORGIA INST OF TECH	P R HOUSER	GSFC	R FU	NAG 5 11671	179
39	GEORGIA INST OF TECH	R TRAVIS	SSC	K MAXWELL	NGT13 52742	183
39	HAMPTON UNIV	D ANDERSON	GSFC	D WANG	NAG 5 11477	501
39	HARVARD UNIV	D ANDERSON	GSFC	J ANDERSON	NAG 5 11547	279
39	HARVARD UNIV	D ANDERSON	GSFC	J ANDERSON	NAG 5 11548	279
39	HARVARD UNIV	D ANDERSON	GSFC	S C WOFYSY	NAG 5 11638	279
39	HARVARD UNIV	D W DEERING	GSFC	S C WOFYSY	NCC 5 341	280
39	HARVARD UNIV	D W DEERING	GSFC	S C WOFYSY	NCC 5 590	280
39	HARVARD UNIV	D WILLIAMS	GSFC	S WOFYSY	NCC 5 684	280
39	HARVARD UNIV	M WEI	GSFC	J ANDERSON	NGT 5 30336	280
39	HARVARD UNIV	P DECOLA	GSFC	D J JACOB	NAG 5 9643	278
39	HARVARD UNIV	P DECOLA	GSFC	M MCELROY	NAG 5 11431	278
39	HERITAGE COLL	D TRAVIS	SSC	D FALCO	NAG13 02057	519
39	IDAHO STATE UNIV	W TURNER	GSFC	K T WEBER	NAG 5 10982	194
39	IDAHO STATE UNIV	W TURNER	GSFC	K T WEBER	NAG 5 12301	194
39	INDIANA UNIV - BLOOMINGTON	D DEERING	GSFC	E MORAN	NCC 5 334	211
39	INDIANA UNIV - BLOOMINGTON	D L WILLIAMS	GSFC	E F MORAN	NCC 5 695	211
39	IOWA STATE UNIV	M WEI	GSFC	T CHEN	NGT 5 30419	219
39	IOWA STATE UNIV	E K GIBSON	JSC	P A BAZLINSKI	NAG 9 1115	217
39	JOHNS HOPKINS UNIV	K H BERGMAN	GSFC	M B PARLANGE	NAG 5 9426	237
39	JOHNS HOPKINS UNIV	M WEI	GSFC	D WAUGH	NGT 5 50328	248
39	JOHNS HOPKINS UNIV	P E HUNTER	GSFC	A SZALAY	NAG 5 8590	236
39	JOHNS HOPKINS UNIV	W ABDALATI	GSFC	R RANEY	NAG 5 11829	242
39	JOHNS HOPKINS UNIV	W ABDALATI	GSFC	R RANEY	NAG 5 13241	246
39	KANSAS STATE UNIV	G GUTMAN	GSFC	L JOHNSON	NAG 5 11337	222
39	KENT STATE UNIV	M WEI	GSFC	D L WITTER	NAG 5 11266	405
39	LOUISIANA STATE UNIV - BATON ROUGE	C MCKAY	ARC	F A RAINEY	NCC 2 5469	228
39	LOUISIANA STATE UNIV - BATON ROUGE	R TRAVIS	SSC	B S GOODWIN	NGT13 52743	228
39	MASSACHUSETTS INST OF TECH	E LINDSTROM	GSFC	C WUNSCH	NAG 5 7857	284
39	MASSACHUSETTS INST OF TECH	E LINDSTROM	GSFC	C WUNSCH	NAG 5 11933	288
39	MASSACHUSETTS INST OF TECH	E T ENGMAN	GSFC	E B ELTAHIR	NAG 5 8617	285
39	MASSACHUSETTS INST OF TECH	E T ENGMAN	GSFC	D MCLAUGHLIN	NCC 5 416	293
39	MASSACHUSETTS INST OF TECH	M WEI	GSFC	E ELTAHIR	NAG 5 7525	284
39	MASSACHUSETTS INST OF TECH	M WEI	GSFC	K X WHIPPLE	NGT 5 30188	294
39	MASSACHUSETTS INST OF TECH	M WEI	GSFC	J MARSHALL	NGT 5 30189	294
39	MASSACHUSETTS INST OF TECH	M WEI	GSFC	D ENTEKHABI	NGT 5 30190	294
39	MASSACHUSETTS INST OF TECH	M WEI	GSFC	R L BRAS	NGT 5 30212	294
39	MASSACHUSETTS INST OF TECH	M WEI	GSFC	B TROUT	NGT 5 30334	294
39	MASSACHUSETTS INST OF TECH	M WEI	GSFC	C WUNSCH	NGT 5 30337	294
39	MASSACHUSETTS INST OF TECH	M WEI	GSFC	R BRAS	NGT 5 30339	294
39	MASSACHUSETTS INST OF TECH	P DECOLA	GSFC	M MOLINA	NAG 5 8887	285
39	MASSACHUSETTS INST OF TECH	P L DECOLA	GSFC	R G PRINN	NAG 5 12099	288
39	MASSACHUSETTS INST OF TECH	P R HOUSER	GSFC	D ENTEKHABI	NAG 5 11602	287
39	MASSACHUSETTS INST OF TECH	P R HOUSER	GSFC	D B MCLAUGHLIN	NAG 5 11721	288
39	MASSACHUSETTS INST OF TECH	T KUCERA	GSFC	J RICHARDSON	NAG 5 13598	290
39	MICHIGAN STATE UNIV	D DEERING	GSFC	D SKOLE	NCC 5 291	303
39	MICHIGAN STATE UNIV	D L WILLIAMS	GSFC	R T WALKER	NCC 5 694	303

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39	MICHIGAN STATE UNIV	G GUTMAN	GSFC	D L SKOLE	NAG 5 11740	302
39	MICHIGAN STATE UNIV	M WEI	GSFC	J MESSINA	NAG 5 12617	303
39	MICHIGAN STATE UNIV	M WEI	GSFC	M COCHRANE	NAG 5 12627	303
39	MICHIGAN STATE UNIV	G GUTMAN	HQ	J QI	NAG 5 9286	302
39	MICHIGAN TECHNOLOGICAL UNIV	P R HOUSER	GSFC	D K NYKANEN	NAG 5 12690	304
39	MICHIGAN TECHNOLOGICAL UNIV	S GOGINENI	GSFC	D PILANT	NAG 5 7051	304
39	MISSISSIPPI STATE UNIV	R MCKELLIP	SSC	S ROBERTS	NAG13 99018	321
39	MONTANA STATE UNIV	G GUTMAN	GSFC	A HANSEN	NAG 5 9300	330
39	MONTANA STATE UNIV	G GUTMAN	GSFC	A HANSEN	NAG 5 11158	330
39	MONTANA STATE UNIV	K BLANDING	GSFC	J C PRISCU	NGT 5 50481	332
39	MONTANA TECH OF THE U OF MONT	N KHAZENIE	GSFC	T MOON	NAG 5 9139	332
39	MT HOLYOKE COLL	M Y WEI	GSFC	J L BUBIER	NAG 5 8635	294
39	NEW MEXICO HIGHLANDS UNIV	L M ARMENDARIZ	JSC	J C DE BACA	NAG 9 1393	354
39	NEW MEXICO INST OF MINING & TECH	D WICKLAND	GSFC	E E SMALL	NAG 5 9328	354
39	NEW MEXICO INST OF MINING & TECH	F K GIBSON	JSC	T L KIEFT	NAG 9 1106	354
39	NEW MEXICO STATE UNIV - LAS CRUCES	C E WADE	ARC	E E SERRANO	NAG 2 1334	354
39	NEW MEXICO STATE UNIV - LAS CRUCES	A RODRIGUEZ	GSFC	B BLEVINS	NAS 5 02087	356
39	NY UNIV	M REINECKER	GSFC	R KLEEMAN	NAG 5 9871	376
39	NORFOLK STATE UNIV	B MEESON	GSFC	S J CHAUDHURY	NAG 5 9374	503
39	NORFOLK STATE UNIV	N KHAZENIE	GSFC	W J RODRIGUEZ	NAG 5 6298	503
39	NORTH CAROLINA A&T STATE UNIV	J MARRA	GSFC	J MORRISON	NAG 5 13097	390
39	NORTH CAROLINA STATE UNIV. - RALEIGH	G GUTMAN	GSFC	S WALSH	NAG 5 11830	393
39	NORTH CAROLINA STATE UNIV. - RALEIGH	J MARRA	GSFC	J MORRISON	NAG 5 8865	393
39	NORTH CAROLINA STATE UNIV. - RALEIGH	M WEI	GSFC	J M MORRISON	NGT 5 30192	394
39	NORTH CAROLINA STATE UNIV. - RALEIGH	D JAN	JSC	C KIM	NAG 9 1423	393
39	NORTH DAKOTA STATE UNIV	A PEEK	SSC	J NOWATZKI	NAG13 02007	396
39	OHIO STATE UNIV	D L WILLIAMS	GSFC	C MERRY	NAG 5 7685	407
39	OHIO STATE UNIV	E LIDSTROM	GSFC	K N BERLINER	NAG 5 8455	407
39	OHIO STATE UNIV	K PARTINGTON	GSFC	C K SHUM	NAG 5 9335	407
39	OHIO STATE UNIV	M WEI	GSFC	K JEZEK	NGT 5 30533	411
39	OHIO STATE UNIV	P HOUSER	GSFC	D BROMWICH	NAG 5 9596	408
39	OHIO STATE UNIV	P R HOUSER	GSFC	C J VAN DER VEEN	NAG 5 11749	409
39	OHIO STATE UNIV	R KAKAR	GSFC	D BROMWICH	NAG 5 9518	407
39	OHIO STATE UNIV	S GOGINENI	GSFC	K C JEZEK	NAG 5 7286	407
39	OHIO STATE UNIV	S GOGINENI	GSFC	D H BROMWICH	NAG 5 7750	407
39	OHIO STATE UNIV	S GOGINENI	GSFC	R R FORSTER	NAG 5 7848	407
39	OHIO STATE UNIV	W ABDALATI	GSFC	K JEZEK	NAG 5 9538	408
39	OHIO STATE UNIV	W ABDALATI	GSFC	D BROMWICH	NAG 5 11794	409
39	OHIO STATE UNIV	W ABDALATI	GSFC	D BROMWICH	NAG 5 12407	409
39	OKLAHOMA STATE UNIV	D E WICKLAND	GSFC	S J STADLER	NAG 5 7451	420
39	OKLAHOMA STATE UNIV	R MCKELLIP	SSC	G JOHSON	NCC13 02002	420
39	OREGON STATE UNIV	C TREES	GSFC	M R ABBOTT	NAG 5 11125	424
39	OREGON STATE UNIV	C TREES	GSFC	W PEGAU	NAG 5 12404	424
39	OREGON STATE UNIV	D ANDERSON	GSFC	C H TWOHY	NAG 5 11534	424
39	OREGON STATE UNIV	D E WICKLAND	GSFC	R H WARING	NAG 5 7506	423
39	OREGON STATE UNIV	D E WICKLAND	GSFC	W B COHEN	NAG 5 7856	423
39	OREGON STATE UNIV	E T ENGMAN	GSFC	L MAHRT	NAG 5 8601	423
39	OREGON STATE UNIV	G GUTMAN	GSFC	O N KRANKINA	NAG 5 9677	423
39	OREGON STATE UNIV	G GUTMAN	GSFC	O KRANKINA	NAG 5 11250	424
39	OREGON STATE UNIV	M WEI	GSFC	R P DICK	NGT 5 96	425
39	OREGON STATE UNIV	M WEI	GSFC	B MATE	NGT 5 30185	425
39	OREGON STATE UNIV	M WEI	GSFC	W B COHEN	NGT 5 30214	425
39	OREGON STATE UNIV	P R HOUSER	GSFC	L MAHRT	NAG 5 11586	424
39	PENN STATE UNIV. - UNIV. PARK	D ANDERSON	GSFC	J VERLINDE	NAG 5 11472	437
39	PENN STATE UNIV. - UNIV. PARK	D L WILLIAMS	GSFC	W L MYERS	NAG 5 10541	436
39	PENN STATE UNIV. - UNIV. PARK	E T ENGMAN	GSFC	D MILLER	NAG 5 8738	435
39	PENN STATE UNIV. - UNIV. PARK	M WEI	GSFC	E J BARRON	NAG 5 4553	434
39	PENN STATE UNIV. - UNIV. PARK	M WEI	GSFC	S BRANTLEY	NGT 5 30193	441
39	PENN STATE UNIV. - UNIV. PARK	M WEI	GSFC	G JENKINS	NGT 5 30420	441
39	PENN STATE UNIV. - UNIV. PARK	N MAYNARD	GSFC	D A MILLER	NAG 5 12242	437
39	PENN STATE UNIV. - UNIV. PARK	P R HOUSER	GSFC	D R STAUFFER	NAG 5 8735	435
39	PENN STATE UNIV. - UNIV. PARK	P R HOUSER	GSFC	C J DUFFY	NAG 5 12611	437
39	PENN STATE UNIV. - UNIV. PARK	S GOGINENI	GSFC	R ALLEY	NAG 5 7776	435
39	PRINCETON UNIV	C TREES	GSFC	J SARMIENTO	NAG 5 12398	347
39	PRINCETON UNIV	J DODGE	GSFC	E WOOD	NAG 5 9414	346

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39	PRINCETON UNIV	M WEI	GSFC	L RUSSELL	NAG 5 8676	346
39	PRINCETON UNIV	M WEI	GSFC	D MAUZERALL	NAG 5 12542	347
39	PRINCETON UNIV	M WEI	GSFC	G PHILANDER	NGT 5 30333	348
39	PRINCETON UNIV	M WEI	GSFC	A DOBSON	NGT 5 30341	348
39	PRINCETON UNIV	M WEI	GSFC	J SARMIENTO	NGT 5 30356	348
39	PRINCETON UNIV	M WEI	GSFC	E F WOOD	NGT 5 50333	348
39	PRINCETON UNIV	P DECOLA	GSFC	D L MAUZERALL	NAG 5 9810	346
39	PRINCETON UNIV	P HOUSER	GSFC	E WOOD	NAG 5 9486	346
39	PRINCETON UNIV	P R HOUSER	GSFC	E F WOOD	NAG 5 11610	347
39	PRINCETON UNIV	P R HOUSER	GSFC	J A SMITH	NAG 5 12581	347
39	PURDUE UNIV	E LINDSTROM	GSFC	J GARRISON	NAG 5 11747	212
39	PURDUE UNIV	M WEI	GSFC	J GARRISON	NAG 5 12551	213
39	PURDUE UNIV	R MCKELLIP	SSC	C J JOHANNSEN	NAG13 00001	214
39	RICE UNIV	D M RUSSO	JSC	G M SWAIN	NAG 9 01481	467
39	RICE UNIV	D M RUSSO	JSC	F K TITTEL	NAG 9 01482	467
39	ROCHESTER INST OF TECH	B L MARKHAM	GSFC	J SCHOTT	NAG 5 11298	378
39	ROCHESTER INST OF TECH	T D GUBBELS	GSFC	A VODECEK	NAG 5 10051	378
39	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	E LINSTROM	GSFC	D HAIDVOGEL	NAG 5 9847	350
39	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	J MARRA	GSFC	Y GAO	NAG 5 9340	350
39	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	J MARRA	GSFC	P G FALKONSKI	NAG 5 11345	350
39	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	K BERGMAN	GSFC	A ROBECK	NAG 5 9792	350
39	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	P R HOUSER	GSFC	D A ROBINSON	NAG 5 11403	351
39	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	P R HOUSER	GSFC	J R MILLER	NAG 5 11720	351
39	RUTGERS STATE UNIV OF NJ NEW BRUNS	J MARRA	GSFC	P G FALKOWSKI	NAG 5 11356	352
39	RUTGERS STATE UNIV OF NJ NEW BRUNS	P R HOUSER	GSFC	J A FRANCIS	NAG 5 11585	352
39	SALISH KOOTENAI COLL	B MEESON	GSFC	J M GOBERT	NAG 5 9368	332
39	SALISH KOOTENAI COLL	N K HAZENIE	GSFC	T S OLSON	NAG 5 9102	332
39	SAN DIEGO STATE UNIV	C TREES	GSFC	J MUELLER	NAG 5 12401	49
39	SAN DIEGO STATE UNIV	G GUTMAN	GSFC	J FRANKLIN	NAG 5 9301	49
39	SAN DIEGO STATE UNIV	G GUTMAN	GSFC	A HOPE	NAG 5 11141	49
39	SAN DIEGO STATE UNIV	M WEI	GSFC	A S HOPE	NGT 5 30335	50
39	SAN DIEGO STATE UNIV	M Y WEI	GSFC	R MELLORS	NAG 5 8560	49
39	SAN DIEGO STATE UNIV	R MCKELLIP	JSC	D STOW	NAG13 99017	49
39	SAN FRANCISCO STATE UNIV	J W MARRA	GSFC	D H ROBINSON	NAG 5 7511	50
39	SAN JOSE STATE UNIV	C POTTER	ARC	S KLOOSTER	NCC 2 1431	52
39	SAN JOSE STATE UNIV	H L D'ANTONIO	ARC	E F METZGER	NCC 2 5476	53
39	SAN JOSE STATE UNIV	L BECK	ARC	C SCHMIDT	NCC 2 1420	52
39	SOUTH DAKOTA SCH OF MINES & TECH	K BLANDING	GSFC	P R ZIMMERMAN	NGT 5 30402	456
39	SOUTH DAKOTA SCH OF MINES & TECH	N KHAZENIE	GSFC	L A VIERLING	NAG 5 8973	456
39	SOUTH DAKOTA SCH OF MINES & TECH	R MCKELLIP	JSC	M PRICE	NAG13 99021	456
39	SOUTH DAKOTA STATE UNIV	B L MARKHAM	GSFC	D HELDER	NAG 5 11351	456
39	SOUTH DAKOTA STATE UNIV	S UNGAR	GSFC	D HELDER	NCC 5 472	456
39	SOUTHEASTERN UNIV	D MENCHAN	GSFC	G GRANTHAM	NAG 5 12500	150
39	SOUTHERN ILLINOIS UNIV - CARBONDALE	M WEI	GSFC	N PINTER	NGT 5 50321	200
39	SOUTHERN UNIV & A&M COLL	R TRAVIS	SSC	M STUBBLEFIELD	NCC13 03001	229
39	ST UN NY COL-ENV SCI & FORESTRY	N SOVIK	SSC	P HOPKINS	NCC13 98001	379
39	STANFORD UNIV	J MARRA	GSFC	K ARRIGO	NAG 5 8866	56
39	STANFORD UNIV	M L IMHOFF	GSFC	M L IMHOFF	NAG 5 8563	56
39	STANFORD UNIV	M L IMHOFF	GSFC	P EHRlich	NAG 5 9760	57
39	STANFORD UNIV	M WEI	GSFC	M Z JACOBSON	NAG 5 8645	56
39	STANFORD UNIV	M WEI	GSFC	A PAYTAN	NAG 5 12663	58
39	STANFORD UNIV	M WEI	GSFC	P MATSON	NGT 5 30204	62
39	STANFORD UNIV	M WEI	GSFC	P M VITOUSEK	NGT 5 30216	62
39	STANFORD UNIV	M WEI	GSFC	H ZEBKER	NGT 5 30342	62
39	STANFORD UNIV	M Y WEI	GSFC	K SETO	NAG 5 10534	57
39	STANFORD UNIV	W ABDALATI	GSFC	H ZEBKER	NAG 5 9853	57
39	STANFORD UNIV	A KELLEY	MSFC	F CHANG	NCC 8 197	61
39	STATE U NY COLL OF ENVIR SCI & FORESTRY	N SOVIK	SSC	P HOPKINS	NAG13 01003	379
39	STATE UNIV OF NY - ALBANY	D W DEERING	GSFC	D R FRITZJARRALD	NCC 5 283	379
39	STATE UNIV OF NY - BUFFALO	G GUTMAN	GSFC	M SULTAN	NAG 5 12409	380
39	STATE UNIV OF NY - BUFFALO	M BECKER	GSFC	M BECKER	NAG 5 10608	380
39	STATE UNIV OF NY - STONY BROOK	D WICKLAND	GSFC	M LERDAU	NAG 5 6601	381
39	STATE UNIV OF NY - STONY BROOK	M WEI	GSFC	D WALISER	NGT 5 50322	383
39	STATE UNIV OF NY - STONY BROOK	P DECOLA	GSFC	M GELLER	NAG 5 11615	382
39	TEXAS A&M UNIV	D K HALL	GSFC	A KLEIN	NAG 5 11847	470

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39	TEXAS A&M UNIV	J CAMPBELL	GSFC	W D NOWLIN	NAG 5 6446	469
39	TEXAS A&M UNIV	K BERGMAN	GSFC	P CHANG	NAG 5 9409	469
39	TEXAS A&M UNIV	M WEI	GSFC	A KLEIN	NAG 5 12662	470
39	TEXAS A&M UNIV	M WEI	GSFC	C MUNSTER	NGT 5 30408	473
39	TEXAS A&M UNIV	M Y WEI	GSFC	R ZHANG	NAG 5 8706	469
39	TEXAS A&M UNIV	P R HOUSER	GSFC	B P MOHANTY	NAG 5 11375	470
39	TEXAS A&M UNIV	P R HOUSER	GSFC	A CAHILL	NAG 5 11681	470
39	TEXAS A&M UNIV	P R HOUSER	GSFC	B P MOHANTY	NAG 5 11702	470
39	TEXAS A&M UNIV	R LAWRENCE	GSFC	T WILHEIT	NAG 5 13779	470
39	TEXAS A&M UNIV	S GOGINENI	GSFC	A STOESEL	NAG 5 7751	469
39	TEXAS A&M UNIV	R E TRAVIS	SSC	N CHANG	NAG13 03008	471
39	THE SCRIPPS RES INST (TSRI) -LA JOLLA	J DODGE	GSFC	J J SIMPSON	NAG 5 9604	62
39	THE UNIV OF CENTRAL FLORIDA	J W QUINN	KSC	D R REINHART	NAG10 301	165
39	THE UNIV OF CENTRAL FLORIDA	J W QUINN	KSC	C GEIGER	NAG10 312	165
39	THE UNIV OF CENTRAL FLORIDA	J W QUINN	KSC	D L GEIGER	NAG10 313	165
39	THE UNIV OF CENTRAL FLORIDA	J W QUINN	KSC	C L GEIGER	NGT10 52640	166
39	TULANE UNIV	R TRAVIS	JSC	B MCKEE	NGT13 52722	230
39	TUSKEGEE UNIV	C TERRELL	MSFC	N O EGREFOR	NCC 8 234	5
39	U OF MD CTR FOR ENVIR SCI - CAMBRIDGE	G GUTMAN	GSFC	T FISHER	NAG 5 11083	250
39	U OF MD CTR FOR ENVIR SCI - CAMBRIDGE	J W CAMPBELL	GSFC	L W HARDING	NAG 5 7602	250
39	U OF MD CTR FOR ENVIR SCI - CAMBRIDGE	S G UNGAR	GSFC	P A TOWNSEND	NCC 5 493	250
39	UNIV HOUSTON-HOUSTON	E K GIBSON	JSC	H S CHAFETZ	NAG 9 1103	475
39	UNIV OF ALABAMA - BIRMINGHAM	E PAYLOR	GSFC	L DELUCAS	NAG 5 11267	6
39	UNIV OF ALABAMA - HUNTSVILLE	D L PIERCE	GSFC	J DIMMOCK	NAG 5 5273	7
39	UNIV OF ALABAMA - HUNTSVILLE	M WEI	GSFC	D CECIL	NAG 5 12563	9
39	UNIV OF ALABAMA - HUNTSVILLE	P R HOUSER	GSFC	R M WELCH	NAG 5 11941	9
39	UNIV OF ALABAMA - HUNTSVILLE	T BRAKE	GSFC	R WELCH	NAS 5 31718	11
39	UNIV OF ALASKA - FAIRBANKS	C S POTTER	ARC	A MCGUIRE	NAG 2 1534	13
39	UNIV OF ALASKA - FAIRBANKS	C TREES	GSFC	L MCNUTT	NAG 5 12411	15
39	UNIV OF ALASKA - FAIRBANKS	D ANDERSON	GSFC	K SASSEN	NAG 5 13418	15
39	UNIV OF ALASKA - FAIRBANKS	D ANDERSON	GSFC	K SASSEN	NAG 5 13536	15
39	UNIV OF ALASKA - FAIRBANKS	E LINDSTROM	GSFC	S R OKKONEN	NAG 5 7603	14
39	UNIV OF ALASKA - FAIRBANKS	E T ENGMAN	GSFC	S LI	NAG 5 8614	14
39	UNIV OF ALASKA - FAIRBANKS	G GUTMAN	GSFC	C WILLIAMS	NAG 5 9315	14
39	UNIV OF ALASKA - FAIRBANKS	G GUTMAN	GSFC	D MCGUIRE	NAG 5 11142	14
39	UNIV OF ALASKA - FAIRBANKS	M WEI	GSFC	S F CHAPIN	NGT 5 50324	15
39	UNIV OF ALASKA - FAIRBANKS	P J ONDRUS	GSFC	N AVAILBLE	NAS 5 98129	15
39	UNIV OF ALASKA - FAIRBANKS	P R HOUSER	GSFC	L D HINZMAN	NAG 5 11822	15
39	UNIV OF ARIZONA	A TUYAHOV	GSFC	D YOUNG	NAG 5 8157	23
39	UNIV OF ARIZONA	A TUYAHOV	GSFC	S E MARSH	NAG 5 8341	23
39	UNIV OF ARIZONA	A TUYAHOV	GSFC	S E MARSH	NAG 5 11957	29
39	UNIV OF ARIZONA	B L MARKHAM	GSFC	K THOME	NAG 5 11339	28
39	UNIV OF ARIZONA	D L WILLIAMS	GSFC	W J SHUTTLEWORTH	NCC 5 709	34
39	UNIV OF ARIZONA	D W DEERING	GSFC	A R HUETE	NCC 5 603	34
39	UNIV OF ARIZONA	E T ENGMAN	GSFC	J W SHUTTLEWORTH	NAG 5 8214	23
39	UNIV OF ARIZONA	E Y WOOD	GSFC	S SOROOSHAIN	NAG 5 3640	22
39	UNIV OF ARIZONA	J KAYE	GSFC	S SOROOSHIAN	NAG 5 12152	29
39	UNIV OF ARIZONA	M JASINSKI	GSFC	S SOROOSHIAN	NAG 5 8503	23
39	UNIV OF ARIZONA	M WEI	GSFC	M W WALLENDORF	NAG 5 10007	25
39	UNIV OF ARIZONA	M Y WEI	GSFC	C HUTCHINSON	NGT 5 30140	34
39	UNIV OF ARIZONA	M Y WEI	GSFC	C E GLASS	NGT 5 30148	34
39	UNIV OF ARIZONA	P R HOUSER	GSFC	W SHUTTLEWORTH	NAG 5 9796	25
39	UNIV OF ARIZONA	P R HOUSER	GSFC	X ZENG	NAG 5 13322	31
39	UNIV OF ARIZONA	R SCHIEFFER	GSFC	S ROROOSHIAN	NAG 5 8502	23
39	UNIV OF ARIZONA	S G UNGAR	GSFC	S F BIGGAR	NCC 5 460	34
39	UNIV OF ARIZONA	S G UNGER	GSFC	A R HUETE	NCC 5 478	34
39	UNIV OF ARIZONA	W ABDALATI	GSFC	R BALES	NAG 5 12670	30
39	UNIV OF ARIZONA	C DEL CASTILLO	SSC	E P GLENN	NAG13 02001	32
39	UNIV OF ARIZONA	R HARRIS	SSC	C F HUTCHINSON	NAG13 02004	32
39	UNIV OF CALIFORNIA - BERKELEY	_ WEI	GSFC	K BOERING	NGT 5 30424	74
39	UNIV OF CALIFORNIA - BERKELEY	D E WICKLAND	GSFC	W SILVER	NCC 5 352	73
39	UNIV OF CALIFORNIA - BERKELEY	D WICKLAND	GSFC	I FUNG	NAG 5 9514	66
39	UNIV OF CALIFORNIA - BERKELEY	D WICKLAND	GSFC	D BALDOCCHI	NAG 5 11651	68
39	UNIV OF CALIFORNIA - BERKELEY	G GUTMAN	GSFC	P GONG	NAG 5 9231	66
39	UNIV OF CALIFORNIA - BERKELEY	M KURYLO	GSFC	A GOLDSTEIN	NAG 5 11910	68

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39	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	T L BENNING	NGT 5 30183	73
39	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	R C COHEN	NGT 5 30219	73
39	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	I CHAPELA	NGT 5 30351	73
39	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	D M KAMMEN	NGT 5 30361	73
39	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	W SILVER	NGT 5 50331	74
39	UNIV OF CALIFORNIA - BERKELEY	N KHAZENIE	GSFC	A GOULD	NAG 5 9317	66
39	UNIV OF CALIFORNIA - BERKELEY	P T HOUSER	GSFC	X LIANG	NAG 5 8737	65
39	UNIV OF CALIFORNIA - BERKELEY	S G UNGAR	GSFC	P GONG	NCC 5 492	73
39	UNIV OF CALIFORNIA - BERKELEY	W ABDALATI	GSFC	X LIANG	NAG 5 10673	67
39	UNIV OF CALIFORNIA - DAVIS	D E WICKLAND	GSFC	S USTIN	NAG 5 9360	75
39	UNIV OF CALIFORNIA - DAVIS	M WEI	GSFC	C ANASTASIO	NGT 5 30187	78
39	UNIV OF CALIFORNIA - DAVIS	M WEI	GSFC	S USTIN	NGT 5 30352	78
39	UNIV OF CALIFORNIA - DAVIS	D L JAN	HQ	S D COLLINS	NAG 9 1048	76
39	UNIV OF CALIFORNIA - IRVINE	D DEERING	GSFC	S TRUMBORE	NCC 5 336	81
39	UNIV OF CALIFORNIA - IRVINE	D L WILLIAMS	GSFC	S E TRUMBORE	NCC 5 680	81
39	UNIV OF CALIFORNIA - IRVINE	D L WILLIAMS	GSFC	M L GOULDEN	NCC 5 702	81
39	UNIV OF CALIFORNIA - IRVINE	D W DEERING	GSFC	M L GOULDEN	NCC 5 280	81
39	UNIV OF CALIFORNIA - IRVINE	M KURYLO	GSFC	D R BLAKE	NAG 5 8935	79
39	UNIV OF CALIFORNIA - IRVINE	M RIENECKER	GSFC	J S FAMIGLIETTI	NAG 5 11646	80
39	UNIV OF CALIFORNIA - IRVINE	M W WEI	GSFC	R J CICERONE	NGT 5 50325	81
39	UNIV OF CALIFORNIA - IRVINE	M WEI	GSFC	ZENDER	NAG 5 10546	79
39	UNIV OF CALIFORNIA - IRVINE	M WEI	GSFC	G MAGNUSDOTTIR	NGT 5 30203	81
39	UNIV OF CALIFORNIA - IRVINE	P DECOLA	GSFC	S TYLER	NAG 5 11429	80
39	UNIV OF CALIFORNIA - IRVINE	P R HOUSER	GSFC	J S FAMIGLIETTI	NAG 5 11718	80
39	UNIV OF CALIFORNIA - IRVINE	P R HOUSER	GSFC	J S FAMIGLIETTI	NAG 5 11753	80
39	UNIV OF CALIFORNIA - LOS ANGELES	E LINDSTROM	GSFC	J MCWILLIAMS	NAG 5 9860	85
39	UNIV OF CALIFORNIA - LOS ANGELES	K BERGMAN	GSFC	D J NEELIN	NAG 5 9358	84
39	UNIV OF CALIFORNIA - LOS ANGELES	M JACKSON	GSFC	J KIM	NAG 5 11363	86
39	UNIV OF CALIFORNIA - LOS ANGELES	M WEI	GSFC	A ELDERING	NAG 5 8812	84
39	UNIV OF CALIFORNIA - LOS ANGELES	M WEI	GSFC	L SMITH	NGT 5 30338	91
39	UNIV OF CALIFORNIA - LOS ANGELES	M WEI	GSFC	R TURCO	NGT 5 50332	91
39	UNIV OF CALIFORNIA - LOS ANGELES	P R HOUSER	GSFC	Y XUE	NAG 5 9713	84
39	UNIV OF CALIFORNIA - LOS ANGELES	P R HOUSER	GSFC	D E ALSDORF	NAG 5 12740	88
39	UNIV OF CALIFORNIA - LOS ANGELES	P R HOUSER	GSFC	D E ALSDORF	NAG 5 13461	89
39	UNIV OF CALIFORNIA - LOS ANGELES	E STANSBERRY	JSC	K D MCKEEGAN	NAS 9 02036	89
39	UNIV OF CALIFORNIA - SAN DIEGO	C TREES	GSFC	D STRAMSKI	NAG 5 12397	97
39	UNIV OF CALIFORNIA - SAN DIEGO	D ANDERSON	GSFC	F P VALERO	NAG 5 11637	96
39	UNIV OF CALIFORNIA - SAN DIEGO	D E WICKLAND	GSFC	C KEELING	NAG 5 11217	96
39	UNIV OF CALIFORNIA - SAN DIEGO	D E WICKLANS	GSFC	R F KEELING	NAG 5 7637	93
39	UNIV OF CALIFORNIA - SAN DIEGO	E LINDSTROM	GSFC	D MILLER	NAG 5 6497	93
39	UNIV OF CALIFORNIA - SAN DIEGO	E LINDSTROM	GSFC	P NILER	NAG 5 8322	94
39	UNIV OF CALIFORNIA - SAN DIEGO	E LINDSTROM	GSFC	D STAMMER	NAG 5 8623	94
39	UNIV OF CALIFORNIA - SAN DIEGO	E LINDSTROM	GSFC	D STAMMER	NAG 5 8901	94
39	UNIV OF CALIFORNIA - SAN DIEGO	E LINSTROM	GSFC	A MILLER	NAG 5 9788	95
39	UNIV OF CALIFORNIA - SAN DIEGO	J DODGE	GSFC	J J SIMPSON	NAG 5 9721	95
39	UNIV OF CALIFORNIA - SAN DIEGO	M KURYLO	GSFC	R F WEISS	NAG 5 12806	97
39	UNIV OF CALIFORNIA - SAN DIEGO	M KURYLO	GSFC	R F WEISS	NAG 5 12807	97
39	UNIV OF CALIFORNIA - SAN DIEGO	M WEI	GSFC	K BARBEAU	NAG 5 12535	97
39	UNIV OF CALIFORNIA - SAN DIEGO	P DECOLA	GSFC	R F WEISS	NAG 5 8180	94
39	UNIV OF CALIFORNIA - SAN DIEGO	P R HOUSER	GSFC	J ROADS	NAG 5 11599	96
39	UNIV OF CALIFORNIA - SAN DIEGO	P R HOUSER	GSFC	A VOGELMANN	NAG 5 11716	96
39	UNIV OF CALIFORNIA - SAN DIEGO	P R HOUSER	GSFC	J NORRIS	NAG 5 11731	96
39	UNIV OF CALIFORNIA - SAN DIEGO	P R HOUSER	GSFC	J ROADS	NAG 5 11738	96
39	UNIV OF CALIFORNIA - SANTA BARBARA	A TUYAHOV	GSFC	J E ESTES	NAG 5 10457	103
39	UNIV OF CALIFORNIA - SANTA BARBARA	C TREES	GSFC	N NELSON	NAG 5 12400	104
39	UNIV OF CALIFORNIA - SANTA BARBARA	D DEERING	GSFC	J MELACK	NCC 5 281	105
39	UNIV OF CALIFORNIA - SANTA BARBARA	D L WILLIAMS	GSFC	D ROBERTS	NCC 5 681	105
39	UNIV OF CALIFORNIA - SANTA BARBARA	D L WILLIAMS	GSFC	J M MELACK	NCC 5 691	105
39	UNIV OF CALIFORNIA - SANTA BARBARA	D W DEERING	GSFC	O A CHADWICK	NCC 5 282	105
39	UNIV OF CALIFORNIA - SANTA BARBARA	D W DEERING	GSFC	D A ROBERTS	NCC 5 589	105
39	UNIV OF CALIFORNIA - SANTA BARBARA	E KRIENS	GSFC	C GAUTIER	NAS 5 31374	105
39	UNIV OF CALIFORNIA - SANTA BARBARA	E LINDSTROM	GSFC	J C DOZIER	NAG 5 9844	103
39	UNIV OF CALIFORNIA - SANTA BARBARA	E T ENGMAN	GSFC	T DUNNE	NAG 5 8396	102
39	UNIV OF CALIFORNIA - SANTA BARBARA	E T ENGMAN	GSFC	J SHI	NAG 5 8616	103
39	UNIV OF CALIFORNIA - SANTA BARBARA	J A MARRA	GSFC	R C SMITH	NAG 5 6434	102

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39	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	D A SIEGEL	NGT 5 30194	106
39	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	K C CLARKE	NGT 5 30201	106
39	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	T DUNNE	NGT 5 30225	106
39	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	T DUNNE	NGT 5 30332	106
39	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	O CHADWICK	NGT 5 30357	106
39	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	D A ROBERTS	NGT 5 50327	106
39	UNIV OF CALIFORNIA - SANTA BARBARA	M Y WEI	GSFC	N M MAHOWALD	NAG 5 8680	103
39	UNIV OF CALIFORNIA - SANTA BARBARA	P DECOLA	GSFC	N M MAHOWALD	NAG 5 9671	103
39	UNIV OF CALIFORNIA - SANTA BARBARA	P R HOUSER	GSFC	J SHI	NAG 5 11709	104
39	UNIV OF CALIFORNIA - SANTA BARBARA	S G UNGAR	GSFC	D A ROBERTS	NCC 5 496	105
39	UNIV OF CALIFORNIA - SANTA BARBARA	T JANETOS	GSFC	T DUNNE	NAG 5 6120	102
39	UNIV OF CALIFORNIA - SANTA BARBARA	W ABDALATI	GSFC	J SHI	NAG 5 10671	103
39	UNIV OF CALIFORNIA - SANTA CRUZ	D DESMARAIS	ARC	G H RAU	NCC 2 5456	109
39	UNIV OF CALIFORNIA - SANTA CRUZ	D DESMARAIS	ARC	G H RAU	NCC 2 5543	110
39	UNIV OF CALIFORNIA - SANTA CRUZ	J MARRA	GSFC	R KUDELA	NAG 5 8855	107
39	UNIV OF CALIFORNIA - SANTA CRUZ	J W MARRA	GSFC	R KUDELA	NAG 5 8750	107
39	UNIV OF CALIFORNIA - SANTA CRUZ	W ABDALATI	GSFC	S TULACZK	NAG 5 12379	108
39	UNIV OF CINCINNATI	P R HOUSER	GSFC	S ISLAM	NAG 5 11684	415
39	UNIV OF COLORADO - BOULDER	A C JANETOS	GSFC	D A WESSMAN	NAG 5 6134	121
39	UNIV OF COLORADO - BOULDER	D ANDERSEN	GSFC	J A CURRY	NAG 5 11506	128
39	UNIV OF COLORADO - BOULDER	D ANDERSON	GSFC	L M AVALLONE	NAG 5 11473	128
39	UNIV OF COLORADO - BOULDER	D ANDERSON	GSFC	O B TOON	NAG 5 11474	128
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39	UNIV OF NEW HAMPSHIRE - DURHAM	S G UNGAR	GSFC	M E MARTIN	NCC 5 477	343
39	UNIV OF NEW HAMPSHIRE - DURHAM	W ABDALATI	GSFC	M FAHNESTOCK	NAG 5 12408	342
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39	UNIV OF NEW MEXICO-ALBUQUERQUE	T STANLEY	SSC	L SCUDERI	NAG13 03020	360
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39	UNIV OF NORTH CAROLINA - CHAPEL HILL	D DEERING	GSFC	R BILSBORROW	NCC 5 295	395
39	UNIV OF NORTH CAROLINA - CHAPEL HILL	D L WILLIAMS	GSFC	S J WALSH	NCC 5 699	395
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39	UNIV OF NORTH DAKOTA	D ANDERSON	GSFC	M POELLOT	NAG 5 11509	397
39	UNIV OF NORTH DAKOTA	D E WICKLAND	GSFC	C A GRAINGER	NAG 5 7950	397
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39	UNIV OF RHODE ISLAND	E LINDSTROM	GSFC	L ROTHSTEIN	NAG 5 12283	450
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43	CASE WESTERN RESERVE UNIV	G W HUNTER	GRC	C LIU	NCC 3 1038	402
43	CASE WESTERN RESERVE UNIV	J D WRBANEK	GRC	C LIU	NCC 3 927	401
43	CLARK ATLANTA UNIV	R LAWRENCE	GRC	D OKHIO	NAG 3 2292	174
43	CLEVELAND STATE UNIV	S R LEVINE	GRC	J MASNOVI	NCC 3 759	404
43	CLEVELAND STATE UNIV	W MORALES	GRC	J E GATICA	NCC 3 971	404
43	CORNELL UNIV	H K NAHRA	GRC	D KOCH	NGT 3 52362	374
43	CORNELL UNIV	P DOTY	MSFC	N ZABARAS	NAG 8 1671	373
43	GEORGETOWN UNIV	D RISIN	JSC	J M JESSUP	NAG 9 1366	149
43	GEORGIA INST OF TECH	E WEISER	LARC	W H REES	NGT 1 52225	182
43	HARVARD UNIV	S D BAI	MSFC	I F SILVERA	NAG 8 1822	279
43	HOWARD UNIV	H L BELVIN	LARC	W E COLLINS	NAG 1 2019	149
43	JOHNS HOPKINS UNIV	D RISIN	KSC	J L HARDEN	NAG 9 1345	247
43	NORTHWESTERN UNIV	J HINES	ARC	V HATZIMANIKATI	NAG 2 1522	196
43	OHIO STATE UNIV	F J MONTEGANI	GRC	P K DUTTA	NGT 3 52363	411
43	OLD DOMINION UNIV	R A HATHAWAY	LARC	S N TIWARI	NCC 1 03022	508
43	PENN STATE UNIV. - UNIV. PARK	J H AGUI	GRC	D E SCHIFFER	NAG 3 2546	433
43	PENN STATE UNIV. - UNIV. PARK	B BULLARD	MSFC	V YANG	NAG 8 1877	439
43	PENN STATE UNIV. - UNIV. PARK	K TUCKER	MSFC	R J SANTORO	NAG 8 1792	438
43	PRAIRIE VIEW A&M UNIV	A BEAM	MSFC	Z HAQUE	NAG 8 1644	463
43	RENSSELAER POLYTECH INST	J SKARDA	GRC	P C WAGNER	NAG 3 2383	377
43	TUSKEGEE UNIV	M COLLINS	KSC	N VAHDAT	NAG10 253	5
43	UNIV HOUSTON-HOUSTON	B FILES	JSC	C A MITCHELL	NAG 9 1305	476
43	UNIV OF CALIFORNIA - SANTA BARBARA	B S SINGH	GRC	L G LEAL	NAG 3 2115	101
43	UNIV OF COLORADO - BOULDER	B S SINGH	GRC	R H DAVIS	NAG 3 2116	119
43	UNIV OF FLORIDA	C BLACK	KSC	G B HOFLUND	NGT10 52633	170
43	UNIV OF FLORIDA	M LONERGAN	KSC	C SEGAL	NAG10 285	169
43	UNIV OF FLORIDA	S NASH-STEVENSON	MSFC	R NARAYANAN	NGT 8 52941	170
43	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	R S OKOJIE	GRC	I ADESIDA	NAG 3 2747	204
43	UNIV OF MICHIGAN - ANN ARBOR	F J MONTEGANI	GRC	A ATREYA	NGT 3 52365	312
43	UNIV OF NEVADA - RENO	D RISIN	JSC	G ALMEIDA-PORADA	NAG 9 1340	336
43	UNIV OF PENNSYLVANIA	K BLANDING	GSFC	D A HAMMER	NGT 5 50483	443
43	UNIV OF ROCHESTER	G A SOFFEN	GSFC	R H HEIST	NGT 5 104	386
43	UNIV OF TEXAS - EL PASO	B REED	GRC	D KYPUROS	NAG 3 2773	487
43	UNIV OF TOLEDO	M RABINOWITZ	GRC	K L DEWITT	NAG 3 2338	416
43	UNIV OF TOLEDO	P F PENKO	GRC	T G KEITH	NCC 3 1055	419
43	UNIV OF WASHINGTON	D RISIN	JSC	A FOLCH	NAG 9 1343	526
43	VANDERBILT UNIV	J E FINN	ARC	M D LEVAN	NCC 2 1127	461
43	VANDERBILT UNIV	M KLISS	ARC	M D LEVAN	NCC 2 5535	461
43	VANDERBILT UNIV	A NURRIDIN	HQ	R BAYUZICK	NGT 5 50209	462
44	LOUISIANA STATE UNIV - BATON ROUGE	S NASH-STEVENSON	MSFC	K ALSHIBLI	NGT 8 52919	228
44	SALISH KOOTENAI COLL	P SAKIMOTO	GSFC	T S OLSON	NAG 5 10144	332
44	UNIV OF COLORADO - BOULDER	C LIN	JSC	D KLAUS	NAG 9 1555	134
44	UNIV OF CONNECTICUT	J GRAF	JSC	T FILBURN	NAG 9 1512	141
44	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	M WEI	GSFC	P KUMAR	NGT 5 30518	209
44	UNIV OF NEW MEXICO-ALBUQUERQUE	S NASH-STEVENSON	MSFC	T ROSS	NGT 8 52915	360
44	UNIV OF VIRGINIA	S M ARNOLD	GRC	M PINDER	NAG 3 2524	510
44	VANDERBILT UNIV	S NASH-STEVENSON	MSFC	S MAHADEVAN	NGT 8 52907	462
45	ALABAMA A&M UNIV	B T VU	KSC	A A MOBASHER	NAG10 342	2
45	ARIZONA STATE UNIV	T X NGUYEN	LARC	C BALANIS	NCC 1 01051	19
45	AUBURN UNIV	M DESHPANDE	LARC	M E BAGINSKI	NGT 1 02015	3
45	AUBURN UNIV	S NASH-STEVENSON	MSFC	A S HODEL	NGT 8 52904	4

