

NASA SCIENTIFIC AND TECHNICAL PUBLICATIONS

(NASA-SP-7063(05)) NASA SCIENTIFIC AND
TECHNICAL PUBLICATIONS: A CATALOG OF SPECIAL
PUBLICATIONS, REFERENCE PUBLICATIONS,
CONFERENCE PUBLICATIONS, AND TECHNICAL
PAPERS, 1987-1990 (NASA) 174 p CSCL 05B 00/82

N91-24939

Unclass
0012239

A CATALOG OF SPECIAL PUBLICATIONS, REFERENCE
PUBLICATIONS, CONFERENCE PUBLICATIONS, AND
TECHNICAL PAPERS 1987-1990

This document is available from the National Technical Information Service (NTIS), Springfield, Virginia 22161 as PR 890.

PREFACE

The pursuit of human knowledge through scientific research and technical endeavor has vastly expanded understanding of our world and the universe we live in. The contributions of NASA through scientific and technical research and development affect not only our understanding and use of aeronautics and space but also touch our daily lives. Geologists, oceanographers, meteorologists, archaeologists, aircraft engineers, aerospace decision makers, land-use planners, historians, and rescue teams all make use of the results of NASA's research. The findings of this research and development are published in NASA's scientific and technical report series as a part of NASA's mandate to disseminate the results of the agency's far-reaching work.

This catalog provides a cumulative list of NASA publications from four report series entered into the NASA Scientific and Technical Information Database during the accession years 1987 through 1990. For previous lists, see *Records of Achievement: NASA Special Publications*, NASA SP-470 (accession number N83-33792), *NASA Scientific and Technical Publications: A Catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1977-1986*, NASA SP-7063(01) (accession number N87-30218). Supplements 02, 03, and 04 of this catalog list NASA publications announced in 1987, 1988, and 1989, respectively.

Two semimonthly abstract journals cover all aspects of aeronautics and space research, NASA and non-NASA, nationally and worldwide. *STAR (Scientific and Technical Aerospace Reports)*, focuses on scientific and technical reports, and *IAA (International Aerospace Abstracts)*, covers the open literature. These are available by subscription from, respectively, the U.S. Government Printing Office and the American Institute of Aeronautics and Astronautics, Inc., (see page vi).

This catalog includes publicly available reports from four NASA report series: Special Publications (SPs), Reference Publications (RPs), Conference Publications (CPs), and Technical Papers (TPs). The scope of each series is defined as follows:

Special Publications are often concerned with subjects of substantial public interest. They report scientific and technical information derived from NASA programs for audiences of diverse technical backgrounds.

Reference Publications contain compilations of scientific and technical data of continuing reference value.

Conference Publications record the proceedings of scientific and technical symposia and other professional meetings sponsored or cosponsored by NASA.

Technical Papers present the results of significant research conducted by NASA scientists and engineers.

Presented here are citations for reports from each of these series. An explanation of the elements in a typical citation follows. Accession numbers (N numbers) at the end of a citation are separate citations to articles within the report. Please use *STAR* to locate these citations.

Also note that some bibliographies in the NASA SP-7000 series are issued periodically. This catalog lists only the last accessioned report in each bibliography series. The periodicity of each bibliography is as follows:

NASA SP-7011	<i>Aerospace Medicine and Biology: A Continuing Bibliography with Indexes</i>	Monthly plus annual cumulative index
NASA SP-7037	<i>Aeronautical Engineering: A Continuing Bibliography with Indexes</i>	Monthly plus annual cumulative index
NASA SP-7039	<i>NASA Patent Abstracts Bibliography: A Continuing Bibliography Section 1: Abstracts; Section 2: Indexes</i>	Semiannual

NASA SP-7046	<i>Technology for Large Space Systems: A Bibliography with Indexes</i>	Semiannual
NASA SP-7056	<i>Space Station Systems: A Bibliography with Indexes</i>	Semiannual
NASA SP-7500	<i>Management: A Bibliography for NASA Managers</i>	Annual

Please note that the reports cited in this catalog are available for purchase from the U.S. Government Printing Office for a limited time after publication, depending on public demand, and from the National Technical Information Service (NTIS) with no time limit. They are also available at any Federal Regional Depository Library. Additional availability information follows, including current NTIS price schedules, which are keyed to the price code in the citation.

TYPICAL CITATION AND ABSTRACT

NASA SPONSORED
↓
ON MICROFICHE
↓

ACCESSION NUMBER → **N90-23837*** # National Aeronautics and Space Administration. ← **CORPORATE SOURCE**
 Goddard Space Flight Center, Greenbelt, MD.

TITLE → **NIMBUS-7 TOMS ANTARCTIC OZONE ATLAS: AUGUST THROUGH NOVEMBER, 1989**

AUTHORS → **ARLIN J. KRUEGER, LANNING M. PENN, DAVID E. LARKO, SCOTT D. DOIRON, and PATRICIA T. GUIMARAES (ST Systems Corp., Vienna, VA.)** Jul. 1990, 176 p

REPORT NUMBERS → (NASA-RP-1237; NAS 1.61:1237; REPT-90B00114) Avail: NTIS ← **PUBLICATION DATE**
 HC A09/MF A01 CSCL 04B ← **AVAILABILITY SOURCE**

PRICE CODE →

Because of the great environmental significance of ozone and to support continuing research at the Antarctic and other Southern Hemisphere stations, the development of the 1989 ozone hole was monitored using data from the Nimbus-7 Total Ozone Mapping Spectrometer (TOMS) instrument, produced in near-real-time. This Atlas provides a complete set of daily polar orthographic projections of the TOMS total ozone measurements over the Southern Hemisphere for the period August 1 through November 30, 1989. The 1989 ozone hole developed in a manner similar to that of 1987, reaching a comparable depth in early October. This was in sharp contrast to the much weaker hole of 1988. The 1989 ozone hole remained at polar latitudes as it filled in November, in contrast to other recent years when the hole drifted to mid-latitudes before disappearing. Daily ozone values above selected Southern Hemisphere stations are presented, along with comparisons of the 1989 ozone distribution to that of other years.

Author

TYPICAL CITATION AND SUBJECT TERMS

NASA SPONSORED
↓
ON MICROFICHE
↓

ACCESSION NUMBER → **N90-17647*** # National Aeronautics and Space Administration. ← **CORPORATE SOURCE**
 Langley Research Center, Hampton, VA.

TITLE → **CAST-10-2/DOA 2 AIRFOIL STUDIES WORKSHOP RESULTS**

AUTHORS → **EDWARD J. RAY, comp. and ACQUILLA S. HILL, comp.** Washington Nov. 1989 259 p Workshop held in Hampton, VA, 23-27 Sep. 1988

REPORT NUMBERS → (NASA-CP-3052; L-16633; NAS 1.55:3052) Avail: NTIS HC ← **PUBLICATION DATE**
PRICE CODE → A12/MF A02 CSCL 14B ← **AVAILABILITY SOURCE**

Subject Terms:
 AERODYNAMIC CHARACTERISTICS, AERODYNAMIC INTERFERENCE, AIRFOIL PROFILES, AIRFOILS, CONFERENCES, FLOW DISTRIBUTION, REYNOLDS NUMBER, WIND TUNNEL TESTS

SOURCES OF NASA PUBLICATIONS

The source from which a publication is available to the public is given in each citation. Addresses for these organizations are given below.

U.S. Government Printing Office

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

(202) 783-3238 Price and order information

Publications are available from GPO in hardcopy for a limited time after publication and initial distribution. The price and order number are given following the availability line.

National Technical Information Service

National Technical Information Service
5285 Port Royal Rd.
Springfield, VA 22161

(703) 487-4780 Information or document accession number

(703) 487-4650 Sales desk, price information

(703) 487-4630 Subscription information for subscription bibliographies (in the SP-7000 series)

Prices for hardcopy and microfiche are indicated by a price code preceded by the letters HC or MF in the citation. Current values for the price codes are given in the NTIS Price Schedules. Publications available on microfiche are identified by a # symbol following the accession number. Note: The # symbol is used without regard to the source or quality of the microfiche.

Public Collections of NASA Documents

Federal Depository Library Program: In order to provide the general public with greater access to U.S. Government publications, Congress established the Federal Depository Library Program under the Government Printing Office (GPO), with 51 regional depositories responsible for permanent retention of material, inter-library loan, and reference services. At least one copy of nearly every NASA publication, either in printed or microfiche format, is received and retained by the 51 regional depositories. A list of the regional GPO libraries, arranged alphabetically by state, follows. These libraries are *not* sales outlets. A local library can contact a Regional Depository to help locate specific reports, or direct contact may be made by an individual.

Other Domestic: NASA publications are also available to the public for reference purposes at the library maintained by the American Institute of Aeronautics and Astronautics, Technical Information Service, 555 West 57th Street, 12th Floor, New York, NY 10019, (212) 247-6500.