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45	BRIGHAM YOUNG UNIV	R D SAKAHARA	DFRC	M D RICE	NAG 4 215	490
45	BRIGHAM YOUNG UNIV	R D SAKAHARA	DFRC	M D RICE	NAG 4 220	490
45	BROWN UNIV	F J MONTEGANI	GRC	G P CRAWFORD	NGT 3 52369	449
45	BUCKNELL UNIV	J DORBAND	GSFC	M F ABURDENE	NAG 5 10821	427
45	CASE WESTERN RESERVE UNIV	K BHASIN	GRC	F L MERAT	NAG 3 2578	398
45	CASE WESTERN RESERVE UNIV	K BHASIN	GRC	F L MERAT	NAG 3 2799	399
45	CASE WESTERN RESERVE UNIV	M V ZELLER	GRC	M MEHREGANY	NCA 3 201	400
45	CITY UNIV OF NY CITY COLL	B CARLSON	GSFC	B GROSS	NAG 5 11813	362
45	CITY UNIV OF NY CITY COLL	H SHAW	GSFC	N SCHEINBERG	NAG 5 7160	361
45	CLEMSON UNIV - CLEMSON	J E HOLLANSWORTH	GRC	L PEARSON	NAG 3 2850	451
45	CLEVELAND STATE UNIV	F J MONTEGANI	GRC	Z GAO	NGT 3 52387	405
45	CLEVELAND STATE UNIV	J F SOEDER	GRC	Z GAO	NCC 3 931	404
45	CLEVELAND STATE UNIV	R KERCZEWSKI	GRC	V K KONANGI	NCC 3 764	404
45	CLEVELAND STATE UNIV	R R ROMANOFSKY	GRC	F XIONG	NAG 3 2531	402
45	CLEVELAND STATE UNIV	S G BAILEY	GRC	D G NEHEMANN	NCC 3 883	404
45	CLEVELAND STATE UNIV	T M WALLETT	GRC	V K KONANGI	NCC 3 595	403
45	CLEVELAND STATE UNIV	Z B MORGAN	GRC	C K ALEXANDER	NCC 3 1081	405
45	CLEVELAND STATE UNIV	K CHUN	GSFC	F XIONG	NAG 3 2619	403
45	COLORADO STATE UNIV	R J LAWRENCE	GSFC	V CHANDRASEKAR	NAG 5 13712	117
45	CORNELL UNIV	M R WASZOK	LARC	E GARCIA	NGT 1 03022	374
45	DREXEL UNIV	S NASH-STEVENSON	MSFC	A FONTECCHIO	NGT 8 52938	432
45	EMBRY-RIDDLE AERONAUTICAL UNIV	P G NEUDECK	GRC	A HELFRICK	NCC 3 685	157
45	EMBRY-RIDDLE AERONAUTICAL UNIV	J H BEGGS	LARC	F L WHETTEN	NAG 1 03039	157
45	FLORIDA A&M UNIV	C D BLACK	KSC	F B GROSS	NGT10 52635	159
45	FLORIDA A&M UNIV	F MCKENZIE	KSC	B A HARVEY	NAG10 289	159
45	FLORIDA ATLANTIC UNIV	T P BIZON	GRC	W E GLENN	NAG 3 2023	159
45	FLORIDA ATLANTIC UNIV	D SHANNON	MSFC	W GLENN	NCC 8 272	160
45	GEORGE WASHINGTON UNIV	M DUTTA	GSFC	M ZAGHLOUL	NAG 5 11343	147
45	GEORGIA INST OF TECH	C T RAMOS	GRC	D F AKYILDIZ	NAG 3 2585	178
45	GEORGIA INST OF TECH	G E PONCHAK	GRC	D M TENTZERIS	NAG 3 2329	177
45	GEORGIA INST OF TECH	G E PONCHAK	GRC	D PAPAPOLYMEROU	NCC 3 900	181
45	GEORGIA INST OF TECH	D J MANDL	GSFC	M INGRAM	NAG 5 13362	179
45	GEORGIA INST OF TECH	S D HARRAH	LARC	G GIMMESTAD	NAS 1 99073	180
45	GEORGIA INST OF TECH	T S DANIELS	LARC	G HOPKINS	NAS 1 02056	180
45	HAMPTON UNIV	F B BECK	LARC	A O OLADIPUPO	NCC 1 366	502
45	HOWARD UNIV	R M BUTTON	GRC	D A MOMOH	NAG 3 2621	149
45	HOWARD UNIV	A SHARMA	GSFC	D MOHAMMAD	NAG 5 11118	149
45	IOWA STATE UNIV	W P WINFREE	LARC	S S UPDA	NAG 1 01040	216
45	JOHNS HOPKINS UNIV	G J CHOMOS	GRC	G PREZIOTTI	NAS 3 02205	247
45	JOHNS HOPKINS UNIV	R R ROMANOFSKY	GRC	R SCHULZE	NCC 3 1085	248
45	JOHNS HOPKINS UNIV	E WEBB	GSFC	P EISENREICH	NAG 5 10778	239
45	JOHNS HOPKINS UNIV	F SELDON- JONES	GSFC	J KANG	NAS 5 00166	247
45	JOHNS HOPKINS UNIV	H SHAW	GSFC	J B KHURGIN	NAG 5 11332	241
45	JOHNS HOPKINS UNIV	P J LUERS	GSFC	M G DARRIN	NAG 5 10464	239
45	JOHNS HOPKINS UNIV	P LUERS	GSFC	R F CONDE	NAG 5 9456	237
45	JOHNS HOPKINS UNIV	P LUERS	GSFC	B ANDREWS	NAG 5 10234	238
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45	JOHNS HOPKINS UNIV	W HEAPS	GSFC	M BEVAN	NAG 5 13198	245
45	JOHNS HOPKINS UNIV	W S HEAPS	GSFC	B BOONE	NAG 5 11845	242
45	JOHNS HOPKINS UNIV	K D WRIGHT	LARC	M A DARRIN	NAG 1 03050	234
45	JOHNS HOPKINS UNIV	M E BEATTY, III	LARC	M A DARRIN	NCC 1 01019	248
45	JOHNS HOPKINS UNIV	D C VANDEMARK	WFF	D R THOMPSON	NAG 5 5301	235
45	MASSACHUSETTS INST OF TECH	J PENNLINE	GRC	E MODIANO	NAG 3 2835	283
45	MICHIGAN STATE UNIV	R REED	GSFC	T GRIMM	NAS 5 02131	303
45	MICHIGAN TECHNOLOGICAL UNIV	J PIEPMEIER	GSFC	D KING	NAG 5 12770	304
45	MICHIGAN TECHNOLOGICAL UNIV	M S BURRELL	GSFC	E ROTHWELL	NGT 5 120	305
45	MONTANA STATE UNIV	R E TRAVIS	SSC	J SHAW	NGT13 52761	332
45	MORGAN STATE UNIV	D NGUYEN	GSFC	C WHITE	NAG 5 10913	249
45	MORGAN STATE UNIV	J H DAY	GSFC	C WHITE	NCC 5 682	250
45	MORGAN STATE UNIV	J PIEMEIER	GSFC	C T JOHSON-BEY	NAG 5 11837	250
45	NEW JERSEY INST OF TECH	E WONG	GRC	D P DHAWAN	NAG 3 2459	344
45	NEW MEXICO STATE UNIV - LAS CRUCES	D C ROBINSON	GRC	P DELEON	NAG 3 2864	354
45	NEW MEXICO STATE UNIV - LAS CRUCES	D J ISRAEL	GSFC	S HORAN	NAG 5 13189	356
45	NEW MEXICO STATE UNIV - LAS CRUCES	W ST. CYR	SSC	E G CONLEY	NAG13 02046	356
45	NEW MEXICO STATE UNIV - LAS CRUCES	W W ST. CYR	SSC	E G CONLEY	NGT13 52764	357

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45	NORTH CAROLINA A&T STATE UNIV	G FUJIKAWA	GRC	D DOGAN	NAG 3 2584	390
45	NORTH CAROLINA A&T STATE UNIV	P CORONADO	GSFC	A WALKER	NAG 5 7158	390
45	NORTHWESTERN UNIV	M S BURRELL	GSFC	P KUMAR	NGT 5 90	199
45	NORTHWESTERN UNIV	M S BURRELL	GSFC	M RAZEGHI	NGT 5 149	199
45	OHIO STATE UNIV	E B CLARK	GRC	S A RINGEL	NCC 3 899	410
45	OHIO STATE UNIV	E CLARK	GRC	S A RINGEL	NCC 3 974	410
45	OHIO STATE UNIV	J V SOLTIS	GRC	T E BLUE	NAG 3 2929	406
45	OHIO STATE UNIV	R S OKOJIE	GRC	L BRILLSON	NCC 3 949	410
45	OHIO STATE UNIV	F PERI	GSFC	J T JOHNSON	NAS 5 02001	410
45	OHIO UNIV	K MARTZAKIS	GRC	J RANKIN	NAG 3 2815	411
45	OKLAHOMA STATE UNIV	D NGO	GRC	M ATIQUZZAMAN	NCC 3 903	420
45	OLD DOMINION UNIV	C M BELCASTRO	LARC	W S GRAY	NCC 1 03026	508
45	OLD DOMINION UNIV	C M BELCASTRO	LARC	L L VAHALA	NCC 1 03031	508
45	OLD DOMINION UNIV	J H BEGGS	LARC	L A VAHALA	NCC 1 03019	508
45	OLD DOMINION UNIV	M D DESHBANDE	LARC	R P JOSHI	NAG 1 01071	505
45	OLD DOMINION UNIV	R L CRAVEY	LARC	M GUPTA	NAG 1 03042	506
45	OLD DOMINION UNIV	R S ROGOWSKI	LARC	S ALBIN	NCC 1 02026	507
45	OLD DOMINION UNIV	T X NGUYEN	LARC	C F BUNTING	NCC 1 01032	507
45	PENN STATE UNIV. - UNIV. PARK	A AHUMADA	ARC	O I CAMPS	NCC 2 1331	440
45	PENN STATE UNIV. - UNIV. PARK	B KENNY	GRC	H HOFMANN	NAG 3 2598	433
45	PENN STATE UNIV. - UNIV. PARK	S G BAILEY	GRC	C R WRONSKI	NAG 3 2795	434
45	PENN STATE UNIV. - UNIV. PARK	P V DEINS-JONES	GSFC	T N JACKSON	NAG 5 12257	437
45	PURDUE UNIV	K CHUN	GRC	D S LEHNERT	NAG 3 2550	211
45	RENSSELAER POLYTECH INST	M N ABEDIN	LARC	I BHAT	NAG 1 03040	377
45	RICE UNIV	B BIEGEL	ARC	J KONO	NCC 2 1279	467
45	RICE UNIV	T R GOVINDAN	ARC	J KONO	NCC 2 5458	467
45	RICE UNIV	D L JAN	JPL	F K TITTLE	NAG 9 1049	466
45	SOUTH DAKOTA STATE UNIV	V M ZANONI	SSC	D HELDER	NAG13 03023	456
45	STANFORD UNIV	J E HOLLANSWORTH	GRC	P ENGE	NAG 3 2812	55
45	STANFORD UNIV	K BHASIN	GRC	A FOX	NAG 3 2579	55
45	STATE UNIV OF NY - ALBANY	P NEUDECK	GRC	D DUDLEY	NCC 3 891	379
45	TEXAS A&M UNIV-KINGSVILLE	K L HAMES	JSC	S W PARK	NAG 9 1093	474
45	TEXAS A&M UNIV	R LEE	GRC	D CHANG	NAG 3 2551	468
45	TEXAS A&M UNIV	R GARCIA	JSC	P ENJETI	NAG 9 1390	471
45	THE UNIV OF CENTRAL FLORIDA	R C YOUNGQUIST	ARC	D C MALOCHA	NGT10 52642	166
45	TUSKEGEE UNIV	E OVERTON	GRC	A U CHUKU	NAG 3 2860	5
45	TUSKEGEE UNIV	W LOVE	MSFC	B ONI	NAG 8 1911	5
45	U OF ARKANSAS MAIN CAMP-FAYETTEVILLE	J W JOHNSON	LARC	M EL-SHENAWEE	NAG 1 02021	36
45	UNIV OF AKRON	T B MILLER	GRC	T T HARTLEY	NCC 3 998	414
45	UNIV OF CALIFORNIA - SANTA BARBARA	T DOIRON	GSFC	M SHERWIN	NAG 5 10299	103
45	UNIV OF CINCINNATI	G E PONCHAK	GRC	K P ROENKER	NAG 3 2487	414
45	UNIV OF COLORADO - BOULDER	R Q LEE	GRC	Z POPOVIC	NAG 3 2587	120
45	UNIV OF COLORADO - BOULDER	R Q LEE	GRC	Z POPOVIC	NAG 3 2920	120
45	UNIV OF COLORADO - BOULDER	W HEAPS	GSFC	J L HALL	NAG 5 10368	125
45	UNIV OF DAYTON	F A MIRANDA	GRC	G SUBRAMANYAN	NCC 3 882	416
45	UNIV OF FLORIDA	S K KAHNG	LARC	M SHEPLAK	NAG 1 01098	166
45	UNIV OF HAWAII AT MANOA - HONOLULU	P H YEHLER	GSFC	M FOSSORIER	NAG 5 7383	187
45	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	R Q LEE	GRC	J BERNHARD	NAG 3 2840	205
45	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	R R ROMANOFSKY	GRC	D BERNHARD	NAG 3 2555	204
45	UNIV OF KANSAS	K BHASIN	GRC	G	NAS 3 00162	223
45	UNIV OF KANSAS	M WEI	GSFC	P GOGINENI	NGT 5 30508	223
45	UNIV OF MARYLAND - COLL PARK	B ELLIS	GRC	M HADJITHEODOSIOU	NAG 3 2844	251
45	UNIV OF MARYLAND - COLL PARK	J W BAGWELL	GRC	J S BARAS	NCC 3 528	264
45	UNIV OF MASSACHUSETTS - AMHERST	B GOSSELIN	GSFC	D CARVER	NAG 5 12730	298
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45	UNIV OF MICHIGAN - ANN ARBOR	D MONTEGANI	GRC	K PAVLIDIS	NGT 3 52372	312
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45	UNIV OF MICHIGAN - ANN ARBOR	G E PONCHAK	GRC	L P KATEHI	NCC 3 837	312
45	UNIV OF MICHIGAN - ANN ARBOR	V K RAWLIN	GRC	R M GILGENBACH	NAG 3 2818	306
45	UNIV OF MICHIGAN - ANN ARBOR	C PRINCIPE	GSFC	C RUF	NAG 5 11609	309
45	UNIV OF MICHIGAN - ANN ARBOR	J PIEPMEIER	GSFC	D S RUF	NAG 5 13170	310
45	UNIV OF MICHIGAN - ANN ARBOR	J W JOHNSON	LARC	C S RUF	NAG 1 01032	305
45	UNIV OF MICHIGAN - ANN ARBOR	S NASH-STEVENSON	MSFC	B GILCHRIST	NGT 8 52889	314
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45	UNIV OF MISSOURI - COLUMBIA	J MULQUEEN	MSFC	C KLUEVER	NAG 8 1937	324
45	UNIV OF MISSOURI - ROLLA	F L HEPBURN	MSFC	R ZOUGHI	NAG 8 1907	325
45	UNIV OF NEBRASKA - LINCOLN	M L BLOXXER	LARC	K D COLE	NAG 1 01087	334
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45	UNIV OF OKLAHOMA - NORMAN	D H NGO	GRC	M ATIQUZZAMAN	NCC 3 1069	422
45	UNIV OF OKLAHOMA - NORMAN	S K KAHNG	LARC	J R CRUZ	NAG 1 2178	421
45	UNIV OF PUERTO RICO HUMACAO U COLEGE	R ACOSTA	GRC	J C CERSOSIMO	NAG 3 2636	540
45	UNIV OF PUERTO RICO HUMACAO U COLEGE	R ACOSTA	GRC	J C CERSOSIMO	NAG 3 2842	540
45	UNIV OF ROCHESTER	C R MCCREIGHT	ARC	W J FORREST	NAG 2 1280	385
45	UNIV OF SOUTH FLORIDA	A HEPP	GRC	D MOREL	NAG 3 2614	172
45	UNIV OF SOUTHERN CALIFORNIA	M MEYAPPAN	ARC	C ZHOU	NCC 2 5454	113
45	UNIV OF SOUTHERN CALIFORNIA	J POUCH	GRC	A LEVI	NAG 3 2559	111
45	UNIV OF SOUTHERN CALIFORNIA	T P FLATLEY	GSFC	B SCHOTT	NAG 5 13516	113
45	UNIV OF TEXAS - EL PASO	A HEPP	GRC	G B LUSH	NAG 3 2303	487
45	UNIV OF TEXAS - EL PASO	S J KATZBERG	LARC	S A SARKE	NGT 1 03010	488
45	UNIV OF TOLEDO	F R BEACH	GRC	T G KEITH	NCC 3 924	418
45	UNIV OF TOLEDO	G E PONCHAK	GRC	V J KAPOOR	NCC 3 881	418
45	UNIV OF TOLEDO	R BEACH	GRC	T G KEITH	NCC 3 916	418
45	UNIV OF TOLEDO	R L PATTERSON	GRC	V J KAPOOR	NAG 3 2565	416
45	UNIV OF WISCONSIN - MADISON	V K RAWLIN	GRC	N HERSHKOWITZ	NAG 3 2823	532
45	UNIV OF WISCONSIN - MADISON	J PANEK	GSFC	R PAULOS	NAS 5 02089	537
45	VA POLYTECH INST & ST UNIV	R S ROGOWSKI	LARC	A WANG	NAG 1 01018	515
45	VANDERBILT UNIV	D LINDSTROM	GSFC	D WEINTRAUB	NAG 5 13104	460
45	VANDERBILT UNIV	G A SOFFEN	GSFC	R D SCHRIMPF	NGT 5 105	461
45	VIRGINIA COMMONWEALTH UNIV	Q A SHAMS	LARC	J H TUCKER	NAG 1 01042	519
45	WAYNE STATE UNIV	D B SNYDER	GRC	J R WOODYARD	NAG 3 2801	314
45	WAYNE STATE UNIV	D BRINKER	GRC	P WOODYARD	NAG 3 2180	314
45	WRIGHT STATE UNIV	J FREEMAN	GRC	D C LOOK	NAG 3 2637	419
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46	ALABAMA A&M UNIV	A CHOW	MSFC	K X HO	NAG 8 1808	1
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46	ARIZONA STATE UNIV	D R AMBUR	LARC	A CHATTOPADHYAY	NGT 1 02013	20
46	AUBURN UNIV	J TRUDELL	GRC	D GOWAYED	NAG 3 2597	3
46	AUBURN UNIV	K R SACKSTEDER	GRC	D W MACKOWSKI	NCC 3 864	3
46	CALIFORNIA INST OF TECH	F P CHIARAMONTE	GRC	J F BRADY	NAG 3 2166	37
46	CALIFORNIA INST OF TECH	J GRADY	GSFC	F HARRISON	NAS 5 98152	44
46	CALIFORNIA INST OF TECH	A D MULDER	MSFC	C BRENNEN	NAG 8 1934	43
46	CARNEGIE - MELLON UNIV	S S PAI	GRC	J H GRIFFIN	NCC 3 1058	430
46	CARNEGIE - MELLON UNIV	C FARMER	JSC	R SIMMONS	NAG 9 1327	429
46	CARNEGIE - MELLON UNIV	D LAVERY	JSC	T KANADE	NAG 9 1092	429
46	CASE WESTERN RESERVE UNIV	F HURWITZ	GRC	J D ALEXANDER	NCC 3 1005	401
46	CASE WESTERN RESERVE UNIV	G W HUNTER	GRC	C LIU	NCC 3 1004	401
46	CASE WESTERN RESERVE UNIV	J M LUCERO	GRC	J M PRAHL	NCC 3 999	401
46	CASE WESTERN RESERVE UNIV	J PEREIRA	GRC	V PRAKASH	NAG 3 2794	399
46	CASE WESTERN RESERVE UNIV	K SACKSTEDER	GRC	J S TIEN	NCC 3 633	400
46	CASE WESTERN RESERVE UNIV	N N NEMETH	GRC	D A GASPARINI	NCC 3 653	400
46	CASE WESTERN RESERVE UNIV	P DUNLAP	GRC	J D CAWLEY	NCC 3 898	400
46	CASE WESTERN RESERVE UNIV	K BLANDING	GSFC	R QUINN	NGT 5 50274	402
46	CENTRAL STATE UNIV - OHIO	G FRALICK	GRC	T V REID	NCC 3 996	402
46	CITY UNIV OF NY CITY COLL	F D CHIARAMONTE	GRC	A ACRIVOS	NCC 3 607	362
46	CLEMSON UNIV - CLEMSON	S NASH-STEVENSON	MSFC	R MILLER	NGT 8 52947	453
46	CLEVELAND STATE UNIV	L THIEMENE	GRC	D IBRAHIM	NAG 3 2482	402
46	CLEVELAND STATE UNIV	R C TEW	GRC	A B EBIANA	NAG 3 2819	403
46	CLEVELAND STATE UNIV	R F HANDSCHUH	GRC	J T SAWICKI	NAG 3 2947	403
46	CLEVELAND STATE UNIV	R HANDSCHUH	GRC	J T SAWICKI	NCC 3 1011	404
46	CORNELL UNIV	F P CHARIAMONTE 111	GRC	J JENKINS	NCC 3 797	373
46	CORNELL UNIV	A MCGOWAN	LARC	E GARCIA	NGT 1 03017	374
46	CORNELL UNIV	D YOUNG	LARC	A R INGRAFFEA	NAG 1 02001	368
46	CORNELL UNIV	G C HORMER	LARC	E GARCIA	NGT 1 03021	374
46	CUYAHOGA COMM COLL	D A PETRARCA	GRC	B CANEPARI	NAG 3 2847	405
46	DUKE UNIV	A P KURKOV	GRC	K C HALL	NAG 3 2627	387
46	DUKE UNIV	E J SIOCHI	LARC	R L CLARK	NGT 1 03008	388

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46	DUKE UNIV	K SHEPHERD	LARC	L FRANZONI	NGT 1 03016	388
46	FLA INTERNATIONAL UNIV	J W HINES	ARC	Y CAO	NAG 2 1618	157
46	FLORIDA ATLANTIC UNIV	W J STROUD	LARC	I ELISHAKOFF	NAG 1 01079	159
46	FLORIDA STATE UNIV	K Q ZAMAN	GRC	C K TAM	NAG 3 2102	161
46	GEORGIA INST OF TECH	F J MONTEGANI	GRC	J H GINSBERG	NGT 3 52371	182
46	GEORGIA INST OF TECH	M S BURRELL	GSFC	W E SINGHOSE	NGT 5 129	182
46	GEORGIA INST OF TECH	B J JENSEN	LARC	W S JOHNSON	NAG 1 2312	176
46	GEORGIA INST OF TECH	J MULQUEEN	MSFC	A CALISE	NAG 8 1912	180
46	GEORGIA INST OF TECH	R DABNEY	MSFC	A CALISE	NAG 8 1638	180
46	GEORGIA INST OF TECH	S NASH-STEVENSON	MSFC	H LIPKIN	NGT 8 52940	183
46	GEORGIA INST OF TECH	S NASH-STEVENSON	MSFC	W SINGHOSE	NGT 8 52943	183
46	ILLINOIS INST OF TECH	B M STEINETZ	GRC	D RAMAN	NCC 3 798	196
46	ILLINOIS INST OF TECH	M M HASAN	GRC	J SEYED-YAGOOBI	NAG 3 2743	195
46	IOWA STATE UNIV	K R SACKSTEDER	GRC	G M COLVER	NCC 3 846	218
46	IOWA STATE UNIV	G DUKEMAN	MSFC	P LU	NAG 8 1637	217
46	JOHNS HOPKINS UNIV	H K NAHRA	GRC	D HERMAN	NAG 3 1815	234
46	JOHNS HOPKINS UNIV	J G SCHREIBER	GRC	D MEHOKE	NAG 3 2622	234
46	JOHNS HOPKINS UNIV	N N NEMETH	GRC	D N SHARPE	NCC 3 961	248
46	LOUISIANA STATE UNIV - BATON ROUGE	R TRAVIS	SSC	S ACHARYS	NGT13 52755	228
46	MASSACHUSETTS INST OF TECH	H THOMAS	ARC	J K SALISBURY	NCC 2 1121	292
46	NEW MEXICO STATE UNIV - LAS CRUCES	R P TRAVIS	SSC	E G CONLEY	NGT13 52752	357
46	NORFOLK STATE UNIV	S H CHOI	LARC	K D SONG	NCC 1 280	504
46	NORTH CAROLINA A&T STATE UNIV	L MANTHEY	GRC	F FERGUSON	NAG 3 2834	390
46	NORTH CAROLINA STATE UNIV. - RALEIGH	R D GREEN	GRC	A V KUZNETSOV	NAG 3 2706	392
46	NORTH CAROLINA STATE UNIV. - RALEIGH	R L SPELLMAN	LARC	F G YUAN	NAG 1 02091	392
46	NORTH CAROLINA STATE UNIV. - RALEIGH	P DOTY	MSFC	N MA	NAG 8 1817	393
46	NORTHWESTERN UNIV	F P CHIARAMONTE	GRC	H RIECKE	NAG 3 2113	196
46	NORTHWESTERN UNIV	J GRADY	GSFC	M P ULMER	NAS 5 98153	198
46	NORTHWESTERN UNIV	M JERNIGAN	JSC	R M LUEPTOW	NAG 9 1544	198
46	NORTHWESTERN UNIV	N PACKMAN	JSC	R M LUEPTOW	NAG 9 1053	198
46	NORTHWESTERN UNIV	J T WANG	LARC	W K LIU	NAG 1 02078	196
46	OAKWOOD COLL	W J LOVE	MSFC	T MCDONALD	NAG 8 1892	4
46	OHIO STATE UNIV	F J MONTEGANI	GRC	V V SUBRAMANIAM	NGT 3 52373	411
46	OHIO STATE UNIV	S J SCHNEIDER	GRC	I ADAMOVICH	NAG 3 2339	406
46	OLD DOMINION UNIV	C M BELCASTRO	LARC	W S GRAY	NCC 1 392	507
46	OLD DOMINION UNIV	P FERGEN	LARC	J HUANG	NGT 1 01027	508
46	PENN STATE UNIV. - UNIV. PARK	D T PALAC	GRC	R J SANTORO	NAG 3 2657	433
46	PENN STATE UNIV. - UNIV. PARK	F J MONTEGANI	GRC	D A SANTAVICCA	NGT 3 52368	440
46	PENN STATE UNIV. - UNIV. PARK	S A HOWARD	GRC	M CARPINO	NAG 3 2656	433
46	PENN STATE UNIV. - UNIV. PARK	M HAGOPIAN	GSFC	J E FREDLEY	NCC 5 508	440
46	PENN STATE UNIV. - UNIV. PARK	H TRINH	MSFC	D SANTAVICCA	NAG 8 1873	439
46	POLYTECH UNIV - BROOKLYN	D B ZAMAN	GRC	M OTUGEN	NAG 3 2533	376
46	POLYTECH UNIV - BROOKLYN	M BURRELL	GSFC	V KAPILA	NGT 5 151	376
46	PRINCETON UNIV	D L URBAN	GRC	F L DRYER	NCC 3 735	348
46	PRINCETON UNIV	K R SACKSTEDER	GRC	C K LAW	NGT 3 52392	348
46	PURDUE UNIV	Y R HICKS	GRC	N M LAVRENDEAN	NAG 8 1782	213
46	RENSSELAER POLYTECH INST	J W LEHNER	MSFC	L N MYRABO	NAG 8 1795	378
46	RICE UNIV	C J CULBERT	JSC	S T MCJUNKIN	NAG 9 1538	467
46	ROSE-HULMAN INST OF TECH	J M HANSON	MSFC	B T BURCHETT	NAG 8 1938	215
46	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	S JONES	LARC	J LUXHOJ	NGT 1 03018	351
46	SAN DIEGO STATE UNIV	E I MODARAS	LARC	R A KLINE	NGT 1 03007	50
46	SOUTHERN ILLINOIS UNIV - CARBONDALE	F FIGUEROA	SSC	A MAHAJAN	NGT13 52760	200
46	SOUTHERN UNIV & A&M COLL	B NOTARDONATO	KSC	D F MENSAH	NAG10 322	229
46	STANFORD UNIV	G RAICHE	ARC	R K HANSON	NCC 2 5522	61
46	STANFORD UNIV	N N MANSOUR	ARC	R K HANSON	NAG 2 1478	54
46	STANFORD UNIV	N N MANSOUR	ARC	P MOIN	NCC 2 1151	59
46	STANFORD UNIV	F CHARIMONTE	GRC	J K EATON	NCC 3 640	61
46	STANFORD UNIV	H PARTRIDGE	LARC	Y NISHI	NCC 2 5533	61
46	STATE UNIV OF NY - BUFFALO	J P DRUMMOND	LARC	P GIVI	NAG 1 2238	380
46	TENNESSEE STATE UNIV	M WHORTON	MSFC	G BURKS	NAG 8 1886	457
46	TENNESSEE TECHNOLOGICAL UNIV	C K KARRINGTON	MSFC	S CANFIELD	NAG 8 1919	458
46	TENNESSEE TECHNOLOGICAL UNIV	J J HUTT	MSFC	S S HAN	NAG 8 1794	458
46	TENNESSEE TECHNOLOGICAL UNIV	S NASH-STEVENSON	MSFC	C WILSON	NGT 8 52928	458
46	TEXAS A&M UNIV-CORPUS CHRISTI	J HERNANDEZ	JSC	R BACHNAK	NAG 9 1459	474
46	TEXAS A&M UNIV	A F KASCAK	GRC	A PALAZZOLO	NCC 3 1080	472

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46	TEXAS A&M UNIV	M GUISBERT	KSC	D BEST	NAG10 328	471
46	TEXAS A&M UNIV	J B RONSOM	LARC	J D WHITCOMB	NAG 1 01080	468
46	TEXAS A&M UNIV	T JETT	MSFC	L S ANDRES	NAG 8 1853	470
46	THE UNIV OF CENTRAL FLORIDA	J D HEIDMANN	GRC	D J KASSAB	NAG 3 2691	164
46	THE UNIV OF CENTRAL FLORIDA	B NOTARDONATO	KSC	R NAIDYANATHAN	NAG10 323	165
46	THE UNIV OF CENTRAL FLORIDA	G F HADDAD	KSC	R CHEN	NAG10 344	165
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46	UNIV HOUSTON-HOUSTON	D SICKOREZ	JSC	R B BANNEROT	NAG 9 867	475
46	UNIV HOUSTON-HOUSTON	K M HURBERT	JSC	L C WHITE	NAG 9 1421	476
46	UNIV HOUSTON-HOUSTON	F FIGUEROA	SSC	E BARBIERI	NAG13 03006	476
46	UNIV OF AKRON	A ARNOLD	GRC	D F SALEEB	NCC 3 788	413
46	UNIV OF AKRON	D HOPKINS	GRC	S N PATNAIK	NCC 3 831	413
46	UNIV OF AKRON	G R HALFORD	GRC	S N PATNAIK	NAG 3 2915	412
46	UNIV OF AKRON	M P PROCTOR	GRC	M J BRAUN	NCC 3 929	413
46	UNIV OF AKRON	S A THORP	GRC	A F SALEEB	NCC 3 578	413
46	UNIV OF ALABAMA - HUNTSVILLE	J DOWDY	MSFC	C HAWK	NGT 8 52878	12
46	UNIV OF ALABAMA - HUNTSVILLE	S NASH-STEVENSON	MSFC	C HAWK	NGT 8 52891	12
46	UNIV OF ARIZONA	J E FINN	ARC	K R SRIDHAR	NCC 2 5357	33
46	UNIV OF ARIZONA	P M DOTY	MSFC	J R SRIDHAR	NAG 8 1469	31
46	UNIV OF CALIFORNIA - BERKELEY	B A ADELSTEIN	ARC	H KAZEROONI	NCC 2 1347	72
46	UNIV OF CALIFORNIA - BERKELEY	B ADELSTEIN	ARC	H KAZEROONI	NCC 2 1255	72
46	UNIV OF CALIFORNIA - BERKELEY	G A BRIGGS	ARC	G COOPER	NCC 2 1387	72
46	UNIV OF CALIFORNIA - BERKELEY	H D ROSS	GRC	D FERNANDEZ-PELLO	NCC 3 803	72
46	UNIV OF CALIFORNIA - DAVIS	F P CHIARAMONTE	GRC	B D SHAW	NCC 3 353	77
46	UNIV OF CALIFORNIA - IRVINE	H D ROSS	GRC	W A SIRIGNANO	NAG 3 2024	79
46	UNIV OF CALIFORNIA - IRVINE	H D ROSS	GRC	D A SIRIGNANO	NAG 3 2775	79
46	UNIV OF CALIFORNIA - IRVINE	J E FREEH	GRC	S SAMULESON	NAG 3 2885	79
46	UNIV OF CALIFORNIA - IRVINE	K Q ZAMAN	GRC	D PAPAMOSCHOU	NAG 3 2345	79
46	UNIV OF CALIFORNIA - IRVINE	I S RAJU	LARC	S N ATLURI	NAG 1 02115	78
46	UNIV OF CALIFORNIA - LOS ANGELES	D F CHAO	GRC	V K DHIR	NAG 3 2467	82
46	UNIV OF CALIFORNIA - LOS ANGELES	W H PROSSER	LARC	A K MAL	NAG 1 02036	82
46	UNIV OF CALIFORNIA - SAN DIEGO	O MEHMED	GRC	D KOSMATKA	NCC 3 902	100
46	UNIV OF CINCINNATI	E GOLLIHER	GRC	T HENSERSON	NAS 3 01120	415
46	UNIV OF CINCINNATI	H D PERKINS	GRC	E J GUTMARK	NAG 3 2669	414
46	UNIV OF COLORADO - BOULDER	T B GATSKI	LARC	O VASILOV	NGT 1 02022	135
46	UNIV OF FLORIDA	E L GOLLIHER	GRC	D E LEAR	NAG 3 2630	167
46	UNIV OF FLORIDA	M S BURRELL	GSFC	P C MASON	NGT 5 128	169
46	UNIV OF FLORIDA	M L BLOSSER	LARC	R T HAFTKA	NAG 1 02067	166
46	UNIV OF FLORIDA	S NASH-STEVENSON	MSFC	N ARAKERE	NGT 8 52946	170
46	UNIV OF ILLINOIS - CHICAGO CIRCLE	K R SACKSTEDER	GRC	I K PURI	NGT 3 52391	203
46	UNIV OF ILLINOIS - CHICAGO CIRCLE	R F HANDSCHUH	GRC	D L LITVIN	NAG 3 2450	202
46	UNIV OF ILLINOIS - CHICAGO CIRCLE	C A SANDRIDGE	LARC	P BANERJEE	NAG 1 01065	202
46	UNIV OF ILLINOIS - CHICAGO CIRCLE	C TALLEY	MSFC	C MEGARIDIS	NAG 8 1473	203
46	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	B S SINGH	GRC	H AREF	NAG 3 2122	204
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46	UNIV OF KENTUCKY	R S PAPPA	LARC	J A MAIN	NCC 1 385	225
46	UNIV OF MARYLAND - COLL PARK	H D ROSS	GRC	D L	NCC 3 804	265
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46	UNIV OF MASSACHUSETTS - AMHERST	S NASH-STEVENSON	MSFC	J ROGERS	NGT 8 52948	299
46	UNIV OF MICHIGAN - ANN ARBOR	A R PORRO	GRC	D E GEISTER	NAG 3 2800	306
46	UNIV OF MICHIGAN - ANN ARBOR	D URBAN	GRC	G M FAETH	NAG 3 2404	305
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46	UNIV OF MINN	D E ASHPIS	GRC	T W SIMON	NCC 3 652	319
46	UNIV OF MISSOURI - COLUMBIA	S NASH-STEVENSON	MSFC	C KLUEVER	NGT 8 52914	324
46	UNIV OF MISSOURI - ROLLA	I TUMER	ARC	D MCADAMS	NCC 2 1430	325
46	UNIV OF MISSOURI - ROLLA	I TURNER	ARC	R STONE	NCC 2 1380	325
46	UNIV OF MISSOURI - ROLLA	Q A SHAMS	LARC	R W SCHWARTZ	NAG 1 02094	324

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46	UNIV OF OKLAHOMA - NORMAN	C STOKER	ARC	D P MILLER	NCC 2 1382	422
46	UNIV OF OKLAHOMA - NORMAN	M BUALAT	ARC	D MILLER	NAG 2 1648	421
46	UNIV OF PITTSBURGH	J P DRUMMOND	LARC	P GIVI	NAG 1 03010	443
46	UNIV OF SOUTHERN CALIFORNIA	B SIGH	GRC	T MAXWORTHY	NAG 3 2125	111
46	UNIV OF SOUTHERN CALIFORNIA	K J WEILAND	GRC	P D RONNEY	NAG 3 2124	111
46	UNIV OF TEXAS - ARLINGTON	J PORTER	MSFC	Z MUSIELAK	NAG 8 1889	479
46	UNIV OF TEXAS - AUSTIN	C LEE	GRC	J L ELLZEY	NGT 3 52393	485
46	UNIV OF TEXAS - AUSTIN	K L MCLALLIN	GRC	R H BENO	NAS 3 01133	485
46	UNIV OF TEXAS - AUSTIN	K KONNO	JSC	J H BENO	NAS 3 99169	485
46	UNIV OF TEXAS AT TYLER	C D SCOTT	JSC	R B GREENDYKE	NAG 9 1382	490
46	UNIV OF TEXAS AT TYLER	C SCOTT	JSC	R GREENDYKE	NAG 9 1456	490
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46	UNIV OF TOLEDO	A P KURKOV	GRC	T G KEITH	NCC 3 1068	419
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46	UNIV OF TOLEDO	G MONTAGUE	GRC	T G KEITH	NCC 3 943	419
46	UNIV OF TOLEDO	G T MONTAGUE	GRC	T G KEITH	NCC 3 1046	419
46	UNIV OF TOLEDO	G T MONTAGUE	GRC	T G KEITH	NCC 3 1061	419
46	UNIV OF TOLEDO	J MINNS	GRC	T KEITH	NAS 3 01116	418
46	UNIV OF TOLEDO	K MCLALLIN	GRC	T G KEITH	NCC 3 907	418
46	UNIV OF TOLEDO	M L MEYER	GRC	T G KEITH	NCC 3 1022	419
46	UNIV OF TOLEDO	O MEHMED	GRC	T G KEITH	NCC 3 717	418
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46	UNIV OF TOLEDO	R E GAUGLER	GRC	T G KEITH	NCC 3 923	418
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46	UNIV OF TOLEDO	R F BEACH	GRC	T G KEITH	NAG 3 2646	416
46	UNIV OF TOLEDO	R HANDSCHUH	GRC	A KAHRAMAN	NAG 3 2641	416
46	UNIV OF TOLEDO	R HANDSCHUH	GRC	T G KEITH	NCC 3 1012	419
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46	UNIV OF TOLEDO	W MORALES	GRC	T G KEITH	NCC 3 954	419
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46	UNIV OF WASHINGTON	J SALEM	GRC	M G JENKINS	NCC 3 970	527
46	UNIV OF WISCONSIN - MADISON	M L TINKER	MSFC	D C KAMMER	NAG 8 1820	537
46	VA POLYTECH INST & ST UNIV	D L PALUMBO	LARC	C R FULLER	NAG 1 2158	515
46	VA POLYTECH INST & ST UNIV	D L PALUMBO	LARC	C R FULLER	NAG 1 02053	516
46	VA POLYTECH INST & ST UNIV	D L PALUMBO	LARC	M AHMADIAN	NGT 1 01038	518
46	VA POLYTECH INST & ST UNIV	K J PRIESTLEY	LARC	A M SMITH	NGT 1 52248	518
46	VA POLYTECH INST & ST UNIV	K W BELVIA	LARC	D J INMAN	NGT 1 03020	518
46	VA POLYTECH INST & ST UNIV	L G HORTA	LARC	R KAPANIA	NAG 1 2277	515
46	VA POLYTECH INST & ST UNIV	W K WILKE	LARC	D J INMAN	NGT 1 02014	518
46	VA POLYTECH INST & ST UNIV	S NASH-STEVENSON	MSFC	D J INMAN	NGT 8 52909	518
46	VANDERBILT UNIV	G C HORNER	LARC	A COX	NGT 1 52227	461
46	VANDERBILT UNIV	J C HORNER	LARC	M GOLDFARB	NGT 1 02023	461
46	VANDERBILT UNIV	J T ELDRIDGE	MSFC	K K TSENG	NAG 8 01914	460
46	VANDERBILT UNIV	S NASH-STEVENSON	MSFC	R A WELLER	NGT 8 52905	462
46	VANDERBILT UNIV	S NASH-STEVENSON	MSFC	R W PITZ	NGT 8 52910	462
46	VIRGINIA COMMONWEALTH UNIV	J S HARRISON	LARC	Z OUNAIES	NCC 1 02013	519
46	WASHINGTON UNIV - ST. LOUIS	C TUNG	ARC	D A PETERS	NAG 2 1457	326
46	WICHITA STATE UNIV	T J COLLINS	LARC	C YANG	NAS 1 03056	224
47	ALABAMA A&M UNIV	B PENN	MSFC	M D AGGARWAL	NAG 8 1623	1
47	ALABAMA A&M UNIV	J CLARK	MSFC	M A ALIM	NAG 8 1891	2
47	AUBURN UNIV	S L DRAPER	GRC	W F GALE	NAG 3 2682	3
47	BRIGHAM YOUNG UNIV	G C KING	LARC	J N HARB	NCC 1 02005	490
47	CARNEGIE - MELLON UNIV	D L BRITTON	GRC	P N KUMTA	NAG 3 2640	428
47	CASE WESTERN RESERVE UNIV	A CHAIT	GRC	P L TAYLOR	NCC 3 701	400
47	CASE WESTERN RESERVE UNIV	D L KIETRICH	GRC	J S TIEN	NAG 3 2331	398
47	CASE WESTERN RESERVE UNIV	J LANG	GRC	J D CAWLEY	NCC 3 955	401
47	CASE WESTERN RESERVE UNIV	J M PEREIRA	GRC	V PRAKASH	NAG 3 2677	398
47	CASE WESTERN RESERVE UNIV	K MIYOSHI	GRC	C A ZORMAN	NCC 3 915	401
47	CASE WESTERN RESERVE UNIV	M NATHAL	GRC	D L ELLIS	NCC 3 830	400
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47	CITY UNIV OF NY CITY COLL	K J BOWLES	GRC	B LIAW	NAG 3 2259	361
47	CLARK ATLANTA UNIV	S DUTTA	GRC	A A MINTZ	NCC 3 552	175
47	CLARK ATLANTA UNIV	E S WEISER	LARC	D R VEAZIE	NAG 1 01091	174
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47	CLEVELAND STATE UNIV	L A GREENBAUER-SENG	GRC	S TEWARI	NCC 3 862	404
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47	CLEVELAND STATE UNIV	M NATHAL	GRC	S N TEWARI	NCC 3 749	404
47	CLEVELAND STATE UNIV	R V MINER	GRC	S N TEWARI	NCC 3 939	404
47	CLEVELAND STATE UNIV	S K MILLER	GRC	P HAMBOURGER	NCC 3 1023	404
47	COLL OF WILLIAM AND MARY	J W CONNELL	LARC	R A ORWOLL	NGT 1 52200	497
47	COLL OF WILLIAM AND MARY	M W SMITH	LARC	B C HOLLOWAY	NCC 1 01056	497
47	CORNELL UNIV	M MEADOR	GRC	D P GIANNELIS	NCC 3 832	373
47	CORNELL UNIV	E H GLAESSGEN	LARC	A R INGRAFFEA	NAG 1 02051	368
47	CORNELL UNIV	P DOTY	MSFC	A J SIEVERS	NAG 8 1666	373
47	DREXEL UNIV	J K SUTTER	GRC	D KNIGHT	NCC 3 825	431
47	DREXEL UNIV	M A MEADOR	GRC	D R PALMESE	NCC 3 835	431
47	DUKE UNIV	M TINKER	MSFC	L N VIRGIN	NAG 8 1715	388
47	FLORIDA STATE UNIV	A CHAIT	GRC	J VINALS	NAG 8 1885	163
47	GEORGIA INST OF TECH	S JOHNSON	ARC	M SACKS	NAG 2 1571	177
47	GEORGIA INST OF TECH	I TELESMA	GRC	A SAXENA	NGT 3 52389	182
47	GEORGIA INST OF TECH	E H GLAESSGEN	LARC	D L MCDOWELL	NAG 1 02054	176
47	GEORGIA INST OF TECH	E WEISER	LARC	W S REES	NGT 1 02019	182
47	GEORGIA INST OF TECH	R K BIRD	LARC	W S JOHNSON	NAG 1 02018	176
47	GEORGIA INST OF TECH	W D BREWER	LARC	J K COCHRAN	NAG 1 2245	176
47	GEORGIA INST OF TECH	A NETTLES	MSFC	W S JOHNSON	NAG 8 1819	180
47	HARVARD UNIV	P DOTY	MSFC	F A SPAEPEN	NAG 8 1680	279
47	HOPE COLL	T S GATES	LARC	J PAWLOSKE	NAG 1 01060	301
47	IOWA STATE UNIV	N H HAGEDORN	GRC	S W MARTIN	NAG 3 2846	217
47	IOWA STATE UNIV	A JACKSON	MSFC	R K TRIVETI	NAG 8 1681	217
47	JOHNS HOPKINS UNIV	S V RAJ	GRC	D J HEMKER	NAG 3 2690	234
47	KANSAS STATE UNIV	J A HINKLEY	LARC	Y WANG	NAG 1 02014	221
47	KANSAS STATE UNIV	J SU	LARC	Y WANG	NAG 1 02041	221
47	KENT STATE UNIV	M A MEADOR	GRC	R J TWIEG	NCC 3 721	406
47	MASSACHUSETTS INST OF TECH	M PURVEY	MSFC	A WITT	NAG 8 1487	291
47	MASSACHUSETTS INST OF TECH	P DOTY	MSFC	R SADOWAY	NAG 8 1689	291
47	MICHIGAN STATE UNIV	M V NATHAL	GRC	D S GRUMMON	NCC 3 868	303
47	MICHIGAN STATE UNIV	P DOTY	MSFC	A BERNARD	NAG 8 1690	303
47	MISSISSIPPI STATE UNIV	W GREGG	MSFC	S R DANIEWICZ	NAG 8 1883	321
47	MONTANA STATE UNIV	V C VANDERBILT	ARC	L H SPANGLER	NAG 2 1323	330
47	MORGAN STATE UNIV	E ORDONEZ	MSFC	A KENNEDY	NAG 8 1847	250
47	NEW JERSEY INST OF TECH	E S WEISER	LARC	M JAFFE	NAG 1 01110	344
47	NEW MEXICO INST OF MINING & TECH	J K SUTTER	GRC	D A HIRSCHFELD	NAG 3 2688	354
47	NORFOLK STATE UNIV	E T PRIOR	LARC	J JACOBS	NAG 1 2125	502
47	NORFOLK STATE UNIV	J C BARNES	LARC	L MATTIX	NCC 1 01049	504
47	NORTH CAROLINA A&T STATE UNIV	M R FREEDMAN	GRC	D N SHIVAKUMAR	NAG 3 2650	390
47	NORTH CAROLINA A&T STATE UNIV	T HAAG	GRC	K SHIVAKUMAR	NAG 3 01197	391
47	NORTH CAROLINA A&T STATE UNIV	R A HATHAWAY	LARC	A D KELKAR	NAG 1 02077	389
47	NORTH CAROLINA STATE UNIV. - RALEIGH	H PARTRIDGE	ARC	D W BRENNER	NCC 2 5506	394
47	NORTH CAROLINA STATE UNIV. - RALEIGH	C H LIN	JSC	M H MOHAMAD	NAG 9 1087	393
47	NORTH CAROLINA STATE UNIV. - RALEIGH	D R AMBER	LARC	F G YUAN	NAG 1 01128	391
47	NORTH CAROLINA STATE UNIV. - RALEIGH	E H GLASSGEN	LARC	F G YUAN	NAG 1 01103	391
47	NORTH CAROLINA STATE UNIV. - RALEIGH	E SAETHER	LARC	F G YUAN	NAG 1 02086	392
47	NORTH CAROLINA STATE UNIV. - RALEIGH	J S HARRISON	LARC	R C SMITH	NAG 1 02080	392
47	NORTHWESTERN UNIV	M V NATHAL	GRC	D C DUNAND	NCC 3 870	198
47	NORTHWESTERN UNIV	T L TURNER	LARC	L C BRINSON	NCC 1 02007	198
47	NORTHWESTERN UNIV	T S GATES	LARC	R S RUOFF	NAG 1 2313	196
47	NORTHWESTERN UNIV	T S GATES	LARC	L C BRINSON	NCC 1 01002	198
47	OHIO STATE UNIV	M V ZELLER	GRC	P DUTTA	NCA 3 206	410
47	OHIO STATE UNIV	R D NOEBE	GRC	M J MILLS	NAG 3 2675	406
47	OHIO STATE UNIV	R GOLDBERG	GRC	A GILAT	NAG 3 2748	406
47	OHIO STATE UNIV	R GOLDBERG	GRC	A GILAT	NCC 3 1027	410
47	OHIO STATE UNIV	P DOTY	MSFC	P K DUTTA	NAG 8 1670	409
47	OKLAHOMA STATE UNIV	M A MEADOR	LARC	S ROY	NAG 3 2780	420

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47	OLD DOMINION UNIV	T S GATES	LARC	R B PIPES	NAG 1 01043	504
47	OLD DOMINION UNIV	T S GATES	LARC	M C GUPTA	NCC 1 02022	507
47	PENN STATE UNIV. - UNIV. PARK	D T ELLERBY	ARC	J R HELLMANN	NAG 2 1524	433
47	PENN STATE UNIV. - UNIV. PARK	G E SCHWARZE	GRC	D T LANAGAN	NAG 3 2561	433
47	PENN STATE UNIV. - UNIV. PARK	M V NATHAL	GRC	D CHEN	NCC 3 920	440
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47	PENN STATE UNIV. - UNIV. PARK	S M ARNOLD	GRC	D J LISSENDEN	NCC 3 848	440
47	PENN STATE UNIV. - UNIV. PARK	J SU	LARC	Q M ZHANG	NAG 1 03008	432
47	PENN STATE UNIV. - UNIV. PARK	K M TAMINGER	LARC	V V SEMAK	NAG 1 02065	432
47	PRINCETON UNIV	B GOOD	GRC	D J SROLOVITZ	NAG 3 2665	345
47	PURDUE UNIV	TS GATES	LARC	C T SUN	NAG 1 01073	211
47	RENSSELAER POLYTECH INST	P M DOTY	MSFC	M E GLICKSMAN	NAG 8 1696	378
47	SAINT LOUIS UNIV	C DELLACORTE	GRC	P A BENOY	NAG 3 2642	322
47	STATE UNIV OF NY - STONY BROOK	J J ELDRIDGE	GRC	C C BERNDT	NAG 3 2693	381
47	STATE UNIV OF NY - STONY BROOK	R OKOJIE	GRC	D DUDLEY	NCC 3 957	383
47	TEXAS A&M UNIV	R ELLIS	GRC	R TAIREJA	NCC 3 933	472
47	TEXAS A&M UNIV	M R EFFINGER	MSFC	O O OCHOA	NAG 8 1802	470
47	TULANE UNIV	M A MEADOR	GRC	D DEKEE	NCC 3 946	230
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47	UNIV OF AKRON	M A MEADOR	GRC	F N KELLEY	NAG 3 2566	412
47	UNIV OF AKRON	M A MEADOR	GRC	R K EBY	NCC 3 877	413
47	UNIV OF AKRON	M A MEADOR	GRC	D H RENEKER	NCC 3 968	414
47	UNIV OF AKRON	E S WEISER	LARC	R B PIPES	NAG 1 02003	412
47	UNIV OF AKRON	E S WEISER	LARC	R B PIPES	NCC 1 02003	413
47	UNIV OF CALIFORNIA - DAVIS	M NATHAL	GRC	J GIBELING	NCC 3 859	77
47	UNIV OF CALIFORNIA - DAVIS	D R AMBUR	LARC	L W REHFIELD	NAG 1 01116	75
47	UNIV OF CALIFORNIA - SANTA BARBARA	C CZALAI	ARC	F MILSTEIN	NCC 2 1290	105
47	UNIV OF COLORADO - BOULDER	B V GUYNES	MSFC	S STURE	NAS 8 38779	134
47	UNIV OF FLORIDA	M J VANDYKE	MSFC	S ANGHAIE	NAG 8 1251	168
47	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	H PATRIDGE	ARC	G L TIMP	NAG 2 1626	204
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47	UNIV OF MARYLAND - COLL PARK	T T KING	GSFC	R GHODSSI	NAG 5 12011	259
47	UNIV OF MASSACHUSETTS - AMHERST	D L THOMSEN	LARC	E B COUGHLIN	NGT 1 02008	299
47	UNIV OF MICHIGAN - ANN ARBOR	J SU	LARC	P X MA	NAG 1 03007	305
47	UNIV OF MICHIGAN - ANN ARBOR	M P NEMETH	LARC	A P WAAS	NCC 1 01050	311
47	UNIV OF MINN	P M DOTY	MSFC	J J DERBY	NAG 8 1676	318
47	UNIV OF MISSOURI - ROLLA	T S GATES	LARC	S ROY	NAG 1 01050	324
47	UNIV OF NEW MEXICO-ALBUQUERQUE	D ELLERBY	ARC	R E LOEHMAN	NAG 2 1516	357
47	UNIV OF NEW MEXICO-ALBUQUERQUE	D T ELLERBY	ARC	R E LOEHMAN	NAG 2 1437	357
47	UNIV OF PUERTO RICO - MAYAGUEZ	R TRAVIS	SSC	Y JIA	NAG13 02031	540
47	UNIV OF RHODE ISLAND	G C FRALICK	GRC	O GREGORY	NAG 3 2652	450
47	UNIV OF RHODE ISLAND	G C FRALICK	GRC	D GREGORY	NAG 3 2655	450
47	UNIV OF SOUTH CAROLINA-COLUMBIA	T R SUTTER	LARC	M A SUTTON	NAG 1 03017	455
47	UNIV OF SOUTH FLORIDA	L MACDOWELL	KSC	D A SAGUESS	NAG10 310	173
47	UNIV OF TEXAS - AUSTIN	K MCLALLIN	GRC	R THOMPSON	NAG 3 2602	480
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47	UNIV OF TEXAS - EL PASO	A BEAM	MSFC	J C MCCLURE	NAG 8 1645	488
47	UNIV OF TEXAS AT SAN ANTONIO	S RAJ	GRC	D L BAGLEY	NAG 3 2671	489
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47	UNIV OF UTAH	B MCKISSOCK	GRC	G D SMITH	NAG 3 2624	491
47	UNIV OF UTAH	E SAETHER	LARC	D O ADAMS	NAG 1 03085	490
47	UNIV OF VIRGINIA	D L DICUS	LARC	E A STARKE	NAG 1 02090	509
47	UNIV OF VIRGINIA	M P NEMETH	LARC	C O HORGAN	NAG 1 01022	509
47	UNIV OF VIRGINIA	R PIASCIK	LARC	G SHIFLET	NAG 1 2321	509
47	UNIV OF VIRGINIA	R S PIASCIK	LARC	G J SHIFLET	NAG 1 02049	509
47	UNIV OF VIRGINIA	R S PIASCIK	LARC	R G KELLY	NCC 1 01009	514
47	UNIV OF WASHINGTON	B J JENSEN	LARC	J C SEFERIS	NAG 1 01078	520

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47	VA POLYTECH INST & ST UNIV	M P NEMETH	LARC	M W HYER	NAG 1 01072	515
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47	VA POLYTECH INST & ST UNIV	M E PRINCE	MSFC	D A DILLIARD	NAG 8 1846	517
47	WASHINGTON UNIV - ST. LOUIS	P DOTY	MSFC	K F KELTON	NAG 8 1682	329
47	WINONA STATE UNIV	T S GATES	LARC	B ABDEL-MAGID	NAG 1 01054	319
49	ALABAMA A&M UNIV	K V JACKSON	MSFC	M CURLEY	NAG 8 1880	2
49	ALABAMA A&M UNIV	W T POWERS	MSFC	K B COOK	NAG 8 1861	2
49	ARKANSAS TECH UNIV	G R HALFORD	GRC	T GOSWAMI	NAG 3 2798	35
49	AUBURN UNIV	J SAMS	MSFC	R A OVERFELT	NCC 8 240	3
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49	BOSTON COLL	J C BARNES	LARC	B R DIBARTOLO	NAG 1 03069	272
49	BOSTON UNIV	R B ROGERS	GRC	D HOLT	NAG 3 2392	273
49	BOWLING GREEN STATE UNIV	S RIDDLEBAUGH	GRC	B D PIERSOL	NAG 3 2790	398
49	BRANDEIS UNIV	F P CHIARAMONTE	GRC	D FRADEN	NAG 3 2386	276
49	BROWN UNIV	J B HURST	GRC	W A CURTIN	NAG 3 2668	446
49	BROWN UNIV	M M HASAN	GRC	J M VALLES	NAG 3 2882	446
49	BROWN UNIV	M M HASAN	GRC	H J MARIS	NAG 3 2925	446
49	BROWN UNIV	G A SOFFEN	GSFC	G CRAWFORD	NGT 5 91	449
49	CALIFORNIA INST OF TECH	J H AGUI	GRC	M L HUNT	NAG 3 2358	37
49	CALIFORNIA INST OF TECH	M C HICKS	GRC	D L GOODSTEIN	NAG 3 2900	37
49	CALIFORNIA INST OF TECH	M M HASAN	GRC	A PONCE	NAG 3 2902	37
49	CALIFORNIA INST OF TECH	N R HALL	GRC	J F BRADY	NAG 3 2737	37
49	CALIFORNIA INST OF TECH	S C FARMER	GRC	U USTUNDAG	NAG 3 2686	37
49	CALIFORNIA INST OF TECH	B A MERRITT	GSFC	R A MEWALDT	NAG 5 5203	37
49	CALIFORNIA INST OF TECH	D NGUYEN	GSFC	F A HARRISON	NAG 5 11851	41
49	CALIFORNIA ST. POLYTECH U-POMONA	M BATTAGLIA	NMO	V GARNER	NCC 7 11	45
49	CALIFORNIA STATE UNIV-BAKERSFIELD	K S SHY	DFRC	K L NYBERG	NAG 4 200	47
49	CARNEGIE - MELLON UNIV	F J MONTEGANI	GRC	P N KUMTA	NGT 3 52370	430
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49	CASE WESTERN RESERVE UNIV	G MEYER	ARC	M S BRANICKY	NAG 2 1333	398
49	CASE WESTERN RESERVE UNIV	A CHAIT	GRC	P L TAYLOR	NCC 3 969	401
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49	CASE WESTERN RESERVE UNIV	A CHAIT	GRC	P L TAYLOR	NCC 3 1028	402
49	CASE WESTERN RESERVE UNIV	D GREEN	GRC	Y KAMOTANI	NCC 3 823	400
49	CASE WESTERN RESERVE UNIV	D L DIETRICH	GRC	M CABRERA	NCC 3 1013	402
49	CASE WESTERN RESERVE UNIV	D W YORK	GRC	D S ROSENBAUM	NCC 3 1001	401
49	CASE WESTERN RESERVE UNIV	F P CHIARAMONTE	GRC	B OVRYN	NAG 3 2504	398
49	CASE WESTERN RESERVE UNIV	G W HUNTER	GRC	C LIU	NCC 3 941	401
49	CASE WESTERN RESERVE UNIV	G W HUNTER	GRC	C LIU	NCC 3 1082	402
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49	CASE WESTERN RESERVE UNIV	K R SACKSTEDER	GRC	J S TIEN	NCC 3 669	400
49	CASE WESTERN RESERVE UNIV	K R SACKSTEDER	GRC	C SUNG	NCC 3 838	400
49	CASE WESTERN RESERVE UNIV	M M HANSEN	GRC	C S ROSENBLATT	NAG 3 2910	399
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49	CLARKSON UNIV	M HASAN	GRC	R SUBRAMAIAN	NAG 3 2703	362
49	CLARKSON UNIV	R D GREEN	GRC	D H SHEN	NAG 3 2717	362
49	CLEMSON UNIV - CLEMSON	T BEARD	ARC	B MELLO	NCC 2 1288	453
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49	CLEVELAND STATE UNIV	K JULES	GRC	P P LIN	NAG 3 2326	402
49	CLEVELAND STATE UNIV	J MATURO	HQ	A LIOU	NASW 02023	403
49	COLORADO SCH OF MINES	S A GOKOGLU	GRC	D J MOORE	NCC 3 659	114
49	COLORADO SCH OF MINES	J SAMS	MSFC	F D SCHOWENGERDT	NCC 8 238	114
49	COLUMBIA UNIV	K HARTMAN	GSFC	A RASMUSSEN	NAG 5 13352	366
49	CORNELL UNIV	C W LEK	GRC	C A BATT	NAG 3 2943	369
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49	CORNELL UNIV	H K NAHRA	GRC	D L KOCH	NAG 3 2349	368
49	CORNELL UNIV	H K NAHRA	GRC	D L KOCH	NAG 3 2440	368
49	CORNELL UNIV	J E BROOKER	GRC	D M LEE	NAG 3 2871	369
49	CORNELL UNIV	M HASAN	GRC	D LOUGE	NAG 3 2705	368
49	CORNELL UNIV	M HASAN	GRC	D STEEN	NAG 3 2713	369
49	CORNELL UNIV	M M HASAN	GRC	L POLLACK	NAG 3 2942	369
49	DREXEL UNIV	D L URBAN	GRC	D CHOI	NCC 3 822	431
49	DREXEL UNIV	D L URBAN	GRC	D A RUFF	NCC 3 847	431
49	DREXEL UNIV	D L URBAN	GRC	D Y CHOI	NCC 3 913	431
49	DREXEL UNIV	D L URBAN	GRC	H PEARLMAN	NCC 3 1006	431
49	DREXEL UNIV	D L URBAN	GRC	M Y CHOI	NCC 3 1049	432
49	DREXEL UNIV	J E BROOKER	GRC	H PEARLMAN	NCC 3 1003	431
49	DUKE UNIV	R A WILKINSON	GRC	R P BEHRINGER	NAG 3 2372	386
49	ELIZABETH CITY STATE UNIV	D W GRIFFIN	GRC	C M OKPODU	NAG 3 2883	389
49	EMORY UNIV	R B ROGERS	GRC	E R WEEKS	NAG 3 2728	175
49	FLA INTERNATIONAL UNIV	A CARDENAS	ARC	R GIACHETTI	NAG 2 1612	157
49	FLA INTERNATIONAL UNIV	G BUCKINGHAM	KSC	M CENTENO	NAG10 321	158
49	FLORIDA A&M UNIV	D JOHSON	GRC	A F VAUGHN-COOKE	NAG 3 2786	158
49	FLORIDA A&M UNIV	D ABRAHAM	KSC	H LEWIS III	NAG10 314	159
49	FLORIDA ATLANTIC UNIV	S LAMBING	MSFC	W E GLENN	NCC 8 230	160
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49	GEORGE MASON UNIV	F G PATTERSON	GSFC	R STOUGH	NCC 5 738	500
49	GEORGE WASHINGTON UNIV	E TORRES	GSFC	R A WILLIAMSON	NAG 5 13168	147
49	GEORGE WASHINGTON UNIV	M R BROWN	GSFC	S SARKANI	NAG 5 13629	147
49	GEORGETOWN UNIV	H JONES	ARC	R DILLON-MERRILL	NCC 2 5538	149
49	GEORGIA INST OF TECH	F P CHIARAMONTE	GRC	D YODA	NAG 3 2373	177
49	GEORGIA INST OF TECH	H K NAHRA	GRC	D MORRIS	NAG 3 2739	178
49	GEORGIA INST OF TECH	J E BROOKER	GRC	M CHAPMAN	NAG 3 2893	178
49	GEORGIA INST OF TECH	L MANTHEY	GRC	D MARVIS	NAG 3 2816	178
49	GEORGIA INST OF TECH	M M HASAN	GRC	M K SMITH	NAG 3 2763	178
49	GEORGIA INST OF TECH	R E YACKOVETSKY	GRC	D MAVRIS	NAG 1 2235	176
49	GEORGIA INST OF TECH	R SKARDA	GRC	D P NEITZEL	NAG 3 2431	177
49	GEORGIA INST OF TECH	C M BELCASTRO	LARC	A R PRITCHETT	NCC 1 401	180
49	GEORGIA INST OF TECH	S NASH-STEVENSON	MSFC	J SEITZMAN	NGT 8 52887	183
49	GEORGIA INST OF TECH	R HOLLAND	SSC	R RIVERA	NGT13 52750	183
49	HAMPTON UNIV	D W GRIFFIN	GRC	C M OKPODU	NAG 3 2618	501
49	HAMPTON UNIV	I BLANKSON	GRC	M H MORGAN	NAG 3 2249	500
49	HARVARD UNIV	B MOTIL	GRC	D A WEITZ	NAG 3 2376	277
49	HARVARD UNIV	D GRIFFIN	GRC	D A WEITZ	NAG 3 2492	277
49	HARVARD UNIV	F P CHIARAMONTE	GRC	D A WHITE	NAG 3 2381	277
49	HARVARD UNIV	J E BROOKER	GRC	L HAU	NAG 3 2909	277
49	INDIANA UNIV - BLOOMINGTON	W CULPEPPER	JSC	J CAMERON	NAS 9 01103	210
49	INDIANA UNIV-PURDUE U. AT INDIANAPOLIS	C LEK	GRC	V KOSTELECKY	NAG 3 2914	210
49	IOWA STATE UNIV	F J MONTGOMERY	GRC	D ROTHMAYER	NGT 3 52380	218
49	JACKSON STATE UNIV	D F NOGA	GRC	D MITRA	NAG 3 2277	320
49	JAMES MADISON UNIV	A D LITTLE	LARC	J J MILES	NAG 1 2186	502
49	JOHNS HOPKINS UNIV	F P CHIARAMONTE	GRC	K J STEBE	NCC 3 812	248
49	JOHNS HOPKINS UNIV	G CHOMOS	GRC	L BACHMAN	NAS 3 01146	247
49	JOHNS HOPKINS UNIV	M HASAN	GRC	D HERMAN	NAG 3 2726	235
49	JOHNS HOPKINS UNIV	M M HASAN	GRC	A PROSPERETTI	NAG 3 2362	234
49	JOHNS HOPKINS UNIV	M MORAN	GRC	A G DARRIN	NAG 3 2727	235
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49	KETTERING UNIV	J D HEIDMANN	GRC	S ROY	NAG 3 2843	302
49	LOUISIANA STATE UNIV - BATON ROUGE	J SKARDA	GRC	H WONG	NAG 3 2361	227
49	MARSHALL UNIV	M E KIELEN	GSFC	M R JULIAN	NCC 5 646	530
49	MARSHALL UNIV	M KIENLEN	GSFC	M R JULIAN	NCC 5 542	530
49	MARSHALL UNIV	S M STANFORD	GSFC	M R JULIAN	NCC 5 741	530
49	MASSACHUSETTS BAY COMM COLL	C W LEK	GRC	W KETTERLE	NAG 3 2937	281
49	MASSACHUSETTS INST OF TECH	J H AGUI	GRC	A P GAST	NAG 3 2832	283
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49	MERCER UNIV CENTRAL OFFICE	D W GRIFFIN	GRC	L SUMMER	NAG 3 2875	184
49	MICHIGAN STATE UNIV	S L OLSON	GRC	I S WICHMAN	NCC 3 1053	303
49	MICHIGAN STATE UNIV	C G DAVILA	LARC	R C AVERILL	NAG 1 02061	302
49	MISSISSIPPI STATE UNIV	E R MCFARLAND	GRC	J C NEWMAN	NAG 3 2829	320
49	MISSISSIPPI STATE UNIV	R W WILLIAMS	MSFC	E A LUKE	NAG 8 1930	321
49	MONTANA STATE UNIV	H THRONSON	GSFC	L W ACTON	NAG 5 13663	331
49	MOREHOUSE COLL	W LOVE	MSFC	J KING	NAG 8 1898	184
49	MOREHOUSE COLL	W LOVE	MSFC	J KING	NAG 8 1711	184
49	MOREHOUSE SCH MED	D W GRIFFIN	GRC	D J KLEMENT	NAG 3 2611	184
49	MORGAN STATE UNIV	D MCLENNAN	GSFC	G CHEN	NAG 5 13365	250
49	MORGAN STATE UNIV	J OBERRIGHT	GSFC	G CHEN	NAG 5 10104	249
49	NEW JERSEY INST OF TECH	A WILKENSEN	GRC	L KONDIC	NAG 3 2367	344
49	NEW MEXICO HIGHLANDS UNIV	W LOVE	MSFC	R CLARK	NAG 8 1708	353
49	NEW MEXICO STATE UNIV - LAS CRUCES	B MERRITT	GSFC	S HOTTMAN	NAG 5 5351	355
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49	NEW MEXICO STATE UNIV - LAS CRUCES	R HATHAWAY	LARC	C CLEVER	NAG 1 03034	354
49	NORFOLK STATE UNIV	S H CHOI	LARC	K D SONG	NAG 1 02076	503
49	NORTH CAROLINA A&T STATE UNIV	R F LAWRENCE	GRC	W COLLIS	NAG 3 2782	390
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49	NORTHWESTERN UNIV	K R SACKSTEDER	GRC	D MATALON	NAG 3 2511	196
49	NORTHWESTERN UNIV	S A GOGOKLU	GRC	B J MATKOWSKY	NAG 3 2209	196
49	NORTHWESTERN UNIV	W B DUVAL	GRC	P W VOORHEES	NAG 3 2474	196
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49	OAKWOOD COLL	W LOVE	MSFC	E GWEBU	NAG 8 1653	4
49	OHIO STATE UNIV	C H WILLIAMS	GRC	P J TURCHI	NAG 3 2316	406
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49	OHIO STATE UNIV	M M HASAN	GRC	T HO	NAG 3 2916	406
49	OHIO UNIV	J M RANKIN	MSFC	J ZHU	NAS 8 01105	412
49	OLD DOMINION UNIV	H P STOUGH	LARC	P KAUFFMANN	NAG 1 03016	505
49	OLD DOMINION UNIV	J C NEWMAN	LARC	S A TIWARI	NCC 1 371	507
49	OLD DOMINION UNIV	K S BEY	LARC	G HOU	NAG 1 2300	504
49	OLD DOMINION UNIV	R E GILLIAN	LARC	A K NOOR	NCC 1 01014	507
49	OLD DOMINION UNIV	T M CHYTKA	LARC	G RABADI	NAG 1 03078	506
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49	PENN STATE UNIV. - UNIV. PARK	D P LOCKHARD	LARC	P J MORRIS	NAG 1 03025	432
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49	PRINCETON UNIV	B S SINGH	GRC	P M CHALKIN	NAG 3 2248	345
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49	PRINCETON UNIV	K R SACKSTEDER	GRC	C K LAW	NCC 3 1051	348
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49	RICE UNIV	D F MAGRUDER	JSC	M K O'MALLEY	NAG 9 1511	467
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49	ROCHESTER INST OF TECH	D BAILEY	GRC	D P RAFFAELLE	NCC 3 937	379
49	ROWAN UNIV	K SACKSTEDER	GRC	D MARCHESE	NAG 3 2521	349
49	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	B J MOTIL	GRC	D J GLASSER	NAG 3 2350	349
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49	RUTGERS STATE UNIV OF NJ NEW BRUNS	S M JONES	LARC	J LUXHOJ	NAS 1 03057	352
49	SAN DIEGO STATE UNIV	S L OLSON	GRC	S BHATTACHARJEE	NCC 3 842	49
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49	STANFORD UNIV	M M HASAN	GRC	D D OSHEROFF	NAG 3 2888	55
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49	STATE UNIV OF NY - BUFFALO	S L PADULA	LARC	K LEWIS	NGT 1 01034	380
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49	STATE UNIV OF NY COL	F P CHIARAMONTE 111	GRC	H MENG	NAG 3 2464	384
49	SYRACUSE UNIV	H K NAHRA	GRC	D SANGANI	NAG 3 2427	384
49	SYRACUSE UNIV	T JAMISON	GSFC	P KORNREICH	NAG 5 12737	385
49	SYRACUSE UNIV	R D BRAUN	LARC	B D DAVIDSON	NCC 1 01004	385
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49	THE UNIV OF CENTRAL FLORIDA	D J CHATO	GRC	D L BLOCK	NAG 3 2751	164
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49	UNIV HOUSTON-HOUSTON	B J MOTIL	GRC	D BALAKOTIAH	NAG 3 2697	475
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49	UNIV OF AKRON	G R HALFORD	GRC	V K ARYA	NCC 3 768	413
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49	UNIV OF ARIZONA	C E NIEDERHAUS	GRC	C F CHEN	NAG 3 2354	22
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49	UNIV OF ARIZONA	P YEH	GSFC	W RYAN	NAG 5 10643	27
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49	UNIV OF CALIFORNIA - DAVIS	K R SACKSTEDER	GRC	I M KENNEDY	NCC 3 668	77
49	UNIV OF CALIFORNIA - DAVIS	K R SACKSTEDER	GRC	R C ALDREDGE	NCC 3 845	77
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49	UNIV OF CALIFORNIA - LOS ANGELES	L RICHARDS	DFRC	A BALAKRISHNAN	NCC 4 157	90
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49	UNIV OF CALIFORNIA - LOS ANGELES	D F CHAO	GRC	V K DHIR	NAG 3 2397	82
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49	UNIV OF CALIFORNIA - LOS ANGELES	K SACKSTEDER	GRC	O I SMITH	NCC 3 690	90
49	UNIV OF CALIFORNIA - LOS ANGELES	W DUVAL	GRC	S J PUTTERMAN	NAG 3 2735	82
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49	UNIV OF CALIFORNIA - SAN DIEGO	D L URBAN	GRC	F A WILLIAMS	NCC 3 1097	100
49	UNIV OF CALIFORNIA - SAN DIEGO	K R SACKSTEDER	GRC	F WILLIAMS	NAG 3 2554	92
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51	CORNELL UNIV	B GUYNES	MSFC	R THORNE	NAG 8 1574	373
51	CREIGHTON UNIV	M M AVERNER	ARC	B FRITZSCH	NAG 2 1353	334
51	CREIGHTON UNIV	M M AVERNER	ARC	B FRITZSCH	NAG 2 1595	334
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51	DARTMOUTH COLL	M M AVERNER	ARC	K PETERSON	NAG 2 1420	337
51	DARTMOUTH COLL	H K HIGGINBOTTAM	MSFC	U J GIBSON	NAG 8 1590	338
51	DREXEL UNIV	M M AVERNER	ARC	P I LELKES	NAG 2 1436	430
51	DREXEL UNIV	D RISIN	JSC	P LELKE	NCC 9 130	432
51	DUKE UNIV	G C JAHNS	ARC	C Y LI	NAG 2 1629	386
51	DUKE UNIV	G C JAHNS	ARC	G A WRAY	NAG 2 1583	386
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51	MEDICAL UNIV OF SOUTH CAROLINA	M M AVERNER	ARC	S HOFFMAN	NAG 2 1415	454
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51	UNIV OF CALIFORNIA - SAN DIEGO	M MEYER	GSFC	J L BADA	NAG 5 12849	97
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51	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	G C JAHNS	ARC	M E MARSH	NAG 2 1498	478
51	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	O SANTOS	ARC	P J DUKE	NAG 2 1261	478
51	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	C W LLOYD	JSC	J WEINDER	NGT 9 46	479
51	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	S GONDAS	JSC	A D KULKARNI	NCC 8 168	478
51	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	B V GUYNES	MSFC	L P RUTZKY	NAG 8 1585	478
51	UNIV OF TOLEDO	B GUYNES	MSFC	C A SCHALL	NAG 8 1578	417
51	UNIV OF VERMONT	G C JAHNS	ARC	K PLAUT	NCC 2 1373	495
51	UNIV OF WASHINGTON	B J COLLINS	ARC	J B CALLIS	NGT 2 52281	527
51	UNIV OF WASHINGTON	G C JAHNS	ARC	J S STONE	NAG 2 1514	520
51	UNIV OF WISCONSIN - MADISON	M M AVERNER	ARC	P MASSON	NAG 2 1336	532
51	UNIV OF WISCONSIN - MADISON	M M AVERNER	ARC	G C JAHNS	NAG 2 1492	532
51	UNIV OF WISCONSIN - MADISON	M M AVERNER	ARC	E SCHULTZ	NAG 2 1510	532
51	UNIV OF WISCONSIN - MADISON	M M AVERNER	ARC	P H MASSON	NAG 2 1602	532
51	UTAH STATE UNIV	C P MCKAY	ARC	L S POWERS	NCC 2 5466	494
51	UTAH STATE UNIV	R M WHEELER	KSC	D DEWALD	NGT10 52631	495
51	VIRGINIA COMMONWEALTH UNIV	C LLOYD	JSC	T BRODERICK	NAG 9 1467	519
51	VIRGINIA COMMONWEALTH UNIV	J CASAS	MSFC	R C MURRELL	NCC 8 264	519
51	WAKE FOREST UNIV	G C JAHNS	ARC	G K MUDAY	NAG 2 1507	396
51	WAKE FOREST UNIV	M M AVERNER	ARC	G K MUDAAY	NAG 2 1203	396
51	WASHINGTON STATE UNIV	M M AVERNER	ARC	N G LEWIS	NAG 2 1513	529
51	WASHINGTON UNIV - ST. LOUIS	G C JAHNS	ARC	J B SKEATH	NAG 2 1500	326
51	WASHINGTON UNIV - ST. LOUIS	G C JAHNS	ARC	D E ANGELAKI	NAG 2 1493	326

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51	WAYNE STATE UNIV	S P COLOMBANO	ARC	K PETER ZAUNER	NCC 2 1189	314
51	WAYNE STATE UNIV	B WOOLFORD	JSC	L ZAMORANO	NAG 9 1183	314
51	WAYNE STATE UNIV	C GUIDRY	JSC	S A DULCHAVSKY	NAG 9 1432	314
51	WOODS HOLE OCEANOGRAPHIC INST	M MEYER	GSFC	D M HAYES	NAG 5 9422	300
51	YALE UNIV	D R BUBENHEIM	ARC	H S KESHISHIAN	NAG 2 1433	142
51	YALE UNIV	M MEYER	GSFC	D SOLL	NAG 5 9554	143
54	ALABAMA A&M UNIV	M H KLISS	ARC	C A BEYL	NAG 2 1175	1
54	ARIZONA STATE UNIV	D RISEN	JSC	B C TOWE	NAG 9 1359	19
54	COLORADO STATE UNIV	N AVAILABLE	JSC	R ULLRICH	NAG 9 1569	117
54	LOUISIANA STATE UNIV - BATON ROUGE	C MACKAY	ARC	F A RAINEY	NCC 2 5528	228
54	MONTANA STATE UNIV	D J DES MARAIS	ARC	D M WARD	NCC 2 1073	331
54	MONTANA STATE UNIV	K CULLINGS	ARC	J HENSON	NCC 2 5445	331
54	NY UNIV	J DARDANO	JSC	F J BURNS	NAG 9 1528	376
54	NORTHWESTERN UNIV	D RUSSO	JSC	R M LUEPTOW	NAG 9 1297	198
54	OHIO STATE UNIV	V KLOERIS	JSC	S K SASTRY	NAG 9 1508	410
54	PENN STATE UNIV. - UNIV. PARK	D RUSSO	JSC	M V PISHKO	NAG 9 1372	439
54	RICE UNIV	J C GRAF	JSC	F K TITTEL	NGT 9 19	467
54	STEVENS INST OF TECH	J GRAF	JSC	G P KORFIATIS	NAG 9 1063	352
54	TEXAS A&M UNIV	D RUSSO	JSC	M V PISHKO	NAG 9 1277	471
54	TEXAS SOUTHERN UNIV	L M ARMENDARIZ	JSC	G RAMESH	NAG 9 1414	474
54	UNIV OF ARIZONA	C A DARBY	MSFC	P H SMITH	NAG 8 1654	32
54	UNIV OF CALIFORNIA - SAN DIEGO	K ARRIGO	GSFC	D LUBIN	NAG 5 6414	93
54	UNIV OF FLORIDA	K R DAUES	JSC	J J WARWICK	NCC 9 110	169
54	UNIV OF MARYLAND - COLL PARK	D E SQUIBB	GSFC	L W ADAMS	NAG 5 11399	258
54	UNIV OF MARYLAND - COLL PARK	D RISIN	JSC	J DIRUGGIERO	NCC 9 147	266
54	UNIV OF MARYLAND BALTIMORE COUNTY	F A CUCINOTTA	JSC	B M RABIN	NAG 9 1190	271
54	UNIV OF MARYLAND BALTIMORE COUNTY	J DARDANO	JSC	B M RABIN	NAG 9 1529	271
54	UNIV OF MASSACHUSETTS BOSTON	R P TRAVIS	SSC	J URBAN-RICH	NGT13 52756	300
54	UNIV OF MIAMI	L GUILD	ARC	P KRAMER	NCC 2 5500	172
54	UNIV OF MINN	M J BLOTZER	GRC	D H ANDERSON	NCC 3 993	319
54	UNIV OF PUERTO RICO-RIO PIEDRAS	W J LOVE	MSFC	B R WEINER	NAG 8 1709	541
54	UNIV OF TEXAS-PAN AMERICAN	S GONZALEZ	JSC	R FOWLER	NAG 9 1169	478
54	WASHINGTON STATE UNIV	M M AVERNER	ARC	N G LEWIS	NAG 2 1198	529
55	CORNELL UNIV	RWHEELER	KSC	L ALBRIGHT	NGT10 52623	375
55	INST AMER INDIAN & AK NATIVE CULT & DEV	W LOVE	MSFC	W COFFEY	NAG 8 1860	353
55	IOWA STATE UNIV	H LANE	JSC	D OLSEN	NCC 9 100	218
55	LOUISIANA STATE UNIV - BATON ROUGE	R MCKELLIP	SSC	B R LEONARD	NCC13 02003	228
55	MISSISSIPPI VALLEY STATE UNIV.	R TRAVIS	JSC	R BAHDUR	NAG13 99026	321
55	OHIO STATE UNIV	G ETHERIDGE	KSC	F SACK	NAG10 263	410
55	OHIO STATE UNIV	J C SAGER	KSC	P LING	NAG10 320	410
55	PRAIRIE VIEW A&M UNIV	D S MCKAY	JSC	R CUERO	NAG 9 1241	464
55	TEXAS A&M UNIV-CORPUS CHRISTI	G D WESSELS	JSC	R R LOPEZ	NCC 9 162	474
55	TEXAS A&M UNIV	J GORDON	SSC	C CURRIN	NCC13 02009	473
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55	TEXAS SOUTHERN UNIV	L ARMENDARIZ	JSC	G A JEJEDOWO	NAG 9 1227	474
55	TUSKEGEE UNIV	L M ARMENDARIZ	JSC	D MORTLEY	NAG 9 1408	5
55	UNIV OF ARIZONA	D BARTA	JSC	G GIACOMELLI	NAG 9 1378	32
55	UNIV OF FLORIDA	E L DEL CASTILLO	KSC	R A BUCKLIN	NGT10 52644	170
55	UNIV OF FLORIDA	J C SAGER	KSC	R A BUCKLIN	NAG10 293	169
55	UNIV OF MAINE - ORONO	B GRAHAM	JSC	S SADER	NAG13 98008	231
55	UNIV OF VIRGINIA	R WHEELER	KSC	A MILLS	NGT10 52620	514
55	UTAH STATE UNIV	D BARTA	JSC	B BUGBEE	NAG 9 1237	494
55	UTAH STATE UNIV	T FRISBLE	SSC	D RAMSEY	NAG13 02058	494
56	BAYLOR COLL OF MED	C LLOYD	JSC	B J SCHWARTZ	NAG 9 1158	462
56	BAYLOR COLL OF MED	L C SHACKELFORD	JSC	A D LE BLANC	NCC 9 61	463
56	BOSTON UNIV	M ANDERSON	JSC	C J DE LUCA	NCC 9 127	275
56	BROWN UNIV	J JONES	JSC	M RUTHERFORD	NAG 9 1302	449
56	CASE WESTERN RESERVE UNIV	J M SANKOVIC	GRC	J R KADAMBI	NAG 3 2620	398
56	COLORADO SCH OF MINES	D RISIN	JSC	D W. M. MARR	NAG 9 1364	114
56	COLORADO STATE UNIV	J DARDANO	JSC	S BAILEY	NAG 9 1516	117
56	COLUMBIA UNIV	P P FUNG	ARC	D W LANDY	NAS 2 02039	367
56	COLUMBIA UNIV	JDARDANO	JSC	E HALL	NAG 9 1519	367
56	DARTMOUTH COLL	C LLYOD	JSC	J BUCKLEY	NAG 9 1387	339
56	DARTMOUTH COLL	D BELL	JSC	J BUCKEY	NAG 9 1088	338
56	INDIANA UNIV.-PURDUE U. AT INDIANAPOLIS	K BLANDING	GSFC	F PAVALKO	NGT 5 50291	210