European: An extensive collection of NASA publications is maintained by the British Library Lending Division, Boston Spa, Wetherby, Yorkshire, England for public access. European requesters may purchase facsimile copy or microfiche of NASA documents, those identified by both the symbols # and *, from ESA, Information Retrieval Service, European Space Agency; 8-10 rue Mario-Nikis, 75738 Paris CEDEX 15, France.

NASA Scientific and Technical Information Facility

NASA publications are available to NASA personnel, NASA contractors, other government agencies and their contractors, and universities through local technical libraries. The NASA Scientific and Technical Information Facility makes these publications available to registered users, but not to the general public.

For registration information contact:

NASA STI Facility
P.O. Box 8757
BWI Airport, MD 21240

(301) 621-0153 Registration information

NTIS PRICE SCHEDULES

(Effective January 1, 1991)

Schedule A STANDARD PRICE DOCUMENTS AND MICROFICHE**

PRICE CODE	NORTH AMERICAN PRICE	FOREIGN PRICE
A01	\$ 8.00	\$ 16.00
A02	11.00	22.00
A03	15.00	30.00
A04-A05	17.00	34.00
A06-A09	23.00	46.00
A10-A13	31.00	62.00
A14-A17	39.00	78.00
A18-A21	45.00	90.00
A22-A25	53.00	106.00
A99	*	*
N01	60.00	120.00
N02	59.00	118.00
N03	20.00	40.00

Schedule E EXCEPTION PRICE DOCUMENTS AND MICROFICHE**

PRICE CODE	NORTH AMERICAN PRICE	FOREIGN PRICE
E01	\$10.00	\$ 20.00
E02	12.00	24.00
E03	14.00	28.00
E04	16.50	33.00
E05	18.50	37.00
E06	21.50	43.00
E07	24.00	48.00
E08	27.00	54.00
E09	29.50	59.00
E10	32.50	65.00
E11	35.00	70.00
E12	38.50	77.00
E13	41.00	82.00
E14	45.00	90.00
E15	48.50	97.00
E16	53.00	106.00
E17	57.50	115.00
E18	62.00	124.00
E19	69.00	138.00
E20	80.00	160.00
E99	*	*

* Contact NTIS for price quote.

** Effective January 1, 1991, the microfiche copy of any new document entering the NTIS collection will be priced the same as the paper copy of the document.

IMPORTANT NOTICE

NTIS Shipping and Handling Charges

U.S., Canada, Mexico — ADD \$3.00 per TOTAL ORDER

All Other Countries — ADD \$4.00 per TOTAL ORDER

Exceptions — Does NOT apply to:

ORDERS REQUESTING NTIS RUSH HANDLING
ORDERS FOR SUBSCRIPTION OR STANDING ORDER PRODUCTS ONLY

NOTE: Each additional delivery address on an order
requires a separate shipping and handling charge.

FEDERAL REGIONAL DEPOSITORY LIBRARIES

ALABAMA

AUBURN UNIV. AT MONTGOMERY LIBRARY
Documents Department
Montgomery, AL 36193
(205) 279-9110 ext.253

UNIV. OF ALABAMA LIBRARY
Reference Department/Documents
Box S
Tuscaloosa, AL 35486
(205) 348-6046

ARIZONA

**DEPT. OF LIBRARY, ARCHIVES,
AND PUBLIC RECORDS**
Third Floor State Capitol
1700 West Washington
Phoenix, AZ 85007
(602) 255-4121

ARKANSAS

ARKANSAS STATE LIBRARY
Documents Service Section
One Capitol Mall
Little Rock, AR 72201
(501) 371-2090

CALIFORNIA

CALIFORNIA STATE LIBRARY
Govt. Publications Section
914 Capitol Mall
Sacramento, CA 95814
(916) 322-4572

COLORADO

**UNIV. OF COLORADO
Norlin Library**
Government Publications Division
Campus Box 184
Boulder, CO 80309
(303) 492-8834

DENVER PUBLIC LIBRARY

Govt. Pub. Department
1357 Broadway
Denver, CO 80203
(303) 571-2346

CONNECTICUT

CONNECTICUT STATE LIBRARY
231 Capitol Avenue
Hartford, CT 06106
(203) 566-4971

FLORIDA

UNIV. OF FLORIDA LIBRARIES
Documents Department
Library West
Gainesville, FL 32611
(904) 392-0367

GEORGIA

UNIV. OF GEORGIA LIBRARIES
Government Documents Dept.
Athens, GA 30602
(404) 542-8949

HAWAII

UNIV. OF HAWAII
Hamilton Library
Government Documents Collection
2550 The Mall
Honolulu, HI 96822
(808) 948-8230

IDAHO

UNIV. OF IDAHO LIBRARY
Documents Section
Moscow, ID 83843
(208) 885-6344

ILLINOIS

ILLINOIS STATE LIBRARY
Federal Documents
Centennial Building
Springfield, IL 62756
(217) 782-5012

INDIANA

INDIANA STATE LIBRARY
Serials Section
140 North Senate Avenue
Indianapolis, IN 46204
(317) 232-3686

IOWA

UNIV. OF IOWA LIBRARIES
Government Publications Dept.
Iowa City, IA 52242
(319) 335-5926

KANSAS

UNIVERSITY OF KANSAS
Spencer Research Library
Government Documents
Lawrence, KS 66045
(913) 864-4662

KENTUCKY

UNIV. OF KENTUCKY LIBRARIES
Government Publications/Maps Dept.
Lexington, KY 40506
(606) 257-8400

LOUISIANA

LOUISIANA STATE UNIVERSITY
Middleton Library
Government Documents Dept.
Baton Rouge, LA 70803
(504) 388-2570

LOUISIANA TECHNICAL UNIV.

Prescott Memorial Library
Government Documents Dept.
Ruston, LA 71272
(318) 257-4962

MAINE

UNIVERSITY OF MAINE
Raymond H. Fogler Library
Govt. Documents & Microforms Dept.
Orono, ME 04469
(207) 581-1680

MARYLAND

UNIVERSITY OF MARYLAND
McKeldin Library
Documents/Maps Room
College Park, MD 20742
(301) 454-3034

MASSACHUSETTS

BOSTON PUBLIC LIBRARY
Government Documents Dept.
666 Boylston Street
Boston, MA 02117
(617) 536-5400 ext.226

MICHIGAN

DETROIT PUBLIC LIBRARY
5201 Woodward Avenue
Detroit, MI 48202
(313) 833-1409

LIBRARY OF MICHIGAN

Government Documents
P.O. Box 30007
735 E. Michigan Avenue
Lansing, MI 48909
(517) 373-1593

MINNESOTA

UNIVERSITY OF MINNESOTA
Wilson Library
Government Publications
309 Nineteenth Avenue South
Minneapolis, MN 55455
(612) 373-7813

MISSISSIPPI

UNIV. OF MISSISSIPPI LIB.
Government Documents Dept.
106 Old Gym Bldg.
University, MS 38677
(601) 232-5857

MISSOURI

**University of Missouri at
Columbia Library**
Government Documents
Columbia, MO 65201
(314) 882-6733

MONTANA

UNIV. OF MONTANA
Mansfield Library
Documents Division
Missoula, MT 59812
(406) 243-6700

NEBRASKA

**UNIVERSITY OF NEBRASKA -
LINCOLN**
Love Memorial Library
Documents Department
Lincoln, NE 68588
(402) 472-2562

NEVADA

UNIV. OF NEVADA-RENO LIB.
Govt. Pub. Department
Reno, NV 89557
(702) 784-6579

NEW JERSEY

NEWARK PUBLIC LIBRARY
U.S. Documents Division
5 Washington Street
P.O. Box 630
Newark, NJ 07101
(201) 733-7812

NEW MEXICO

UNIVERSITY OF NEW MEXICO
General Library
Government Publications/Maps Dept.
Albuquerque, NM 87131
(505) 277-5441

NEW MEXICO STATE LIBRARY

325 Don Gaspar Avenue
Santa Fe, NM 87501
(505) 827-3826

NEW YORK

NEW YORK STATE LIBRARY
Documents Sect. Cultural Educ. Ctr.
Empire State Plaza
Albany, NY 12230
(518) 474-5563

NORTH CAROLINA

**UNIVERSITY OF NORTH CAROLINA
AT CHAPEL HILL**
Davis Library 080A
BA/SS Department Documents
Chapel Hill, NC 27514
(919) 962-1151

NORTH DAKOTA

**NORTH DAKOTA STATE
UNIVERSITY LIBRARY**
Government Documents Dept.
Fargo, ND 58105
(701) 237-8352
In cooperation with Univ. of North
Dakota, Chester Fritz Library
Grand Forks

OHIO

STATE LIBRARY OF OHIO
Documents Section
65 South Front Street
Columbus, OH 43266
(614) 644-7051

OKLAHOMA

OKLAHOMA DEPT. OF LIBRARIES
Government Documents
200 NE 18th Street
Oklahoma City, OK 73105
(405) 521-2502, ext. 252