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56	MASSACHUSETTS INST OF TECH	J W HINES	ARC	T M SWAGER	NAS 2 02056	291
56	MASSACHUSETTS INST OF TECH	B WOOLFORD	JSC	D J NEWMAN	NAG 9 1003	291
56	MOREHOUSE COLL	K KRISHEN	JSC	K DUTT	NAG 9 964	184
56	MOREHOUSE SCH MED	C SAMS	JSC	M THIERRY-PALMER	NCC 9 112	184
56	MOREHOUSE SCH MED	K KRISHEN	JSC	R SRIDARAN	NAG 9 963	184
56	NY UNIV	F A CUCINOTTA	JSC	F J BURNS	NAG 9 1024	376
56	PENN STATE UNIV. - UNIV. PARK	C W LLOYD	JSC	P CAVANAGH	NAG 9 1264	439
56	PENN STATE UNIV. - UNIV. PARK	M KAMMAN	JSC	P CAVANAGH	NAS 9 99095	439
56	RICE UNIV	J GRAF	JSC	F K TITTEL	NAG 9 1534	467
56	STANFORD UNIV	J W HINES	ARC	S A SCHENDEL	NCC 2 1010	59
56	STANFORD UNIV	R MAH	ARC	S S JEFFREY	NCC 2 5489	61
56	STANFORD UNIV	R T WHALEN	ARC	N J PELC	NCC 2 5434	60
56	STATE UNIV OF NY - STONY BROOK	C LLOYD	JSC	S JUDEX	NAG 9 01499	383
56	STATE UNIV OF NY - STONY BROOK	S MCCOLLUM	JSC	C RUBIN	NAG 9 1433	383
56	TEXAS A&M UNIV	J DARDANO	JSC	J LUPTON	NAG 9 1523	471
56	THOMAS JEFFERSON UNIV	D RISIN	JSC	I M SHAPIRO	NAG 9 1400	442
56	TUFTS UNIV	P M DOTY	MSFC	D L KAPLAN	NAG 8 1699	295
56	TULANE UNIV	D RIIN	JSC	K C O'CONNOR	NAG 9 1351	230
56	TULANE UNIV	D RISEN	JSC	T HAMMOND	NAG 9 1344	230
56	TULANE UNIV	D RISIN	JSC	C A NICKERSON	NAG 9 1350	230
56	UNIV HOUSTON-HOUSTON	D FEEBACK	JSC	J DAVIS	NCC 9 151	476
56	UNIV HOUSTON-HOUSTON	L PUTCHA	JSC	D CHOW	NAG 9 1453	476
56	UNIV OF ALABAMA - HUNTSVILLE	M CROUCH	MSFC	M BANISH	NAG 8 1476	10
56	UNIV OF CALIFORNIA - SAN DIEGO	E M HOLTON	ARC	C ROGERS	NCC 2 1196	99
56	UNIV OF CALIFORNIA - SAN DIEGO	E M HOLTON	ARC	A R HARGENS	NCC 2 1133	99
56	UNIV OF CALIFORNIA - SAN DIEGO	D RISEN	JSC	R L SAH	NAG 8 1571	98
56	UNIV OF CALIFORNIA - SAN DIEGO	S MCCULLOM	JSC	J WEST	NCC 9 168	100
56	UNIV OF CALIFORNIA - SAN DIEGO	F H FARMER	LARC	A R HARGENS	NAG 1 02092	92
56	UNIV OF CALIFORNIA - SAN FRANCISCO	C W LLOYD	JSC	J P MURNANE	NAG 9 1261	101
56	UNIV OF CALIFORNIA - SAN FRANCISCO	D BAUMANN	JSC	T LANG	NAS 9 99055	101
56	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	J W HINES	ARC	S A BOPPART	NAS 2 02057	208
56	UNIV OF MASSACHUSETTS WORCESTER	D RISEN	JSC	W J SCHWARTZ	NAG 9 01356	296
56	UNIV OF MASSACHUSETTS WORCESTER	D RISEN	JSC	W H SCHWARTZ	NAG 9 11356	296
56	UNIV OF MED AND DENTISTRY	C W LLOYD	JSC	T P STEIN	NAG 9 1162	353
56	UNIV OF MICHIGAN - ANN ARBOR	J W HINES	ARC	J R BAKER	NAS 2 02069	311
56	UNIV OF MISSISSIPPI - MEDICAL CTR	T VANN	SSC	F FARUQUE	NAS13 03029	321
56	UNIV OF OKLAHOMA - NORMAN	B WOOLFORD	JSC	R SCHEGEL	NAG 9 1280	422
56	UNIV OF PENNSYLVANIA	B WOOLFORD	JSC	N BADLER	NAG 9 1279	443
56	UNIV OF PENNSYLVANIA	J DARDANO	JSC	A KENNEDY	NAG 9 1517	443
56	UNIV OF PITTSBURGH	J HINES	ARC	S ASHER	NAS 2 02058	445
56	UNIV OF PITTSBURGH	C W LLOYD	JSC	T H MONK	NAG 9 1234	445
56	UNIV OF SAN DIEGO	D RISIN	JSC	R SAH	NAG 9 1354	111
56	UNIV OF SOUTH FLORIDA	D RISEN	JSC	S SAPORTA	NAG 9 1365	173
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56	UNIV OF TEXAS	C W LLOYD	JSC	C G CRANDALL	NAG 9 1033	478
56	UNIV. OF TEXAS MD ANDERSON CANCER CTR	C LLOYD	JSC	J REUBEN	NAG 9 1454	478
56	UNIV. OF TEXAS MD ANDERSON CANCER CTR	J DARDANO	JSC	M D STORY	NAG 9 1522	478
56	UNIV OF TEXAS MED BRAN - GALVESTON	J W HINES	ARC	J F LEARY	NAS 2 02059	477
56	UNIV OF TEXAS MED BRAN - GALVESTON	A LEE	JSC	A FERRANDO	NAS 9 97147	477
56	UNIV OF TEXAS MED BRAN - GALVESTON	C LLOYD	JSC	A A FERRANDO	NAG 9 1155	477
56	UNIV OF TEXAS MED BRAN - GALVESTON	J DARDANO	JSC	R P STOWE	NAG 9 1490	477
56	UNIV OF TEXAS MED BRAN - GALVESTON	M ANDERSON	JSC	A D BARRET	NAS 9 01006	477
56	UNIV OF TEXAS MED BRAN - GALVESTON	V CHOPPA	MSFC	V CHOPPA	NCC 8 170	477
56	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	C SAWIN	JSC	B BUTLER	NAG 9 1040	478
56	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	D RISIN	JSC	L P RUTZKY	NAG 9 1353	478
56	UTAH STATE UNIV	K DAUES	JSC	G BINGHAM	NAG 9 1284	494
56	UTAH STATE UNIV	D RISEN	SSC	T HAMMOND	NCC13 02001	495
56	VIRGINIA COMMONWEALTH UNIV	A LEE	JSC	D ECKBURG	NAS 9 19539	519
56	WAYNE STATE UNIV	C GUIDRY	JSC	S DULCHAVSKY	NCC 9 164	315
59	ALABAMA A&M UNIV	A CARDENAS	ARC	P G KALE	NAG 2 1130	1
59	ARIZONA STATE UNIV	R A GRYMES	ARC	J D FARMER	NCC 2 1051	20
59	ARIZONA STATE UNIV	R V MORRIS	JSC	P R CHRISTENSON	NAG 9 1331	19
59	BAYLOR COLL OF MED	C LLOYD	JSC	C SMITH	NAG 9 1253	462
59	BAYLOR COLL OF MED	C W LLOYD	JSC	A D LE BLANC	NAG 9 1151	462

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59	CALIFORNIA INST OF TECH	P DOTY	MSFC	W K RHIM	NAG 8 1743	43
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59	COLORADO STATE UNIV	S POTTER	ARC	G VOGT	NCC 2 1099	117
59	COLUMBIA UNIV	F A CUCINOTTA	JSC	E J HALL	NAG 9 1148	367
59	CORNELL UNIV	H W JONES	ARC	J B HUNTER	NCC 2 5459	373
59	EASTERN KENTUCKY UNIV	B GUYNES	MSFC	L WILSON	NAG 8 1375	224
59	CHICAGO MED SCH FINCH UNIV HEALTH SCI	B GUYNES	MSFC	R S KAPLAN	NAG 8 1827	195
59	HARVARD UNIV	R A GRYMES	ARC	A H KNOLL	NCC 2 1053	280
59	IOWA STATE UNIV	D JAN	JPL	M D PORTER	NAG 9 1191	217
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59	JOHNS HOPKINS UNIV	J A KAYE	GSFC	J YEE	NAG 5 7552	235
59	MARQUETTE UNIV	D BAUMANN	JSC	D L COSTILL	NCC 9 116	531
59	MASSACHUSETTS INST OF TECH	D K BAUMAN	JSC	C M OMAN	NAS 9 00097	292
59	MASSACHUSETTS INST OF TECH	J DETROVE	JSC	C M OMAN	NAG 9 1004	291
59	MOREHOUSE SCH MED	P COWLINGS	ARC	E OFILI	NCC 2 1322	184
59	MOREHOUSE SCH MED	C SAMS	JSC	K DUTT	NAG 9 1164	184
59	MT SINAI SCH OF MED OF THE CUNY	M E ANDERSON	JSC	S MOORE	NCC 9 128	375
59	NEW MEXICO HIGHLANDS UNIV	B J COLLINS	ARC	E RYAN	NAG 2 6065	353
59	NEW MEXICO HIGHLANDS UNIV	D S MCKAY	JSC	J R JUAREZ	NAG 9 1394	354
59	NORTH CAROLINA STATE UNIV. - RALEIGH	D P LISKOWSKY	GSFC	E DAVIES	NAG 5 3743	392
59	NORTHEASTERN OHIO UNIV COL OF MED	M M AVERNER	GSFC	W J LANDIS	NAG 5 7789	406
59	NORTHEASTERN UNIV	P DOTY	MSFC	A KARMA	NAG 8 1668	295
59	OHIO STATE UNIV	R MORRIS	JSC	J BIGHAM	NGT 9 51	411
59	PENN STATE UNIV. - UNIV. PARK	R A GRYMES	ARC	H OHMOTO	NCC 2 1057	440
59	PENN STATE UNIV. - UNIV. PARK	C LLOYD	JSC	J A PAWELCZYK	NAG 9 1173	439
59	RICE UNIV	D LASKOWSKY	GSFC	L MCINTIRE	NAG 5 4072	464
59	SAN JOSE STATE UNIV	H L D'ANTONI	ARC	E P METZGER	NCC 2 5344	52
59	SPELMAN COLL	D O FRAIZER	MSFC	O SCRIVEN	NCC 8 194	185
59	STANFORD UNIV	D LINDSTROM	GSFC	R ZARE	NAG 5 12673	58
59	TEXAS A&M UNIV	C BLACK	KSC	D PILLAI	NGT10 52628	473
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59	THE SCRIPPS RES INST (TSRI) -LA JOLLA	L J CAROFF	ARC	R GHADIRI	NCC 2 1055	63
59	TUFTS UNIV	D JAN	JPL	S P KOUNAVES	NAG 9 1182	296
59	TUSKEGEE UNIV	P X CALLAHAN	ARC	W A HILL	NAG 2 6049	4
59	TUSKEGEE UNIV	D J BARTA	JSC	W A HILL	NCC 9 158	6
59	TUSKEGEE UNIV	S POTTER	KSC	D HILL	NGT10 281	5
59	UNIV HOUSTON-HOUSTON	C W LLOYD	JSC	D A MARTINEZ	NAG 9 1152	476
59	UNIV OF ALABAMA - BIRMINGHAM	D K COLLINS	MSFC	L J DELUCAS	NAS 8 40189	6
59	UNIV OF ALABAMA - HUNTSVILLE	S SPEARMAN	MSFC	F ROSENBERGER	NCC 8 99	11
59	UNIV OF CALIFORNIA - IRVINE	L CHAMBERS	GSFC	R PURDY	NAG 5 13505	80
59	UNIV OF CALIFORNIA - IRVINE	R FRENCH	MSFC	A MCPHERSON	NAS 8 39763	81
59	UNIV OF CALIFORNIA - IRVINE	S ROBBINS	MSFC	A MCPHERSON	NAS 8 00017	80
59	UNIV OF CALIFORNIA - IRVINE	S ROBBINS	MSFC	A MCPHERSON	NAS 8 00019	80
59	UNIV OF CALIFORNIA - LOS ANGELES	R A GRYMES	ARC	E YOUNG	NCC 2 1050	89
59	UNIV OF CALIFORNIA - SAN DIEGO	J MECK	JSC	P J MILLS	NCC 9 105	100
59	UNIV OF CALIFORNIA - SAN DIEGO	J MECK	JSC	M G ZEIGLER	NCC 9 106	100
59	UNIV OF CALIFORNIA - SAN DIEGO	S M MCCULLUM	JSC	J B WEST	NAS 9 98124	99
59	UNIV OF CALIFORNIA - SANTA BARBARA	C LLOYD	JSC	M ECKSTIEN	NAG 9 1329	105
59	UNIV OF CINCINNATI	K DAUES	JSC	D DIONYSIOU	NAG 9 01475	415
59	UNIV OF COLORADO - BOULDER	R A GRYMES	ARC	B JAKOSKI	NCC 2 1052	134
59	UNIV OF COLORADO - BOULDER	M C GREENISEN	JSC	D M KLAUS	NGT 9 67	139
59	UNIV OF COLORADO - DENVER	B J COLLINS	ARC	S NIELSON-PREISS	NGT 2 52291	139
59	UNIV OF FLORIDA	A L FROST	MSFC	B CARROLL	NAG 8 1821	168
59	UNIV OF GEORGIA	C KUNDROT	MSFC	B WANG	NCC 8 233	186
59	UNIV OF MISSOURI - COLUMBIA	M AVERNER	GSFC	T A JONES	NAG 5 4607	323
59	UNIV OF MISSOURI - COLUMBIA	R P KEHOE	JSC	G M CHIPPENDALE	NAG 9 1230	324
59	UNIV OF NEVADA - LAS VEGAS	L CAMPBELL	JSC	L STETZENBACH	NAG 9 1568	336
59	UNIV OF NEVADA - RENO	M T FLYNN	ARC	V D ADAMS	NCC 2 5443	336
59	UNIV OF OKLAHOMA - NORMAN	B WOOLFORD	JSC	R E SCHEGEL	NAG 9 1486	422
59	UNIV OF PENNSYLVANIA	C W LLOYD	JSC	H VAN D	NAG 9 1161	443
59	UNIV OF PITTSBURGH	C W LLOYD	JSC	T H MONK	NAG 9 1036	444
59	UNIV OF PUERTO RICO - MAYAGUEZ	J SAYER	KSC	G COLON	NAG10 257	539
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59	UNIV OF TEXAS MED BRAN - GALVESTON	R BILICA	JSC	J R DAVIS	NCC 9 81	477
59	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	J MECK	JSC	R F LODATO	NCC 9 103	479
59	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	M R POWELL	JSC	B D BUTLER	NCC 9 90	479
59	UNIV OF VIRGINIA	B Q GUYNES	MSFC	M C WIENER	NAG 8 1832	513
59	VANDERBILT UNIV	D JAN	JSC	G BISWAS	NCC 9 159	461
59	VANDERBILT UNIV	R GRUGEL	MSFC	A V ANIKUMER	NAG 8 1745	460
61	CLEVELAND STATE UNIV	B GUYNES	MSFC	J M BELOVICH	NAG 8 1584	403
61	DREXEL UNIV	N PELLIS	JSC	P LELKES	NAG 9 1380	431
61	NY UNIV	A J AHUMADA	ARC	M S LANDY	NCC 2 5513	376
61	RUTGERS STATE UNIV OF NJ NEW BRUNS	J B HARTLEY	GSFC	Z KOLBER	NAS 5 99138	352
61	UNIV OF MICHIGAN - ANN ARBOR	C LLOYD	JSC	G L AMIDON	NAG 9 1154	311
61	UNIV OF MINN	R C TREVINO	JSC	V S KOSHCHYEYEV	NAG 9 1521	318
61	UNIV OF PITTSBURGH	B GUYNES	MSFC	X L WU	NAG 8 1587	444
62	GEORGIA INST OF TECH	J ORASANU	ARC	U M FISCHER	NCC 2 1332	181
62	OLD DOMINION UNIV	L PRINZEL	LARC	M SCERBO	NGT 1 03019	509
62	OLD DOMINION UNIV	P C SHUTTIE	LARC	D D DAVIS	NAG 1 2303	504
62	SAN FRANCISCO STATE UNIV	M E DUENAS	ARC	S UJLAKI	NCC 2 6059	50
62	THE CATHOLIC UNIV OF AMERICA	L PRINZEL	LARC	R PARASURAMAN	NGT 1 03015	156
62	TUSKEGEE UNIV	D BARTA	JSC	W A HILL	NCC 9 51	5
62	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	L PRINZEL	LARC	C WICKENS	NGT 1 03001	208
69	CARNEGIE - MELLON UNIV	JORASANU	ARC	K CARLEY	NAG 2 1569	427
69	FURMAN UNIV	K DISMUKES	ARC	G EINSTEIN	NAG 2 1621	454
69	GEORGE MASON UNIV	S M CASNER	ARC	D B DAVIS	NAG 2 1289	498
69	GEORGIA INST OF TECH	J M ORASANU	ARC	U M FISCHER	NCC 2 1124	181
69	MASSACHUSETTS INST OF TECH	S C LOZITO	ARC	R J HANSMAN	NAG 2 1299	281
69	NEW MEXICO STATE UNIV - LAS CRUCES	J ORASANU	ARC	N J COOKE	NAG 2 1562	354
69	NY UNIV	B L BEARD	ARC	M S LANDY	NCC 2 5472	376
69	NORTH CAROLINA STATE UNIV. - RALEIGH	I BARSHI	ARC	D H MERSHON	NAG 2 1281	392
69	NORTH CAROLINA STATE UNIV. - RALEIGH	L J PRINZEL, III	LARC	D KABER	NGT 1 01004	394
69	NORTH CAROLINA STATE UNIV. - RALEIGH	L J PRINZEL	LARC	D B KABER	NAG 1 02056	392
69	NORTH CAROLINA STATE UNIV. - RALEIGH	L J PRINZEL	LARC	D B KABER	NAG 1 03022	392
69	NORTH CAROLINA STATE UNIV. - RALEIGH	P TROUTMAN	LARC	H K KHACHATOORIAN	NGT 1 02010	394
69	NORTHWESTERN UNIV	B G KANKI	ARC	E J CZEPIEL	NCC 2 1098	198
69	OLD DOMINION UNIV	I BARSHI	ARC	D S MCNAMARA	NAG 2 1481	506
69	OLD DOMINION UNIV	A T POPE	LARC	M SCERBO	NAG 1 02062	505
69	OLD DOMINION UNIV	J R COMSTOCK	LARC	J P BLISS	NGT 1 01019	508
69	OLD DOMINION UNIV	L J PRENZEL	LARC	F G FREEMAN	NGT 1 01015	508
69	OLD DOMINION UNIV	L J PRINZEL III	LARC	F G FREEMAN	NAG 1 03020	505
69	OLD DOMINION UNIV	L J PRINZEL	LARC	F G FREEMAN	NCC 1 01012	507
69	OLD DOMINION UNIV	P C SCHUTTE	LARC	D D DOVES	NGT 1 01021	508
69	OLD DOMINION UNIV	T PINELLI	LARC	G J MCAULIFFE	NGT 1 02020	509
69	RICE UNIV	D C FOYLE	ARC	M BYRNE	NCC 2 1321	467
69	SAN FRANCISCO STATE UNIV	J M ORASANU	ARC	K L MOSIER	NAG 2 1285	50
69	SAN JOSE STATE UNIV	B BEARD	ARC	K CORKER	NCC 2 1424	52
69	SAN JOSE STATE UNIV	B BEARD	ARC	K CORKER	NCC 2 1313	52
69	SAN JOSE STATE UNIV	D C FOYLE	ARC	K CORKER	NCC 2 1307	52
69	SAN JOSE STATE UNIV	D FOYLE	ARC	K CORKER	NAG 2 1563	50
69	SAN JOSE STATE UNIV	I BARSHI	ARC	S GLAZER	NAG 2 1640	50
69	SANTA CLARA UNIV	B KANKI	ARC	J C TAYLOR	NCC 2 1320	54
69	TEXAS A&M UNIV	S NASH-STEVEN	MSFC	S SMITH	NGT 8 52913	473
69	THE CATHOLIC UNIV OF AMERICA	L J PRINZEL	LARC	R PARASURAMAN	NAG 1 01066	150
69	UNIV OF AKRON	E RUTHRUFF	ARC	P ALLEN	NCC 2 1325	413
69	UNIV OF CALIFORNIA - IRVINE	J MULLIGAN	ARC	T M DZMURA	NCC 2 5378	81
69	UNIV OF COLORADO - BOULDER	I BARSHI	ARC	L E BOURNE	NAG 2 1561	119
69	UNIV OF COLORADO - BOULDER	I BARSHI	ARC	A F HEALY	NCC 2 1310	135
69	UNIV OF COLORADO - BOULDER	M FEARY	ARC	P POLSON	NAG 2 1641	119
69	UNIV OF IDAHO - MOSCOW	B G KANKE	ARC	L T OSTROM	NCC 2 1174	195
69	UNIV OF IDAHO - MOSCOW	B KANKI	ARC	L T OSTROM	NCC 2 1376	195
69	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	B L BEARD	ARC	C WICKENS	NCC 2 1293	208
69	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	D C FOYLE	ARC	C D WICKENS	NAG 2 1120	204
69	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	D C FOYLE	ARC	A C KIRLIK	NAG 2 1609	204
69	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	D FOYLE	ARC	C D WICKENS	NAG 2 1535	204
69	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	L J PRINZEL	LARC	C WICKENS	NAG 1 03014	203
69	UNIV OF MASSACHUSETTS - AMHERST	J M ORASANU	ARC	D FISHER	NAG 2 1551	297

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69	UNIV OF NEVADA - RENO	J B MULLIGAN	ARC	M A CROGNALE	NCC 2 5503	336
69	UNIV OF OREGON - EUGENE	I BARSHI	ARC	R MAURO	NCC 2 1304	427
69	UNIV OF VIRGINIA	M K KAISER	ARC	D R PROFFITT	NCC 2 1093	514
69	UNIV OF WEST FLORIDA	D C FOYLE	ARC	D L STILL	NAG 2 1225	173
69	UNIV OF WEST FLORIDA	J DEMAIO	ARC	A K RAJ	NAG 2 1490	173
69	VANDERBILT UNIV	R T SAVELY	JSC	R A PETERS II	NAG 9 1515	461
69	WAYNE STATE UNIV	B KANKI	ARC	A BATTEAU	NCC 2 1318	314
71	RUTGERS STATE UNIV OF NJ NEW BRUNS	R TRAVIS	SSC	D HARRIS	NGT13 52758	352
71	TULANE UNIV	T TRAVIS	SSC	W ANDREWS	NGT13 52754	230
71	UNIV OF COLORADO - BOULDER	S NASH-STEVENSON	MSFC	P SHEETS	NGT 8 52936	139
73	SOUTHWEST TEXAS STATE UNIV	W A LARSEN	JSC	K MARGERISON	NCC 9 54	468
74	WRIGHT STATE UNIV	J ORASANU	ARC	V SHALIN	NCC 2 1351	420
76	LAWSON STATE COMM COLL	W J LOVE	MSFC	B CRAWFORD	NAG 8 1871	4
76	TURTLE MOUNTAIN COMM COLL	R M STARR	LARC	C DAVIS	NCC 1 03034	397
79	ALABAMA A&M UNIV	S NASH-STEVENSON	MSFC	R LAL	NGT 8 52942	2
79	ALABAMA A&M UNIV	W LOVE	MSFC	B CADY	NAG 8 1917	2
79	ALBANY STATE UNIV	R J MCKINNEY	KSC	D HODGES-TILLER	NAG10 265	174
79	FLORIDA A&M UNIV	R J MCKINNEY	KSC	S C MOBLEY	NAG10 267	159
79	HAMPTON UNIV	R A HATHAWAY	LARC	R SCHWAN	NAG 1 2331	500
79	MIAMI-DADE COMM COLL	D CULBERTSON	KSC	E J PADRON	NAG10 282	164
79	OAKWOOD COLL	W LOVE	MSFC	E GWEBU	NAG 8 1903	4
79	STANFORD UNIV	P JONES	ARC	R LEVITT	NCC 2 1388	60
79	TUSKEGEE UNIV	C D BLACK	KSC	H J FINDLAY	NAG10 298	5
79	UNIV OF ILLINOIS AT URBANA-CHAMPAIGN	P JONES	ARC	N CONTRACTOR	NCC 2 1389	208
79	UNIV OF MICHIGAN - ANN ARBOR	J F DOWDY	MSFC	H T WRIGHT	NGT 8 52864	313
99	ALABAMA A&M UNIV	C PERSON	GSFC	A MANU	NAG 5 9885	1
99	ALABAMA A&M UNIV	M WEI	GSFC	T COLEMAN	NAG 5 10721	1
99	ALABAMA A&M UNIV	G BUCKINGHAM	KSC	E TEMPLE	NAG10 324	2
99	ALABAMA A&M UNIV	S COLEMAN	MSFC	D W HUSTON	NCC 8 250	2
99	ALBANY STATE UNIV	R F LAWRENCE	GRC	G WRENSFORD	NAG 3 2806	174
99	AMERICAN RIVER COLL	D HALE	GSFC	S GRIFFITH	NAG 5 12576	36
99	ARIZONA STATE UNIV	A TUYAHOV	GSFC	D BOYER	NAG 5 10899	18
99	ARIZONA STATE UNIV	D SENSKE	GSFC	M A PRESLEY	NAG 5 10214	17
99	ARIZONA STATE UNIV	D SENSKE	GSFC	J FINK	NAG 5 11655	18
99	ARIZONA STATE UNIV	D SENSKE	GSFC	R GREELEY	NAG 5 11787	18
99	ARIZONA STATE UNIV	J BOYCE	GSFC	A S MCEWEN	NAG 5 10268	17
99	ARIZONA STATE UNIV	J FROGEL	GSFC	S ODEWAHN	NAG 5 13066	19
99	ARIZONA STATE UNIV	K BLANDING	GSFC	T SHARP	NGT 5 50276	20
99	ARIZONA STATE UNIV	K BLANDING	GSFC	L LESHIN	NGT 5 50452	20
99	ARIZONA STATE UNIV	K BLANDING	GSFC	T SHARP	NGT 5 50455	20
99	ARIZONA STATE UNIV	M MEYER	GSFC	P KNAUTH	NAG 5 9430	17
99	ARIZONA STATE UNIV	M MEYER	GSFC	R BLANKENSHIP	NAG 5 10689	18
99	ARIZONA STATE UNIV	M MEYER	GSFC	E SHOCK	NAG 5 12543	19
99	ARIZONA STATE UNIV	M NEW	GSFC	P KNAUTH	NAG 5 13441	19
99	ARIZONA STATE UNIV	M NEW	GSFC	S PIZZARELLO	NAG 5 13447	19
99	ARIZONA STATE UNIV	M S BURRELL	GSFC	R GREELEY	NGT 5 145	20
99	ARIZONA STATE UNIV	S SAUNDERS	GSFC	R GREELEY	NAG 5 13289	19
99	ARIZONA STATE UNIV	S SAUNDERS	GSFC	R GREELEY	NAG 5 13290	19
99	ARIZONA STATE UNIV	S SUNDERS	GSFC	R GREELEY	NAG 5 13153	19
99	ARIZONA STATE UNIV	W PETERSON	GSFC	F HERBERT	NAG 5 12944	19
99	AUBURN UNIV	J E DUDENHOEFER	GRC	D W BRANDHORST	NCC 3 511	3
99	AUBURN UNIV	W PETERSON	GSFC	Y LIN	NAG 5 12899	3
99	AUBURN UNIV	S COLEMAN	MSFC	C MORIARTY	NCC 8 247	3
99	BALL STATE UNIV	D WICKLAND	GSFC	A F RAHMAN	NAG 5 11261	209
99	BARNARD COLL	L P CHAMBERS	GSFC	R SILVER	NAG 5 11863	360
99	BAYLOR COLL OF MED	C LLOYD	JSC	B A BRODY	NAG 9 1153	462
99	BETHUNE - COOKMAN COLL	C D BLACK	KSC	A E LONG	NAG10 336	156
99	BETHUNE - COOKMAN COLL	S DUTCZAK	KSC	A LONG	NCC10 55	157
99	BOSTON COLL	W J WAGNER	GSFC	D F WEBB	NAG 5 10833	272
99	BOSTON UNIV	D WICKLAND	GSFC	R B MYNENI	NAG 5 10156	273
99	BOSTON UNIV	D WICKLAND	GSFC	R B MYNENI	NAG 5 12891	275
99	BOSTON UNIV	J FROGEL	GSFC	A MARSCHER	NAG 5 13074	275
99	BOSTON UNIV	J FROGEL	GSFC	D P CLEMENTS	NAG 5 13223	275
99	BOSTON UNIV	J GARVIN	GSFC	M MENDILLO	NAG 5 12748	275
99	BOSTON UNIV	J HILLMAN	GSFC	J BAUMGARDNER	NAG 5 13305	275
99	BOSTON UNIV	J SHARBER	GSFC	G ERICKSON	NAG 5 9110	273

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99	BOSTON UNIV	J SPANN	GSFC	H E SPENCE	NAG 5 12003	274
99	BOSTON UNIV	J SPANN	GSFC	C C GOODRICH	NAG 5 12652	275
99	BOSTON UNIV	JHILLMAN	GSFC	M MENDILLO	NAG 5 12095	274
99	BOSTON UNIV	K BLANDING	GSFC	S KANDARIAN	NGT 5 50307	276
99	BOSTON UNIV	K BLANDING	GSFC	T DESAI	NGT 5 50438	276
99	BOSTON UNIV	L SMITH	GSFC	M OPPENHEIM	NGT 5 50288	276
99	BOSTON UNIV	L SMITH	GSFC	L ODDSSON	NGT 5 50309	276
99	BOSTON UNIV	M WEI	GSFC	C WOODSTOCK	NGT 5 30401	275
99	BOSTON UNIV	M WEI	GSFC	M FRIEDL	NGT 5 30405	275
99	BOSTON UNIV	M WEI	GSFC	R MYNENI	NGT 5 30462	276
99	BOSTON UNIV	M WEI	GSFC	B ANDERSON	NGT 5 30490	276
99	BOSTON UNIV	P CRANE	GSFC	S CHAKRABARTI	NAG 5 11454	274
99	BOSTON UNIV	W PETERSON	GSFC	M GALAND	NAG 5 12773	275
99	BOWIE STATE UNIV	C HOLLINGSWORTH	GSFC	V B GUILFORD	NAG 5 9843	232
99	BOWIE STATE UNIV	D MENCHAN	GSFC	D W CRIM	NAG 5 8370	232
99	BOWIE STATE UNIV	D MENCHAN	GSFC	D LANGDON	NAG 5 9458	232
99	BOWIE STATE UNIV	D MENCHAN	GSFC	D LANGDON	NAG 5 10697	232
99	BOWIE STATE UNIV	D MENCHAN	GSFC	D LANGDON	NAG 5 12165	233
99	BOWIE STATE UNIV	D MENCHAN	GSFC	J E TAYLOR	NAG 5 12237	233
99	BOWIE STATE UNIV	D MENCHAN	GSFC	J S LANGDON	NAG 5 13363	233
99	BOWIE STATE UNIV	D MENCHAN	GSFC	E J DAVIS	NAG 5 13410	233
99	BOWIE STATE UNIV	D MENCHAN	GSFC	D LANGDON	NAG 5 13484	233
99	BOWIE STATE UNIV	D MENCHAN	GSFC	E J DAVIS	NCC 5 516	233
99	BOWIE STATE UNIV	P CROUSE	GSFC	N WAKIM	NAG 5 8787	232
99	BROWN UNIV	C NIEBUR	GSFC	J MUSTARD	NAG 5 13466	448
99	BROWN UNIV	D D DETROYE	GSFC	P H SCHULTZ	NGT 5 40106	449
99	BROWN UNIV	D E SMITH	GSFC	J W HEAD	NAG 5 6144	446
99	BROWN UNIV	D LINDSTROM	GSFC	M RUTHERFORD	NAG 5 12985	448
99	BROWN UNIV	D SENSKE	GSFC	J W HEAD	NAG 5 11774	447
99	BROWN UNIV	D SENSKE	GSFC	J W HEAD	NAG 5 11775	447
99	BROWN UNIV	J A FROGEL	GSFC	G TUCKER	NAG 5 13341	448
99	BROWN UNIV	J FROGEL	GSFC	G TUCKER	NAG 5 12758	448
99	BROWN UNIV	M MEYER	GSFC	P H SCHULTZ	NAG 5 12327	448
99	BROWN UNIV	R F MUSHOTZKY	GSFC	I DELL'ANTONIO	NAG 5 13573	448
99	BROWN UNIV	S SAUNDERS	GSFC	E PARMENTIER	NAG 5 13098	448
99	BROWN UNIV	S SAUNDERS	GSFC	J MUSTARD	NAG 5 13173	448
99	BROWN UNIV	S SAUNDERS	GSFC	J HEAD	NAG 5 13222	448
99	BROWN UNIV	S SAUNDERS	GSFC	C PEITERS	NAG 5 13609	449
99	BROWN UNIV	S SAUNDERS	GSFC	J HEAD	NAG 5 13671	449
99	BROWN UNIV	K BLANDING	HQ	R BRANDENBERGER	NGT 5 50355	449
99	BROWN UNIV	H CARR	SSC	J F MUSTARD	NCC13 98005	449
99	CALIFORNIA INST OF TECH	C NIEBUR	GSFC	O AHARONSON	NAG 5 13232	42
99	CALIFORNIA INST OF TECH	C NIEBUR	GSFC	O AHARONSON	NAG 5 13326	43
99	CALIFORNIA INST OF TECH	C NIEBUR	GSFC	B MURRAY	NAG 5 13343	43
99	CALIFORNIA INST OF TECH	C NIEBUR	GSFC	M RICHRADSON	NAG 5 13427	43
99	CALIFORNIA INST OF TECH	D E SMITH	GSFC	D O MUHLEMAN	NAG 5 4437	37
99	CALIFORNIA INST OF TECH	D LINDSTROM	GSFC	A SARGENT	NAG 5 13209	42
99	CALIFORNIA INST OF TECH	D SENSKE	GSFC	T AHRENS	NAG 5 10198	39
99	CALIFORNIA INST OF TECH	G STRINGFELLOW	GSFC	J ZMUIDZINAS	NAG 5 9493	39
99	CALIFORNIA INST OF TECH	J BOYCE	GSFC	A P INGERSOLL	NAG 5 11214	41
99	CALIFORNIA INST OF TECH	J F SPANN	GSFC	Y L YUNG	NAG 5 10901	40
99	CALIFORNIA INST OF TECH	J GARVIN	GSFC	A INGERSOL	NAG 5 12683	42
99	CALIFORNIA INST OF TECH	J GARVIN	GSFC	M RICHARDSON	NAG 5 12915	42
99	CALIFORNIA INST OF TECH	J HILLMAN	GSFC	A INGERSOLL	NAG 5 13238	43
99	CALIFORNIA INST OF TECH	J HILLMAN	GSFC	Y YUNG	NAG 5 13296	43
99	CALIFORNIA INST OF TECH	K BLANDING	GSFC	A ALBEE	NAG 5 11932	41
99	CALIFORNIA INST OF TECH	K BLANDING	GSFC	A ALBEE	NAG 5 13630	43
99	CALIFORNIA INST OF TECH	K BLANDING	GSFC	G BLAKE	NGT 5 50231	44
99	CALIFORNIA INST OF TECH	K BLANDING	GSFC	F CULICK	NGT 5 50280	44
99	CALIFORNIA INST OF TECH	K BLANDING	GSFC	N YEH	NGT 5 50308	44
99	CALIFORNIA INST OF TECH	K BLANDING	GSFC	M KAMIONKOWSKI	NGT 5 50339	44
99	CALIFORNIA INST OF TECH	K BLANDING	GSFC	R S ELLIS	NGT 5 50449	44
99	CALIFORNIA INST OF TECH	K BLANDING	GSFC	M KAMIONKOWSKI	NGT 5 50456	45
99	CALIFORNIA INST OF TECH	K BLANDING	GSFC	A ALBEE	NGT 5 60003	45
99	CALIFORNIA INST OF TECH	L K SMITH	GSFC	A LANGE	NGT 5 50278	44
99	CALIFORNIA INST OF TECH	L SMITH	GSFC	A LANGE	NGT 5 50249	44

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99	CALIFORNIA INST OF TECH	M SALAMON	GSFC	K THORNE	NAG 5 12834	42
99	CALIFORNIA INST OF TECH	M WEI	GSFC	J STOCK	NGT 5 30393	44
99	CALIFORNIA INST OF TECH	M WEI	GSFC	M SIMONS	NGT 5 30407	44
99	CALIFORNIA INST OF TECH	M WEI	GSFC	M OKUMURA	NGT 5 30452	44
99	CALIFORNIA INST OF TECH	P E HUNTER	GSFC	R BRUNNER	NAG 5 12000	42
99	CALIFORNIA INST OF TECH	T MORGAN	GSFC	M BROWN	NAG 5 11273	41
99	CALIFORNIA INST OF TECH	W WAGNER	GSFC	C S COHEN	NAG 5 12492	42
99	CALIFORNIA INST OF TECH	J BOYCE	HQ	A ALBEE	NAG 5 11257	41
99	CALIFORNIA STATE UNIV - LONG BEACH	M PHELPS	GSFC	R WEST	NAG 5 12361	46
99	CALIFORNIA STATE UNIV - LOS ANGELES	M MCCARTY	DFRC	T ADENIKA-MORROW	NAG 4 173	46
99	CALIFORNIA STATE UNIV - LOS ANGELES	B WHITE	GSFC	T ADENIKA-MORROW	NCC 5 439	47
99	CALIFORNIA STATE UNIV - LOS ANGELES	J MALONE	GSFC	H R BOUSSALIS	NAG 5 8889	46
99	CALIFORNIA STATE UNIV - LOS ANGELES	M STOUTSENBERGER	GSFC	M EPSTEIN	NAG 5 9160	46
99	CALIFORNIA STATE UNIV - MONTEREY BAY	J L DUNGAN	ARC	S ALEXANDER	NCC 2 1421	47
99	CALIFORNIA STATE UNIV - NORTHRIDGE	C PERSON	GSFC	B BAVARIAN	NCC 5 513	47
99	CALIFORNIA STATE UNIV - NORTHRIDGE	M MATTHEWS	GSFC	C SHUBIN	NCC 5 489	47
99	CALIFORNIA STATE UNIV - NORTHRIDGE	W WAGNER	GSFC	G A CHAPMAN	NAG 5 12905	47
99	CALIFORNIA STATE UNIV	C HILL	JSC	C LEE	NAG13 99010	47
99	CAPITOL COLL	D MENCHAN	GSFC	H JARRELL	NAG 5 12066	233
99	CAPITOL COLL	D MENCHAN	GSFC	E E GOTTSMAN	NAG 5 12939	233
99	CARNEGIE - MELLON UNIV	D SMITH	ARC	R SIMMONS	NGT 2 52286	430
99	CARNEGIE - MELLON UNIV	K BLANDING	GSFC	A W MOORE	NGT 5 50279	430
99	CARNEGIE - MELLON UNIV	M MEYER	GSFC	A WAGGONER	NAG 5 12833	428
99	CARNEGIE - MELLON UNIV	M MEYER	GSFC	W WHITTAKER	NAG 5 12890	428
99	CARNEGIE - MELLON UNIV	P E HUNTER	GSFC	R NICHOL	NAG 5 10740	428
99	CARNEGIE - MELLON UNIV	P E HUNTER	GSFC	C GLYMOUR	NAG 5 11998	428
99	CARNEGIE - MELLON UNIV	R E GABRYS	GSFC	P COPPIN	NCC 5 431	430
99	CARNEGIE - MELLON UNIV	R MUSHOTZKY	GSFC	R GRIFFITHS	NAG 5 13551	429
99	CARNEGIE - MELLON UNIV	A KEYS	MSFC	L R CARLEY	NAG 8 1799	429
99	CASE WESTERN RESERVE UNIV	G STRINGFELLOW	GSFC	G STARKMAN	NAG 5 11059	399
99	CASE WESTERN RESERVE UNIV	J FROGEL	GSFC	J RUHL	NAG 5 12722	399
99	CASE WESTERN RESERVE UNIV	J FROGEL	GSFC	J RUHL	NAG 5 12723	399
99	CASE WESTERN RESERVE UNIV	K BLANDING	GSFC	J T' IEN	NGT 5 50369	402
99	CASE WESTERN RESERVE UNIV	K BLANDING	GSFC	R QUINN	NGT 5 50413	402
99	CAYUGA COUNTY COMM COLL	D POWE	SSC	R FRESTOPKIK	NAG13 00043	360
99	CAYUGA COUNTY COMM COLL	M MICK	SSC	R BROWER	NAG13 00044	360
99	CAYUGA COUNTY COMM COLL	M W MICK	SSC	R N BROWER	NAG13 03030	360
99	CAYUGA COUNTY COMM COLL	W DAMAGGIO	SSC	M FLINTON	NAG13 02053	360
99	CHICAGO STATE UNIV	C HOLLINGSWORTH	GSFC	J RICHARD	NAG 5 12091	195
99	CHRISTOPHER NEWPORT UNIV	D GABRYS	GSFC	D B CATON	NCC 5 435	496
99	CITY UNIV OF NY CITY COLL	R F LAWRENCE	GRC	L P JOHNSON	NAG 3 2258	361
99	CITY UNIV OF NY CITY COLL	J HARRINGTON	GSFC	S AUSTIN	NCC 5 530	362
99	CITY UNIV OF NY CITY COLL	M MATEAU	GSFC	J BARBA	NAG 5 13664	362
99	CITY UNIV OF NY CITY COLL	M MATEU	GSFC	J BARBA	NAG 5 10845	361
99	CITY UNIV OF NY CITY COLL	B WHITE	HQ	R KHANBILVARDI	NCC 5 344	362
99	CITY UNIV OF NY SYSTEM	M MATEU	GSFC	J BARBA	NAG 5 12280	362
99	CITY UNIV OF NY HERBERT H. LEHMAN COLL	R F LAWRENCE	GRC	A L ROTHSETIN	NAG 3 2268	361
99	CLAFLIN COLL	C PERSON	GSFC	A WILLIAMS	NAG 5 11761	451
99	CLARK ATLANTA UNIV	H HASAN	GSFC	S S TAYAL	NAG 5 11434	175
99	CLARK ATLANTA UNIV	J HILLMAN	GSFC	S TAYAL	NAG 5 13340	175
99	CLARK ATLANTA UNIV	M MATEU	GSFC	B FLOURNOY	NCC 5 666	175
99	CLARK ATLANTA UNIV	M MATHEWS	GSFC	C H WILLIAMS	NCC 5 347	175
99	CLARK UNIV	G GUTMAN	GSFC	B TURNER	NAG 5 11134	276
99	CLEMSON UNIV - CLEMSON	B J TEEGARDEN	GSFC	D H HARTMANN	NAG 5 13565	453
99	CLEMSON UNIV - CLEMSON	B MERRITT	GSFC	N AVAILABLE	NAG 5 5399	452
99	CLEMSON UNIV - CLEMSON	C BRODELL	GSFC	P MCNULTY	NAS 5 03103	453
99	CLEMSON UNIV - CLEMSON	D J LINDSTROM	GSFC	D CLAYTON	NAG 5 13019	453
99	CLEMSON UNIV - CLEMSON	J KU	GSFC	D M OCHTERBECK	NAG 5 10367	452
99	CLEMSON UNIV - CLEMSON	K BLANDING	GSFC	T BATEMAN	NGT 5 50440	453
99	CLEMSON UNIV - CLEMSON	M MELLOTT	GSFC	M HICKEY	NAG 5 10251	452
99	CLEMSON UNIV - CLEMSON	S DAVISON	GSFC	I D WALKER	NAG 5 8759	452
99	CLEVELAND STATE UNIV	M L BOROWSKI	GRC	P CHARITY	NAG 3 2075	402
99	COLL OF CHARLESTON	D DETROYE	GSFC	M COLGAN	NCC 5 413	454
99	COLL OF CHARLESTON	D DETROYE	GSFC	M COLGAN	NCC 5 575	454
99	COLL OF CHARLESTON	D DETROYE	GSFC	M COLGAN	NGT 5 40099	454

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99	COLL OF CHARLESTON	L KEFFER	GSFC	M COLGAN	NGT 5 40050	454
99	COLL OF CHARLESTON	P SAKIMOTO	GSFC	C RUNYON	NCC 5 607	454
99	COLL OF CHARLESTON	R G FERGUSON	LARC	L I HIGDON	NAG 1 03074	453
99	COLL OF WILLIAM AND MARY	T E PINELLI	LARC	M HINDERS	NGT 1 52204	497
99	COLORADO SCH OF MINES	J GARVIN	GSFC	G OLHOEFT	NAG 5 12754	114
99	COLORADO SCH OF MINES	S NIEBUR	GSFC	C DREYER	NAG 5 12971	114
99	COLORADO SCH OF MINES	D MCKAY	JSC	M B DUKE	NAG 9 1207	114
99	COLORADO STATE UNIV	J BOYCE	GSFC	H PERKON	NAG 5 11280	116
99	COLORADO STATE UNIV	K BLANDING	GSFC	J NELSON	NGT 5 50164	118
99	COLORADO STATE UNIV	M MELLOTT	GSFC	C SHE	NAG 5 10076	115
99	COLORADO STATE UNIV	M WEI	GSFC	R PIELKE	NGT 5 30344	118
99	COLORADO STATE UNIV	M WEI	GSFC	W LAUENROTH	NGT 5 30438	118
99	COLORADO STATE UNIV	M WEI	GSFC	G STEPHENS	NGT 5 30458	118
99	COLORADO STATE UNIV	R J LAWRENCE	GSFC	D A RANDALL	NAG 5 13562	116
99	COLORADO STATE UNIV	R LAWRENCE	GSFC	C KUMMEROW	NAG 5 13694	117
99	COLORADO STATE UNIV	K BLANDING	HQ	M ATELLA	NGT 5 50486	118
99	COLUMBIA UNIV	H V FREY	GSFC	J WEISSEL	NAG 5 13731	366
99	COLUMBIA UNIV	J FROGEL	GSFC	D HELFAND	NAG 5 13062	366
99	COLUMBIA UNIV	J H SWANK	GSFC	E V GOTTHELF	NAG 5 13577	366
99	COLUMBIA UNIV	J H SWANK	GSFC	F B PAERELS	NAG 5 13742	366
99	COLUMBIA UNIV	J HAYES	GSFC	A CROTTS	NAG 5 13081	366
99	COLUMBIA UNIV	K E BLANDING	GSFC	S KAHN	NGT 5 50353	368
99	COLUMBIA UNIV	M SALAMON	GSFC	A BELOBORODOV	NAG 5 13382	366
99	COLUMBIA UNIV	M WEI	GSFC	M VISBECK	NGT 5 30442	368
99	COLUMBIA UNIV	M WEI	GSFC	M A CANE	NGT 5 30465	368
99	COLUMBIA UNIV	M WEI	GSFC	J WEISSEL	NGT 5 30532	368
99	COLUMBIA UNIV	R F MUSHOTZKY	GSFC	F CAMILO	NAG 5 13572	366
99	COLUMBIA UNIV	S L SNOWDEN	GSFC	M AUDARD	NAG 5 13553	366
99	COLUMBIA UNIV	W ABDALATI	GSFC	X YUAN	NAG 5 8725	364
99	COLUMBIA UNIV	W WAGNER	GSFC	D WINDT	NAG 5 12797	365
99	COLUMBIA UNIV	W WAGNER	GSFC	D SAVIN-WOLF	NAG 5 12798	366
99	COLUMBIA UNIV	K BLANDING	HQ	C HAILEY	NGT 5 50392	368
99	COPPIN STATE COLL	D MENCHAN	GSFC	D C WILSON	NAG 5 11846	233
99	CORNELL UNIV	C NIEBUR	GSFC	J BELL	NAG 5 13586	372
99	CORNELL UNIV	D D DETROYE	GSFC	Y TERZIAN	NGT 5 40078	374
99	CORNELL UNIV	D LINDSTROM	GSFC	J HARRINGTON	NAG 5 13154	372
99	CORNELL UNIV	D LINDSTROM	GSFC	R LOVELACE	NAG 5 13220	372
99	CORNELL UNIV	D SENSKE	GSFC	P THOMAS	NAG 5 10168	370
99	CORNELL UNIV	G STRINGFELLOW	GSFC	S EIKENBERRY	NAG 5 10356	370
99	CORNELL UNIV	J BOYCE	GSFC	D BANFIELD	NAG 5 12187	371
99	CORNELL UNIV	J FROGEL	GSFC	M ROMANOVA	NAG 5 13060	372
99	CORNELL UNIV	J HILLMAN	GSFC	D J BANFIELD	NAG 5 12470	372
99	CORNELL UNIV	J HILLMAN	GSFC	P GIERASCH	NAG 5 13235	372
99	CORNELL UNIV	J Q SPANN	GSFC	M PSIAKI	NAG 5 12211	371
99	CORNELL UNIV	K BLANDING	GSFC	M H VAN DER MUELEN	NGT 5 50375	374
99	CORNELL UNIV	K BLANDING	GSFC	J HOUCK	NGT 5 50390	374
99	CORNELL UNIV	M MELLOTT	GSFC	C SEYLER	NAG 5 12991	372
99	CORNELL UNIV	M MEYER	GSFC	D A USHER	NAG 5 12332	372
99	CORNELL UNIV	M WEI	GSFC	T JORDAN	NGT 5 30461	374
99	CORNELL UNIV	P E HUNTER	GSFC	T LOREDO	NAG 5 12082	371
99	CORNELL UNIV	S DAVISON	GSFC	C MONTEEMAGNO	NAG 5 8775	369
99	CORNELL UNIV	S NIEBUR	GSFC	D BANFIELD	NAG 5 12886	372
99	CORNELL UNIV	S SAUNDERS	GSFC	D TURCOTTE	NAG 5 13121	372
99	CORNELL UNIV	S SAUNDERS	GSFC	D CAMPBELL	NAG 5 13566	372
99	CORNELL UNIV	T MORGAN	GSFC	B CLARK	NAG 5 12625	372
99	CORNELL UNIV	T MORGAN	GSFC	P HELFENSTEIN	NAG 5 12631	372
99	CORNELL UNIV	T MORGAN	GSFC	P THOMAS	NAG 5 12632	372
99	CORNELL UNIV	K BLANDING	HQ	G STACEY	NGT 5 50470	374
99	CORNELL UNIV	K BLANDING	HQ	L BONASSAR	NGT 5 50484	374
99	CORNELL UNIV	R V MORRIS	JSC	R V MORRIS	NCC 9 89	374
99	CUYAHOGA COMM COLL	R ROMERO	GRC	T L BUTLER	NAG 3 2663	405
99	CUYAHOGA COMM COLL	C HOLLINGSWORTH	GSFC	A JOHNSON	NAG 5 12154	405
99	CUYAHOGA COMM COLL	M MICK	SSC	R BROWER	NAG13 02059	405
99	DARTMOUTH COLL	J SPANN	GSFC	B O SONNERUP	NAG 5 12005	338
99	DARTMOUTH COLL	J SPANN	GSFC	M K HUDSON	NAG 5 12202	338
99	DARTMOUTH COLL	J SPANN	GSFC	M HUDSON	NGT 5 50403	339

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99	DARTMOUTH COLL	M MELLOTT	GSFC	A V STRELTSOV	NAG 5 10216	338
99	DARTMOUTH COLL	M MELLOTT	GSFC	M R LESSARD	NAG 5 10219	338
99	DARTMOUTH COLL	M SALAMON	GSFC	H MUELLER	NAG 5 13611	338
99	DARTMOUTH COLL	W WAGNER	GSFC	H MUELLER	NAG 5 12879	338
99	DENISON UNIV	J HILLMAN	GSFC	M E MICKELSON	NAG 5 11966	405
99	DREXEL UNIV	K BLANDING	GSFC	W SUN	NGT 5 50436	432
99	DUKE UNIV	J SPANN	GSFC	S A CUMMER	NAG 5 12072	387
99	DUKE UNIV	M MELLOTT	GSFC	S CUMMER	NAG 5 10270	387
99	DUKE UNIV	M MEYER	GSFC	D MCSHEA	NAG 5 12336	387
99	DUKE UNIV	M WEI	GSFC	S ROJSTACZER	NGT 5 30379	388
99	DUKE UNIV	M WEI	GSFC	W H SCHESSINGER	NGT 5 30397	388
99	DUKE UNIV	M WEI	GSFC	N L CHRISTENSEN	NGT 5 30472	388
99	DUKE UNIV	M GERNHARDT	JSC	R VANN	NCC 9 83	388
99	EAST TENNESSEE STATE UNIV	G SONNEBORN	GSFC	M GIROUX	NAG 5 13793	456
99	EAST TENNESSEE STATE UNIV	J HAYES	GSFC	B SMITH	NAG 5 13079	456
99	EAST NEW MEX. UNIV - MAIN CAMP	L ARMENDARIZ	JSC	J MILLER	NAG 9 1255	353
99	EAST NEW MEX. UNIV - MAIN CAMP	L M ARMENDARIZ	JSC	J MILLER	NAG 9 1412	353
99	ELIZABETH CITY STATE UNIV	J HARRINGTON	GSFC	L HAYDEN	NCC 5 533	389
99	EMBRY-RIDDLE AERONAUTICAL UNIV	M MELLOTT	GSFC	G SIVJEE	NAG 5 13592	157
99	EMBRY-RIDDLE AERONAUTICAL UNIV	M MELLOTT	GSFC	G G SIVJEE	NAG 5 10066	157
99	EMBRY-RIDDLE AERONAUTICAL UNIV	M MELLOTT	GSFC	G SIVJEE	NAG 5 12979	157
99	EMBRY-RIDDLE AERONAUTICAL UNIV	W PETERSON	GSFC	M HICKEY	NAG 5 13417	157
99	ESTRELLA MOUNTAIN COMM COLL	M MATEU	HQ	M REYES	NAG 5 12476	21
99	FAYETTEVILLE STATE UNIV	M STOUTSENBERGER	GSFC	L EDWARDS	NAG 5 9155	389
99	FLA INTERNATIONAL UNIV	A CARDENAS	ARC	X HE	NAG 2 1440	157
99	FLA INTERNATIONAL UNIV	H T STEWART	ARC	I R FERNANDEZ	NAG 2 1384	157
99	FLA INTERNATIONAL UNIV	D MENCHAN	GSFC	N RISHE	NAG 5 9478	158
99	FLA INTERNATIONAL UNIV	M MATEU	GSFC	C MENDEZ	NCC 5 663	158
99	FLA INTERNATIONAL UNIV	H BURSIA	KSC	G A ROIG	NAG10 311	158
99	FLORIDA A&M UNIV	B J COLLINS	ARC	M ENCINOSA	NAG 2 1439	158
99	FLORIDA A&M UNIV	J MALONE	GSFC	J ZHENG	NAG 5 9420	159
99	FLORIDA A&M UNIV	J MALONE	GSFC	B KELLY	NAG 5 10726	159
99	FLORIDA A&M UNIV	E JOHNSON	KSC	B SAMUELS	NAG10 242	159
99	FLORIDA INST OF TECH	D SIBECK	GSFC	M ZHANG	NAG 5 13514	160
99	FLORIDA INST OF TECH	K BLANDING	GSFC	T OSWALT	NGT 5 50450	160
99	FLORIDA INST OF TECH	L SMITH	GSFC	C HELMSTETTER	NGT 5 50257	160
99	FLORIDA INST OF TECH	L SMITH	GSFC	T OSWALT	NGT 5 50290	160
99	FLORIDA INST OF TECH	W PETERSON	GSFC	J DWYER	NAG 5 12778	160
99	FLORIDA INST OF TECH	W WAGNER	GSFC	M ZHANG	NAG 5 11036	160
99	FLORIDA STATE UNIV	A KEMPISTY	GSFC	J VINALS	NAG 5 13754	162
99	FLORIDA STATE UNIV	C NIEBUR	GSFC	J CAIN	NAG 5 13311	162
99	FLORIDA STATE UNIV	M WEI	GSFC	J O'BRIEN	NGT 5 30370	163
99	FLORIDA STATE UNIV	M WEI	GSFC	J C CAIN	NGT 5 30454	163
99	FLORIDA STATE UNIV	M WEI	GSFC	D NOF	NGT 5 30513	163
99	FLORIDA STATE UNIV	R J LAWRENCE	GSFC	T KRISHNAMURTI	NAG 5 13563	162
99	FLORIDA STATE UNIV	C D BLACK	KSC	F B GROSS	NGT10 52637	163
99	FOOTHILL-DE ANZA COM COL SYS OFF	G JAMES	ARC	V K SERMON	NGT 2 52280	48
99	FURMAN UNIV	R K DISMUKES	ARC	G O EINSTEIN	NCC 2 1085	454
99	GEORGE MASON UNIV	A J MATURO	GSFC	R R STOUGH	NCC 5 360	499
99	GEORGE MASON UNIV	H HASSAN	GSFC	S SATYAPAL	NAG 5 11432	498
99	GEORGE MASON UNIV	J E DORBAND	GSFC	P WANG	NAG 5 13603	499
99	GEORGE MASON UNIV	M MAIDEN	GSFC	M KAFATOS	NCC 5 306	499
99	GEORGE MASON UNIV	M SHEPANAK	GSFC	R STOUGH	NAG 5 12708	499
99	GEORGE MASON UNIV	O C ST. CYR	GSFC	G L WITHBROE	NCC 5 714	499
99	GEORGE MASON UNIV	W WAGNER	GSFC	A WINEBARGER	NAG 5 13666	499
99	GEORGE MASON UNIV	T S VANN	JSC	M KAFATOS	NAG13 03019	499
99	GEORGE MASON UNIV	M GIARDINO	SSC	M KAFATOS	NAG13 02054	499
99	GEORGE WASHINGTON UNIV	G BLANEY	GSFC	M PHILLIPS	NAG 5 11317	146
99	GEORGE WASHINGTON UNIV	J BOYCE	GSFC	G KEATING	NAG 5 11175	146
99	GEORGE WASHINGTON UNIV	J H SWANK	GSFC	W C PARKE	NAG 5 13740	147
99	GEORGE WASHINGTON UNIV	J I TROMBKA	GSFC	D A ROWLEY	NAG 5 10417	146
99	GEORGE WASHINGTON UNIV	P E O'NEIL	GSFC	R LANG	NAG 5 12264	147
99	GEORGE WASHINGTON UNIV	R A HATHAWAY	LARC	J WHITESIDES	NCC 1 01020	148
99	GEORGE WASHINGTON UNIV	D JAN	NMO	J H MILLER	NAG 9 1185	147
99	GEORGETOWN UNIV	C NIEBUR	GSFC	G KEATING	NAG 5 13476	148
99	GEORGIA INST OF TECH	I STATLER	ARC	A R PRITCHETT	NCC 2 1306	181

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99	GEORGIA INST OF TECH	K GUPTA	DFRC	W M HADDAD	NGT 4 52434	182
99	GEORGIA INST OF TECH	D D DETROYE	GSFC	E ARMANIOS	NGT 5 40116	182
99	GEORGIA INST OF TECH	D SIBECK	GSFC	R BLACK	NAG 5 13492	179
99	GEORGIA INST OF TECH	J HILLMAN	GSFC	P G STEFFES	NAG 5 12122	179
99	GEORGIA INST OF TECH	J HILLMAN	GSFC	T ORLANDO	NAG 5 13234	179
99	GEORGIA INST OF TECH	K BLANDING	GSFC	P NEITZEL	NGT 5 50363	183
99	GEORGIA INST OF TECH	L SMITH	GSFC	R FUJIMOTO	NGT 5 50284	182
99	GEORGIA INST OF TECH	M WEI	GSFC	L HUEY	NGT 5 30384	182
99	GEORGIA INST OF TECH	M WEI	GSFC	A NENES	NGT 5 30506	182
99	GEORGIA INST OF TECH	P DECOLA	GSFC	Y WANG	NAG 5 12498	179
99	GEORGIA INST OF TECH	R D KOSTER	GSFC	M STIEGLITZ	NAG 5 13727	180
99	GEORGIA INST OF TECH	C GRIFFIN	KSC	D BRIDGES	NAS10 01025	180
99	GEORGIA INST OF TECH	S COLEMAN	MSFC	J L GODDARD	NCC 8 253	181
99	GEORGIA SOUTHERN UNIV	J LINDLEY	GSFC	M S KELLEY	NAG 5 12445	183
99	GEORGIA STATE UNIV	J H SWANK	GSFC	H R MILLER	NAG 5 13733	183
99	GEORGIA STATE UNIV	P CRANE	GSFC	S MANSON	NAG 5 12712	183
99	GLENDALE COMM COLL	H KASS	GSFC	L SEROT	NAG 5 9700	48
99	HAMPTON UNIV	B W MEESON	GSFC	J RUSSELL	NAG 5 11126	501
99	HAMPTON UNIV	M STOUTSENBERGER	GSFC	C RANKINS	NAG 5 9156	501
99	HAMPTON UNIV	P S BOELLNER	GSFC	C L REAVES	NAG 5 10015	501
99	HAMPTON UNIV	R A HATHAWAY	LARC	R SCHWAN	NAG 1 01089	500
99	HAMPTON UNIV	R A HATHAWAY	LARC	R SCHWAN	NCC 1 01034	502
99	HAMPTON UNIV	R HATHAWAY	LARC	D DEPRIEST	NCC 1 358	502
99	HARVARD UNIV	C NIEBUR	GSFC	S MUKHOPADHYAY	NAG 5 13474	279
99	HARVARD UNIV	D E WICKLAND	GSFC	S C WOFSY	NAG 5 11154	278
99	HARVARD UNIV	D LINDSTROM	GSFC	S B JACOBSON	NAG 5 13164	279
99	HARVARD UNIV	H V FREY	GSFC	J BLOXHAM	NAG 5 13749	279
99	HARVARD UNIV	J FROGEL	GSFC	B GAENSLER	NAG 5 13032	279
99	HARVARD UNIV	K BLANDING	GSFC	R WALSWORTH	NGT 5 50433	280
99	HARVARD UNIV	L SMITH	GSFC	W H PARKINSON	NGT 5 50258	280
99	HARVARD UNIV	M NEW	GSFC	S MARTIN	NAG 5 13472	279
99	HARVARD UNIV	M SALAMON	GSFC	A LEOB	NAG 5 13292	279
99	HARVARD UNIV	M WEI	GSFC	S WOFSY	NGT 5 30366	280
99	HARVARD UNIV	M WEI	GSFC	J ANDERSON	NGT 5 30410	280
99	HARVARD UNIV	M WEI	GSFC	D JACOB	NGT 5 30466	280
99	HARVARD UNIV	M WEI	GSFC	J ANDERSON	NGT 5 30482	280
99	HARVARD UNIV	M WEI	GSFC	S WOFSY	NGT 5 30495	280
99	HARVARD UNIV	P DECOLA	GSFC	D JACOB	NAG 5 11270	278
99	HEIDELBERG COLL	F SAVINO	GRC	D A KRIEGER	NAG 3 2768	405
99	HOUSTON COMM COLL	M MATEU	GSFC	C GARCIA	NAG 5 10239	463
99	HOUSTON COMM COLL	M MATEU	GSFC	C GARCIA	NAG 5 12702	463
99	HOWARD UNIV	G COOPER	ARC	P HAMBRIGHT	NAG 2 1526	149
99	HOWARD UNIV	C PERSON	GSFC	A N THORPE	NAG 5 10675	149
99	HOWARD UNIV	C PERSON	GSFC	A THORPE	NAG 5 12021	149
99	HOWARD UNIV	D MENCHAN	GSFC	M C WOODARD	NAG 5 10838	149
99	HOWARD UNIV	D MENCHAN	GSFC	D WOODARD	NAG 5 12172	149
99	HOWARD UNIV	D MENCHAN	GSFC	D WOODARD	NAG 5 13407	149
99	HOWARD UNIV	G A SOFFEN	GSFC	A N THORPE	NCC 5 184	150
99	HOWARD UNIV	M S BURRELL	GSFC	J B HALPERN	NGT 5 113	150
99	HOWARD UNIV	M S BURRELL	GSFC	J B HALPERN	NGT 5 60004	150
99	HOWARD UNIV	M WEI	GSFC	E JOSEPH	NGT 5 30505	150
99	ILLINOIS STATE UNIV	J SHARBER	GSFC	D HOLLAND	NAG 5 9584	196
99	INDIANA UNIV - BLOOMINGTON	J FROGEL	GSFC	T STEIMAN-CAMERON	NAG 5 13112	210
99	INDIANA UNIV - BLOOMINGTON	M MEYER	GSFC	D H BURKE	NAG 5 12360	210
99	INDIANA UNIV-PURDUE U. AT INDIANAPOLIS	K BLANDING	GSFC	R DUNCAN	NGT 5 50366	210
99	INDIANA UNIV-PURDUE U. AT INDIANAPOLIS	K BLANDING	GSFC	W WAGNER	NGT 5 50373	210
99	IOWA STATE UNIV	D D DETROYE	GSFC	W J BYRD	NGT 5 40081	219
99	IOWA STATE UNIV	M S SEIDLECK	GSFC	M POHL	NAG 5 13559	217
99	JACKSON STATE UNIV	M MATEU	GSFC	C CRAIG	NCC 5 667	320
99	JACKSON STATE UNIV	R P TRAVIS	SSC	A K MOHAMED	NAG13 02056	320
99	JACKSONVILLE STATE UNIV	K BLANDING	GSFC	T HUDDLESTON	NAG 5 12251	4
99	JAMES MADISON UNIV	J JOHNSON	GSFC	J BLANDINO	NAG 5 10701	502
99	JARVIS CHRISTIAN COLL	L ARMENDARIZ	JSC	M J MCKINNEY	NAG 9 1065	463
99	JOHNS HOPKINS UNIV	C HOLMES	GSFC	S M KRIMIGIS	NAG 5 13495	246
99	JOHNS HOPKINS UNIV	D D DETROYE	GSFC	R C HENRY	NGT 5 40079	248
99	JOHNS HOPKINS UNIV	D SENSKE	GSFC	B BUSEY	NAG 5 12949	244

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99	JOHNS HOPKINS UNIV	D SIBECK	GSFC	F NICOLA	NAG 5 13486	246
99	JOHNS HOPKINS UNIV	D SIBECK	GSFC	D LARIO	NAG 5 13487	246
99	JOHNS HOPKINS UNIV	D SIBECK	GSFC	S OHANTI	NAG 5 13491	246
99	JOHNS HOPKINS UNIV	D SIBECK	GSFC	B LABONTE	NAG 5 13504	246
99	JOHNS HOPKINS UNIV	D SIBECK	GSFC	K TAKAHASHI	NAG 5 13509	246
99	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	C G HOOPEES	NAG 5 13657	246
99	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	P D FELDMAN	NAG 5 13658	247
99	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	L BIANCHI	NAG 5 13679	247
99	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	B ANDERSON	NAG 5 13680	247
99	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	G WILLIGER	NAG 5 13688	247
99	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	J W KRUK	NAG 5 13690	247
99	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	W BLAIR	NAG 5 13698	247
99	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	W P BLAIR	NAG 5 13704	247
99	JOHNS HOPKINS UNIV	G SONNEBORN	GSFC	J DUPUIS	NAG 5 13714	247
99	JOHNS HOPKINS UNIV	J C COMISO	GSFC	R K RANEY	NAG 5 13549	246
99	JOHNS HOPKINS UNIV	J F SPANN	GSFC	J M RUOHONIEMI	NAG 5 10902	240
99	JOHNS HOPKINS UNIV	J FROGEL	GSFC	G MEURER	NAG 5 13083	245
99	JOHNS HOPKINS UNIV	J FROGEL	GSFC	D NEUFELD	NAG 5 13114	245
99	JOHNS HOPKINS UNIV	J GARVIN	GSFC	C LEUSCHEN	NAG 5 13120	245
99	JOHNS HOPKINS UNIV	J HILLMAN	GSFC	X ZHU	NAG 5 11962	242
99	JOHNS HOPKINS UNIV	J HILLMAN	GSFC	D F STROBEL	NAG 5 12051	242
99	JOHNS HOPKINS UNIV	J Q SPANN	GSFC	K TAKAHASHI	NAG 5 12201	243
99	JOHNS HOPKINS UNIV	J SHARBER	GSFC	K TAKAHASHI	NAG 5 8964	237
99	JOHNS HOPKINS UNIV	J SHARBER	GSFC	B MAUK	NAG 5 10281	238
99	JOHNS HOPKINS UNIV	J SHARBER	GSFC	D G SIBECK	NAG 5 10285	238
99	JOHNS HOPKINS UNIV	J SHARBER	GSFC	S OHTANI	NAG 5 10941	240
99	JOHNS HOPKINS UNIV	J SPANN	GSFC	S OHTANI	NAG 5 12050	242
99	JOHNS HOPKINS UNIV	J SPANN	GSFC	J SHUE	NAG 5 12108	243
99	JOHNS HOPKINS UNIV	K BLANDING	GSFC	P C SEARSON	NGT 5 50372	249
99	JOHNS HOPKINS UNIV	K BLANDING	GSFC	J HARDEN	NGT 5 50437	249
99	JOHNS HOPKINS UNIV	K BLANDING	GSFC	M DONOHUE	NGT 5 50439	249
99	JOHNS HOPKINS UNIV	L SMITH	GSFC	K J STEBE	NGT 5 50268	248
99	JOHNS HOPKINS UNIV	M KURYLO	GSFC	S A LLOYD	NAG 5 11035	241
99	JOHNS HOPKINS UNIV	M MELLOTT	GSFC	R A GREENWALD	NAG 5 10060	238
99	JOHNS HOPKINS UNIV	M MELLOTT	GSFC	J YEE	NAG 5 13037	245
99	JOHNS HOPKINS UNIV	M MEYER	GSFC	W B BRINCKERHOFF	NAG 5 12169	243
99	JOHNS HOPKINS UNIV	M MEYER	GSFC	W B BRINCKERHOFF	NAG 5 12354	243
99	JOHNS HOPKINS UNIV	M MEYER	GSFC	W B BRINCKERHOFF	NAG 5 12363	243
99	JOHNS HOPKINS UNIV	M SALAMON	GSFC	J KROLIK	NAG 5 13228	246
99	JOHNS HOPKINS UNIV	N LAL	GSFC	A Y LUI	NAG 5 12085	242
99	JOHNS HOPKINS UNIV	P CRANE	GSFC	S R MCCANLISS	NAG 5 11456	241
99	JOHNS HOPKINS UNIV	P DECOLA	GSFC	D WAUCH	NAG 5 11283	241
99	JOHNS HOPKINS UNIV	P DECOLA	GSFC	W SWARTZ	NAG 5 11297	241
99	JOHNS HOPKINS UNIV	P E HUNTER	GSFC	A R THAKAR	NAG 5 12092	243
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99	JOHNS HOPKINS UNIV	S SAUNDERS	GSFC	O BARNQUIN-JHA	NAG 5 13433	246
99	JOHNS HOPKINS UNIV	S SAUNDERS	GSFC	L PROCKTER	NAG 5 13596	246
99	JOHNS HOPKINS UNIV	T MORGAN	GSFC	B MAUK	NAG 5 12224	243
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99	JOHNS HOPKINS UNIV	W ABDALATI	GSFC	R RANEY	NAG 5 10261	238
99	JOHNS HOPKINS UNIV	W J WAGNER	GSFC	D LARIO	NAG 5 10787	240
99	JOHNS HOPKINS UNIV	W J WAGNER	GSFC	G HO	NAG 5 10836	240
99	JOHNS HOPKINS UNIV	W PETERSON	GSFC	R GREENWALD	NAG 5 12767	244
99	JOHNS HOPKINS UNIV	W PETERSON	GSFC	P BRANDT	NAG 5 12772	244
99	JOHNS HOPKINS UNIV	W PETERSON	GSFC	G HO	NAG 5 12828	244
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99	JOHNS HOPKINS UNIV	W PETERSON	GSFC	S OHTANI	NAG 5 13024	245
99	JOHNS HOPKINS UNIV	W PETERSON	GSFC	H KU	NAG 5 13071	245
99	JOHNS HOPKINS UNIV	W PETERSON	GSFC	K TAKAHASHI	NAG 5 13119	245
99	JOHNS HOPKINS UNIV	W PETERSON	GSFC	K LIOU	NAG 5 13132	245
99	JOHNS HOPKINS UNIV	W WAGNER	GSFC	D HAGGERTY	NAG 5 12479	244
99	LAWSON STATE COMM COLL	C PERSON	GSFC	B CRAWFORD	NAG 5 11986	4
99	LEHIGH UNIV	K BLANDING	GSFC	F J PAZZAGLIA	NGT 5 50418	432
99	LINCOLN UNIV - PA.	M MATEU	GSFC	O RICHARD	NCC 5 662	432
99	LOUISIANA STATE UNIV - BATON ROUGE	D DETROYE	GSFC	J P WEFEL	NCC 5 167	228

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99	LOUISIANA STATE UNIV - BATON ROUGE	L JOHNSON	GSFC	B SCHAEFER	NAG 5 13533	228
99	LOUISIANA STATE UNIV - BATON ROUGE	M SALAMON	GSFC	J PULLIN	NAG 5 13430	228
99	LOUISIANA STATE UNIV - BATON ROUGE	W PETERSON	GSFC	D HOLLAND	NAG 5 13036	227
99	LOUISIANA STATE UNIV - BATON ROUGE	D DETROYE	HQ	J WEFEL	NGT 5 40115	228
99	LOUISIANA STATE UNIV - BATON ROUGE	D DETROY	HQ	J WEFEL	NCC 5 393	228
99	MARIST COLL	M MEYER	GSFC	R KEPNER	NAG 5 9889	375
99	MARQUETTE UNIV	C W LLOYD	JSC	R H FITTS	NAG 9 1156	531
99	MASSACHUSETTS INST OF TECH	B J TEEGRADEN	GSFC	W H LEWIN	NAG 5 13571	290
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99	MASSACHUSETTS INST OF TECH	D D DETROYE	GSFC	L YOUNG	NGT 5 40075	294
99	MASSACHUSETTS INST OF TECH	D E SMITH	GSFC	G H PETTENGILL	NAG 5 4434	284
99	MASSACHUSETTS INST OF TECH	D E SMITH	GSFC	M T ZUBER	NAG 5 11113	287
99	MASSACHUSETTS INST OF TECH	D SPEARS	GSFC	D PRITCHARD	NAG 5 12515	288
99	MASSACHUSETTS INST OF TECH	H V FREY	GSFC	T A HERRING	NAG 5 13660	290
99	MASSACHUSETTS INST OF TECH	H V FREY	GSFC	A E NIELL	NAG 5 13744	290
99	MASSACHUSETTS INST OF TECH	J FROGEL	GSFC	W LEWIN	NAG 5 13061	289
99	MASSACHUSETTS INST OF TECH	J H SWANK	GSFC	D CHAKRABARTY	NAG 5 13761	290
99	MASSACHUSETTS INST OF TECH	J H SWANK	GSFC	W H LEWIN	NAG 5 13768	290
99	MASSACHUSETTS INST OF TECH	J H SWANK	GSFC	W H LEWIN	NAG 5 13769	291
99	MASSACHUSETTS INST OF TECH	J HILLMAN	GSFC	R BINZEL	NAG 5 12355	288
99	MASSACHUSETTS INST OF TECH	K BLANDING	GSFC	J B HOWARD	NGT 5 50302	294
99	MASSACHUSETTS INST OF TECH	K BLANDING	GSFC	B C WILLIAMS	NGT 5 50411	294
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99	MASSACHUSETTS INST OF TECH	K OGILVIE	GSFC	A LARARUS	NAG 5 7359	284
99	MASSACHUSETTS INST OF TECH	M KURYLO	GSFC	J I STEINFELD	NAG 5 10613	287
99	MASSACHUSETTS INST OF TECH	M MELLOTT	GSFC	J FOSTER	NAG 5 13602	290
99	MASSACHUSETTS INST OF TECH	M MEYER	GSFC	J GROTZINGER	NAG 5 9445	286
99	MASSACHUSETTS INST OF TECH	M MEYER	GSFC	R SUMMONS	NAG 5 12356	288
99	MASSACHUSETTS INST OF TECH	M SALAMON	GSFC	S A RAPPORT	NAG 5 12522	288
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99	MASSACHUSETTS INST OF TECH	M WEI	GSFC	D ENTEKHABI	NGT 5 30479	294
99	MASSACHUSETTS INST OF TECH	P DECOLA	GSFC	R A PLUMB	NAG 5 11285	287
99	MASSACHUSETTS INST OF TECH	R CROUCH	GSFC	G MCKINLEY	NAG 5 8776	285
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99	MASSACHUSETTS INST OF TECH	T MATURO	GSFC	J KLEIN	NAG 5 11268	287
99	MASSACHUSETTS INST OF TECH	W PETERSON	GSFC	J FOSTER	NAG 5 12875	289
99	MASSACHUSETTS INST OF TECH	W PETERSON	GSFC	T CHANG	NAG 5 12942	289
99	MASSACHUSETTS INST OF TECH	W WAGNER	GSFC	S W TAM	NAG 5 12859	289
99	MEDGAR EVERS COLL	M STOUTSENBERGER	HQ	L JOHNSON	NAG 5 9256	375
99	MEHARRY MEDICAL COLL	C PERSON	GSFC	M F LIMA	NAG 5 12093	456
99	MIAMI UNIV	K BLANDING	GSFC	J KISS	NGT 5 50480	406
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99	MICHIGAN STATE UNIV	S OLSON	GRC	I S WICHMAN	NCC 3 662	303
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99	MICHIGAN STATE UNIV	G GUTMAN	GSFC	J LIU	NAG 5 12713	303
99	MICHIGAN STATE UNIV	J FROGEL	GSFC	A KUNDU	NAG 5 12975	303
99	MICHIGAN STATE UNIV	J HAYES	GSFC	J BALDWIN	NAG 5 13075	303
99	MICHIGAN STATE UNIV	K BLANDING	GSFC	P PIERRE	NGT 5 50378	304
99	MICHIGAN STATE UNIV	M MAIDEN	GSFC	D SKOLE	NCC 5 303	303
99	MICHIGAN STATE UNIV	M WEI	GSFC	J LIU	NGT 5 30483	304
99	MICHIGAN STATE UNIV	W WAGNER	GSFC	R F STEIN	NAG 5 12450	302
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99	MIDDLE TENNESSEE STATE UNIV	L BILBROUGH	GSFC	E R PHILLIPS	NAG 5 11692	457
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99	MISSISSIPPI STATE UNIV	M MATHEWS	GSFC	B JOINER	NAG 5 11127	320
99	MISSISSIPPI STATE UNIV	R MCKELLIP	SSC	D SHAW	NCC13 99001	321
99	MISSISSIPPI VALLEY STATE UNIV.	M MATEU	GSFC	O CATHEY	NAG 5 665	321
99	MISSISSIPPI VALLEY STATE UNIV.	N S SULLIVAN	SSC	S J WHITE	NAG13 99003	321
99	MONTANA STATE UNIV	R A GRYMES	ARC	D L DICKENSHEETS	NCC 2 5437	331
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99	MONTANA STATE UNIV	K BLANDING	GSFC	C KANKELBORG	NGT 5 50471	332
99	MONTANA STATE UNIV	L SMITH	GSFC	J C PRISCU	NGT 5 50297	332
99	MONTANA STATE UNIV	M NEW	GSFC	D WARD	NAG 5 13468	331
99	MONTANA STATE UNIV	M SALAMON	GSFC	R HELLINGS	NAG 5 11467	330
99	MONTANA STATE UNIV	M SALAMON	GSFC	R HELLINGS	NAG 5 11469	330
99	MONTANA STATE UNIV	W WAGNER	GSFC	P MARTENS	NAG 5 12820	331
99	MONTANA STATE UNIV	W WALTER	GSFC	D LONGCOPE	NAG 5 10489	330
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99	MOREHEAD STATE UNIV	V L OXENHAM	GSFC	B MALPHRUS	NAG 5 13585	224
99	MOREHOUSE COLL	D BROWN	GSFC	H CHARLES	NAG 5 13633	184
99	MOREHOUSE SCH MED	A J CARDENAS	ARC	M THIERRY-PALMER	NAG 2 1381	184
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99	MORGAN STATE UNIV	C PERSON	GSFC	D N WILLIAMS	NAG 5 9710	249
99	MORGAN STATE UNIV	D MENCAHN	GSFC	E ISUK	NAG 5 11852	250
99	MORGAN STATE UNIV	D MENCHAN	GSFC	H WILLIAMS	NAG 5 8860	249
99	MORGAN STATE UNIV	J BENNETT	GSFC	E DELOATCH	NAG 5 11405	250
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99	MORGAN STATE UNIV	P HOLLOWAY	GSFC	H WILLIAMS	NAG 5 8574	249
99	MT HOLYOKE COLL	A E TAYLOR	GSFC	J MORROW	NAG 5 13791	295
99	MT HOLYOKE COLL	C HOLLINGSWORTH	GSFC	J MORROW	NAG 5 11759	295
99	MT HOLYOKE COLL	J GARVIN	GSFC	M DYAR	NAG 5 12687	295
99	MUHLENBERG COLL	S CANRIGHT	HQ	R MILLIGAN	NAG 5 12416	432
99	NATIONAL HISPANIC UNIV	A CARDENAS	ARC	M A CRUZ	NAG 2 6062	48
99	NATIONAL HISPANIC UNIV	A CARDENAS	ARC	J S HAWKINS	NCC 2 6055	48
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99	NEW JERSEY INST OF TECH	W WAGNER	GSFC	D E GARY	NAG 5 10212	344
99	NEW JERSEY INST OF TECH	W WAGNER	GSFC	P R GOODE	NAG 5 12782	345
99	NEW JERSEY INST OF TECH	P DOTY	MSFC	E DREIZIN	NAG 8 1714	345
99	NEW MEXICO HIGHLANDS UNIV	G HENDERSEN	JSC	J R JUAREZ	NAG 9 1260	353
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99	NEW MEXICO STATE UNIV - LAS CRUCES	D BOGAN	GSFC	M MARLEY	NAG 5 8919	355
99	NEW MEXICO STATE UNIV - LAS CRUCES	D D DETROYE	GSFC	P HYNES	NGT 5 40087	357
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99	NEW MEXICO STATE UNIV - LAS CRUCES	J HILLMAN	GSFC	J R MURPHY	NAG 5 12123	356
99	NEW MEXICO STATE UNIV - LAS CRUCES	K BLANDING	GSFC	J MURPHY	NGT 5 50457	357
99	NEW MEXICO STATE UNIV - LAS CRUCES	S SAUNDERS	GSFC	V SOLOMATOV	NAG 5 13123	356
99	NEW MEXICO STATE UNIV - LAS CRUCES	D M RUSSO	JSC	G A EICEMAN	NAG 9 1291	356
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99	NORTH CAROLINA STATE UNIV. - RALEIGH	J A WHITE	LARC	J R EDWARDS	NAG 1 2216	391
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99	NORTHWESTERN UNIV	K BLANDING	GSFC	P VOORHEES	NGT 5 50368	199
99	NORTHWESTERN UNIV	K BLANDING	GSFC	M MATALON	NGT 5 50405	199
99	NORTHWESTERN UNIV	K BLANDING	GSFC	S DAVIS	NGT 5 50434	199
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99	NORTHWESTERN UNIV	M SALAMON	GSFC	V KALOGERA	NAG 5 13236	198
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99	NORTHWESTERN UNIV	M WEI	GSFC	P SCHEUERMANN	NGT 5 30471	199
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99	NORTHWESTERN UNIV	K DAUES	JSC	R N LUEPTOW	NAG 9 1398	198
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99	OHIO STATE UNIV	R F MUSOTZKY	GSFC	S MATHUR	NAG 5 13542	409
99	OHIO STATE UNIV	W ABDALATI	GSFC	D BROMWICH	NAG 5 10160	408
99	OHIO STATE UNIV	W ABDALATI	GSFC	B CSATHO	NAG 5 10199	408
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99	OHIO STATE UNIV	W ABDALATI	GSFC	K JEZEK	NAG 5 12290	409
99	OHIO STATE UNIV	W ABDALATI	GSFC	K C JEZEK	NAG 5 13665	409
99	OHIO STATE UNIV	W ABDALTI	GSFC	K JEZEK	NAG 5 10275	408
99	OHIO UNIV	B J TEEGARDEN	GSFC	M BOTTCHER	NAG 5 13684	411
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99	OLD DOMINION UNIV	D DETROYE	GSFC	M SANDY	NGT 5 40070	509
99	OLD DOMINION UNIV	J GORMAN	GSFC	M SANDY	NCC 5 592	508
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99	OREGON STATE UNIV	C NIEBUR	GSFC	J BARNES	NAG 5 13293	425
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99	OREGON STATE UNIV	D WICKLAND	GSFC	B LAW	NAG 5 11223	424
99	OREGON STATE UNIV	D WICKLAND	GSFC	L MAHRT	NAG 5 11231	424
99	OREGON STATE UNIV	E LINDSTROM	GSFC	A BENNET	NAG 5 12443	424
99	OREGON STATE UNIV	G GUTMAN	GSFC	O N KRANKINA	NAG 5 10614	423
99	OREGON STATE UNIV	M MEYER	GSFC	M FISK	NAG 5 9446	423
99	OREGON STATE UNIV	M MEYER	GSFC	M FISK	NAG 5 12351	424
99	OREGON STATE UNIV	M NEW	GSFC	B SIMONEIT	NAG 5 13502	425
99	OREGON STATE UNIV	M WEI	GSFC	W PEGAU	NGT 5 30347	425
99	OREGON STATE UNIV	M WEI	GSFC	W COHEN	NGT 5 30526	426
99	OREGON STATE UNIV	M Y WEI	GSFC	B BOND	NGT 5 30181	425
99	OREGON STATE UNIV	W WEI	GSFC	L MAHRT	NGT 5 30387	425
99	PAINÉ COLL	M STOUTSENBERGER	GSFC	R KESSLER	NAG 5 9157	184
99	PASADENA CITY COLL	P J SAKIMOTO	GSFC	J SEPIKAS	NAG 5 11197	48
99	PASSAIC COUNTY COMM COLL	STOUTSENBERGER	HQ	R EPSTEIN	NAG 5 9103	345
99	PAUL QUINN COLL	C PERSON	GSFC	S JONES	NAG 5 11658	463