OKLAHOMA STATE UNIV. LIB.
Documents Department
Stillwater, OK 74078
(405) 624-0489

OREGON

PORTLAND STATE UNIV.
Millar Library
934 SW Harrison - P.O. Box 1151
Portland, OR 97207
(503) 229-3673

PENNSYLVANIA

STATE LIBRARY OF PENN.
Government Publications Section
Box 1601
Walnut St. & Commonwealth Ave.
Harrisburg, PA 17105
(717) 787-3752

SOUTH CAROLINA

CLEMSON UNIV. COOPER LIB.
Documents Department
Clemson, SC 29634
(803) 656-5174
In cooperation with Univ. of South
Carolina, Thomas Cooper Library,
Columbia

TEXAS

TEXAS STATE LIBRARY
Public Services Department
P.O. Box 12927 - 1201 Brazos
Austin, TX 78711
(512) 463-5455

TEXAS TECH. UNIV. LIBRARY

Documents Department
Lubbock, TX 79409
(806) 742-2268

UTAH

UTAH STATE UNIVERSITY
Merrill Library & Learning Resources
Center, UMC-30
Documents Department
Logan, UT 84322
(801) 750-2682

VIRGINIA

UNIVERSITY OF VIRGINIA
Alderman Library
Government Documents
Charlottesville, VA 22903
(804) 924-3133

WASHINGTON

WASHINGTON STATE LIBRARY
Document Section
Olympia, WA 98504
(206) 753-4027

WEST VIRGINIA

WEST VIRGINIA UNIV. LIB.
Government Documents Section
P.O. Box 6069
Morgantown, WV 26506
(304) 293-3640

WISCONSIN

ST. HIST. SOC. OF WISCONSIN LIB.
Government Pub. Section
816 State Street
Madison, WI 53706
(608) 262-2781
In cooperation with Univ. of Wisconsin-
Madison, Memorial Library

MILWAUKEE PUBLIC LIBRARY

Documents Division
814 West Wisconsin Avenue
Milwaukee, WI 53233
(414) 278-3065

WYOMING

WYOMING STATE LIBRARY
Supreme Court & Library Bldg.
Cheyenne, WY 82002
(307) 777-5919

TABLE OF CONTENTS

AERONAUTICS For related information see also *Aeronautics*.

01 AERONAUTICS (GENERAL)	1
02 AERODYNAMICS	2
Includes aerodynamics of bodies, combinations, wings, rotors, and control surfaces; and internal flow in ducts and turbomachinery. For related information see also <i>34 Fluid Mechanics and Heat Transfer</i> .	
03 AIR TRANSPORTATION AND SAFETY	12
Includes passenger and cargo air transport operations; and aircraft accidents. For related information see also <i>16 Space Transportation</i> and <i>85 Urban Technology and Transportation</i> .	
04 AIRCRAFT COMMUNICATIONS AND NAVIGATION	13
Includes digital and voice communication with aircraft; air navigation systems (satellite and ground based); and air traffic control. For related information see also <i>17 Space Communications, Spacecraft Communications, Command and Tracking</i> and <i>32 Communications and Radar</i> .	
05 AIRCRAFT DESIGN, TESTING AND PERFORMANCE	13
Includes aircraft simulation technology. For related information see also <i>18 Spacecraft Design, Testing and Performance</i> and <i>39 Structural Mechanics</i> . For land transportation vehicles see <i>85 Urban Technology and Transportation</i> .	
06 AIRCRAFT INSTRUMENTATION	16
Includes cockpit and cabin display devices; and flight instruments. For related information see also <i>19 Spacecraft Instrumentation</i> and <i>35 Instrumentation and Photography</i> .	
07 AIRCRAFT PROPULSION AND POWER	17
Includes prime propulsion systems and systems components, e.g., gas turbine engines and compressors; and onboard auxiliary power plants for aircraft. For related information see also <i>20 Spacecraft Propulsion and Power</i> , <i>28 Propellants and Fuels</i> , and <i>44 Energy Production and Conversion</i> .	
08 AIRCRAFT STABILITY AND CONTROL	19
Includes aircraft handling qualities; piloting; flight controls; and autopilots. For related information see also <i>05 Aircraft Design, Testing and Performance</i> .	
09 RESEARCH AND SUPPORT FACILITIES (AIR)	21
Includes airports, hangars and runways; aircraft repair and overhaul facilities; wind tunnels; shock tubes; and aircraft engine test stands. For related information see also <i>14 Ground Support Systems and Facilities (Space)</i> .	

ASTRONAUTICS For related information see also *Aeronautics*.

12 ASTRONAUTICS (GENERAL)	22
For extraterrestrial exploration see <i>91 Lunar and Planetary Exploration</i> .	
13 ASTRODYNAMICS	23
Includes powered and free-flight trajectories; and orbital and launching dynamics.	
14 GROUND SUPPORT SYSTEMS AND FACILITIES (SPACE)	23
Includes launch complexes, research and production facilities; ground support equipment, e.g., mobile transporters; and simulators. For related information see also <i>09 Research and Support Facilities (Air)</i> .	
15 LAUNCH VEHICLES AND SPACE VEHICLES	23
Includes boosters; operating problems of launch/space vehicle systems; and reusable vehicles. For related information see also <i>20 Spacecraft Propulsion and Power</i> .	
16 SPACE TRANSPORTATION	24
Includes passenger and cargo space transportation, e.g., shuttle operations; and space rescue techniques. For related information see also <i>03 Air Transportation and Safety</i> and <i>18 Spacecraft Design, Testing and Performance</i> . For space suits see <i>54 Man/System Technology and Life Support</i> .	
17 SPACE COMMUNICATIONS, SPACECRAFT COMMUNICATIONS, COMMAND AND TRACKING .	N.A.
Includes telemetry; space communications networks; astronavigation and guidance; and radio blackout. For related information see also <i>04 Aircraft Communications and Navigation</i> and <i>32 Communications and Radar</i> .	

N.A.—no abstracts were assigned to this category for this issue.

18 SPACECRAFT DESIGN, TESTING AND PERFORMANCE 24
 Includes satellites; space platforms; space stations; spacecraft systems and components such as thermal and environmental controls; and attitude controls. For life support systems see *54 Man/System Technology and Life Support*. For related information see also *05 Aircraft Design, Testing and Performance*, *39 Structural Mechanics*, and *16 Space Transportation*.

19 SPACECRAFT INSTRUMENTATION N.A.
 For related information see also *06 Aircraft Instrumentation* and *35 Instrumentation and Photography*.

20 SPACECRAFT PROPULSION AND POWER 26
 Includes main propulsion systems and components, e.g., rocket engines; and spacecraft auxiliary power sources. For related information see also *07 Aircraft Propulsion and Power*, *28 Propellants and Fuels*, *44 Energy Production and Conversion*, and *15 Launch Vehicles and Space Vehicles*.

CHEMISTRY AND MATERIALS

23 CHEMISTRY AND MATERIALS (GENERAL) 27

24 COMPOSITE MATERIALS 28
 Includes physical, chemical, and mechanical properties of laminates and other composite materials. For ceramic materials see *27 Nonmetallic Materials*.

25 INORGANIC AND PHYSICAL CHEMISTRY 29
 Includes chemical analysis, e.g., chromatography; combustion theory; electrochemistry; and photochemistry. For related information see also *77 Thermodynamics and Statistical Physics*.

26 METALLIC MATERIALS 30
 Includes physical, chemical, and mechanical properties of metals, e.g., corrosion; and metallurgy.

27 NONMETALLIC MATERIALS 31
 Includes physical, chemical, and mechanical properties of plastics, elastomers, lubricants, polymers, textiles, adhesives, and ceramic materials. For composite materials see *24 Composite Materials*.

28 PROPELLANTS AND FUELS N.A.
 Includes rocket propellants, igniters and oxidizers; their storage and handling procedures; and aircraft fuels. For related information see also *07 Aircraft Propulsion and Power*, *20 Spacecraft Propulsion and Power*, and *44 Energy Production and Conversion*.

29 MATERIALS PROCESSING 32
 Includes space-based development of products and processes for commercial application. For biological materials see *55 Space Biology*.

ENGINEERING For related information see also *Physics*.

31 ENGINEERING (GENERAL) 32
 Includes vacuum technology; control engineering; display engineering; cryogenics; and fire prevention.

32 COMMUNICATIONS AND RADAR 33
 Includes radar; land and global communications; communications theory; and optical communications. For related information see also *04 Aircraft Communications and Navigation* and *17 Space Communications, Spacecraft Communications, Command and Tracking*. For search and rescue see *03 Air Transportation and Safety*, and *16 Space Transportation*.

33 ELECTRONICS AND ELECTRICAL ENGINEERING 34
 Includes test equipment and maintainability; components, e.g., tunnel diodes and transistors; microminiaturization; and integrated circuitry. For related information see also *60 Computer Operations and Hardware* and *76 Solid-State Physics*.

34 FLUID MECHANICS AND HEAT TRANSFER 35
 Includes boundary layers; hydrodynamics; fluidics; mass transfer and ablation cooling. For related information see also *02 Aerodynamics* and *77 Thermodynamics and Statistical Physics*.

35 INSTRUMENTATION AND PHOTOGRAPHY 39
 Includes remote sensors; measuring instruments and gauges; detectors; cameras and photographic supplies; and holography. For aerial photography see *43 Earth Resources and Remote Sensing*. For related information see also *06 Aircraft Instrumentation* and *19 Spacecraft Instrumentation*.

36 LASERS AND MASERS 40
 Includes parametric amplifiers. For related information see also *76 Solid-State Physics*.

37 MECHANICAL ENGINEERING	41
Includes auxiliary systems (nonpower); machine elements and processes; and mechanical equipment.	
38 QUALITY ASSURANCE AND RELIABILITY	42
Includes product sampling procedures and techniques; and quality control.	
39 STRUCTURAL MECHANICS	42
Includes structural element design and weight analysis; fatigue; and thermal stress. For applications see <i>05 Aircraft Design, Testing and Performance</i> and <i>18 Spacecraft Design, Testing and Performance</i> .	
GEOSCIENCES For related information see also <i>Space Sciences</i> .	
42 GEOSCIENCES (GENERAL)	47
43 EARTH RESOURCES AND REMOTE SENSING	48
Includes remote sensing of earth resources by aircraft and spacecraft; photogrammetry; and aerial photography. For instrumentation see <i>35 Instrumentation and Photography</i> .	
44 ENERGY PRODUCTION AND CONVERSION	50
Includes specific energy conversion systems, e.g., fuel cells; global sources of energy; geophysical conversion; and windpower. For related information see also <i>07 Aircraft Propulsion and Power</i> , <i>20 Spacecraft Propulsion and Power</i> , and <i>28 Propellants and Fuels</i> .	
45 ENVIRONMENT POLLUTION	51
Includes atmospheric, noise, thermal, and water pollution.	
46 GEOPHYSICS	51
Includes aeronomy; upper and lower atmosphere studies; ionospheric and magnetospheric physics; and geomagnetism. For space radiation see <i>93 Space Radiation</i> .	
47 METEOROLOGY AND CLIMATOLOGY	55
Includes weather forecasting and modification.	
48 OCEANOGRAPHY	58
Includes biological, dynamic, and physical oceanography; and marine resources. For related information see also <i>43 Earth Resources and Remote Sensing</i> .	
LIFE SCIENCES	
51 LIFE SCIENCES (GENERAL)	58
52 AEROSPACE MEDICINE	59
Includes physiological factors; biological effects of radiation; and effects of weightlessness on man and animals.	
53 BEHAVIORAL SCIENCES	60
Includes psychological factors; individual and group behavior; crew training and evaluation; and psychiatric research.	
54 MAN/SYSTEM TECHNOLOGY AND LIFE SUPPORT	60
Includes human engineering; biotechnology; and space suits and protective clothing. For related information see also <i>16 Space Transportation</i> .	
55 SPACE BIOLOGY	61
Includes exobiology; planetary biology; and extraterrestrial life.	
MATHEMATICAL AND COMPUTER SCIENCES	
59 MATHEMATICAL AND COMPUTER SCIENCES (GENERAL)	61
60 COMPUTER OPERATIONS AND HARDWARE	62
Includes hardware for computer graphics, firmware, and data processing. For components see <i>33 Electronics and Electrical Engineering</i> .	
61 COMPUTER PROGRAMMING AND SOFTWARE	62
Includes computer programs, routines, algorithms, and specific applications, e.g., CAD/CAM.	
62 COMPUTER SYSTEMS	64
Includes computer networks and special application computer systems.	

63 CYBERNETICS	64
Includes feedback and control theory, artificial intelligence, robotics and expert systems. For related information see also <i>54 Man/System Technology and Life Support</i> .	
64 NUMERICAL ANALYSIS	64
Includes iteration, difference equations, and numerical approximation.	
65 STATISTICS AND PROBABILITY	65
Includes data sampling and smoothing; Monte Carlo method; and stochastic processes.	
66 SYSTEMS ANALYSIS	65
Includes mathematical modeling; network analysis; and operations research.	
67 THEORETICAL MATHEMATICS	66
Includes topology and number theory.	
PHYSICS For related information see also <i>Engineering</i> .	
70 PHYSICS (GENERAL)	66
For precision time and time interval (PTTI) see <i>35 Instrumentation and Photography</i> ; for geophysics, astrophysics or solar physics see <i>46 Geophysics</i> , <i>90 Astrophysics</i> , or <i>92 Solar Physics</i> .	
71 ACOUSTICS	66
Includes sound generation, transmission, and attenuation. For noise pollution see <i>45 Environment Pollution</i> .	
72 ATOMIC AND MOLECULAR PHYSICS	67
Includes atomic structure, electron properties, and molecular spectra.	
73 NUCLEAR AND HIGH-ENERGY PHYSICS	68
Includes elementary and nuclear particles; and reactor theory. For space radiation see <i>93 Space Radiation</i> .	
74 OPTICS	68
Includes light phenomena and optical devices. For lasers see <i>36 Lasers and Masers</i> .	
75 PLASMA PHYSICS	68
Includes magnetohydrodynamics and plasma fusion. For ionospheric plasmas see <i>46 Geophysics</i> . For space plasmas see <i>90 Astrophysics</i> .	
76 SOLID-STATE PHYSICS	69
Includes superconductivity. For related information see also <i>33 Electronics and Electrical Engineering</i> and <i>36 Lasers and Masers</i> .	
77 THERMODYNAMICS AND STATISTICAL PHYSICS	N.A.
Includes quantum mechanics; theoretical physics; and Bose and Fermi statistics. For related information see also <i>25 Inorganic and Physical Chemistry</i> and <i>34 Fluid Mechanics and Heat Transfer</i> .	
SOCIAL SCIENCES	
80 SOCIAL SCIENCES (GENERAL)	N.A.
Includes educational matters.	
81 ADMINISTRATION AND MANAGEMENT	69
Includes management planning and research.	
82 DOCUMENTATION AND INFORMATION SCIENCE	70
Includes information management; information storage and retrieval technology; technical writing; graphic arts; and micrography. For computer documentation see <i>61 Computer Programming and Software</i> .	
83 ECONOMICS AND COST ANALYSIS	N.A.
Includes cost effectiveness studies.	
84 LAW, POLITICAL SCIENCE AND SPACE POLICY	72
Includes NASA appropriation hearings; aviation law; space law and policy; international law; international cooperation; and patent policy.	
85 URBAN TECHNOLOGY AND TRANSPORTATION	72
Includes applications of space technology to urban problems; technology transfer; technology assessment; and surface and mass transportation. For related information see <i>03 Air Transportation and Safety</i> , <i>16 Space Transportation</i> , and <i>44 Energy Production and Conversion</i> .	

SPACE SCIENCES For related information see also *Geosciences*.

88 SPACE SCIENCES (GENERAL)	72
89 ASTRONOMY	73
Includes radio, gamma-ray, and infrared astronomy; and astrometry.	
90 ASTROPHYSICS	75
Includes cosmology; celestial mechanics; space plasmas; and interstellar and interplanetary gases and dust. For related information see also <i>75 Plasma Physics</i> .	
91 LUNAR AND PLANETARY EXPLORATION	77
Includes planetology; and manned and unmanned flights. For spacecraft design or space stations see <i>18 Spacecraft Design, Testing and Performance</i> .	
92 SOLAR PHYSICS	79
Includes solar activity, solar flares, solar radiation and sunspots. For related information see <i>93 Space Radiation</i> .	
93 SPACE RADIATION	79
Includes cosmic radiation; and inner and outer earth's radiation belts. For biological effects of radiation see <i>52 Aerospace Medicine</i> . For theory see <i>73 Nuclear and High-Energy Physics</i> .	

GENERAL

Includes aeronautical, astronautical, and space science related histories, biographies, and pertinent reports too broad for categorization; histories or broad overviews of NASA programs.