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99	PENN. STATE UNIV.-RADNOR	K BLANDING	GSFC	M ERACLEOUS	NGT 5 50387	432
99	PENN STATE UNIV. - UNIV. PARK	D DETROYE	GSFC	L BROWN	NGT 5 40090	441
99	PENN STATE UNIV. - UNIV. PARK	D LINDSTROM	GSFC	A WOLSZCZAN	NAG 5 13620	438
99	PENN STATE UNIV. - UNIV. PARK	J FROGEL	GSFC	W BRANDT	NAG 5 13035	438
99	PENN STATE UNIV. - UNIV. PARK	K BLANDING	GSFC	M BERSHADY	NGT 5 50236	441
99	PENN STATE UNIV. - UNIV. PARK	K BLANDING	GSFC	R WADE	NGT 5 50399	441
99	PENN STATE UNIV. - UNIV. PARK	K BLANDING	GSFC	H J DONAHUE	NGT 5 50429	441
99	PENN STATE UNIV. - UNIV. PARK	K BLANDING	GSFC	S GILROY	NGT 5 50441	441
99	PENN STATE UNIV. - UNIV. PARK	L K SMITH	GSFC	N BRANDT	NGT 5 50277	441
99	PENN STATE UNIV. - UNIV. PARK	L SMITH	GSFC	W BRANDT	NGT 5 50247	441
99	PENN STATE UNIV. - UNIV. PARK	L SMITH	GSFC	S COUTU	NGT 5 50296	441
99	PENN STATE UNIV. - UNIV. PARK	M MEYER	GSFC	J GE	NAG 5 12115	437
99	PENN STATE UNIV. - UNIV. PARK	M MEYER	GSFC	S BRANTLEY	NAG 5 12330	437
99	PENN STATE UNIV. - UNIV. PARK	M MEYER	GSFC	M E PATZKOWSKY	NAG 5 12338	437
99	PENN STATE UNIV. - UNIV. PARK	M MEYER	GSFC	J F KASTING	NAG 5 12352	437
99	PENN STATE UNIV. - UNIV. PARK	M SALAMON	GSFC	P MESZARGO	NAG 5 13286	438
99	PENN STATE UNIV. - UNIV. PARK	P CRANE	GSFC	R A WADE	NAG 5 9586	435
99	PENN STATE UNIV. - UNIV. PARK	P CRANE	GSFC	J GE	NAG 5 11427	437
99	PENN STATE UNIV. - UNIV. PARK	R E GABRYS	GSFC	D L GRABOWSKI	NCC 5 432	440
99	PENN STATE UNIV. - UNIV. PARK	R F MUSHOTZKY	GSFC	W N BRANDT	NAG 5 13541	438
99	PENN STATE UNIV. - UNIV. PARK	R F MUSHOTZKY	GSFC	G CHARTAS	NAG 5 13543	438
99	PENN STATE UNIV. - UNIV. PARK	R MUSHOTZKY	GSFC	G PAVLOV	NAG 5 13539	438
99	POLYTECH UNIV PUERTO RICO	G MOAK	GSFC	E LEAL-QUIROS	NAG 5 11711	539
99	POMONA COLL	D SENSKE	GSFC	E GROSFILS	NAG 5 10157	48
99	PORTLAND STATE UNIV	D LINDSTROM	GSFC	A RUZICKA	NAG 5 13044	426
99	PORTLAND STATE UNIV	M MEYER	GSFC	N LEHMAN	NAG 5 11441	426
99	PORTLAND STATE UNIV	M MEYER	GSFC	T STEVENS	NAG 5 11442	426
99	PORTLAND STATE UNIV	M MEYER	GSFC	S CADY	NAG 5 12720	426
99	PORTLAND STATE UNIV	M NEW	GSFC	A REYSENBACH	NAG 5 13503	426
99	PORTLAND STATE UNIV	W ABDALATI	GSFC	C HULBE	NAG 5 11309	426
99	PRAIRIE VIEW A&M UNIV	J HARRINGTON	GSFC	J WILLIAMS	NCC 5 529	464
99	PRAIRIE VIEW A&M UNIV	J MALONE	GSFC	R WILKINS	NAG 5 11070	463
99	PRAIRIE VIEW A&M UNIV	W PETERSON	GSFC	G ERICKSON	NAG 5 13412	463
99	PRESOTT COLL	R VENEZIA	GSFC	W ORR	NAG 5 11550	21
99	PRINCETON UNIV	D LINDSTROM	GSFC	E TURNER	NAG 5 13148	348
99	PRINCETON UNIV	J FROGEL	GSFC	D FINBEINER	NAG 5 12972	348
99	PRINCETON UNIV	J MARRA	GSFC	M BENDER	NAG 5 11301	347
99	PRINCETON UNIV	K BLANDING	GSFC	E CHOUAIRI	NGT 5 50356	348
99	PRINCETON UNIV	K BLANDING	GSFC	D SAVILLE	NGT 5 50370	349
99	PRINCETON UNIV	K BLANDING	GSFC	U SELJAK	NGT 5 50383	349
99	PRINCETON UNIV	K BLANDING	GSFC	W RUSSEL	NGT 5 50407	349
99	PRINCETON UNIV	M SALAMON	GSFC	R CEN	NAG 5 13381	348
99	PURDUE UNIV	C NIEBUR	GSFC	S KING	NAG 5 13371	213
99	PURDUE UNIV	D DETROYE	GSFC	D ANDRISANI	NGT 5 40114	214
99	PURDUE UNIV	D FOLTA	GSFC	K C HOWELL	NCC 5 358	214
99	PURDUE UNIV	D SENSKE	GSFC	B PICKETT	NAG 5 10262	212
99	PURDUE UNIV	J H SWANK	GSFC	W K CUI	NAG 5 13736	213
99	PURDUE UNIV	J HILLMAN	GSFC	T ZWIER	NAG 5 12098	213
99	PURDUE UNIV	J M BOYCE	GSFC	J SHAN	NAG 5 11080	212
99	PURDUE UNIV	K BLANDING	GSFC	J M LONGUSKI	NGT 5 50275	215
99	PURDUE UNIV	K BLANDING	GSFC	T ZWEIR	NGT 5 50336	215
99	PURDUE UNIV	L CHAMBERS	GSFC	C A MITCHELL	NAG 5 12686	213
99	PURDUE UNIV	M MATEU	GSFC	S BAST	NAG 5 12562	213
99	PURDUE UNIV	M MEYER	GSFC	J A CHMIELEWSKI	NAG 5 10735	212
99	PURDUE UNIV	M WEI	GSFC	B ENGEL	NGT 5 30491	214
99	RENSSELAER POLYTECH INST	K BLANDING	GSFC	M GAFFEY	NGT 5 50382	378
99	RENSSELAER POLYTECH INST	M MEYER	GSFC	J P FERRIS	NAG 5 9607	377
99	RENSSELAER POLYTECH INST	M NEW	GSFC	D WHITTET	NAG 5 13469	377
99	RENSSELAER POLYTECH INST	B DAVIS	JSC	H RHODY	NAG13 03026	378
99	RICE UNIV	A TUYAHOV	GSFC	P REIFF	NCC 5 311	467
99	RICE UNIV	B MERRITT	GSFC	N AVAILABLE	NAG 5 5400	464
99	RICE UNIV	D LINDSTROM	GSFC	C JOHNS-KRULL	NAG 5 13103	466
99	RICE UNIV	D SIBECK	GSFC	R WOLF	NAG 5 13524	466
99	RICE UNIV	G SONNEBORN	GSFC	R J DUFOUR	NAG 5 13720	466
99	RICE UNIV	J FROGEL	GSFC	I SMITH	NAG 5 13068	466
99	RICE UNIV	J SHARBER	GSFC	R WOLF	NAG 5 9077	465

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99	RICE UNIV	J SPANN	GSFC	F R TOFFOLETTO	NAG 5 12144	465
99	RICE UNIV	M H ACUNA	GSFC	P CLOUTIER	NAG 5 12728	466
99	RICE UNIV	M NEW	GSFC	J SIEFERT	NAG 5 13483	466
99	RICE UNIV	N LAL	GSFC	E MERENYI	NAG 5 10432	465
99	RICE UNIV	W PETERSON	GSFC	T HILL	NAG 5 13048	466
99	RICE UNIV	C L FARMER	JSC	D SUBRAMANIAN	NAG 9 1249	466
99	ROCHESTER INST OF TECH	B DAVIS	SSC	I GATLEY	NAG13 02051	378
99	ROWAN UNIV	M PHELPS	GSFC	R NEWLAND	NAG 5 12965	349
99	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	K BLADING	GSFC	C MAVROIDIS	NGT 5 50364	351
99	RUTGERS ST UNIV N.J.-INCLUDES PSCTWY	P CRANE	GSFC	J SELLWOOD	NAG 5 10110	350
99	RUTGERS STATE UNIV OF NJ NEW BRUNS	J R IRONS	GSFC	C P WEAVER	NAG 5 13697	352
99	RUTGERS STATE UNIV OF NJ NEW BRUNS	L P CHAMBERS	GSFC	H JANES	NAG 5 12435	352
99	RUTGERS STATE UNIV OF NJ NEW BRUNS	P DECOLA	GSFC	Y WANG	NAG 5 11244	352
99	RUTGERS STATE UNIV OF NJ NEW BRUNS	R F MUSHOTZKY	GSFC	J P HUGHES	NAG 5 13560	352
99	SAINT CLOUD STATE UNIV	J HILLMAN	GSFC	M WOMACK	NAG 5 11287	315
99	SALISH KOOTENAI COLL	D MENCHAN	GSFC	T S OLSON	NAG 5 12205	332
99	SALISH KOOTENAI COLL	M STOUTSENBERGER	GSFC	J M GOBERT	NAG 5 9147	332
99	SALISH KOOTENAI COLL	R G WIKER	GSFC	T GRANT	NAG 5 13174	333
99	SAN BERNARDINO VALLEY COLL	A CARDENAS	ARC	W W HUGHES	NAG 2 6076	49
99	SAN BERNARDINO VALLEY COLL	B J COLLINS	ARC	D AVILA	NAG 2 6060	49
99	SAN DIEGO STATE UNIV	M WEI	GSFC	A HOPE	NGT 5 30367	50
99	SAN DIEGO STATE UNIV	M WEI	GSFC	C TAGUE	NGT 5 30439	50
99	SAN DIEGO STATE UNIV	M WEI	GSFC	J FRANKLIN	NGT 5 30444	50
99	SAN DIEGO STATE UNIV	A PEEK	SSC	D STOWE	NCC13 00002	49
99	SAN JACINTO COLL	A SANCHEZ	JSC	S JAMES	NCC 9 172	468
99	SAN JACINTO COLL	D DENTON-MISFELDT	JSC	N J ANTHA	NAS 9 00106	467
99	SAN JACINTO COLL	D SICKOREZ	JSC	M DALTON	NCC 9 137	468
99	SAN JACINTO COLL	N AVAILABLE	JSC	N AVAILABLE	NCC 9 141	468
99	SAN JOSE STATE UNIV	B J COLLINS	ARC	B M STONE	NGT 2 52292	53
99	SAN JOSE STATE UNIV	D G JAMES	ARC	N BUSSANI	NCC 2 6075	53
99	SAN JOSE STATE UNIV	I STATLER	ARC	K CORKER	NCC 2 1305	52
99	SAN JOSE STATE UNIV	K DISMUKES	ARC	K JORDAN	NCC 2 1289	52
99	SAN JOSE STATE UNIV	K DISMUKES	ARC	K JORDAN	NCC 2 1378	52
99	SAN JOSE STATE UNIV	L K COE	ARC	E M LANDESMAN	NAG 2 6056	50
99	SAN JOSE STATE UNIV	M MOORE	ARC	B STONE	NGT 2 52262	53
99	SAN JOSE STATE UNIV	N S DORGI	ARC	M S PATANKAR	NCC 2 1284	51
99	SAN JOSE STATE UNIV	R JDISMUKES	ARC	K JORDON	NCC 2 1155	51
99	SAN JOSE STATE UNIV	R K DISMUKES	ARC	K P JORDAN	NCC 2 1095	51
99	SAN JOSE STATE UNIV	R K DISMUKES	ARC	K JORDAN	NCC 2 1302	52
99	SAN JOSE STATE UNIV	V BATTISTE	ARC	K JORDAN	NCC 2 6077	53
99	SAN JOSE STATE UNIV	C NIEBUR	GSFC	S C RAFKIN	NAG 5 9500	51
99	SAN JOSE STATE UNIV	J BOYCE	GSFC	A BRIDGER	NAG 5 11185	51
99	SANTA ANA COLL-RANCHO SANTA COMM COLL	M PHELPS	HQ	P BOSTIC	NAG 5 12113	53
99	SANTA CLARA UNIV	B J COLLINS	ARC	C YANG	NGT 2 52297	54
99	SHAW UNIV	M STOUTSENBERGER	GSFC	K SATAGOPAN	NAG 5 9195	394
99	SINTE GLESCA UNIV	NMAYNARD	GSFC	J LEAF	NAG 5 12802	456
99	SMITH COLL	D LINDSTROM	GSFC	S EDWARDS	NAG 5 12996	295
99	SONOMA STATE UNIV	D GABRYS	GSFC	L COMINSKY	NCC 5 429	54
99	SOUTH CAROLINA STATE UNIV	D MENCHAN	GSFC	J D SALLEY	NAG 5 8246	454
99	SOUTH CAROLINA STATE UNIV	J HARRINGTON	GSFC	D WALTER	NCC 5 534	454
99	SOUTH CAROLINA STATE UNIV	M MATEU	GSFC	J SALLEY	NCC 5 651	455
99	SOUTH CAROLINA STATE UNIV	M MATTHEWS	GSFC	D K WALTER	NCC 5 454	454
99	SOUTH DAKOTA SCH OF MINES & TECH	D DETROYE	GSFC	S O FARWELL	NCC 5 588	456
99	SOUTH DAKOTA SCH OF MINES & TECH	D DETROYE	GSFC	S O FARWELL	NGT 5 40095	456
99	SOUTHEAST MISSOURI STATE UNIV	L BILBROUGH	GSFC	E L KERN	NAG 5 12645	322
99	SOUTHERN ILLINOIS UNIV - CARBONDALE	H V FREY	GSFC	D RAVAT	NAG 5 13681	199
99	SOUTHERN METHODIST UNIV	L CHAMBERS	GSFC	J NEEL	NAG 5 12289	468
99	SOUTHERN UNIV & A&M COLL	W J LOVE	MSFC	L L LAURENCE	NAG 8 1627	229
99	SOUTHERN UNIV & A&M COLL	R TRAVIS	SSC	D BAGAYOKO	NCC13 00010	229
99	SOUTHWESTERN INDIAN POLYTECH INST	L M ARMENDARIZ	JSC	C L ABEITA	NAG 9 1407	357
99	SPELMAN COLL	C PERSON	GSFC	S T BOZEMAN	NAG 5 9313	185
99	STANFORD UNIV	B BETTS	GSFC	L TYLER	NAG 5 9494	56
99	STANFORD UNIV	D BOGAN	GSFC	G TYLER	NAG 5 9556	56
99	STANFORD UNIV	J FROGEL	GSFC	V PETROSIAN	NAG 5 13031	58
99	STANFORD UNIV	J SHARBER	GSFC	U S INAN	NGT 5 50351	62
99	STANFORD UNIV	K BLANDING	GSFC	C CHYBA	NGT 5 50476	62

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99	STANFORD UNIV	L CHAMBERS	GSFC	F EVERITT	NAG 5 12656	58
99	STANFORD UNIV	L SMITH	GSFC	A B WALKER	NGT 5 50254	62
99	STANFORD UNIV	M NEW	GSFC	D LOWE	NAG 5 13442	58
99	STANFORD UNIV	M SALAMON	GSFC	R ROMANI	NAG 5 13344	58
99	STANFORD UNIV	M WEI	GSFC	K ARRIGO	NGT 5 30392	62
99	STANFORD UNIV	M WEI	GSFC	K ARRIGO	NGT 5 30489	62
99	STANFORD UNIV	M WEI	GSFC	P VITOUSEK	NGT 5 30496	62
99	STANFORD UNIV	M WEI	GSFC	H ZEBKER	NGT 5 30502	62
99	STANFORD UNIV	P CRANE	GSFC	B CABRERA	NAG 5 11439	57
99	STANFORD UNIV	S CHURCH	GSFC	N AVAILABLE	NAG 5 12973	58
99	STANFORD UNIV	W WAGNER	GSFC	P H SCHERRER	NAG 5 12452	58
99	STANFORD UNIV	K BLANDING	HQ	A FOX	NGT 5 50358	62
99	STANFORD UNIV	K BLANDING	HQ	B CABRERA	NGT 5 50477	62
99	STATE UNIV OF NY - ALBANY	M WEI	GSFC	D KIEBER	NGT 5 30431	380
99	STATE UNIV OF NY - ALBANY	C E DELCASTILLO	JSC	J M HASSETT	NAG13 03016	379
99	STATE UNIV OF NY - ALBANY	M GIARDINO	SSC	P F HOPKINS	NAG13 02043	379
99	STATE UNIV OF NY - BUFFALO	D SENSKE	GSFC	T K GREGG	NAG 5 11835	380
99	STATE UNIV OF NY - BUFFALO	J BOYCE	GSFC	T GREGG	NAG 5 9619	380
99	STATE UNIV OF NY - BUFFALO	S DAVISON	GSFC	B GONG	NAG 5 9873	380
99	STATE UNIV OF NY - BUFFALO	S SAUNDERS	GSFC	T GREGG	NAG 5 13428	380
99	STATE UNIV OF NY - STONY BROOK	D SIBECK	GSFC	S HAMEED	NAG 5 13493	382
99	STATE UNIV OF NY - STONY BROOK	J HILLMAN	GSFC	J L FOX	NAG 5 12070	382
99	STATE UNIV OF NY - STONY BROOK	K BLANDING	GSFC	S JUDEX	NGT 5 50431	383
99	STATE UNIV OF NY - STONY BROOK	M KURYLO	GSFC	R DEZAFRA	NAG 5 13029	382
99	STATE UNIV OF NY - STONY BROOK	M NEW	GSFC	M SCHOONEN	NAG 5 13438	382
99	STATE UNIV OF NY - STONY BROOK	P DECOLA	GSFC	M GELLER	NAG 5 11240	382
99	STATE UNIV OF NY - STONY BROOK	R R ANTCLIFF	LARC	Y SHAMASH	NAG 1 01052	381
99	STATE UNIV OF NY COL - PLATTSBURGH	M MEYER	GSFC	G J FLYNN	NAG 5 12358	383
99	STATE UNIV OF NY COL - PURCHASE	D SENSKE	GSFC	G FLYNN	NAG 5 10221	384
99	STATE UNIV OF NY-OSWEGO	D LINDSTROM	GSFC	G FLYNN	NAG 5 12884	384
99	STEVENS INST OF TECH	D D DETROYE	GSFC	S THANGAM	NGT 5 40096	353
99	SYRACUSE UNIV	H HASAN	GSFC	G VIDALI	NAG 5 11438	385
99	SYRACUSE UNIV	K BLANDING	GSFC	L PLOUTZ-SNYDER	NGT 5 50446	385
99	SYRACUSE UNIV	K BLANDING	HQ	L NAFIE	NGT 5 50465	385
99	TENNESSEE STATE UNIV	A CARDENAS	ARC	W A SMITH	NAG 2 6052	457
99	TENNESSEE STATE UNIV	R LAWRENCE	GRC	D ROGERS	NAG 3 2577	457
99	TENNESSEE STATE UNIV	J HARRINGTON	GSFC	W A SMITH	NCC 5 531	457
99	TENNESSEE STATE UNIV	M MATHEWS	GSFC	M BUSBY	NAG 5 10896	457
99	TENNESSEE STATE UNIV	M MATHEWS	GSFC	M BUSBY	NCC 5 511	457
99	TEXAS A&M UNIV	K W LASSMAN	GRC	G SERA	NAS 9 00100	471
99	TEXAS A&M UNIV	B EMORY	GSFC	W NOWLIN	NAG 5 13527	470
99	TEXAS A&M UNIV	C PERSON	GSFC	C STEIDLEY	NCC 5 517	472
99	TEXAS A&M UNIV	J HILLMAN	GSFC	M T LEMMON	NAG 5 11992	470
99	TEXAS A&M UNIV	K BLANDING	GSFC	G R NORTH	NGT 5 50417	473
99	TEXAS A&M UNIV	K BLANDING	GSFC	F T DAVIES	NGT 5 50485	473
99	TEXAS A&M UNIV	M WEI	GSFC	D COLLINS	NAG 5 10549	469
99	TEXAS A&M UNIV	M WEI	GSFC	P CHANG	NGT 5 30417	473
99	TEXAS A&M UNIV	M WEI	GSFC	L HONGXING	NGT 5 30467	473
99	TEXAS A&M UNIV	M WEI	GSFC	T BOUTTON	NGT 5 30488	473
99	TEXAS A&M UNIV	M WEI	GSFC	B MOHANTY	NGT 5 30503	473
99	TEXAS A&M UNIV	P MOUNTJPOY	HQ	S BEDNARZ	NCC 5 359	472
99	TEXAS A&M UNIV	A STRAHAN	JSC	D T WARD	NAG 9 1268	471
99	TEXAS A&M UNIV	D BARTA	JSC	M C DREW	NAG 9 1067	470
99	TEXAS A&M UNIV	D G SICKOREZ	JSC	W A HYMAN	NAG 9 1526	471
99	TEXAS A&M UNIV	D SICKOREZ	JSC	W A HYMAN	NGT 9 54	473
99	TEXAS A&M UNIV	F J DELGADO	JSC	A P BANERJEE	NAG 9 1442	471
99	TEXAS COLL	C PERSON	GSFC	M NAMOORDIRI	NAG 5 12596	474
99	TEXAS COLL	C PERSON	GSFC	_ NAMOORDIRI	NAG 5 12696	474
99	TEXAS COLL	L M ARMENDEZ	JSC	W STENGER	NAG 9 1416	474
99	TEXAS SOUTHERN UNIV	C PERSON	GSFC	D C DAVIS	NAG 5 12599	474
99	THE AMERICAN UNIV	D DETROYE	GSFC	R BERENDZEN	NGT 5 40068	150
99	THE AMERICAN UNIV	D DETROYE	GSFC	R BERENDZEN	NGT 5 40124	150
99	THE CATHOLIC UNIV OF AMERICA	B THOMPSON	GSFC	D C WANG	NAG 5 12389	154
99	THE CATHOLIC UNIV OF AMERICA	C NIEBUR	GSFC	D CRIDER	NAG 5 13419	155
99	THE CATHOLIC UNIV OF AMERICA	J BOYCE	GSFC	D CRIDER	NAG 5 11225	153
99	THE CATHOLIC UNIV OF AMERICA	J FROGEL	GSFC	S KRAEMER	NAG 5 13109	155

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99	THE CATHOLIC UNIV OF AMERICA	J FROGEL	GSFC	D W STEYERT	NAG 5 13647	155
99	THE CATHOLIC UNIV OF AMERICA	J HILLMAN	GSFC	M A DISANTI	NAG 5 12208	154
99	THE CATHOLIC UNIV OF AMERICA	J HILLMAN	GSFC	N DELLA RUSSO	NAG 5 12285	154
99	THE CATHOLIC UNIV OF AMERICA	J HILLMAN	GSFC	F BRUHWEILER	NAG 5 12331	154
99	THE CATHOLIC UNIV OF AMERICA	J HILLMAN	GSFC	V KRASNOPOLSKY	NAG 5 13334	155
99	THE CATHOLIC UNIV OF AMERICA	R CROUCH	GSFC	R D PARASURAMAN	NAG 5 8761	151
99	THE CATHOLIC UNIV OF AMERICA	T KUCERA	GSFC	S KANEKAL	NAG 5 13599	155
99	THE CATHOLIC UNIV OF AMERICA	T MORGAN	GSFC	R STARR	NAG 5 12626	154
99	THE CATHOLIC UNIV OF AMERICA	W J WAGNER	GSFC	N GOPALSWAMY	NAG 5 10837	152
99	THE CATHOLIC UNIV OF AMERICA	W PETERSON	GSFC	S KANEKAL	NAG 5 12888	155
99	THE CATHOLIC UNIV OF AMERICA	W WAGNER	GSFC	T G MORAN	NAG 5 12825	155
99	THE SCRIPPS RES INST (TSRI) -LA JOLLA	M MEYER	GSFC	M GHADIRI	NAG 5 12160	62
99	THE SCRIPPS RES INST (TSRI) -LA JOLLA	M MEYER	HQ	G JOYCE	NAG 5 9386	62
99	THE UNIV OF CENTRAL FLORIDA	D DETROYE	GSFC	S DURRANCE	NGT 5 40071	166
99	THE UNIV OF CENTRAL FLORIDA	D DETROYE	GSFC	S DURRANCE	NGT 5 40107	166
99	THE UNIV OF CENTRAL FLORIDA	D SIBECK	GSFC	R EASTES	NAG 5 13507	164
99	THE UNIV OF CENTRAL FLORIDA	W PETERSON	GSFC	R EASTES	NAG 5 12786	164
99	THE UNIV OF CENTRAL FLORIDA	W PETERSON	GSFC	R EASTES	NAG 5 12981	164
99	THE UNIV OF CENTRAL FLORIDA	C BLACK	KSC	R HOSLER	NAG10 299	164
99	THE UNIV OF CENTRAL FLORIDA	C D BLACK	KSC	D KOTNOUR	NAG10 315	165
99	THE UNIV OF CENTRAL FLORIDA	E L DELCASTILLO	KSC	T KOTNOUR	NAG10 339	165
99	THE UNIV OF CENTRAL FLORIDA	W DIMMER	KSC	W MCHONE	NAG10 334	165
99	TUFTS UNIV	K BLANDING	GSFC	D MATSON	NGT 5 50445	296
99	TUFTS UNIV	P E HUNTER	GSFC	K R LANG	NAG 5 10350	295
99	TUFTS UNIV	R E GABRYS	GSFC	C ROGERS	NCC 5 434	296
99	TURTLE MOUNTAIN COMM COLL	L ARMENDARIZ	JSC	C DAVIS	NAG 9 1413	396
99	TUSKEGEE UNIV	M MATHEWS	GSFC	R D PACE	NAG 5 10535	5
99	TUSKEGEE UNIV	L A ARMENDARIZ	JSC	W A HILL	NAG 9 1494	5
99	U OF ARKANSAS MAIN CAMP-FAYETTEVILLE	M J LEON	ARC	T KRAL	NCC 2 5360	36
99	U OF MD CTR FOR ENVIR SCI - CAMBRIDGE	C TREE	GSFC	V COLES	NAG 5 12749	250
99	U OF MD CTR FOR ENVIR SCI - CAMBRIDGE	E LINDSTROM	GSFC	L HARDING	NAG 5 11302	250
99	U OF MD CTR FOR ENVIR SCI - CAMBRIDGE	M WEI	GSFC	L HARDING	NGT 5 30485	250
99	UNIV DEL ESTE	M MATEU	HQ	M HUERTAS	NCC 5 652	539
99	UNIV HOUSTON-HOUSTON	T A KUCERA	GSFC	E BERING	NAG 5 13392	475
99	UNIV HOUSTON-HOUSTON	D G SICHAREZ	JSC	R B BANNEROT	NAG 9 1422	476
99	UNIV HOUSTON-HOUSTON	H L DAVIS	JSC	A V VAILLAS	NCC 9 70	476
99	UNIV HOUSTON-HOUSTON	L ARMENDARIZ	JSC	T MINDIOLA	NAG 9 1055	475
99	UNIV HOUSTON-HOUSTON	L M ARMENDARIZ	JSC	T MINDIOLA	NAG 9 1363	476
99	UNIV HOUSTON-HOUSTON	L M ARMENDARIZ	JSC	T MINDIOLA	NAG 9 1410	476
99	UNIV HOUSTON-HOUSTON	L M ARMENDARIZ	JSC	T MINDIOLA	NAG 9 1495	476
99	UNIV OF ALABAMA - BIRMINGHAM	K BLANDING	GSFC	J HAGOOD	NGT 5 50409	7
99	UNIV OF ALABAMA - BIRMINGHAM	L CHAMBERS	GSFC	L J DELUCAS	NAG 5 13171	6
99	UNIV OF ALABAMA - BIRMINGHAM	L P CHAMBERS	GSFC	L J DELUCAS	NAG 5 11146	6
99	UNIV OF ALABAMA - BIRMINGHAM	M LINDSTROM	GSFC	T WDOWIAK	NAG 5 9424	6
99	UNIV OF ALABAMA - BIRMINGHAM	S COLEMAN	MSFC	J F LORDEN	NCC 8 248	6
99	UNIV OF ALABAMA - HUNTSVILLE	B J TEEGARDEN	GSFC	W S PACIESAS	NAG 5 13570	10
99	UNIV OF ALABAMA - HUNTSVILLE	D D DETROYE	GSFC	J C GREGORY	NGT 5 40077	12
99	UNIV OF ALABAMA - HUNTSVILLE	D DETROYE	GSFC	J GREGORY	NCC 5 391	11
99	UNIV OF ALABAMA - HUNTSVILLE	D DETROYE	GSFC	J C GREGORY	NCC 5 580	11
99	UNIV OF ALABAMA - HUNTSVILLE	D SIBECK	GSFC	N SINGH	NAG 5 13489	10
99	UNIV OF ALABAMA - HUNTSVILLE	J F SPANN	GSFC	D F SMART	NAG 5 10943	8
99	UNIV OF ALABAMA - HUNTSVILLE	J FROGEL	GSFC	R LIEU	NAG 5 13095	10
99	UNIV OF ALABAMA - HUNTSVILLE	J SPANN	GSFC	S CHANG	NAG 5 12008	9
99	UNIV OF ALABAMA - HUNTSVILLE	L KEFFER	GSFC	J C GREGORY	NCC 5 165	11
99	UNIV OF ALABAMA - HUNTSVILLE	M MELLOTT	GSFC	N SINGH	NAG 5 12897	10
99	UNIV OF ALABAMA - HUNTSVILLE	M WEI	GSFC	S CHRISTOPHER	NGT 5 30430	12
99	UNIV OF ALABAMA - HUNTSVILLE	M WEI	GSFC	R M WELCH	NGT 5 30455	12
99	UNIV OF ALABAMA - HUNTSVILLE	N LAL	GSFC	G A GERMANY	NAG 5 10743	8
99	UNIV OF ALABAMA - HUNTSVILLE	P DECOLA	GSFC	M NEWCHURCH	NAG 5 11248	9
99	UNIV OF ALABAMA - HUNTSVILLE	P E HUNTER	GSFC	S J GRAVES	NAG 5 11995	9
99	UNIV OF ALABAMA - HUNTSVILLE	P E HUNTER	GSFC	T NEWMAN	NAG 5 12109	9
99	UNIV OF ALABAMA - HUNTSVILLE	V L OXENHAM	GSFC	R RAMACHANDRAN	NAG 5 13575	10
99	UNIV OF ALABAMA - HUNTSVILLE	W WAGNER	GSFC	M A SHEA	NAG 5 10785	8
99	UNIV OF ALABAMA - HUNTSVILLE	W WAGNER	GSFC	J A MILLER	NAG 5 12824	10
99	UNIV OF ALABAMA - HUNTSVILLE	N PELLIS	JSC	K CHITTUR	NAG 8 1355	10
99	UNIV OF ALABAMA - HUNTSVILLE	J R PRUITT	MSFC	G KARR	NAG 8 1786	10

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99	UNIV OF ALABAMA - HUNTSVILLE	M WATSON	MSFC	Y TAKAHASHI	NAS 8 98226	11
99	UNIV OF ALABAMA - HUNTSVILLE	S COLEMAN	MSFC	L R GREENWOOD	NCC 8 200	11
99	UNIV OF ALABAMA - HUNTSVILLE	S NASH-STEVENSON	MSFC	G KARR	NAG 8 1904	11
99	UNIV OF ALABAMA - UNIV	J HILLMAN	GSFC	R TIPPING	NAG 5 13337	12
99	UNIV OF ALABAMA - UNIV	M PHELPS	GSFC	L FREEMAN	NAG 5 9388	12
99	UNIV OF ALABAMA - UNIV	D V GALLAWAY	HQ	M FREEMAN	NAG 5 4346	12
99	UNIV OF ALABAMA - UNIV	S COLEMAN	MSFC	R L WELLS	NCC 8 256	13
99	UNIV OF ALABAMA - UNIV	S STEVENSON	MSFC	M FREEMAN	NAG 8 1859	13
99	UNIV OF ALASKA - FAIRBANKS	D DETROYE	GSFC	J G HAWKINS	NGT 5 40100	15
99	UNIV OF ALASKA - FAIRBANKS	J BOYCE	GSFC	K YOSHIKAWA	NAG 5 11213	14
99	UNIV OF ALASKA - FAIRBANKS	J SHARBER	GSFC	A OTTO	NAG 5 9457	14
99	UNIV OF ALASKA - FAIRBANKS	J SPANN	GSFC	D LUMMERZHEIM	NAG 5 12192	15
99	UNIV OF ALASKA - FAIRBANKS	K BLANDING	GSFC	T CHAPIN	NGT 5 50423	15
99	UNIV OF ALASKA - FAIRBANKS	M MELLOTT	GSFC	M CONDE	NAG 5 10069	14
99	UNIV OF ALASKA - FAIRBANKS	M MEYER	GSFC	G PLUMLEY	NAG 5 9513	14
99	UNIV OF ALASKA - FAIRBANKS	M WEI	GSFC	J FREYMUELLER	NGT 5 30381	15
99	UNIV OF ALASKA - FAIRBANKS	W ABDALATI	GSFC	C LINGLE	NAG 5 11226	14
99	UNIV OF ALASKA - FAIRBANKS	W WAGNER	GSFC	S M BAILEY	NAG 5 12449	15
99	UNIV OF ALBUQUERQUE	L M ARMENDARIZ	JSC	R A LAFARGE	NAG 9 1312	357
99	UNIV OF ARIZONA	W DOLCI	ARC	T F SLATER	NAG 2 6074	22
99	UNIV OF ARIZONA	A TUYAHOV	GSFC	C F HUTCHINSON	NAG 5 12484	30
99	UNIV OF ARIZONA	B BETTS	GSFC	T SWINDLE	NAG 5 9198	24
99	UNIV OF ARIZONA	B BETTS	GSFC	W BOYNTON	NAG 5 9425	25
99	UNIV OF ARIZONA	B MERRITT	GSFC	G WILLIAMS	NAG 5 5422	22
99	UNIV OF ARIZONA	C BRODELL	GSFC	H J BARNABY	NAS 5 03104	33
99	UNIV OF ARIZONA	C NIEBUR	GSFC	L HOOD	NAG 5 13325	31
99	UNIV OF ARIZONA	C NIEBUR	GSFC	A MCEWEWN	NAG 5 13368	31
99	UNIV OF ARIZONA	D BOGAN	GSFC	E P TURTLE	NAG 5 8937	24
99	UNIV OF ARIZONA	D BOGAN	GSFC	R GREENBERG	NAG 5 8941	24
99	UNIV OF ARIZONA	D BOGAN	GSFC	F HERBERT	NAG 5 8952	24
99	UNIV OF ARIZONA	D BOGAN	GSFC	D HUNTEN	NAG 5 8970	24
99	UNIV OF ARIZONA	D D DETROYE	GSFC	M J DRAKE	NGT 5 40082	34
99	UNIV OF ARIZONA	D LINDSTROM	GSFC	J MELOSH	NAG 5 12854	30
99	UNIV OF ARIZONA	D LINDSTROM	GSFC	D LAURETTA	NAG 5 12883	30
99	UNIV OF ARIZONA	D SENSKE	GSFC	P GEISSLER	NAG 5 10162	25
99	UNIV OF ARIZONA	D SENSKE	GSFC	R GREENBERG	NAG 5 11497	29
99	UNIV OF ARIZONA	G STRINFELLOW	GSFC	L M ZIURYS	NAG 5 11471	28
99	UNIV OF ARIZONA	G STRINGFELLOW	GSFC	P BERNATH	NAG 5 10205	25
99	UNIV OF ARIZONA	G STRINGFELLOW	GSFC	L ZIURYS	NAG 5 10333	26
99	UNIV OF ARIZONA	G STRINGFELLOW	GSFC	E T YOUNG	NAG 5 11433	28
99	UNIV OF ARIZONA	J BOYCE	GSFC	M J DRAKE	NAG 5 9435	25
99	UNIV OF ARIZONA	J BREDEKAMP	GSFC	J HOLBERG	NAG 5 9408	24
99	UNIV OF ARIZONA	J FROGEL	GSFC	L ZIURYS	NAG 5 12719	30
99	UNIV OF ARIZONA	J GARVIN	GSFC	D KRING	NAG 5 12691	30
99	UNIV OF ARIZONA	J HILLMAN	GSFC	K KARKOSCHKA	NAG 5 12014	29
99	UNIV OF ARIZONA	J HILLMAN	GSFC	C GRIFFITH	NAG 5 12272	29
99	UNIV OF ARIZONA	J HILLMAN	GSFC	U FINK	NAG 5 12858	30
99	UNIV OF ARIZONA	J HILLMAN	GSFC	J LUNINE	NAG 5 13298	31
99	UNIV OF ARIZONA	J HILLMAN	GSFC	A SHOWMAN	NAG 5 13329	31
99	UNIV OF ARIZONA	K BLANDING	GSFC	C WALKER	NGT 5 50246	34
99	UNIV OF ARIZONA	K BLANDING	GSFC	P HINZE	NGT 5 50394	35
99	UNIV OF ARIZONA	K BLANDING	GSFC	M MEYER	NGT 5 50400	35
99	UNIV OF ARIZONA	K BLANDING	GSFC	W HUBBARD	NGT 5 50461	35
99	UNIV OF ARIZONA	K BLANDING	GSFC	A SHOWMAN	NGT 5 50462	35
99	UNIV OF ARIZONA	K BLANDING	GSFC	C WALKER	NGT 5 50463	35
99	UNIV OF ARIZONA	K HOLLAND	GSFC	U FINK	NGT 5 50243	34
99	UNIV OF ARIZONA	L SMITH	GSFC	L ZIURYS	NGT 5 50282	34
99	UNIV OF ARIZONA	L SMITH	GSFC	D MCCARTHY	NGT 5 50283	35
99	UNIV OF ARIZONA	L SMITH	GSFC	R GREENBERG	NGT 5 50289	35
99	UNIV OF ARIZONA	L SMITH	GSFC	A BURROWS	NGT 5 50300	35
99	UNIV OF ARIZONA	L SMITH	GSFC	D DELUCA	NGT 5 50303	35
99	UNIV OF ARIZONA	M JASINSKI	GSFC	S SOROOSHIAN	NAG 5 11044	27
99	UNIV OF ARIZONA	M NEW	GSFC	D LAURETTA	NAG 5 13470	31
99	UNIV OF ARIZONA	M SALAMON	GSFC	D PSALTIS	NAG 5 13374	31
99	UNIV OF ARIZONA	M WEI	GSFC	R C BALES	NGT 5 30386	34
99	UNIV OF ARIZONA	M WEI	GSFC	S MARSH	NGT 5 30480	34