99 GENERAL	80
SUBJECT INDEX	A-1
PERSONAL AUTHOR INDEX	B-1
REPORT NUMBER INDEX	C-1

AERONAUTICS (GENERAL)

N87-18520*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

JOINT UNIVERSITY PROGRAM FOR AIR TRANSPORTATION RESEARCH, 1983

FREDERICK R. MORRELL, comp. Mar. 1987 80 p Conference held in Atlantic City, N.J., 16 Dec. 1983; sponsored by NASA and FAA

(NASA-CP-2451; L-16254; NAS 1.55:2451) Avail: NTIS HC A05/MF A01 CSCL 01B

AIR NAVIGATION, AIR TRANSPORTATION, AIRCRAFT GUIDANCE, AVIONICS, CONFERENCES, FLIGHT CONTROL

N87-22604*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

JOINT UNIVERSITY PROGRAM FOR AIR TRANSPORTATION RESEARCH, 1984

FREDERICK R. MORRELL, comp. May 1987 165 p Meeting held in Hampton, Va., 18 Jan. 1985

(NASA-CP-2452; L-16255; NAS 1.55:2452) Avail: NTIS HC A08/MF A01 CSCL 01B

AIR TRANSPORTATION, AIRCRAFT CONTROL, AIRCRAFT GUIDANCE, AVIONICS, CONTROL THEORY, SURFACE NAVIGATION

N87-25267*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

WIND SHEAR/TURBULENCE INPUTS TO FLIGHT SIMULATION AND SYSTEMS CERTIFICATION

ROLAND L. BOWLES, ed. and WALTER FROST, ed. (FWG Associates, Inc., Tullahoma, Tenn.) Jul. 1987 272 p Workshop held in Hampton, Va., 30 May - 1 Jun. 1984

(NASA-CP-2474; L-16329; NAS 1.55:2474) Avail: NTIS HC A12/MF A02 CSCL 01B

AIRCRAFT PERFORMANCE, AVIONICS, FLIGHT SAFETY, FLIGHT SIMULATION, PILOT PERFORMANCE, WIND SHEAR

N87-27596*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

JOINT UNIVERSITY PROGRAM FOR AIR TRANSPORTATION RESEARCH, 1985

FREDERICK R. MORRELL, comp. Jul. 1987 100 p Conference held in Atlantic City, N.J., 30 Jan. 1986

(NAS 1.55:2453; NASA-CP-2453) Avail: NTIS HC A05/MF A01 CSCL 01B

AIR TRAFFIC CONTROL, AIR TRANSPORTATION, CONFERENCES, FAULT TOLERANCE, FLIGHT CONTROL, GLOBAL POSITIONING SYSTEM, INERTIAL NAVIGATION

N87-27613* National Aeronautics and Space Administration, Washington, DC.

AERONAUTICAL ENGINEERING: A CONTINUING BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 217)

Sep. 1987 134 p

(NASA-SP-7037(217); NAS 1.21:7037(217)) Avail: NTIS HC A07 CSCL 01B

This bibliography lists 450 reports, articles, and other documents introduced into the NASA scientific and technical information system in August, 1987. Author

N88-14926*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

LANGLEY SYMPOSIUM ON AERODYNAMICS, VOLUME 1

SHARON H. STACK, comp. Dec. 1986 592 p Symposium held in Hampton, Va., 23-25 Apr. 1985

(NASA-CP-2397; L-16031; NAS 1.55:2397) Avail: NTIS HC A25/MF A04 CSCL 01B

AERODYNAMIC CONFIGURATIONS, AIRCRAFT DESIGN, AIRCRAFT MANEUVERS, COMPUTATIONAL FLUID DYNAMICS, CONFERENCES

N88-16625*# National Aeronautics and Space Administration, Washington, DC.

NASA/ARMY ROTORCRAFT TECHNOLOGY. VOLUME 1: AERODYNAMICS, AND DYNAMICS AND AEROELASTICITY

Feb. 1988 537 p Conference held at Moffett Field, Calif., 17-19 Mar. 1987

(NASA-CP-2495-VOL-1; NAS 1.55:2495-VOL-1) Avail: NTIS HC A23/MF A03 CSCL 01B

AEROELASTICITY, COMPUTATIONAL FLUID DYNAMICS, CONFERENCES, FLIGHT CONTROL, HELICOPTERS, ROTOR AERODYNAMICS

N88-16632*# National Aeronautics and Space Administration, Washington, DC.

NASA/ARMY ROTORCRAFT TECHNOLOGY. VOLUME 2: MATERIALS AND STRUCTURES, PROPULSION AND DRIVE SYSTEMS, FLIGHT DYNAMICS AND CONTROL, AND ACOUSTICS

Feb. 1988 587 p Conference held at Moffett Field, Calif., 17-19 Mar. 1987

(NASA-CP-2495-VOL-2; NAS 1.55:2495-VOL-2) Avail: NTIS HC A25/MF A04 CSCL 01B

AEROACOUSTICS, AIRCRAFT DESIGN, CONFERENCES, CONTROLLABILITY, ENGINE DESIGN, FRACTURE MECHANICS, HELICOPTERS, ROTOR AERODYNAMICS

N88-16650*# National Aeronautics and Space Administration, Washington, DC.

NASA/ARMY ROTORCRAFT TECHNOLOGY. VOLUME 3: SYSTEMS INTEGRATION, RESEARCH AIRCRAFT, AND INDUSTRY

Feb. 1988 387 p Conference held at Moffett Field, Calif., 17-19 Mar. 1987

(NASA-CP-2495-VOL-3; NAS 1.55:2495-VOL-3) Avail: NTIS HC A17/MF A03 CSCL 01B

AIRCRAFT DESIGN, FLIGHT TESTS, HELICOPTER PERFORMANCE, ROTARY WING AIRCRAFT, SYSTEMS INTEGRATION

01 AERONAUTICS (GENERAL)

N88-19407*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

GENERAL EQUILIBRIUM CHARACTERISTICS OF A DUAL-LIFT HELICOPTER SYSTEM

L. S. CICOLANI and G. KANNING Jul. 1986 86 p
(NASA-TP-2615; A-86114; NAS 1.60:2615) Avail: NTIS HC A05/MF A01 CSCL 01B

CARGO AIRCRAFT, EQUILIBRIUM, HEAVY LIFT HELICOPTERS, SUSPENDING (HANGING), TETHERING

N88-23715*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

JOINT UNIVERSITY PROGRAM FOR AIR TRANSPORTATION RESEARCH, 1986

FREDERICK R. MORRELL, comp. Apr. 1988 115 p Meeting held in Hampton, Va., 8-9 Jan. 1987; sponsored by NASA, Langley Research Center, Hampton, Va. and FAA, Washington, D.C. Sponsored by NASA, Washington
(NASA-CP-2502; L-16406; NAS 1.55:2502) Avail: NTIS HC A06/MF A01 CSCL 01B

AERODYNAMICS, AIRCRAFT CONTROL, AIRCRAFT GUIDANCE, AVIONICS, SURFACE NAVIGATION

N88-27148*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

INTEGRATED TECHNOLOGY ROTOR METHODOLOGY ASSESSMENT WORKSHOP

MICHAEL J. MCNULTY, ed. and WILLIAM G. BOUSMAN, ed. Jun. 1988 381 p Workshop held in Moffett Field, Calif., 21-22 Jun. 1983; sponsored by NASA, Ames Research Center and the Army Prepared in cooperation with Army Aviation Systems Command, Moffett Field, Calif. Sponsored by NASA, Washington, D.C.
(NASA-CP-10007; A-86381; NAS 1.55:10007; USAAVSCOM-CP-88-A-001; AD-A200007) Avail: NTIS HC A17/MF A03 CSCL 01/2

AERODYNAMIC STABILITY, AEROELASTICITY, CONFERENCES, MATHEMATICAL MODELS, ROTOR AERODYNAMICS, ROTOR BODY INTERACTIONS

N88-27163*# National Aeronautics and Space Administration, Washington, DC.

AERONAUTICAL ENGINEERING: A CONTINUING BIBLIOGRAPHY WITH INDEXES

Aug. 1988 126 p
(NASA-SP-7037(229); NAS 1.21:7037(229)) Avail: NTIS HC A07 CSCL 01B

This bibliography lists 455 reports, articles, and other documents introduced into the NASA scientific and technical information system in July, 1988. Author

N89-19230*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

JOINT UNIVERSITY PROGRAM FOR AIR TRANSPORTATION RESEARCH, 1987

FREDERICK R. MORRELL, comp. Apr. 1989 118 p Presented at a conference held in Atlantic City, NJ, 14-15 Jan. 1988
(NASA-CP-3028; L-16547; NAS 1.55:3028) Avail: NTIS HC A06/MF A01 CSCL 01B

AVIONICS, COMPUTER TECHNIQUES, CONTROL THEORY, GUIDANCE (MOTION), SURFACE NAVIGATION

N89-22568*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EVALUATION OF THE RIDE QUALITY OF A LIGHT TWIN ENGINE AIRPLANE USING A RIDE QUALITY METER

ERIC C. STEWART Jun. 1989 27 p
(NASA-TP-2913; L-16524; NAS 1.60:2913) Avail: NTIS HC A03/MF A01 CSCL 01B

AIRCRAFT COMPARTMENTS, AIRCRAFT NOISE, NOISE TOLERANCE, SOUND TRANSMISSION, VIBRATION

N89-29304*# National Aeronautics and Space Administration, Washington, DC.

AERONAUTICAL ENGINEERING: A CONTINUING BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 242)

Aug. 1989 132 p
(NASA-SP-7037(242); NAS 1.21:7037(242)) Avail: NTIS HC A07; NTIS standing order as PB89-914100, \$10.50 domestic, \$21.00 foreign CSCL 01A

This bibliography lists 466 reports, articles, and other documents introduced into the NASA scientific and technical information system in July, 1989. Subject coverage includes: design, construction and testing of aircraft and aircraft engines; aircraft components, equipment and systems; ground support systems; and theoretical and applied aspects of aerodynamics and general fluid dynamics. Author

N90-20921*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

JOINT UNIVERSITY PROGRAM FOR AIR TRANSPORTATION RESEARCH, 1988-1989

FREDERICK R. MORRELL, comp. Mar. 1990 202 p Research program held during 1988-1989; sponsored by NASA, Langley Research Center and FAA
(NASA-CP-3063; L-16740; NAS 1.55:3063) Avail: NTIS HC A10/MF A02 CSCL 01C

AIR NAVIGATION, AIR TRAFFIC CONTROL, AIR TRANSPORTATION, AIRCRAFT CONTROL, AVIONICS, CONFERENCES, CONTROL SYSTEMS DESIGN, CONTROL THEORY, PSYCHOLOGY, UNIVERSITIES, WARNING SYSTEMS, WIND SHEAR

N90-20942*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

LASER-VELOCIMETER-MEASURED FLOW FIELD AROUND AN ADVANCED, SWEPT, EIGHT-BLADE PROPELLER AT MACH 0.8

HARVEY E. NEUMAN, JOHN A. SERAFINI, DANIEL Y. WHIPPLE, and BRIAN T. HOWARD May 1985 100 p
(NASA-TP-2462; E-2429; NAS 1.60:2462) Avail: Issuing Activity CSCL 01B

FLOW DISTRIBUTION, LASER DOPPLER VELOCIMETERS, PROPELLERS, WIND TUNNEL TESTS

N90-27648*# National Aeronautics and Space Administration, Washington, DC.

AERONAUTICAL ENGINEERING: A CONTINUING BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 255)

Aug. 1990 153 p
(NASA-SP-7037(255); NAS 1.21:7037(255)) Avail: NTIS HC A08; NTIS standing order as PB90-914100, \$11.50 domestic, \$23.00 foreign CSCL 01A

This bibliography lists 529 reports, articles, and other documents introduced into the NASA scientific and technical information system in June 1990. Subject coverage includes: design, construction and testing of aircraft and aircraft engines; aircraft components, equipment and systems; ground support systems; and theoretical and applied aspects of aerodynamics and general fluid dynamics. Author

02

AERODYNAMICS

Includes aerodynamics of bodies, combinations, wings, rotors, and control surfaces; and internal flow in ducts and turbomachinery.

N77-85474*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Center, Edwards, CA.

SUPERCRITICAL WING TECHNOLOGY: A REPORT ON

FLIGHT EVALUATIONS

1972 133 p
(NASA-SP-301; C72-71337)

N87-10039*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

WIND-TUNNEL INVESTIGATION OF THE FLIGHT CHARACTERISTICS OF A CANARD GENERAL-AVIATION AIRPLANE CONFIGURATION

D. R. SATRAN Oct. 1986 60 p
(NASA-TP-2623; L-15929; NAS 1.60:2623) Avail: NTIS HC
A04/MF A01 CSCL 01A

CANARD CONFIGURATIONS, FLIGHT CHARACTERISTICS, GENERAL AVIATION AIRCRAFT, WIND TUNNEL TESTS

N87-10042*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

SUPERSONIC, NONLINEAR, ATTACHED-FLOW WING DESIGN FOR HIGH LIFT WITH EXPERIMENTAL VALIDATION

J. L. PITTMAN, D. S. MILLER, and W. H. MASON (Grumman Aerospace Corp., Bethpage, N.Y.) Aug. 1984 221 p
(NASA-TP-2336; L-15787; NAS 1.60:2336) Avail: NTIS HC
A10/MF A02 CSCL 01A

CAMBERED WINGS, REATTACHED FLOW, SUPERCRITICAL FLOW, SUPERSONIC AIRFOILS, SUPERSONIC FLOW

N87-10838*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

EFFECTS OF TAIL SPAN AND EMPENNAGE ARRANGEMENT ON DRAG OF A TYPICAL SINGLE-ENGINE FIGHTER AFT END

J. R. BURLEY, II and B. L. BERRIER Sep. 1984 136 p
(NASA-TP-2352; L-15742; NAS 1.60:2352) Avail: NTIS HC
A07/MF A01 CSCL 01A

AERODYNAMIC DRAG, AIRCRAFT CONFIGURATIONS, SKIN FRICTION, TAIL ASSEMBLIES, TRANSONIC SPEED

N87-10839*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

STATIC INTERNAL PERFORMANCE OF SINGLE-EXPANSION-RAMP NOZZLES WITH THRUST-VECTORING CAPABILITY UP TO 60 DEG

B. L. BERRIER and L. D. LEAVITT Oct. 1984 144 p
(NASA-TP-2364; L-15766; NAS 1.60:2364) Avail: NTIS HC
A07/MF A01 CSCL 01A

AXISYMMETRIC BODIES, NOZZLE FLOW, THRUST VECTOR CONTROL

N87-10841*# National Aeronautics and Space Administration.
Ames Research Center, Moffett Field, CA.

TRANSONIC FLOW ANALYSIS FOR ROTORS. PART 2: THREE-DIMENSIONAL, UNSTEADY, FULL-POTENTIAL CALCULATION

I. C. CHANG Jan. 1985 27 p
(NASA-TP-2375-PT-2; A-9682; NAS 1.60:2375-PT-2) Avail: NTIS HC
A03/MF A01 CSCL 01A

AERODYNAMIC STABILITY, HELICOPTER PERFORMANCE, ROTORS, TIP VANES, TRANSONIC FLOW

N87-10843*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

PILOTED SIMULATION STUDY OF THE EFFECTS OF AN AUTOMATED TRIM SYSTEM ON FLIGHT CHARACTERISTICS OF A LIGHT TWIN-ENGINE AIRPLANE WITH ONE ENGINE INOPERATIVE

E. C. STEWART, P. W. BROWN, and K. R. YENNI Nov. 1986 41 p
(NASA-TP-2633; L-16147; NAS 1.60:2633) Avail: NTIS HC
A03/MF A01 CSCL 01A

AERODYNAMIC BALANCE, AUTOMATIC FLIGHT CONTROL, ENGINE FAILURE, LIGHT AIRCRAFT

N87-11702*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

FORWARD-SWEPT WING CONFIGURATION DESIGNED FOR HIGH MANEUVERABILITY BY USE OF A TRANSONIC COMPUTATIONAL METHOD

M. J. MANN and C. E. MERCER Nov. 1986 185 p
(NASA-TP-2628; L-16120; NAS 1.60:2628) Avail: NTIS HC
A09/MF A01 CSCL 01A

AERODYNAMIC CONFIGURATIONS, HIGHLY MANEUVERABLE AIRCRAFT, SWEPT FORWARD WINGS, TRANSONIC SPEED

N87-12541*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

EFFECT OF PORT CORNER GEOMETRY ON THE INTERNAL PERFORMANCE OF A ROTATING-VANE-TYPE THRUST REVERSER

B. L. BERRIER and F. J. CAPONE Dec. 1986 51 p
(NASA-TP-2624; L-16135; NAS 1.60:2624) Avail: NTIS HC
A04/MF A01 CSCL 01A

CORNER FLOW, NOZZLE GEOMETRY, PORTS (OPENINGS), ROTATING BODIES, THRUST REVERSAL, VANES, WIND TUNNEL TESTS

N87-14284*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

PROPAGATION OF SOUND WAVES IN TUBES OF NONCIRCULAR CROSS SECTION

W. B. RICHARDS (Oberlin Coll., Ohio) Aug. 1986 33 p
(NASA-TP-2601; E-2690; NAS 1.60:2601) Avail: NTIS HC
A03/MF A01 CSCL 01A

ELLIPTICAL CYLINDERS, PIPES (TUBES), SOUND WAVES, WAVE PROPAGATION

N87-15174*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

APPLICABILITY OF LINEARIZED-THEORY ATTACHED-FLOW METHODS TO DESIGN AND ANALYSIS OF FLAP SYSTEMS AT LOW SPEEDS FOR THIN SWEPT WINGS WITH SHARP LEADING EDGES

HARRY W. CARLSON and CHRISTINE M. DARDEN Jan. 1987 54 p
(NASA-TP-2653; L-16151; NAS 1.60:2653) Avail: NTIS HC
A04/MF A01 CSCL 01A

DESIGN ANALYSIS, FLAPS (CONTROL SURFACES), LINEARITY, LOW SPEED, SHARP LEADING EDGES, SWEPT WINGS, THIN WINGS, VORTEX FLAPS