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99	UNIV OF ARIZONA	S NIEBUR	GSFC	R GREENBERG	NAG 5 12619	30
99	UNIV OF ARIZONA	S SAUNDERS	GSFC	W HUBBARD	NAG 5 13775	31
99	UNIV OF ARIZONA	T MORGAN	GSFC	S LARSON	NAG 5 9465	25
99	UNIV OF ARIZONA	T MORGAN	GSFC	S LARSEN	NAG 5 10853	27
99	UNIV OF ARIZONA	T MORGAN	GSFC	R S MCMILLAN	NAG 5 11828	29
99	UNIV OF ARIZONA	T MORGAN	GSFC	S LARSON	NAG 5 13237	31
99	UNIV OF ARIZONA	T MORGAN	GSFC	R MCMILLAN	NAG 5 13328	31
99	UNIV OF ARIZONA	W ABDALATI	GSFC	V BAKER	NAG 5 10123	25
99	UNIV OF ARIZONA	W ABDALATI	GSFC	R BALES	NAG 5 10264	26
99	UNIV OF ARIZONA	W J WAGNER	GSFC	J KOTA	NAG 5 10884	27
99	UNIV OF ARIZONA	W J WAGNER	GSFC	G M WEBB	NAG 5 10974	27
99	UNIV OF ARIZONA	W J WAGNER	GSFC	J R JOKIPII	NAG 5 10990	27
99	UNIV OF ARIZONA	W WAGNER	GSFC	L L HOOD	NAG 5 12433	30
99	UNIV OF ARIZONA	K BLANDING	HQ	J BURGE	NGT 5 50419	35
99	UNIV OF ARIZONA	C HILL	SSC	R DAVIS	NAG13 99005	32
99	UNIV OF ARKANSAS - LITTLE ROCK	D DETROYE	GSFC	K HUDSON	NCC 5 597	35
99	UNIV OF ARKANSAS - LITTLE ROCK	D DETROYE	GSFC	M HUDSON	NGT 5 40119	35
99	UNIV OF ARKANSAS - LITTLE ROCK	S NIEBUR	GSFC	M MAZUMDER	NAG 5 13176	35
99	UNIV OF ARKANSAS - LITTLE ROCK	R TRAVIS	SSC	K HUDSON	NGT13 52757	35
99	UNIV OF CALIFORNIA - BERKELEY	B J COLLINS	ARC	R AMUNDSON	NGT 2 52298	73
99	UNIV OF CALIFORNIA - BERKELEY	R GRYMES	ARC	J F BANFIELD	NAG 2 1523	63
99	UNIV OF CALIFORNIA - BERKELEY	B J TEEGARDEN	GSFC	K C HURLEY	NAG 5 13738	71
99	UNIV OF CALIFORNIA - BERKELEY	C NIEBUR	GSFC	M OIEROSET	NAG 5 13273	71
99	UNIV OF CALIFORNIA - BERKELEY	D WICKLAND	GSFC	I FUNG	NAG 5 11200	67
99	UNIV OF CALIFORNIA - BERKELEY	G STRINGFELLOW	GSFC	A LEE	NAG 5 11422	68
99	UNIV OF CALIFORNIA - BERKELEY	J GLEASON	GSFC	R COHEN	NAG 5 13668	71
99	UNIV OF CALIFORNIA - BERKELEY	J HAYES	GSFC	K HURLEY	NAG 5 13080	71
99	UNIV OF CALIFORNIA - BERKELEY	J HILLMAN	GSFC	I DEPATER	NAG 5 12062	69
99	UNIV OF CALIFORNIA - BERKELEY	J HILLMAN	GSFC	S LEONE	NAG 5 13339	71
99	UNIV OF CALIFORNIA - BERKELEY	J HILLMAN	GSFC	I DE-PATER	NAG 5 13349	71
99	UNIV OF CALIFORNIA - BERKELEY	J HILLMAN	GSFC	I DE-PATER	NAG 5 13370	71
99	UNIV OF CALIFORNIA - BERKELEY	J SHARBER	GSFC	L MUSCHIETTI	NAG 5 10300	66
99	UNIV OF CALIFORNIA - BERKELEY	J SPANN	GSFC	T PHAN	NAG 5 10471	67
99	UNIV OF CALIFORNIA - BERKELEY	J SPANN	GSFC	T PHAN	NAG 5 11987	68
99	UNIV OF CALIFORNIA - BERKELEY	J SPANN	GSFC	J P MCFADDEN	NAG 5 12004	68
99	UNIV OF CALIFORNIA - BERKELEY	J SPANN	GSFC	J BONNELL	NAG 5 12039	69
99	UNIV OF CALIFORNIA - BERKELEY	J SPANN	GSFC	C CHASTON	NAG 5 12453	69
99	UNIV OF CALIFORNIA - BERKELEY	J SPANN	GSFC	S D BALE	NAG 5 12483	69
99	UNIV OF CALIFORNIA - BERKELEY	K BLANDING	GSFC	R LIN	NGT 5 50338	74
99	UNIV OF CALIFORNIA - BERKELEY	K BLANDING	GSFC	J TAYLOR	NGT 5 50342	74
99	UNIV OF CALIFORNIA - BERKELEY	K BLANDING	GSFC	S FREEDMAN	NGT 5 50365	74
99	UNIV OF CALIFORNIA - BERKELEY	K BLANDING	GSFC	C M D'ANTONIO	NGT 5 50424	75
99	UNIV OF CALIFORNIA - BERKELEY	K BLANDING	GSFC	L BLITZ	NGT 5 50460	75
99	UNIV OF CALIFORNIA - BERKELEY	M MELLOTT	GSFC	C CHASTON	NAG 5 12954	70
99	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	D DE PAOLO	NGT 5 30380	74
99	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	R AMUNDSON	NGT 5 30383	74
99	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	J HARTE	NGT 5 30403	74
99	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	M FIRESTONE	NGT 5 30463	74
99	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	Y QUI	NGT 5 30473	74
99	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	P GONG	NGT 5 30493	74
99	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	J HARTE	NGT 5 30530	74
99	UNIV OF CALIFORNIA - BERKELEY	M WEI	GSFC	J HARTE	NGT 5 30535	74
99	UNIV OF CALIFORNIA - BERKELEY	P CRANE	GSFC	B WELSH	NAG 5 12709	70
99	UNIV OF CALIFORNIA - BERKELEY	P CRANE	GSFC	O H SIEGMUND	NAG 5 12710	70
99	UNIV OF CALIFORNIA - BERKELEY	P CRANE	GSFC	J EDELSTEIN	NAG 5 12711	70
99	UNIV OF CALIFORNIA - BERKELEY	P E HUNTER	GSFC	I HAWKINS	NAG 5 10314	66
99	UNIV OF CALIFORNIA - BERKELEY	R PFAFF	GSFC	C W CARLSON	NAS 5 99242	72
99	UNIV OF CALIFORNIA - BERKELEY	S NIEBUR	GSFC	A WESTPHAL	NAG 5 13284	71
99	UNIV OF CALIFORNIA - BERKELEY	W PETERSON	GSFC	T PHAN	NAG 5 12768	70
99	UNIV OF CALIFORNIA - BERKELEY	W PETERSON	GSFC	J BONNELL	NAG 5 12774	70
99	UNIV OF CALIFORNIA - BERKELEY	W PETERSON	GSFC	C CHASTON	NAG 5 12784	70
99	UNIV OF CALIFORNIA - BERKELEY	W PETERSON	GSFC	M OIEROSET	NAG 5 12941	70
99	UNIV OF CALIFORNIA - BERKELEY	W PETERSON	GSFC	J MCFADDEN	NAG 5 12945	70
99	UNIV OF CALIFORNIA - BERKELEY	W PETERSON	GSFC	L MUSCHIETTI	NAG 5 12989	70
99	UNIV OF CALIFORNIA - BERKELEY	W WAGNER	GSFC	J G LUHMANN	NAG 5 10925	67
99	UNIV OF CALIFORNIA - BERKELEY	W WAGNER	GSFC	S BALES	NAG 5 12816	70

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99	UNIV OF CALIFORNIA - BERKELEY	W WAGNER	GSFC	D E LARSON	NAG 5 12862	70
99	UNIV OF CALIFORNIA - BERKELEY	K BLANDING	HQ	S BOGGS	NGT 5 50393	75
99	UNIV OF CALIFORNIA - DAVIS	E LINDSTROM	GSFC	S USTIN	NAG 5 11260	76
99	UNIV OF CALIFORNIA - DAVIS	H V FREY	GSFC	J B RUNDLE	NAG 5 13743	76
99	UNIV OF CALIFORNIA - DAVIS	J H SWANK	GSFC	J A TOMSICK	NAG 5 13771	76
99	UNIV OF CALIFORNIA - DAVIS	J HILLMAN	GSFC	W M JACKSON	NAG 5 12124	76
99	UNIV OF CALIFORNIA - DAVIS	K BLANDING	GSFC	L H KELLOGG	NGT 5 50230	78
99	UNIV OF CALIFORNIA - DAVIS	K BLANDING	GSFC	L KNOX	NGT 5 50388	78
99	UNIV OF CALIFORNIA - DAVIS	L SMITH	GSFC	S CARLIP	NGT 5 50281	78
99	UNIV OF CALIFORNIA - DAVIS	M WEI	GSFC	S USTIN	NGT 5 30373	78
99	UNIV OF CALIFORNIA - DAVIS	M WEI	GSFC	S USTIN	NGT 5 30411	78
99	UNIV OF CALIFORNIA - DAVIS	M WEI	GSFC	S L USTIN	NGT 5 30451	78
99	UNIV OF CALIFORNIA - DAVIS	R F MUSHOTZKY	GSFC	S A STANFORD	NAG 5 13685	76
99	UNIV OF CALIFORNIA - DAVIS	S SAUNDERS	GSFC	D TURCOTTE	NAG 5 13475	76
99	UNIV OF CALIFORNIA - DAVIS	W TAO	GSFC	S CHEN	NAG 5 13678	76
99	UNIV OF CALIFORNIA - IRVINE	R WILKINSON	GRC	P TABOREK	NAG 3 2389	79
99	UNIV OF CALIFORNIA - IRVINE	G GUTMAN	GSFC	C ZENDER	NAG 5 10147	79
99	UNIV OF CALIFORNIA - IRVINE	J FROGEL	GSFC	D BUOTE	NAG 5 13059	80
99	UNIV OF CALIFORNIA - IRVINE	K BLANDING	GSFC	J HEMMINGER	NGT 5 30487	81
99	UNIV OF CALIFORNIA - IRVINE	L SMITH	GSFC	R E PURDY	NGT 5 50317	81
99	UNIV OF CALIFORNIA - IRVINE	M KURYLO	GSFC	D BLAKE	NAG 5 12753	80
99	UNIV OF CALIFORNIA - IRVINE	M WEI	GSFC	S TYLER	NGT 5 30409	81
99	UNIV OF CALIFORNIA - IRVINE	M WEI	GSFC	J FAMIGLIETTI	NGT 5 30443	81
99	UNIV OF CALIFORNIA - IRVINE	M WEI	GSFC	S TROMBORE	NGT 5 30521	81
99	UNIV OF CALIFORNIA - IRVINE	M WEI	GSFC	G MAGNUSDOTTIR	NGT 5 30522	81
99	UNIV OF CALIFORNIA - IRVINE	P DECOLA	GSFC	M PRATHER	NAG 5 11272	79
99	UNIV OF CALIFORNIA - LOS ANGELES	D BOGAN	GSFC	R THORNE	NAG 5 9074	84
99	UNIV OF CALIFORNIA - LOS ANGELES	D J BOGAN	GSFC	G SCHUBERT	NAG 5 11210	86
99	UNIV OF CALIFORNIA - LOS ANGELES	D J LINDSTROM	GSFC	J R LYONS	NAG 5 13017	88
99	UNIV OF CALIFORNIA - LOS ANGELES	D SIBECK	GSFC	D SCHRIVER	NAG 5 13506	89
99	UNIV OF CALIFORNIA - LOS ANGELES	D SIBECK	GSFC	E RHODES	NAG 5 13510	89
99	UNIV OF CALIFORNIA - LOS ANGELES	J FROGEL	GSFC	M MALKAN	NAG 5 13064	88
99	UNIV OF CALIFORNIA - LOS ANGELES	J FROGEL	GSFC	I SONG	NAG 5 13067	88
99	UNIV OF CALIFORNIA - LOS ANGELES	J HILLMAN	GSFC	C R WU	NAG 5 11960	87
99	UNIV OF CALIFORNIA - LOS ANGELES	J HILLMAN	GSFC	C T RUSSELL	NAG 5 12022	87
99	UNIV OF CALIFORNIA - LOS ANGELES	J SHARBER	GSFC	C WU	NAG 5 9111	84
99	UNIV OF CALIFORNIA - LOS ANGELES	J SHARBER	GSFC	R WALKER	NAG 5 10282	85
99	UNIV OF CALIFORNIA - LOS ANGELES	J SHARBER	GSFC	P L PRITCHETT	NAG 5 10287	85
99	UNIV OF CALIFORNIA - LOS ANGELES	J SHARBER	GSFC	D SCHRIVER	NAG 5 11989	87
99	UNIV OF CALIFORNIA - LOS ANGELES	J SPANN	GSFC	R M THORNE	NAG 5 12006	87
99	UNIV OF CALIFORNIA - LOS ANGELES	J SPANN	GSFC	E ZESTAV	NAG 5 12007	87
99	UNIV OF CALIFORNIA - LOS ANGELES	J SPANN	GSFC	M EL-ALAOUI	NAG 5 12106	87
99	UNIV OF CALIFORNIA - LOS ANGELES	J SPANN	GSFC	J RAEDER	NAG 5 12107	87
99	UNIV OF CALIFORNIA - LOS ANGELES	K BLANDING	GSFC	C RUSSELLI	NGT 5 50359	91
99	UNIV OF CALIFORNIA - LOS ANGELES	K BLANDING	GSFC	I MCLEAN	NGT 5 50395	91
99	UNIV OF CALIFORNIA - LOS ANGELES	L SMITH	GSFC	D K JACOBS	NGT 5 50310	91
99	UNIV OF CALIFORNIA - LOS ANGELES	M MAIDEN	GSFC	R MUNTZ	NCC 5 301	90
99	UNIV OF CALIFORNIA - LOS ANGELES	M MEYER	GSFC	W J SCHOPF	NAG 5 12357	87
99	UNIV OF CALIFORNIA - LOS ANGELES	M SALAMON	GSFC	G GELMINI	NAG 5 13399	89
99	UNIV OF CALIFORNIA - LOS ANGELES	M WEI	GSFC	L SMITH	NAG 5 10609	85
99	UNIV OF CALIFORNIA - LOS ANGELES	M WEI	GSFC	A ELDERING	NGT 5 30372	91
99	UNIV OF CALIFORNIA - LOS ANGELES	M WEI	GSFC	L SMITH	NGT 5 30435	91
99	UNIV OF CALIFORNIA - LOS ANGELES	M WEI	GSFC	B STEVENS	NGT 5 30499	91
99	UNIV OF CALIFORNIA - LOS ANGELES	M WEI	GSFC	S HOOK	NGT 5 30525	91
99	UNIV OF CALIFORNIA - LOS ANGELES	W J WAGNER	GSFC	C T RUSSELL	NAG 5 10834	85
99	UNIV OF CALIFORNIA - LOS ANGELES	W PETERSON	GSFC	R WALKER	NAG 5 12769	88
99	UNIV OF CALIFORNIA - LOS ANGELES	W PETERSON	GSFC	J BERCHEM	NAG 5 12943	88
99	UNIV OF CALIFORNIA - LOS ANGELES	W PETERSON	GSFC	P CHI	NAG 5 12953	88
99	UNIV OF CALIFORNIA - LOS ANGELES	W PETERSON	GSFC	V PERROOMIAN	NAG 5 12969	88
99	UNIV OF CALIFORNIA - LOS ANGELES	W PETERSON	GSFC	C WU	NAG 5 12986	88
99	UNIV OF CALIFORNIA - LOS ANGELES	W WAGNER	GSFC	M B MOLDWIN	NAG 5 12823	88
99	UNIV OF CALIFORNIA - LOS ANGELES	W WAGNER	GSFC	R ULRICH	NAG 5 13667	89
99	UNIV OF CALIFORNIA - LOS ANGELES	C W LLOYD	JSC	B DUNN	NAG 9 1252	89
99	UNIV OF CALIFORNIA - RIVERSIDE	W WAGNER	GSFC	G P ZANK	NAG 5 12903	92
99	UNIV OF CALIFORNIA - RIVERSIDE	W WAGNER	GSFC	G M WEBB	NAG 5 13451	92

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99	UNIV OF CALIFORNIA - SAN DIEGO	D D DETROYE	GSFC	W BERGER	NGT 5 40085	100
99	UNIV OF CALIFORNIA - SAN DIEGO	D SIBECK	GSFC	B JACKSON	NAG 5 13453	98
99	UNIV OF CALIFORNIA - SAN DIEGO	G SONNEBORN	GSFC	C J HOWK	NAG 5 13762	98
99	UNIV OF CALIFORNIA - SAN DIEGO	H V FREY	GSFC	D C AGNEW	NAG 5 13682	98
99	UNIV OF CALIFORNIA - SAN DIEGO	H V FREY	GSFC	C CONSTABLE	NAG 5 13747	98
99	UNIV OF CALIFORNIA - SAN DIEGO	J DODGE	GSFC	J SIMPSON	NAG 5 13435	98
99	UNIV OF CALIFORNIA - SAN DIEGO	J FROGEL	GSFC	J TOMSICK	NAG 5 13055	98
99	UNIV OF CALIFORNIA - SAN DIEGO	J HAYES	GSFC	D TYTLER	NAG 5 13113	98
99	UNIV OF CALIFORNIA - SAN DIEGO	J SPANN	GSFC	C E MCIIWAIN	NAG 5 12190	97
99	UNIV OF CALIFORNIA - SAN DIEGO	K PARTINGTON	GSFC	D SANDWELL	NAG 5 10065	95
99	UNIV OF CALIFORNIA - SAN DIEGO	L KEFFER	GSFC	J A ARNOLD	NGT 5 40007	100
99	UNIV OF CALIFORNIA - SAN DIEGO	M MEYER	GSFC	J L BADA	NAG 5 12139	96
99	UNIV OF CALIFORNIA - SAN DIEGO	M MEYER	GSFC	J BADA	NAG 5 12851	97
99	UNIV OF CALIFORNIA - SAN DIEGO	M WEI	GSFC	M A TOLBERT	NGT 5 30368	100
99	UNIV OF CALIFORNIA - SAN DIEGO	M WEI	GSFC	R SOMERVILLE	NGT 5 30446	100
99	UNIV OF CALIFORNIA - SAN DIEGO	M WEI	GSFC	D SANDWELL	NGT 5 30514	100
99	UNIV OF CALIFORNIA - SAN DIEGO	P HUNTER	GSFC	B V JACKSON	NAG 5 9423	95
99	UNIV OF CALIFORNIA - SAN DIEGO	P MOUNTJOY	GSFC	S RIDE	NCC 5 585	100
99	UNIV OF CALIFORNIA - SAN DIEGO	R CROUCH	GSFC	T JUNG	NAG 5 8768	94
99	UNIV OF CALIFORNIA - SAN DIEGO	W PETERSON	GSFC	N OMIDI	NAG 5 12846	97
99	UNIV OF CALIFORNIA - SAN DIEGO	W PETERSON	GSFC	N OMIDI	NAG 5 12946	97
99	UNIV OF CALIFORNIA - SAN DIEGO	W WAGNER	GSFC	W B WHITE	NAG 5 12465	97
99	UNIV OF CALIFORNIA - SAN DIEGO	K BLANDING	HQ	S BELONGE	NGT 5 50479	101
99	UNIV OF CALIFORNIA - SAN FRANCISCO	M H NEW	ARC	M A WILSON	NCC 2 5509	101
99	UNIV OF CALIFORNIA - SANTA BARBARA	D LINDSTROM	GSFC	S PEALE	NAG 5 13149	104
99	UNIV OF CALIFORNIA - SANTA BARBARA	D SENSKE	GSFC	S J PEALE	NAG 5 11666	104
99	UNIV OF CALIFORNIA - SANTA BARBARA	D SPEARS	GSFC	G HOMSY	NAG 5 11249	103
99	UNIV OF CALIFORNIA - SANTA BARBARA	G STRINGFELLOW	GSFC	A CLELAND	NAG 5 11426	104
99	UNIV OF CALIFORNIA - SANTA BARBARA	H V FREY	GSFC	D W BURBANK	NAG 5 13758	104
99	UNIV OF CALIFORNIA - SANTA BARBARA	K BLANDING	GSFC	D MORSE	NGT 5 50435	107
99	UNIV OF CALIFORNIA - SANTA BARBARA	K BLANDING	GSFC	D VALENTINE	NGT 5 50468	107
99	UNIV OF CALIFORNIA - SANTA BARBARA	K BLANDING	GSFC	P LUBIN	NGT 5 50472	107
99	UNIV OF CALIFORNIA - SANTA BARBARA	L SMITH	GSFC	J RUHL	NGT 5 50269	106
99	UNIV OF CALIFORNIA - SANTA BARBARA	M MAIDEN	GSFC	J FREW	NCC 5 302	105
99	UNIV OF CALIFORNIA - SANTA BARBARA	M MEYER	GSFC	L R BECKER	NAG 5 11560	104
99	UNIV OF CALIFORNIA - SANTA BARBARA	M MEYER	GSFC	K PLAXCO	NAG 5 12150	104
99	UNIV OF CALIFORNIA - SANTA BARBARA	M NEW	GSFC	L BECKER	NAG 5 13413	104
99	UNIV OF CALIFORNIA - SANTA BARBARA	M NEW	GSFC	A NEWELL	NAG 5 13465	104
99	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	D ROBERTS	NGT 5 30400	106
99	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	D SIEGEL	NGT 5 30406	106
99	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	N MAHOWALD	NGT 5 30413	106
99	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	D M CLARK	NGT 5 30436	106
99	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	S A SIEGEL	NGT 5 30440	106
99	UNIV OF CALIFORNIA - SANTA BARBARA	M WEI	GSFC	D SIEGEL	NGT 5 30528	106
99	UNIV OF CALIFORNIA - SANTA BARBARA	P CRANE	GSFC	P LUBIN	NAG 5 12053	104
99	UNIV OF CALIFORNIA - SANTA BARBARA	R F MUSHOTZKY	GSFC	C L MARTIN	NAG 5 13548	104
99	UNIV OF CALIFORNIA - SANTA CRUZ	B J COLLINS	ARC	E ASPHAUG	NGT 2 52299	110
99	UNIV OF CALIFORNIA - SANTA CRUZ	B J COLLINS	ARC	D POTTS	NGT 2 52296	110
99	UNIV OF CALIFORNIA - SANTA CRUZ	M L MERRIAM	ARC	W F BERRY	NAS 2 03144	109
99	UNIV OF CALIFORNIA - SANTA CRUZ	S . PARKHUST	ARC	D L STANSBURY	NCC 2 1037	109
99	UNIV OF CALIFORNIA - SANTA CRUZ	B J TEEGARDEN	GSFC	S WOOSLEY	NAG 5 13659	109
99	UNIV OF CALIFORNIA - SANTA CRUZ	D J BOGAN	GSFC	G A GLATZMAIER	NAG 5 11220	108
99	UNIV OF CALIFORNIA - SANTA CRUZ	D LINDSTROM	GSFC	D LIN	NAG 5 13177	109
99	UNIV OF CALIFORNIA - SANTA CRUZ	M SALAMON	GSFC	W MATHEWS	NAG 5 13275	109
99	UNIV OF CALIFORNIA - SANTA CRUZ	M WEI	GSFC	D POTTS	NGT 5 30415	110
99	UNIV OF CALIFORNIA - SANTA CRUZ	P CRANE	GSFC	S VOGT	NAG 5 13448	109
99	UNIV OF CALIFORNIA - SANTA CRUZ	S SAUNDERS	GSFC	E ASPHAUG	NAG 5 13338	109
99	UNIV OF CALIFORNIA - SANTA CRUZ	T MORGAN	GSFC	E ASPHAUG	NAG 5 12622	108
99	UNIV OF CHICAGO	D LINDSTROM	GSFC	F RICHTER	NAG 5 13027	201
99	UNIV OF CHICAGO	D LINDSTROM	GSFC	M HUMAYUN	NAG 5 13133	202
99	UNIV OF CHICAGO	D LINDSTROM	GSFC	R N CLAYTON	NAG 5 13165	202
99	UNIV OF CHICAGO	G STRINGFELLOW	GSFC	S MEYER	NAG 5 11443	201
99	UNIV OF CHICAGO	J BOYCE	GSFC	A M DAVIS	NAG 5 9510	200
99	UNIV OF CHICAGO	J BOYCE	GSFC	M HUMAYUN	NAG 5 9800	200
99	UNIV OF CHICAGO	M SALAMON	GSFC	A OLINTO	NAG 5 12153	201
99	UNIV OF CHICAGO	M SALAMON	GSFC	A KONIGL	NAG 5 12635	201

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99	UNIV OF CHICAGO	M SALAMON	GSFC	A V KRAVTSOV	NAG 5 13274	202
99	UNIV OF CHICAGO	P E HUNTER	GSFC	P C FRISCH	NAG 5 11999	201
99	UNIV OF CHICAGO	W J WAGNER	GSFC	F CATTANEO	NAG 5 10831	201
99	UNIV OF CINCINNATI	D LINDSTROM	GSFC	M SITKO	NAG 5 13242	415
99	UNIV OF CINCINNATI	M NEW	GSFC	A MILLER	NAG 5 13426	415
99	UNIV OF CINCINNATI	M WEI	GSFC	S ISLAM	NGT 5 30453	415
99	UNIV OF COLORADO - BOULDER	B J COLLINS	ARC	T P SNOW	NGT 2 52300	136
99	UNIV OF COLORADO - BOULDER	B BETTS	GSFC	A L BETZ	NAG 5 9474	123
99	UNIV OF COLORADO - BOULDER	C P HOLMES	GSFC	C A BARTH	NAG 5 10106	124
99	UNIV OF COLORADO - BOULDER	D D DETROYE	GSFC	E R HANSEN	NGT 5 40072	137
99	UNIV OF COLORADO - BOULDER	D J LINDSTROM	GSFC	G R STEWART	NAG 5 13018	132
99	UNIV OF COLORADO - BOULDER	D LINDSTROM	GSFC	K OHTSUKI	NAG 5 13043	132
99	UNIV OF COLORADO - BOULDER	D LINDSTROM	GSFC	P ARMITAGE	NAG 5 13207	132
99	UNIV OF COLORADO - BOULDER	D SENSKE	GSFC	M MELLON	NAG 5 10265	124
99	UNIV OF COLORADO - BOULDER	D SENSKE	GSFC	G R STEWART	NAG 5 11562	128
99	UNIV OF COLORADO - BOULDER	D SENSKE	GSFC	B M JAKOSKY	NAG 5 11648	128
99	UNIV OF COLORADO - BOULDER	D SIBECK	GSFC	G THOMAS	NAG 5 13511	133
99	UNIV OF COLORADO - BOULDER	D SIBECK	GSFC	X LI	NAG 5 13518	133
99	UNIV OF COLORADO - BOULDER	D SIBECK	GSFC	J TOOMRE	NAG 5 13520	133
99	UNIV OF COLORADO - BOULDER	D WICKLAND	GSFC	A NOLIN	NAG 5 12288	130
99	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	C DANFORTH	NAG 5 13689	133
99	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	C S FRONING	NAG 5 13695	133
99	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	P BENNET	NAG 5 13705	133
99	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	N ARAV	NAG 5 13718	133
99	UNIV OF COLORADO - BOULDER	G SONNEBORN	GSFC	J LINSKY	NAG 5 13725	133
99	UNIV OF COLORADO - BOULDER	H HASAN	GSFC	T P SNOW	NAG 5 11487	128
99	UNIV OF COLORADO - BOULDER	H V FREY	GSFC	E LEULIETTE	NAG 5 13745	134
99	UNIV OF COLORADO - BOULDER	J BOYCE	GSFC	S ZHONG	NAG 5 11224	127
99	UNIV OF COLORADO - BOULDER	J F SPANN	GSFC	T FULLER-ROWELL	NAG 5 10937	126
99	UNIV OF COLORADO - BOULDER	J FROGEL	GSFC	G S STRINGFELLOW	NAG 5 11907	129
99	UNIV OF COLORADO - BOULDER	J FROGEL	GSFC	G S STRINGFELLOW	NAG 5 11963	129
99	UNIV OF COLORADO - BOULDER	J FROGEL	GSFC	J GLENN	NAG 5 12788	131
99	UNIV OF COLORADO - BOULDER	J FROGEL	GSFC	T AYRES	NAG 5 13058	132
99	UNIV OF COLORADO - BOULDER	J HILLMAN	GSFC	F BAGENAL	NAG 5 12394	130
99	UNIV OF COLORADO - BOULDER	J M BOYCE	GSFC	J FORBES	NAG 5 11167	127
99	UNIV OF COLORADO - BOULDER	J SHARBER	GSFC	R ERGUN	NAG 5 9336	123
99	UNIV OF COLORADO - BOULDER	J SPANN	GSFC	W K PETERSON	NAG 5 12002	129
99	UNIV OF COLORADO - BOULDER	J SPANN	GSFC	R E ERGUN	NAG 5 12026	129
99	UNIV OF COLORADO - BOULDER	J SPANN	GSFC	R A AKMAEV	NAG 5 12197	130
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	R RAPPALARDO	NGT 5 50337	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	J GREEN	NGT 5 50340	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	M HORANYI	NGT 5 50345	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	E ZWEIBEL	NGT 5 50350	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	J FORBES	NGT 5 50352	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	M A TOLBERT	NGT 5 50380	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	J GLENN	NGT 5 50384	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	G STEWART	NGT 5 50389	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	D KLAUS	NGT 5 50426	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	R DAVIS	NGT 5 50442	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	P BENDER	NGT 5 50451	138
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	J FORBES	NGT 5 50475	139
99	UNIV OF COLORADO - BOULDER	K BLANDING	GSFC	J GLENN	NGT 5 50478	139
99	UNIV OF COLORADO - BOULDER	K E BLANDING	GSFC	J GREEN	NGT 5 50341	138
99	UNIV OF COLORADO - BOULDER	L JOHNSON	GSFC	N SCHNEIDER	NAG 5 13709	133
99	UNIV OF COLORADO - BOULDER	L SMITH	GSFC	C A WESSMAN	NGT 5 30180	136
99	UNIV OF COLORADO - BOULDER	L SMITH	GSFC	J FORBES	NGT 5 50232	137
99	UNIV OF COLORADO - BOULDER	L SMITH	GSFC	A BROWN	NGT 5 50241	137
99	UNIV OF COLORADO - BOULDER	L SMITH	GSFC	J LINSKY	NGT 5 50242	137
99	UNIV OF COLORADO - BOULDER	L SMITH	GSFC	L ESPOSITO	NGT 5 50273	137
99	UNIV OF COLORADO - BOULDER	L SMITH	GSFC	J E COLDWELL	NGT 5 50294	138
99	UNIV OF COLORADO - BOULDER	M MELLOTT	GSFC	M CODRESCU	NAG 5 10309	124
99	UNIV OF COLORADO - BOULDER	M MELLOTT	GSFC	M HORANYI	NAG 5 12951	131
99	UNIV OF COLORADO - BOULDER	M MELLOTT	GSFC	D NEWMAN	NAG 5 12990	131
99	UNIV OF COLORADO - BOULDER	M MELLOTT	GSFC	L ANDERSON	NAG 5 13096	132
99	UNIV OF COLORADO - BOULDER	M MELLOTT	GSFC	X LI	NAG 5 13135	132
99	UNIV OF COLORADO - BOULDER	M NEW	GSFC	T MCCOLLOM	NAG 5 13456	133

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99	UNIV OF COLORADO - BOULDER	M NEW	GSFC	S MOJSIS	NAG 5 13497	133
99	UNIV OF COLORADO - BOULDER	M S BURRELL	GSFC	D AXELRAD	NGT 5 123	136
99	UNIV OF COLORADO - BOULDER	M S BURRELL	GSFC	J STOCKE	NGT 5 154	136
99	UNIV OF COLORADO - BOULDER	M S BURRELL	GSFC	D HELMIG	NGT 5 155	136
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	R FRODEMAN	NAG 5 13039	132
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	R FRODEMAN	NAG 5 13139	132
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	G ASNER	NGT 5 30345	136
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	K STEFFEN	NGT 5 30376	137
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	S NEREM	NGT 5 30394	137
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	R BARRY	NGT 5 30399	137
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	T PFEFFER	NGT 5 30416	137
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	M A TOLBERT	NGT 5 30422	137
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	V VAIDA	NGT 5 30464	137
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	J MASLANIK	NGT 5 30470	137
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	C RANDELL	NGT 5 30507	137
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	C WESSMAN	NGT 5 30515	137
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	J JIMENEZ	NGT 5 30516	137
99	UNIV OF COLORADO - BOULDER	M WEI	GSFC	P MOLNAR	NGT 5 30519	137
99	UNIV OF COLORADO - BOULDER	P CRANE	GSFC	A L BETZ	NAG 5 10213	124
99	UNIV OF COLORADO - BOULDER	P DECOLA	GSFC	O B TOON	NAG 5 11243	127
99	UNIV OF COLORADO - BOULDER	P DECOLA	GSFC	J B MILLER	NAG 5 11430	127
99	UNIV OF COLORADO - BOULDER	P R HOUSER	GSFC	T ZHANG	NAG 5 13721	133
99	UNIV OF COLORADO - BOULDER	R F MUSHOTZKY	GSFC	R MCCRAY	NAG 5 13540	133
99	UNIV OF COLORADO - BOULDER	R F MUSHOTZKY	GSFC	S L SKINNER	NAG 5 13677	133
99	UNIV OF COLORADO - BOULDER	S NIEBUR	GSFC	T MCCOLLOM	NAG 5 13424	132
99	UNIV OF COLORADO - BOULDER	S SAUNDERS	GSFC	M MELLON	NAG 5 13172	132
99	UNIV OF COLORADO - BOULDER	W ABDALATI	GSFC	J WAHR	NAG 5 10211	124
99	UNIV OF COLORADO - BOULDER	W ABDALATI	GSFC	T ARBETTER	NAG 5 10556	125
99	UNIV OF COLORADO - BOULDER	W ABDALATI	GSFC	T SCAMBOS	NAG 5 10983	126
99	UNIV OF COLORADO - BOULDER	W ABDALATI	GSFC	T SCAMBOS	NAG 5 11308	127
99	UNIV OF COLORADO - BOULDER	W ABDALATI	GSFC	J MASLANIK	NAG 5 12372	130
99	UNIV OF COLORADO - BOULDER	W ABDALATI	GSFC	J MASLANIK	NAG 5 12432	130
99	UNIV OF COLORADO - BOULDER	W ABDALATI	GSFC	M DYURGEROV	NAG 5 13691	133
99	UNIV OF COLORADO - BOULDER	W PETERSON	GSFC	R ERGUN	NAG 5 12810	131
99	UNIV OF COLORADO - BOULDER	W PETERSON	GSFC	D RUSCH	NAG 5 12813	131
99	UNIV OF COLORADO - BOULDER	W PETERSON	GSFC	S ROBERTSON	NAG 5 12978	131
99	UNIV OF COLORADO - BOULDER	W PETERSON	GSFC	F BAGENAL	NAG 5 12994	131
99	UNIV OF COLORADO - BOULDER	W WAGNER	GSFC	D W RUSCH	NAG 5 12349	130
99	UNIV OF COLORADO - BOULDER	W WAGNER	GSFC	B W HINDMAN	NAG 5 12491	131
99	UNIV OF COLORADO - BOULDER	W WAGNER	GSFC	J TOOMRE	NAG 5 12815	131
99	UNIV OF COLORADO - BOULDER	W WAGNER	GSFC	J TOOMRE	NGT 5 50416	138
99	UNIV OF COLORADO - BOULDER	F VILAS	JSC	A R HENDRIX	NAG 9 1209	134
99	UNIV OF COLORADO - DENVER	B J COLLINS	ARC	S NIELSEN-PREISS	NGT 2 52301	139
99	UNIV OF CONNECTICUT	E SHEFFNER	GSFC	D CIVCO	NAG 5 11307	141
99	UNIV OF CONNECTICUT	J I TROMBKA	GSFC	J S SCHWEITZER	NAG 5 11713	141
99	UNIV OF CONNECTICUT	M MEYER	GSFC	J GOGARTEN	NAG 5 12367	141
99	UNIV OF CONNECTICUT	M NEW	GSFC	L LEWIS	NAG 5 13440	141
99	UNIV OF CONNECTICUT	M PHELPS	GSFC	D MOSS	NAG 5 10599	140
99	UNIV OF CONNECTICUT	M WEI	GSFC	E ANAGNOSTOU	NGT 5 30369	141
99	UNIV OF CONNECTICUT	M WEI	GSFC	E N ANAGNOSTOU	NGT 5 30437	142
99	UNIV OF CONNECTICUT	C HILL	SSC	D CIVCO	NAG13 99001	141
99	UNIV OF DELAWARE - BARTOL RES INST	D DETROYE	GSFC	N F NESS	NGT 5 40122	146
99	UNIV OF DELAWARE	K BLANDING	GSFC	P DHUJATI	NGT 5 50367	146
99	UNIV OF DELAWARE	M SALAMON	GSFC	H MUELLER	NAG 5 12628	145
99	UNIV OF DISTRICT OF COLUMBIA	C HOLLINSWORTH	GSFC	W COLEMAN	NAG 5 10855	156
99	UNIV OF DISTRICT OF COLUMBIA	D HALE	GSFC	G DAVIS	NAG 5 12335	156
99	UNIV OF FLORIDA	D BOGAN	GSFC	L KOLOKOLOVA	NAG 5 8944	167
99	UNIV OF FLORIDA	D SENSKE	GSFC	S F DERMOTT	NAG 5 11643	168
99	UNIV OF FLORIDA	J FROGEL	GSFC	M VALA	NAG 5 12724	168
99	UNIV OF FLORIDA	J FROGEL	GSFC	S DERMOTT	NAG 5 13105	168
99	UNIV OF FLORIDA	J FROGEL	GSFC	S ELKENBERRY	NAG 5 13416	168
99	UNIV OF FLORIDA	J HILLMAN	GSFC	B GUSTAFSON	NAG 5 13324	168
99	UNIV OF FLORIDA	K BLANDING	GSFC	S DODD	NGT 5 50443	170
99	UNIV OF FLORIDA	K BLANDING	GSFC	C TELESCO	NGT 5 50473	170
99	UNIV OF FLORIDA	M MEYER	GSFC	L B GOWER	NAG 5 10670	168
99	UNIV OF FLORIDA	M WEI	GSFC	J JUDGE	NGT 5 30500	169

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99	UNIV OF FLORIDA	M WEI	GSFC	M BINFORD	NGT 5 30523	170
99	UNIV OF FLORIDA	R KOCZOR	MSFC	D TREISE	NCC 8 149	169
99	UNIV OF GEORGIA	D BOGAN	GSFC	N G ADAMS	NAG 5 8951	185
99	UNIV OF GEORGIA	K BLANDING	HQ	P YAGER	NGT 5 50427	186
99	UNIV OF HARTFORD	D D DETROYE	GSFC	C SAJAY	NGT 5 40093	142
99	UNIV OF HARTFORD	D DEYTROYE	GSFC	C SAHAY	NCC 5 601	142
99	UNIV OF HAWAII AT MANOA - HONOLULU	B J TEEGARDEN	GSFC	D B SANDERS	NAG 5 13569	193
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99	UNIV OF MINN	L SMITH	GSFC	R LYSAK	NGT 5 50293	319
99	UNIV OF MINN	M MELLOTT	GSFC	R LYSAK	NAG 5 13072	317
99	UNIV OF MINN	M WEI	GSFC	F PORTE-AGEL	NAG 5 10569	317
99	UNIV OF MINN	M WEI	GSFC	M BAUER	NGT 5 30494	319
99	UNIV OF MINN	W PETERSON	GSFC	C CATTELL	NAG 5 12761	317
99	UNIV OF MINN	W PETERSON	GSFC	J WYGANT	NAG 5 12765	317
99	UNIV OF MISSISSIPPI - UNIV	D D DETROYE	GSFC	P SUKANEK	NGT 5 40098	322
99	UNIV OF MISSISSIPPI - UNIV	D DETROYE	GSFC	P SUKANEK	NCC 5 574	322
99	UNIV OF MISSISSIPPI - UNIV	M MICK	SSC	J GABRYNOWICZ	NAG13 00036	321
99	UNIV OF MISSISSIPPI - UNIV	T VANN	SSC	G EASSON	NAG13 02052	321
99	UNIV OF MISSOURI - COLUMBIA	A TUYAHOV	GSFC	V KAUP	NAG 5 12482	323
99	UNIV OF MISSOURI - COLUMBIA	J FROGEL	GSFC	A SPECK	NAG 5 13099	323
99	UNIV OF MISSOURI - COLUMBIA	K BLANDING	GSFC	S NAIR	NGT 5 50444	324
99	UNIV OF MISSOURI - COLUMBIA	L CHAMBERS	GSFC	G CHIPENDALE	NAG 5 12284	323
99	UNIV OF MISSOURI - COLUMBIA	L CHAMBERS	GSFC	M HAY	NAG 5 12300	323
99	UNIV OF MISSOURI - COLUMBIA	M MEYER	GSFC	F SCHMIDT	NAG 5 9555	323
99	UNIV OF MISSOURI - COLUMBIA	W ABDALATI	GSFC	C DAVIS	NAG 5 13776	323
99	UNIV OF MISSOURI - COLUMBIA	B DAVIS	SSC	A K SHACKLEFORD	NGT13 52747	324
99	UNIV OF MISSOURI - ROLLA	D D DETROYE	GSFC	F FINIASH	NGT 5 40112	325
99	UNIV OF MISSOURI - ROLLA	L CHAMBERS	GSFC	M HAY	NAG 5 12244	324
99	UNIV OF MISSOURI - ROLLA	M S BURRELL	GSFC	H J PERNICKA	NGT 5 146	325
99	UNIV OF MISSOURI - SAINT LOUIS	J HILLMAN	GSFC	J J O'BRIEN	NAG 5 12013	325
99	U OF MONT	D SPEARS	GSFC	G BAILEY	NAG 5 12701	333
99	U OF MONT	D WICKLAND	GSFC	S RUNNING	NAG 5 11256	333
99	U OF MONT	M WEI	GSFC	S RUNNING	NGT 5 30395	334
99	UNIV OF NEBRASKA - LINCOLN	D D DETROYE	GSFC	B D BOWEN	NCC 5 169	334
99	UNIV OF NEBRASKA - LINCOLN	G GUTMAN	GSFC	A GITELSON	NAG 5 11147	334
99	UNIV OF NEBRASKA - LINCOLN	M Y WEI	GSFC	M BLUM	NGT 5 30358	334
99	UNIV OF NEBRASKA-OMAHA	D D DETROYE	GSFC	B D BOWEN	NGT 5 40104	335
99	UNIV OF NEBRASKA-OMAHA	D DETROYE	GSFC	B D BOWEN	NCC 5 572	335
99	UNIV OF NEBRASKA-OMAHA	P YEH	GSFC	K SAYOOD	NAG 5 13584	335
99	UNIV. OF NEVADA - DESERT RES. INST	H V FREY	GSFC	N LANCASTER	NAG 5 13730	335
99	UNIV. OF NEVADA - DESERT RES. INST	J GARVIN	GSFC	N LANCASTER	NAG 5 12759	335
99	UNIV. OF NEVADA - DESERT RES. INST	W GRAHAM	SSC	J W BELL	NAG13 02017	335
99	UNIV OF NEVADA - LAS VEGAS	J BREDEKAMP	GSFC	S LATIFI	NAG 5 9489	335
99	UNIV OF NEVADA - LAS VEGAS	P CRANE	GSFC	V KWONG	NAG 5 11990	335
99	UNIV OF NEVADA - RENO	C NIEBUR	GSFC	R SCHULTZ	NAG 5 13436	336
99	UNIV OF NEVADA - RENO	D DETROYE	GSFC	J V TARANIK	NGT 5 40113	337
99	UNIV OF NEVADA - RENO	H V FREY	GSFC	G BLEWITT	NAG 5 13683	336
99	UNIV OF NEVADA - RENO	K BLANDING	GSFC	W CALVIN	NGT 5 50362	337
99	UNIV OF NEVADA SYSTEM	D DETROYE	GSFC	J V TARANIK	NCC 5 583	337
99	UNIV OF NEW ENGLAND	C DELCASTILLO	SSC	S I ZEEMAN	NAG13 03027	232
99	UNIV OF NEW HAMPSHIRE - DURHAM	B J TEEGARDEN	GSFC	M L MCCONNELL	NAG 5 13550	343
99	UNIV OF NEW HAMPSHIRE - DURHAM	C TREES	GSFC	C VOROSMARTY	NAG 5 12451	342