N87-15183*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

EFFICIENT SOLUTIONS TO THE EULER EQUATIONS FOR SUPERSONIC FLOW WITH EMBEDDED SUBSONIC REGIONS

ROBERT W. WALTERS and DOUGLAS L. DWOYER Jan. 1987 18 p
(NASA-TP-2523; L-15975; NAS 1.60:2523) Avail: NTIS HC
A03/MF A01 CSCL 01A

EMBEDDING, EULER EQUATIONS OF MOTION, PROBLEM SOLVING, SUBSONIC FLOW, SUPERSONIC FLOW

N87-15184*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

SUBSONIC MANEUVER CAPABILITY OF A SUPERSONIC CRUISE FIGHTER WING CONCEPT

GREGORY D. RIEBE and CHARLES H. FOX, JR. Jan. 1987 74 p
(NASA-TP-2642; L-16097; NAS 1.60:2642) Avail: NTIS HC
A04/MF A01 CSCL 01A

FIGHTER AIRCRAFT, MANEUVERS, SUBSONIC SPEED, SUPERSONIC CRUISE AIRCRAFT RESEARCH, WINGS

N87-17665*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

PRELIMINARY DESIGN OF TURBOPUMPS AND RELATED MACHINERY

02 AERODYNAMICS

GEORGE F. WISLICENUS Oct. 1986 397 p
(NAS3-13475)

(NASA-RP-1170; E-7389; NAS 1.61:1170) Avail: NTIS HC
A17/MF A03 CSCL 01A

Pumps used in large liquid-fuel rocket engines are examined. The term *preliminary design* denotes the initial, creative phases of design, where the general shape and characteristics of the machine are determined. This compendium is intended to provide the design engineer responsible for these initial phases with a physical understanding and background knowledge of the numerous special fields involved in the design process. Primary attention is directed to the pumping part of the turbopump and hence is concerned with essentially incompressible fluids. However, compressible flow principles are developed. As much as possible, the simplicity and reliability of incompressible flow considerations are retained by treating the mechanics of compressible fluids as a departure from the theory of incompressible fluids. Five areas are discussed: a survey of the field of turbomachinery in dimensionless form; the theoretical principles of the hydrodynamic design of turbomachinery; the hydrodynamic and gas dynamic design of axial flow turbomachinery; the hydrodynamic and gas dynamic design of radial and mixed flow turbomachinery; and some mechanical design considerations of turbomachinery. Theoretical considerations are presented with a relatively elementary mathematical treatment.

Author

N87-17668*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

WIND-TUNNEL INVESTIGATION AT SUPERSONIC SPEEDS OF A REMOTE-CONTROLLED CANARD MISSILE WITH A FREE-ROLLING-TAIL BRAKE TORQUE SYSTEM

A. B. BLAIR, JR. Mar. 1985 38 p
(NASA-TP-2401; L-15882; NAS 1.60:2401) Avail: NTIS HC
A03/MF A01 CSCL 01A

BRAKING, CANARD CONFIGURATIONS, FINS, MISSILE CONFIGURATIONS, REMOTE CONTROL, ROLLING MOMENTS, SUPERSONIC SPEED, TAIL ASSEMBLIES, TORQUE, WIND TUNNEL TESTS

N87-17669*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

COMBINED AERODYNAMIC AND STRUCTURAL DYNAMIC PROBLEM EMULATING ROUTINES (CASPER): THEORY AND IMPLEMENTATION

WILLIAM H. JONES Feb. 1985 75 p
(NASA-TP-2418; E-2278; NAS 1.60:2418) Avail: NTIS HC
A04/MF A01 CSCL 01A

AERODYNAMIC COEFFICIENTS, COMPUTATIONAL FLUID DYNAMICS, COMPUTERIZED SIMULATION, DYNAMIC STRUCTURAL ANALYSIS

N87-18537*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

HELICOPTER BLADE-VORTEX INTERACTION LOCATIONS: SCALE-MODEL ACOUSTICS AND FREE-WAKE ANALYSIS RESULTS

DANNY R. HOAD Apr. 1987 106 p
(DA PROJ. 1L1-62209-AH-76-A)
(NASA-TP-2658; L-16214; AVSCOM-TM-87-B-1; NAS 1.60:2658; AD-A179379) Avail: NTIS HC A06/MF A01 CSCL 01/1

ACOUSTICS, BLADE-VORTEX INTERACTION, FREE FLOW, HELICOPTERS, ROTORS, VORTICES, WAKES

N87-19351*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

NUMERICAL SIMULATION OF CHANNEL FLOW TRANSITION, RESOLUTION REQUIREMENTS AND STRUCTURE OF THE HAIRPIN VORTEX

STEVEN E. KRIST (Joint Inst. for Advancement of Flight Sciences, Hampton, Va.) and THOMAS A. ZANG Apr. 1987 71 p
(NASA-TP-2667; L-16204; NAS 1.60:2667) Avail: NTIS HC
A04/MF A01 CSCL 01A

BOUNDARY LAYER STABILITY, BOUNDARY LAYER TRANSITION, BOUNDARY VALUE PROBLEMS, CHANNEL FLOW, COMPUTATIONAL FLUID DYNAMICS, SPECTRAL METHODS

N87-20233*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

INVESTIGATION OF LEADING-EDGE FLAP PERFORMANCE ON DELTA AND DOUBLE-DELTA WINGS AT SUPERSONIC SPEEDS

PETER F. COVELL, RICHARD M. WOOD, and DAVID S. MILLER Apr. 1987 125 p
(NASA-TP-2656; L-16143; NAS 1.60:2656) Avail: NTIS HC
A06/MF A01 CSCL 01A

DELTA WINGS, EXPERIMENT DESIGN, LEADING EDGE FLAPS, SUPERSONIC SPEED

N87-20238*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

LEWIS INVERSE DESIGN CODE (LINDS): USERS MANUAL

JOSE M. SANZ Mar. 1987 67 p
(NASA-TP-2676; E-3221; NAS 1.60:2676) Avail: NTIS HC
A04/MF A01 CSCL 01A

AIRFOILS, CODING, DESIGN ANALYSIS, HODOGRAPHS, INVERSIONS, TURBINE BLADES, USER MANUALS (COMPUTER PROGRAMS)

N87-20966*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Center, Edwards, CA.

IN-FLIGHT SURFACE OIL-FLOW PHOTOGRAPHS WITH COMPARISONS TO PRESSURE DISTRIBUTION AND BOUNDARY-LAYER DATA

ROBERT R. MEYER, JR. and LISA A. JENNETT Apr. 1985 27 p Original contains color illustrations
(NASA-TP-2395; H-1184; NAS 1.60:2395) Avail: NTIS HC
A03/MF A01 CSCL 01A

BOUNDARY LAYER FLOW, FLOW VISUALIZATION, IN-FLIGHT MONITORING, OILS, PHOTOGRAPHY, PRESSURE DISTRIBUTION

N87-21855*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

WIND-TUNNEL FREE-FLIGHT INVESTIGATION OF A 0.15-SCALE MODEL OF THE F-106B AIRPLANE WITH VORTEX FLAPS

LONG P. YIP May 1987 46 p
(NASA-TP-2700; L-16202; NAS 1.60:2700) Avail: NTIS HC
A03/MF A01 CSCL 01A

F-106 AIRCRAFT, FREE FLIGHT, VORTEX FLAPS, WIND TUNNEL MODELS, WIND TUNNEL TESTS

N87-21871*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

NEW METHODS AND RESULTS FOR QUANTIFICATION OF LIGHTNING-AIRCRAFT ELECTRODYNAMICS

FELIX L. PITTS, LARRY D. LEE, RODNEY A. PERALA, and TERENCE H. RUDOLPH (Electro Magnetic Applications, Inc., Lakewood, Colo.) Jun. 1987 67 p
(NASA-TP-2737; L-16281; NAS 1.60:2737) Avail: NTIS HC
A04/MF A01 CSCL 01A

ELECTRODYNAMICS, F-106 AIRCRAFT, FLIGHT TESTS, LIGHTNING, RESEARCH AIRCRAFT

N87-21873*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECTS OF AFTERBODY BOATTAIL DESIGN AND EMPENNAGE ARRANGEMENT ON AEROPROPULSIVE CHARACTERISTICS OF A TWIN-ENGINE FIGHTER MODEL AT TRANSONIC SPEEDS

LINDA S. BANGERT, LAURENCE D. LEAVITT, and DAVID E. REUBUSH Jun. 1987 134 p
(NASA-TP-2704; L-16227; NAS 1.60:2704) Avail: NTIS HC
A07/MF A01 CSCL 01A

AFTERBODIES, AXISYMMETRIC FLOW, BOATTAILS, DRAG,

FIGHTER AIRCRAFT, NOZZLES, PROPULSIVE EFFICIENCY, TAIL ASSEMBLIES

N87-22626*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EXPERIMENTAL CAVITY PRESSURE DISTRIBUTIONS AT SUPERSONIC SPEEDS