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99	UNIV OF NEW HAMPSHIRE - DURHAM	D DETROYE	GSFC	D BARTLETT	NGT 5 40088	344
99	UNIV OF NEW HAMPSHIRE - DURHAM	D E WICKLAND	GSFC	B MOORE	NAG 5 10135	340
99	UNIV OF NEW HAMPSHIRE - DURHAM	D SIBECK	GSFC	V JORDANOVA	NAG 5 13512	342
99	UNIV OF NEW HAMPSHIRE - DURHAM	D SIEBECK	GSFC	J RYAN	NAG 5 13519	343
99	UNIV OF NEW HAMPSHIRE - DURHAM	D WICKLAND	GSFC	S OLLINGER	NAG 5 11310	341
99	UNIV OF NEW HAMPSHIRE - DURHAM	J MARRA	GSFC	C VOROSMARTY	NAG 5 10260	341
99	UNIV OF NEW HAMPSHIRE - DURHAM	J MARRA	GSFC	J W CAMPBELL	NAG 5 11258	341
99	UNIV OF NEW HAMPSHIRE - DURHAM	K BLANDING	GSFC	E MOBIUS	NGT 5 50381	344
99	UNIV OF NEW HAMPSHIRE - DURHAM	M WEI	GSFC	M MARTIN	NGT 5 30481	344
99	UNIV OF NEW HAMPSHIRE - DURHAM	M WEI	GSFC	D SAHAGIAN	NGT 5 30501	344
99	UNIV OF NEW HAMPSHIRE - DURHAM	M WEITH	GSFC	J E DIBB	NGT 5 30349	343
99	UNIV OF NEW HAMPSHIRE - DURHAM	W ABDALATI	GSFC	M FAHNESTOCK	NAG 5 12365	342
99	UNIV OF NEW HAMPSHIRE - DURHAM	W ABDALATI	GSFC	M FAHNESTOCK	NAG 5 13224	342
99	UNIV OF NEW HAMPSHIRE - DURHAM	W J WAGNER	GSFC	P A ISENBERG	NAG 5 10835	341
99	UNIV OF NEW HAMPSHIRE - DURHAM	W J WAGNER	GSFC	T G FORBES	NAG 5 10977	341
99	UNIV OF NEW HAMPSHIRE - DURHAM	W J WAGNER	GSFC	B J VASQUEZ	NAG 5 10988	341
99	UNIV OF NEW HAMPSHIRE - DURHAM	W PETERSON	GSFC	R TORBERT	NAG 5 12721	342
99	UNIV OF NEW HAMPSHIRE - DURHAM	W PETERSON	GSFC	L KISTLER	NAG 5 12762	342
99	UNIV OF NEW HAMPSHIRE - DURHAM	W PETERSON	GSFC	R MILLER	NAG 5 13178	342
99	UNIV OF NEW HAMPSHIRE - DURHAM	W WAGNER	GSFC	M L MCCONNEL	NAG 5 10203	340
99	UNIV OF NEW HAMPSHIRE - DURHAM	W WAGNER	GSFC	C FARRUGIA	NAG 5 10883	341
99	UNIV OF NEW HAMPSHIRE - DURHAM	W WAGNER	GSFC	C FARRUGIA	NAG 5 12189	342
99	UNIV OF NEW HAMPSHIRE - DURHAM	W WAGNER	GSFC	J J CONNEL	NAG 5 12493	342
99	UNIV OF NEW MEXICO-ALBUQUERQUE	A CARDENAS	ARC	P DORATO	NAG 2 1480	357
99	UNIV OF NEW MEXICO-ALBUQUERQUE	A TUYAHOV	GSFC	S MORAIN	NCC 5 309	360
99	UNIV OF NEW MEXICO-ALBUQUERQUE	D LINDSTROM	GSFC	J PAPIKE	NAG 5 12796	359
99	UNIV OF NEW MEXICO-ALBUQUERQUE	D LINDSTROM	GSFC	C AGEE	NAG 5 12853	359
99	UNIV OF NEW MEXICO-ALBUQUERQUE	J GARVIN	GSFC	C SHEARER	NAG 5 12783	359
99	UNIV OF NEW MEXICO-ALBUQUERQUE	L P CHAMBERS	GSFC	P J BOYCE	NAG 5 11561	359
99	UNIV OF NEW MEXICO-ALBUQUERQUE	M MATHEWS	GSFC	L CROSSEY	NCC 5 350	360
99	UNIV OF NEW MEXICO-ALBUQUERQUE	M NEW	GSFC	A BREARLEY	NAG 5 13444	359
99	UNIV OF NEW MEXICO-ALBUQUERQUE	R CROUCH	GSFC	J BRINKER	NAG 5 8821	358
99	UNIV OF NEW MEXICO-ALBUQUERQUE	L ARMENDARIZ	JSC	H E NEWSOM	NAG 9 1017	359
99	UNIV OF NEW ORLEANS	R MILLER	SSC	J CORBINO	NGT13 52749	230
99	UNIV OF NORTH CAROLINA - CHAPEL HILL	L BILBROUGH	GSFC	R R GOLWALS	NAG 5 12504	395
99	UNIV OF NORTH CAROLINA - CHAPEL HILL	L SMITH	GSFC	T M WHITMORE	NGT 5 30177	396
99	UNIV OF NORTH CAROLINA - CHAPEL HILL	L SMITH	GSFC	R W MURRAY	NGT 5 50311	396
99	UNIV OF NORTH CAROLINA - CHAPEL HILL	M WEI	GSFC	J BANE	NGT 5 30389	396
99	UNIV OF NORTH CAROLINA - CHAPEL HILL	M WEI	GSFC	L BAND	NGT 5 30390	396
99	UNIV OF NORTH CAROLINA - CHAPEL HILL	M WEI	GSFC	A MOODY	NGT 5 30512	396
99	UNIV OF NORTH CAROLINA	L BILLBROUGH	GSFC	W R VEAL	NAG 5 12537	396
99	UNIV OF NORTH DAKOTA	A TUYAHOV	GSFC	G SEIELSTAD	NAG 5 12054	397
99	UNIV OF NORTH DAKOTA	A TUYAHOV	GSFC	G SEIELSTAD	NCC 5 310	397
99	UNIV OF NORTH DAKOTA	D D DETROYE	GSFC	R ANDRES	NGT 5 40117	398
99	UNIV OF NORTH DAKOTA	D DETROYE	GSFC	C WOOD	NCC 5 399	397
99	UNIV OF NORTH DAKOTA	D DETROYE	GSFC	S L DE SILVA	NCC 5 582	398
99	UNIV OF NORTH DAKOTA	C HILL	SSC	P R ZIMMERMAN	NAG13 99006	397
99	UNIV OF NORTH DAKOTA	R MCKELLIP	SSC	G A SEIELSTAD	NAG13 03024	397
99	UNIV OF N TEXAS HLTH SCI CTR - FT. WORTH	C W LLOYD	JSC	M L SMITH	NAG 9 1262	479
99	UNIV OF NORTH TEXAS	R K DISMUKES	ARC	M BINK	NCC 2 1316	479
99	UNIV OF NOTRE DAME	D LINDSTROM	GSFC	D BENNET	NAG 5 13042	216
99	UNIV OF OKLAHOMA - NORMAN	D D DETROYE	GSFC	V DUCA-SNOWDEN	NGT 5 40111	422
99	UNIV OF OKLAHOMA - NORMAN	D DETROYE	GSFC	V DUCA-SNOWDEN	NCC 5 586	422
99	UNIV OF OKLAHOMA - NORMAN	J DASCH	GSFC	V DUCA-SNOWDEN	NCC 5 171	422
99	UNIV OF OKLAHOMA - NORMAN	J FROGEL	GSFC	K LEIGHLY	NAG 5 13110	421
99	UNIV OF OREGON - EUGENE	J HAYES	GSFC	G BOTHUN	NAG 5 13077	426
99	UNIV OF OREGON - EUGENE	P E HUNTER	GSFC	J SCHOMBERT	NAG 5 11300	426
99	UNIV OF PENNSYLVANIA	J FROGEL	GSFC	M DEVLIN	NAG 5 12785	442
99	UNIV OF PENNSYLVANIA	K BLANDING	GSFC	D HAMMER	NGT 5 50415	443
99	UNIV OF PENNSYLVANIA	L SMITH	GSFC	D A HAMMER	NGT 5 50267	443
99	UNIV OF PENNSYLVANIA	M WEI	GSFC	D HAI-LUNG	NGT 5 30460	443
99	UNIV OF PENNSYLVANIA	R CROUCH	GSFC	D N METAXAS	NAG 5 8767	442
99	UNIV OF PITTSBURGH	D SENSKE	GSFC	B HAPKE	NAG 5 12521	444
99	UNIV OF PITTSBURGH	J HILLMAN	GSFC	R JOHNSEN	NAG 5 11959	444
99	UNIV OF PITTSBURGH	K BLANDING	GSFC	M DRUZDZEL	NGT 5 50252	445
99	UNIV OF PITTSBURGH	K BLANDING	GSFC	B J YATES	NGT 5 50292	445

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99	UNIV OF PITTSBURGH	K BLANDING	GSFC	B YATES	NGT 5 50408	445
99	UNIV OF PITTSBURGH	L SMITH	GSFC	C L COLBY	NGT 5 50318	445
99	UNIV OF PITTSBURGH	M SALAMON	GSFC	R SHETH	NAG 5 13270	444
99	UNIV OF PITTSBURGH	R J OLIVERSON	GSFC	J D HILLIER	NAG 5 12680	444
99	UNIV OF PITTSBURGH	K BLANDING	HQ	C COLBY	NGT 5 50428	445
99	UNIV OF PUERTO RICO - MAYAGUEZ	R ROMERO	GRC	B RAMIREZ	NAG 3 2707	539
99	UNIV OF PUERTO RICO - MAYAGUEZ	D L WILLIAMS	GSFC	R FERNANDEZ-SEIN	NCC 5 518	540
99	UNIV OF PUERTO RICO - MAYAGUEZ	J MARRA	GSFC	J CORREDOR	NAG 5 11296	539
99	UNIV OF PUERTO RICO - MAYAGUEZ	M MATHEWS	GSFC	L MORELL	NCC 5 340	540
99	UNIV OF PUERTO RICO-RIO PIEDRAS	M E PEREZ-DAVIS	GRC	C R CABRERA	NAG 3 2749	540
99	UNIV OF PUERTO RICO-RIO PIEDRAS	D DETROYE	GSFC	B R WEINER	NCC 5 407	541
99	UNIV OF PUERTO RICO-RIO PIEDRAS	D DETROYE	GSFC	B WEINER	NCC 5 595	541
99	UNIV OF PUERTO RICO-RIO PIEDRAS	D DETROYE	GSFC	W WEINER	NGT 5 40091	541
99	UNIV OF PUERTO RICO-RIO PIEDRAS	M MENCHAN	GSFC	J AYALA	NAG 5 11814	540
99	UNIV OF PUGET SOUND	M MEYER	GSFC	B PIERSON	NAG 5 12328	520
99	UNIV OF REDLANDS	J HILLMAN	GSFC	J RATHBUN	NAG 5 13303	110
99	UNIV OF REDLANDS	M V PHELPS	GSFC	J R APPLETON	NAG 5 11366	110
99	UNIV OF REDLANDS	M PHELPS	HQ	J R APPLETON	NAG 5 12538	110
99	UNIV OF RHODE ISLAND	R A GRYMES	ARC	S D'HONDT	NCC 2 1275	451
99	UNIV OF RHODE ISLAND	J MARRA	GSFC	B UZ	NAG 5 10554	450
99	UNIV OF ROCHESTER	B J COLLINS	ARC	M K TANENHAUS	NGT 2 52302	386
99	UNIV OF ROCHESTER	G FOGLEMAN	GSFC	G PAIGE	NAG 5 11557	386
99	UNIV OF ROCHESTER	K BLANDING	GSFC	M BOCKO	NGT 5 50360	386
99	UNIV OF ROCHESTER	M NEW	GSFC	A ANBAR	NAG 5 13480	386
99	UNIV OF SAN DIEGO	M PHELPS	GSFC	S LOWERY	NAG 5 10049	110
99	UNIV OF SAN DIEGO	M PHELPS	GSFC	F M LAZARUS	NAG 5 11590	110
99	UNIV OF SOUTH ALABAMA	S COLEMAN	MSFC	J E AYLING	NCC 8 249	13
99	UNIV OF SOUTH CAROLINA-COLUMBIA	J MARRA	GSFC	R THUNELL	NAG 5 11253	455
99	UNIV OF SOUTH CAROLINA-COLUMBIA	M NEW	GSFC	J BERNHARD	NAG 5 12339	455
99	UNIV OF SOUTH CAROLINA-COLUMBIA	N SOVIK	SSC	J JENSEN	NCC13 00003	455
99	UNIV OF SOUTH FLORIDA	J MARRA	GSFC	S ANDREFOUET	NAG 5 10908	172
99	UNIV OF SOUTH FLORIDA	J MARRA	GSFC	F MULLER-KARGER	NAG 5 11254	172
99	UNIV OF SOUTH FLORIDA	K BLANDING	GSFC	P COBLE	NGT 5 30346	173
99	UNIV OF SOUTH FLORIDA	M WEI	GSFC	F MULLER-KARGER	NGT 5 30414	173
99	UNIV OF SOUTH FLORIDA	M WEI	GSFC	P COBLE	NGT 5 30498	173
99	UNIV OF SOUTH FLORIDA	K BLANDING	HQ	J WALSH	NGT 5 50422	173
99	UNIV OF SOUTHERN CALIFORNIA	D BOGAN	GSFC	D SHEMANSKY	NAG 5 13734	113
99	UNIV OF SOUTHERN CALIFORNIA	D SPEARS	GSFC	S SADHAL	NAG 5 11304	112
99	UNIV OF SOUTHERN CALIFORNIA	K BLANDING	GSFC	P RONNEY	NGT 5 50447	114
99	UNIV OF SOUTHERN CALIFORNIA	M NEW	GSFC	R RYE	NAG 5 13443	113
99	UNIV OF SOUTHERN CALIFORNIA	W J WAGNER	GSFC	P K GANGOPADHAY	NAG 5 10989	112
99	UNIV OF SOUTHERN CALIFORNIA	W J WAGNER	GSFC	E J RHODES	NAG 5 11001	112
99	UNIV OF SOUTHERN CALIFORNIA	W PETERSON	GSFC	M GRUNTMAN	NAG 5 12779	112
99	UNIV OF SOUTHERN CALIFORNIA	P DOTY	MSFC	S SADHAL	NAG 8 1663	113
99	UNIV OF SOUTHERN CALIFORNIA	P DOTY	MSFC	P RONNEY	NAG 8 1701	113
99	UNIV OF SOUTHERN MISSISSIPPI	R TRAVIS	SSC	J E MILLER	NAS13 03035	322
99	UNIV OF TENNESSEE - KNOXVILLE	J M BOYCE	GSFC	L A TAYLOR	NAG 5 11558	459
99	UNIV OF TENNESSEE - KNOXVILLE	K BLANDING	GSFC	H Y MCSWEEN	NGT 5 50286	460
99	UNIV OF TENNESSEE - KNOXVILLE	L JOHNSON	GSFC	D BRITT	NAG 5 13616	459
99	UNIV OF TENNESSEE - KNOXVILLE	M HARTMAN	GSFC	R GREENBERG	NAG 5 12134	459
99	UNIV OF TENNESSEE - KNOXVILLE	S SAUNDERS	GSFC	D BRITT	NAG 5 13152	459
99	UNIV OF TENNESSEE - KNOXVILLE	W WAGNER	GSFC	L TOWNSEND	NAG 5 12477	459
99	UNIV OF TEXAS - ARLINGTON	M WEI	GSFC	D COOK	NGT 5 30382	479
99	UNIV OF TEXAS - AUSTIN	D D DETROYE	GSFC	B TAPLEY	NGT 5 40083	486
99	UNIV OF TEXAS - AUSTIN	D L CARTER	GSFC	P J SHELUS	NAS 5 01096	485
99	UNIV OF TEXAS - AUSTIN	D LINDSTROM	GSFC	D WINGET	NAG 5 13094	483
99	UNIV OF TEXAS - AUSTIN	D LINDSTROM	GSFC	W COCHRAN	NAG 5 13206	483
99	UNIV OF TEXAS - AUSTIN	G SONNEBORN	GSFC	S PRAJVAL	NAG 5 13726	484
99	UNIV OF TEXAS - AUSTIN	J FROGEL	GSFC	D LAMBERT	NAG 5 13057	483
99	UNIV OF TEXAS - AUSTIN	J FROGEL	GSFC	T VON HIPPEL	NAG 5 13070	483
99	UNIV OF TEXAS - AUSTIN	J FROGEL	GSFC	C ALLENDE-PRIETO	NAG 5 13147	483
99	UNIV OF TEXAS - AUSTIN	J GARVIN	GSFC	J HOLT	NAG 5 12693	483
99	UNIV OF TEXAS - AUSTIN	J HILLMAN	GSFC	D GOLDSTEIN	NAG 5 11991	482
99	UNIV OF TEXAS - AUSTIN	J HILLMAN	GSFC	B SCHAEFER	NAG 5 13345	483
99	UNIV OF TEXAS - AUSTIN	J LABRECQUE	GSFC	B D TAPLEY	NAG 5 9989	481
99	UNIV OF TEXAS - AUSTIN	K BLANDING	GSFC	M CRAWFORD	NGT 5 50239	486

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99	UNIV OF TEXAS - AUSTIN	K BLANDING	GSFC	C OCAMPO	NGT 5 50361	486
99	UNIV OF TEXAS - AUSTIN	K BLANDING	GSFC	S ROUX	NGT 5 50371	486
99	UNIV OF TEXAS - AUSTIN	K BLANDING	GSFC	N EVANS	NGT 5 50401	486
99	UNIV OF TEXAS - AUSTIN	K BLANDING	GSFC	N EVANS	NGT 5 50459	486
99	UNIV OF TEXAS - AUSTIN	L SMITH	GSFC	G J HILL	NGT 5 50301	486
99	UNIV OF TEXAS - AUSTIN	M SALAMON	GSFC	H MARTEL	NAG 5 13271	483
99	UNIV OF TEXAS - AUSTIN	M SALAMON	GSFC	J SCALO	NAG 5 13280	483
99	UNIV OF TEXAS - AUSTIN	M SALOMON	GSFC	P J SHELUS	NAG 5 10195	482
99	UNIV OF TEXAS - AUSTIN	M WEI	GSFC	C WILSON	NGT 5 30447	486
99	UNIV OF TEXAS - AUSTIN	M WEI	GSFC	B TAPLEY	NGT 5 30468	486
99	UNIV OF TEXAS - AUSTIN	M WEI	GSFC	B TAPLEY	NGT 5 30497	486
99	UNIV OF TEXAS - AUSTIN	M WEI	GSFC	G LIGHTSEY	NGT 5 30529	486
99	UNIV OF TEXAS - AUSTIN	T MORGAN	GSFC	E BARKER	NAG 5 10183	482
99	UNIV OF TEXAS - AUSTIN	T MORGAN	GSFC	E BARKER	NAG 5 13302	483
99	UNIV OF TEXAS - AUSTIN	W J WAGNER	GSFC	P KUMAR	NAG 5 12299	483
99	UNIV OF TEXAS - AUSTIN	W WAGNER	GSFC	P KUMAR	NAG 5 12817	483
99	UNIV OF TEXAS - AUSTIN	D J PEARSON	JSC	R H BISHOP	NGT 9 20	487
99	UNIV OF TEXAS - AUSTIN	H C MANDELL	JSC	B D TAPLEY	NAG 9 1060	484
99	UNIV OF TEXAS - DALLAS	L KALUZIENSKI	GSFC	E FENYVES	NAG 5 12697	487
99	UNIV OF TEXAS - DALLAS	M E MELLOTT	GSFC	R A HEELIS	NGT 5 50354	487
99	UNIV OF TEXAS - DALLAS	M MELLOTT	GSFC	R HEELIS	NAG 5 10271	487
99	UNIV OF TEXAS - DALLAS	P HUNTER	GSFC	M HAIRSTON	NAG 5 9297	487
99	UNIV OF TEXAS - DALLAS	T A KUCERA	GSFC	M R HAIRSTON	NAG 5 13393	487
99	UNIV OF TEXAS - EL PASO	C HOLLINGSWORTH	GSFC	S BLAKE	NCC 5 468	488
99	UNIV OF TEXAS - EL PASO	D LINDSTROM	GSFC	V SMITH	NAG 5 13175	488
99	UNIV OF TEXAS - EL PASO	J HARRINGTON	GSFC	H L SCHULTE	NCC 5 535	488
99	UNIV OF TEXAS - EL PASO	J LAMBRECQUE	GSFC	S STARKS	NCC 5 498	488
99	UNIV OF TEXAS - EL PASO	B DELIWALA	KSC	R QUINTANA	NAG10 225	488
99	UNIV OF TEXAS - EL PASO	B DELIWA	KSC	D QUINTANA	NAG10 331	488
99	UNIV OF TEXAS AT BROWNSVILLE	B WHITE	GSFC	J TELESE	NCC 5 438	489
99	UNIV OF TEXAS AT BROWNSVILLE	M SALAMON	GSFC	J D ROMANO	NAG 5 13396	489
99	UNIV OF TEXAS AT BROWNSVILLE	L ARMENDARIZ	JSC	A RIVAS	NAG 9 1304	489
99	UNIV OF TEXAS AT BROWNSVILLE	L M ARMENDARIZ	JSC	L V LOF	NAG 9 1391	489
99	UNIV OF TEXAS AT BROWNSVILLE	L M ARMENDARIZ	JSC	H SILVA	NAG 9 1406	489
99	UNIV OF TEXAS AT BROWNSVILLE	L M ARMENDARIZ	JSC	M SHANDS	NAG 9 1496	489
99	UNIV OF TEXAS AT SAN ANTONIO	B J COLLINS	ARC	A T CHRONPOULOS	NAG 2 1383	489
99	UNIV OF TEXAS AT SAN ANTONIO	M J LEON	ARC	R F SINCOVEC	NAG 2 6040	489
99	UNIV OF TEXAS AT SAN ANTONIO	M MATEAU	GSFC	J G ROMO	NAG 5 13342	489
99	UNIV OF TEXAS AT SAN ANTONIO	M MATEU	GSFC	M P BERRIOZABAL	NAG 5 11741	489
99	UNIV. OF TX-HLTH SCIENCE CTR-HOUSTON	M GERHARDT	JSC	B BUTLER	NCC 9 82	478
99	UNIV OF TEXAS-PAN AMERICAN	M MATEU	GSFC	H MEDRANO	NAG 5 11928	477
99	UNIV OF TEXAS-PAN AMERICAN	M MATEU	GSFC	H MEDRADO	NAG 5 12549	477
99	UNIV OF THE INCARNATE WORD	B WHITE	GSFC	J BEAUFORD	NCC 5 465	490
99	UNIV OF TOLEDO	J BOYCE	GSFC	P JAMES	NAG 5 12186	417
99	UNIV OF TOLEDO	K BLANDING	GSFC	K BJORKMAN	NGT 5 50469	419
99	UNIV OF TOLEDO	P CRANE	GSFC	S R FEDERMAN	NAG 5 11440	417
99	UNIV OF TOLEDO	P CRANE	GSFC	A WITT	NAG 5 12629	417
99	UNIV OF TURABO	M MATEAU	GSFC	A COURTIER	NAG 5 13347	541
99	UNIV OF UTAH	D D DETROYE	GSFC	W WESTENSKOW	NGT 5 40101	492
99	UNIV OF UTAH	K BLANDING	GSFC	S MILLER	NGT 5 50410	492
99	UNIV OF UTAH	M WEI	GSFC	G MACE	NGT 5 30398	492
99	UNIV OF UTAH	M WEI	GSFC	E SIPZER	NGT 5 30423	492
99	UNIV OF UTAH	M WEI	GSFC	E ZIPSER	NGT 5 30492	492
99	UNIV OF UTAH	R LAWRENCE	GSFC	E ZIPSER	NAG 5 13628	492
99	UNIV OF VERMONT	D DETROYE	GSFC	W D LAKIN	NCC 5 581	495
99	UNIV OF VERMONT	D DETROYE	GSFC	W LAKIN	NGT 5 40110	495
99	UNIV OF VIRGINIA	D HALE	GSFC	D BALL	NAG 5 12405	512
99	UNIV OF VIRGINIA	D LINDSTROM	GSFC	S BALBUS	NAG 5 13288	513
99	UNIV OF VIRGINIA	D SENSKE	GSFC	A D HOWARD	NAG 5 11647	512
99	UNIV OF VIRGINIA	J HILLMAN	GSFC	R E JOHNSON	NAG 5 12061	512
99	UNIV OF VIRGINIA	J HILLMAN	GSFC	R BARAGIOLA	NAG 5 13330	513
99	UNIV OF VIRGINIA	K BLANDING	GSFC	R JOHNSON	NGT 5 50385	514
99	UNIV OF VIRGINIA	L SMITH	GSFC	M C WIENER	NGT 5 50305	514
99	UNIV OF VIRGINIA	M MEYER	GSFC	S MACKO	NAG 5 9758	511
99	UNIV OF VIRGINIA	M SALAMON	GSFC	R CHEVALIER	NAG 5 13272	513
99	UNIV OF VIRGINIA	M WEI	GSFC	J FUENTES	NGT 5 30365	514

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99	UNIV OF VIRGINIA	M WEI	GSFC	H SHUGART	NGT 5 30418	514
99	UNIV OF VIRGINIA	M WEI	GSFC	P DESANKER	NGT 5 30448	514
99	UNIV OF VIRGINIA	R F MUSHOTZKY	GSFC	G L SARAZIN	NAG 5 13737	513
99	UNIV OF VIRGINIA	T MORGAN	GSFC	R A BARAGIOLA	NAG 5 12620	513
99	UNIV OF WASHINGTON	B J COLLINS	ARC	D CATLING	NGT 2 52295	528
99	UNIV OF WASHINGTON	B J COLLINS	ARC	S HAWLEY	NGT 2 52294	528
99	UNIV OF WASHINGTON	R A GRYMES	ARC	P D WARD	NCC 2 1273	527
99	UNIV OF WASHINGTON	B EMERY	GSFC	A JESSUP	NAG 5 13372	525
99	UNIV OF WASHINGTON	C NIEBUR	GSFC	C LEOVY	NAG 5 13473	526
99	UNIV OF WASHINGTON	C YUHAS	GSFC	P HOBBS	NCC 5 550	527
99	UNIV OF WASHINGTON	D D DETROYE	GSFC	J DECOSMO	NGT 5 40084	528
99	UNIV OF WASHINGTON	D LINDSTROM	GSFC	D CATLING	NAG 5 12672	525
99	UNIV OF WASHINGTON	D LINDSTROM	GSFC	D BROWNLEE	NAG 5 12907	525
99	UNIV OF WASHINGTON	D LINDSTROM	GSFC	D BROWNLEE	NAG 5 13069	525
99	UNIV OF WASHINGTON	D SENSKE	GSFC	K HOLSAAPPLE	NAG 5 11446	524
99	UNIV OF WASHINGTON	G SONNEBORN	GSFC	P SZKODY	NAG 5 13656	526
99	UNIV OF WASHINGTON	J F SPANN	GSFC	M J BRITTNACHER	NAG 5 10903	523
99	UNIV OF WASHINGTON	J FROGEL	GSFC	S HAWLEY	NAG 5 13111	525
99	UNIV OF WASHINGTON	K BLANDING	GSFC	R WINGLEE	NGT 5 50285	528
99	UNIV OF WASHINGTON	K BLANDING	GSFC	J BARDEEN	NGT 5 50298	528
99	UNIV OF WASHINGTON	K BLANDING	GSFC	H ROELINKE	NGT 5 50448	529
99	UNIV OF WASHINGTON	K OGILVIE	GSFC	G PARKS	NAG 5 7114	521
99	UNIV OF WASHINGTON	K PARTINGTON	GSFC	D LETTENMAIER	NAG 5 10092	523
99	UNIV OF WASHINGTON	L SMITH	GSFC	J DALCANTON	NGT 5 50299	528
99	UNIV OF WASHINGTON	M SALAMON	GSFC	J GUNDLACH	NAG 5 12995	525
99	UNIV OF WASHINGTON	M WEI	GSFC	R TYLER	NAG 5 10570	523
99	UNIV OF WASHINGTON	M WEI	GSFC	C NEWHALL	NGT 5 98	528
99	UNIV OF WASHINGTON	M WEI	GSFC	R HOUZE	NGT 5 30378	528
99	UNIV OF WASHINGTON	M WEI	GSFC	C RAYMOND	NGT 5 30445	528
99	UNIV OF WASHINGTON	P E HUNTER	GSFC	T R QUINN	NAG 5 11892	525
99	UNIV OF WASHINGTON	P SAKIMOTO	GSFC	J H LUTZ	NCC 5 605	527
99	UNIV OF WASHINGTON	R J LAWRENCE	GSFC	C S BRETHERTON	NAG 5 13564	526
99	UNIV OF WASHINGTON	S DAVISON	GSFC	V VOGEL	NAG 5 8784	522
99	UNIV OF WASHINGTON	S SAUNDERS	GSFC	K HOLSAAPPLE	NAG 5 13117	525
99	UNIV OF WASHINGTON	W ABDALATI	GSFC	P MOURAD	NAG 5 10114	523
99	UNIV OF WASHINGTON	W ABDALATI	GSFC	D WINEBRENNER	NAG 5 10225	523
99	UNIV OF WASHINGTON	W ABDALATI	GSFC	R LINDSAY	NAG 5 10621	523
99	UNIV OF WASHINGTON	W ABDALATI	GSFC	J MORRISON	NAG 5 11386	524
99	UNIV OF WASHINGTON	D HARM	JSC	D E PARKER	NCC 9 56	527
99	UNIV OF WASHINGTON	D L JAN	JSC	D STAHL	NAG 9 1271	526
99	UNIV OF WASHINGTON	G L MADDREA	LARC	J R HOLTON	NAG 1 2193	520
99	UNIV OF WEST FLORIDA	R CROUCH	GSFC	A K RAJ	NAG 5 8782	173
99	UNIV OF WISCONSIN - GREEN BAY	D D DETROYE	GSFC	R A YINGST	NGT 5 40097	532
99	UNIV OF WISCONSIN - MADISON	W W DOLCI	ARC	C M JOHNSON	NCC 2 5449	537
99	UNIV OF WISCONSIN - MADISON	D WICKLAND	GSFC	S T GOWER	NAG 5 11242	535
99	UNIV OF WISCONSIN - MADISON	D WICKLAND	GSFC	N RAMANKUTTY	NAG 5 13351	536
99	UNIV OF WISCONSIN - MADISON	G SONNEBORN	GSFC	B P WAKKER	NAG 5 13687	536
99	UNIV OF WISCONSIN - MADISON	G STRINGFELLOW	GSFC	P TIMBIE	NAG 5 10204	534
99	UNIV OF WISCONSIN - MADISON	H HASAN	GSFC	J E LAWLER	NAG 5 11436	535
99	UNIV OF WISCONSIN - MADISON	J DODGE	GSFC	A HUANG	NAG 5 13402	536
99	UNIV OF WISCONSIN - MADISON	J HILLMAN	GSFC	L A SROMOVSKY	NAG 5 12012	535
99	UNIV OF WISCONSIN - MADISON	J HILLMAN	GSFC	W M HARRIS	NAG 5 12057	535
99	UNIV OF WISCONSIN - MADISON	J HILLMAN	GSFC	L A SROMOVSKY	NAG 5 12206	535
99	UNIV OF WISCONSIN - MADISON	J HILLMAN	GSFC	L SROMOVSKY	NAG 5 13297	536
99	UNIV OF WISCONSIN - MADISON	J MARRA	GSFC	A WINGUTH	NAG 5 11245	535
99	UNIV OF WISCONSIN - MADISON	L SMITH	GSFC	J FOLEY	NGT 5 30176	538
99	UNIV OF WISCONSIN - MADISON	M WEI	GSFC	J FOLEY	NGT 5 30396	538
99	UNIV OF WISCONSIN - MADISON	P DECOLA	GSFC	M HITCHMAN	NAG 5 11303	535
99	UNIV OF WISCONSIN - MADISON	T LEE	GSFC	G WAHBA	NAG 5 10273	534
99	UNIV OF WISCONSIN - MADISON	W PETERSON	GSFC	W HARRIS	NAG 5 12812	536
99	UNIV OF WISCONSIN - MADISON	A PEEK	SSC	T LILLESAND	NCC13 00004	538
99	UNIV OF WISCONSIN - MADISON	C HILL	SSC	G DIAK	NAG13 99008	537
99	UNIV OF WYOMING	D BOGAN	GSFC	R N HOWELL	NAG 5 8917	538
99	UNIV OF WYOMING	D D DETROYE	GSFC	P E JOHNSON	NGT 5 40102	539
99	UNIV OF WYOMING	D DETROYE	GSFC	P JOHNSON	NCC 5 414	539
99	UNIV OF WYOMING	D DETROYE	GSFC	P E JOHNSON	NCC 5 578	539

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99	UNIV OF WYOMING	D SENSKE	GSFC	R R HOWELL	NAG 5 11730	538
99	UNIV OF WYOMING	J GRANT	GSFC	R HOWELL	NAG 5 8904	538
99	UNIV OF WYOMING	R F MUSHOTZKY	GSFC	M S BROTHERTON	NAG 5 13554	539
99	UTAH STATE UNIV	D DETROYE	GSFC	D BAKER	NGT 5 40047	495
99	UTAH STATE UNIV	D WICKLAND	GSFC	M WHITE	NAG 5 11282	493
99	UTAH STATE UNIV	J SPANN	GSFC	A R BARAKAT	NAG 5 12170	494
99	UTAH STATE UNIV	K BLANDING	GSFC	T BOSE	NGT 5 50398	495
99	UTAH STATE UNIV	M MELLOTT	GSFC	B G FEJER	NAG 5 10215	493
99	UTAH STATE UNIV	M MELLOTT	GSFC	C SWEENSON	NAG 5 13026	494
99	UTAH STATE UNIV	P BUCHANAN	GSFC	J J SOJKA	NAG 5 12117	493
99	UTAH STATE UNIV	A PEEK	SSC	R D RAMSEY	NCC13 00005	495
99	UTAH STATE UNIV	T FRISBIE	SSC	R D RAMSEY	NAG13 03025	494
99	VA POLYTECH INST & ST UNIV	K BLANDING	GSFC	W G HERBERT	NGT 5 50425	518
99	VA POLYTECH INST & ST UNIV	L SMITH	GSFC	B M KLEINER	NGT 5 50260	518
99	VANDERBILT UNIV	D D DETROYE	GSFC	A M STRAUSS	NGT 5 40074	461
99	VANDERBILT UNIV	L P CHAMBERS	GSFC	T G WANG	NAG 5 12429	460
99	VANDERBILT UNIV	P DOTY	MSFC	K A DEBELAK	NAG 8 1662	460
99	VANDERBILT UNIV	P DOTY	MSFC	R J BAYUZICK	NAG 8 1677	460
99	VANDERBILT UNIV	S COLEMAN	MSFC	S H SMARTT	NCC 8 255	461
99	VIRGINIA COMMONWEALTH UNIV	H THRONSON	GSFC	G WNEK	NAG 5 12560	519
99	VIRGINIA COMMONWEALTH UNIV	J S LOGAN	JSC	R C MERRELL	NCC 9 148	519
99	VOORHEES COLL	C PERSON	GSFC	C SMITH	NAG 5 9624	455
99	WASHINGTON STATE UNIV	M AVERNER	GSFC	B W POOVAIAH	NAG 5 11364	529
99	WASHINGTON STATE UNIV	M SALAMON	GSFC	S BODE	NAG 5 12837	529
99	WASHINGTON STATE UNIV	M WEI	GSFC	L JAEGLE	NAG 5 10637	529
99	WASHINGTON UNIV - ST. LOUIS	D E SMITH	GSFC	R J PHILLIPS	NAG 5 4435	326
99	WASHINGTON UNIV - ST. LOUIS	D LINDSTROM	GSFC	C HOHENBERT	NAG 5 12885	329
99	WASHINGTON UNIV - ST. LOUIS	D LINDSTROM	GSFC	F A PODOSEK	NAG 5 13166	329
99	WASHINGTON UNIV - ST. LOUIS	D LINDSTROM	GSFC	C FLOSS	NAG 5 13467	329
99	WASHINGTON UNIV - ST. LOUIS	D SENSKE	GSFC	R ARVIDSON	NAG 5 10158	327
99	WASHINGTON UNIV - ST. LOUIS	D SENSKE	GSFC	B JOLLIFF	NAG 5 10227	327
99	WASHINGTON UNIV - ST. LOUIS	J FROGEL	GSFC	H KRAWSZNSKI	NAG 5 12974	329
99	WASHINGTON UNIV - ST. LOUIS	J GARVIN	GSFC	B JOLIFF	NAG 5 12684	329
99	WASHINGTON UNIV - ST. LOUIS	J HILLMAN	GSFC	B FEGLEY	NAG 5 11958	328
99	WASHINGTON UNIV - ST. LOUIS	K BLANDING	GSFC	M ISRAEL	NGT 5 50240	330
99	WASHINGTON UNIV - ST. LOUIS	K BLANDING	GSFC	J AMEND	NGT 5 50348	330
99	WASHINGTON UNIV - ST. LOUIS	K BLANDING	GSFC	M ISRAEL	NGT 5 50386	330
99	WASHINGTON UNIV - ST. LOUIS	K BLANDING	GSFC	M SWARTOUT	NGT 5 50402	330
99	WASHINGTON UNIV - ST. LOUIS	M MEYER	GSFC	A WANG	NAG 5 12114	328
99	WASHINGTON UNIV - ST. LOUIS	P CRANE	GSFC	C M WILL	NAG 5 10186	327
99	WASHINGTON UNIV - ST. LOUIS	S SAUNDERS	GSFC	R ARVIDSON	NAG 5 13118	329
99	WASHINGTON UNIV - ST. LOUIS	S SAUNDERS	GSFC	R PHILLIPS	NAG 5 13243	329
99	WASHINGTON UNIV - ST. LOUIS	S SAUNDERS	GSFC	B JOLIFF	NAG 5 13594	329
99	WESLEYAN UNIV	P E HUNTER	GSFC	M S GILMORE	NAG 5 12001	142
99	WEST VIRGINIA STATE COLL	M MATHEWS	GSFC	J MAYHUGH	NAG 5 11088	530
99	WEST VIRGINIA STATE COLL	M MATHEWS	GSFC	E V GRIFFIN	NAG 5 11103	530
99	WEST VIRGINIA UNIV	D DETROYE	GSFC	M JARAIEDI	NCC 5 570	531
99	WEST VIRGINIA UNIV	D DETROYE	GSFC	M JARAIEDI	NGT 5 40120	531
99	WEST VIRGINIA UNIV	G BLANEY	GSFC	E J PYLE	NAG 5 12608	530
99	WEST VIRGINIA UNIV	M MELLOTT	GSFC	M KOEPKE	NAG 5 10218	530
99	WESTERN KENTUCKY UNIV	D D DETROYE	GSFC	R HACKNEY	NGT 5 40105	226
99	WESTERN KENTUCKY UNIV	D DETROYE	GSFC	R HACKNEY	NCC 5 222	226
99	WESTERN KENTUCKY UNIV	D DETROYE	GSFC	R HACKNEY	NCC 5 396	226
99	WESTERN KENTUCKY UNIV	D DETROYE	GSFC	R HACKNEY	NCC 5 571	226
99	WHEELING JESUIT UNIV	N CHEEKS	GSFC	J P ALLEN	NCC 5 440	531
99	WHEELING JESUIT UNIV	P SAKIMOTO	GSFC	N NAIK	NCC 5 604	531
99	WHEELING JESUIT UNIV	P STEFFEN	GSFC	N STRUM	NAG 5 12489	531
99	WHEELING JESUIT UNIV	P STEFFEN	GSFC	N NAIK	NAG 5 13782	531
99	WHEELING JESUIT UNIV	S CANRIGHT	GSFC	N NAIK	NCC 5 451	531
99	WOODS HOLE OCEANOGRAPHIC INST	C TREES	GSFC	S DONEY	NAG 5 12520	300
99	WOODS HOLE OCEANOGRAPHIC INST	C TREES	GSFC	W MCGILLIS	NAG 5 13449	301
99	WOODS HOLE OCEANOGRAPHIC INST	E LINDTSROM	GSFC	R SCHMITT	NAG 5 12444	300
99	WOODS HOLE OCEANOGRAPHIC INST	J MARRA	GSFC	D MCGILLICUDDY	NAG 5 11265	300
99	WOODS HOLE OCEANOGRAPHIC INST	W ABDALLATI	GSFC	J YANG	NAG 5 13753	301
99	WORCESTER POLYTECH INST	A SIMPSON	GSFC	F J LOOFT	NAG 5 12962	301
99	WORCESTER POLYTECH INST	S J BRODEUR	GSFC	F J LOOFT	NAG 5 11755	301

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99	WRIGHT STATE UNIV	M J PATTERON	GRC	J A MENART	NAG 3 2907	419
99	WRIGHT STATE UNIV	C NIEBUR	GSFC	J FOX	NAG 5 13313	420
99	WRIGHT STATE UNIV	D BOGAN	GSFC	J L FOX	NAG 5 12755	420
99	WRIGHT STATE UNIV	R S WILLIAMS	GSFC	S MOHLER	NGT 5 30428	420
99	XAVIER UNIV - LOUISIANA	C COLLINGSWORTH	GSFC	A CHATTERS	NGT 5 70010	231
99	XAVIER UNIV - LOUISIANA	C HOLLINGSWORTH	GSFC	A Z CHATTERS	NAG 5 13751	231
99	XAVIER UNIV - LOUISIANA	C PERSON	GSFC	A Z CHATTERS	NGT 5 90086	231
99	YALE UNIV	G GUTMAN	GSFC	L M CURRAN	NAG 5 11335	143
99	YALE UNIV	J GARVIN	GSFC	J GREENWOOD	NAG 5 12689	143
99	YALE UNIV	J H SWANK	GSFC	C D BAILYN	NAG 5 13777	144
99	YALE UNIV	J HILLMAN	GSFC	D RABINOWITZ	NAG 5 13369	143
99	YALE UNIV	K BLANDING	GSFC	C E BAILYN	NGT 5 50287	144
99	YALE UNIV	K BLANDING	GSFC	D PROBER	NGT 5 50467	144
99	YALE UNIV	M SALAMON	GSFC	P DEMARQUE	NAG 5 13299	143
99	YALE UNIV	M WEI	GSFC	D FISH	NGT 5 30371	144
99	YALE UNIV	M WEI	GSFC	L M CURRAN	NGT 5 30457	144