ROBERT L. STALLINGS, JR. and FLOYD J. WILCOX, JR. Jun. 1987 79 p

(NASA-TP-2683; L-16215; NAS 1.60:2683) Avail: NTIS HC A05/MF A01 CSCL 01A

CAVITIES, FLUID FLOW, PRESSURE DISTRIBUTION, SUPERSONIC SPEED

N87-23586*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ON MINIMIZING THE NUMBER OF CALCULATIONS IN DESIGN-BY-ANALYSIS CODES

RAYMOND L. BARGER and ANUTOSH MOITRA Jun. 1987 16 p

(NASA-TP-2706; L-16226; NAS 1.60:2706) Avail: NTIS HC A03/MF A01 CSCL 01A

AERODYNAMIC CONFIGURATIONS, APPROXIMATION, DESIGN ANALYSIS, NUMERICAL ANALYSIS, PRESSURE DISTRIBUTION

N87-23592*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

MACH 6 EXPERIMENTAL AND THEORETICAL STABILITY AND PERFORMANCE OF A CRUCIFORM MISSILE AT ANGLES OF ATTACK UP TO 65 DEGREES

EDWARD R. HARTMAN (Arnold Engineering Development Center, Arnold Air Force Station, Tenn.) and PATRICK J. JOHNSTON Jul. 1987 41 p

(NASA-TP-2733; L-16287; NAS 1.60:2733) Avail: NTIS HC A03/MF A01 CSCL 01A

ANGLE OF ATTACK, CRUCIFORM WINGS, EXPERIMENTATION, HYPERSONIC SPEED, MACH NUMBER, MISSILES

N87-23593*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECT OF A TRADE BETWEEN BOATTAIL ANGLE AND WEDGE SIZE ON THE PERFORMANCE OF A NONAXISYMMETRIC WEDGE NOZZLE

GEORGE T. CARSON, JR., E. ANN BARE, and JAMES R. BURLEY, II Jul. 1987 67 p

(NASA-TP-2717; L-16248; NAS 1.60:2717) Avail: NTIS HC A04/MF A01 CSCL 01A

AXISYMMETRIC BODIES, BOATTAILS, NOZZLE GEOMETRY, PERFORMANCE TESTS, TRADEOFFS, WEDGES

N87-23597*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

STUDY OF LEE-SIDE FLOWS OVER CONICALLY CAMBERED DELTA WINGS AT SUPERSONIC SPEEDS, PART 1

RICHARD M. WOOD and CAROLYN B. WATSON Jul. 1987 212 p

(NASA-TP-2660-PT-1; L-16192; NAS 1.60:2660-PT-1) Avail: NTIS HC A10/MF A02 CSCL 01A

CONICAL CAMBER, DELTA WINGS, FLOW DISTRIBUTION, LEE WAVES, STRUCTURAL DESIGN, SUPERSONIC FLOW, VORTICES

N87-24410*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

PROCEEDINGS OF THE 1985 NASA AMES RESEARCH CENTER'S GROUND-EFFECTS WORKSHOP

KERRY MITCHELL, ed. Feb. 1987 448 p Workshop held at Moffett Field, Calif., 20-21 Aug. 1985

(NASA-CP-2462; A-86391; NAS 1.55:2462) Avail: NTIS HC A19/MF A03 CSCL 01A

GROUND EFFECT (AERODYNAMICS), INGESTION

(ENGINES), POWERED LIFT AIRCRAFT, V/STOL AIRCRAFT, VERTICAL LANDING

N87-24432*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

STATIC INTERNAL PERFORMANCE OF A TWO-DIMENSIONAL CONVERGENT-DIVERGENT NOZZLE WITH THRUST VECTORING

E. ANN BARE and DAVID E. REUBUSH Jul. 1987 115 p (NASA-TP-2721; L-16240; NAS 1.60:2721) Avail: NTIS HC

A06/MF A01 CSCL 01A

CONVERGENT-DIVERGENT NOZZLES, STATIC TESTS, THRUST VECTOR CONTROL, TWO DIMENSIONAL FLOW

N87-24433*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

MULTIAXIS CONTROL POWER FROM THRUST VECTORING FOR A SUPERSONIC FIGHTER AIRCRAFT MODEL AT MACH 0.20 TO 2.47

FRANCIS J. CAPONE and E. ANN BARE Jul. 1987 264 p

(NASA-TP-2712; L-16213; NAS 1.60:2712) Avail: NTIS HC A12/MF A02 CSCL 01A

FIGHTER AIRCRAFT, MACH NUMBER, SUPERSONIC CRUISE AIRCRAFT RESEARCH, THRUST VECTOR CONTROL

N87-25301*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

STUDY OF LEE-SIDE FLOWS OVER CONICALLY CAMBERED DELTA WINGS AT SUPERSONIC SPEEDS, PART 2

RICHARD M. WOOD and CAROLYN B. WATSON Jul. 1987 404 p

(NASA-TP-2660-PT-2; L-16192; NAS 1.60:2660-PT-2) Avail: NTIS HC A18/MF A03 CSCL 01A

CONICAL CAMBER, DELTA WINGS, FLOW DISTRIBUTION, FLOW VISUALIZATION, SUPERSONIC FLOW, WING LOADING

N87-25998*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

SUPERCOMPUTING IN AEROSPACE

PAUL KUTLER and HELEN YEE Mar. 1987 299 p Symposium held at Moffett Field, Calif., 10-12 Mar. 1987

(NASA-CP-2454; A-87082; NAS 1.55:2454) Avail: NTIS HC A13/MF A02 CSCL 01A

COMPUTATIONAL ASTROPHYSICS, COMPUTATIONAL CHEMISTRY, COMPUTATIONAL FLUID DYNAMICS, COMPUTATIONAL GRIDS, COMPUTERIZED SIMULATION, CONFERENCES, INTERACTIONAL AERODYNAMICS, NAVIER-STOKES EQUATION, SUPERCOMPUTERS

N87-26031*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECT OF REYNOLDS NUMBER VARIATION ON AERODYNAMICS OF A HYDROGEN-FUELED TRANSPORT CONCEPT AT MACH 6

JIM A. PENLAND and DON C. MARCUM, JR. Aug. 1987 28 p

(NASA-TP-2728; L-16286; NAS 1.60:2728) Avail: NTIS HC A03/MF A01 CSCL 01A

AERODYNAMIC CONFIGURATIONS, HYDROGEN FUELS, HYPERSONIC AIRCRAFT, MACH NUMBER, REYNOLDS NUMBER, TRANSPORT AIRCRAFT

N87-26032*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

STEADY AND UNSTEADY AERODYNAMIC FORCES FROM THE SOUSSA SURFACE-PANEL METHOD FOR A FIGHTER WING WITH TIP MISSILE AND COMPARISON WITH EXPERIMENT AND PANAIR

HERBERT J. CUNNINGHAM Aug. 1987 29 p

(NASA-TP-2736; L-16262; NAS 1.60:2736) Avail: NTIS HC A03/MF A01 CSCL 01A

AERODYNAMIC FORCES, FIGHTER AIRCRAFT, PANEL METHOD (FLUID DYNAMICS), UNSTEADY AERODYNAMICS, UNSTEADY FLOW, WINGS

02 AERODYNAMICS

N87-26874*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SUBSONIC LONGITUDINAL AND LATERAL-DIRECTIONAL CHARACTERISTICS OF A FORWARD-SWEPT-WING FIGHTER CONFIGURATION AT ANGLES OF ATTACK UP TO 47 DEG
MICHAEL J. MANN, JARRETT K. HUFFMAN, and CHARLES H. FOX, JR. Sep. 1987 103 p
(NASA-TP-2727; L-16206; NAS 1.60:2727) Avail: NTIS HC A06/MF A01 CSCL 01A

AERODYNAMIC CONFIGURATIONS, ANGLE OF ATTACK, FIGHTER AIRCRAFT, LATERAL CONTROL, LATERAL STABILITY, SUBSONIC AIRCRAFT, SWEEP FORWARD WINGS

N87-26883*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AN EXPERIMENTAL INVESTIGATION OF AN ADVANCED TURBOPROP INSTALLATION ON A SWEEP WING AT SUBSONIC AND TRANSONIC SPEEDS
JOHN R. CARLSON and ODIS C. PENDERGRAFT, JR. Sep. 1987 242 p
(NASA-TP-2729; L-16043; NAS 1.60:2729) Avail: NTIS HC A11/MF A02 CSCL 01A

AERODYNAMICS, ENGINE AIRFRAME INTEGRATION, SUBSONIC SPEED, SWEEP WINGS, TRANSONIC SPEED, TURBOPROP ENGINES

N87-27622*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

CALCULATION OF VISCOUS EFFECTS ON TRANSONIC FLOW FOR OSCILLATING AIRFOILS AND COMPARISONS WITH EXPERIMENT
JAMES T. HOWLETT and SAMUEL R. BLAND Sep. 1987 77 p
(NASA-TP-2731; L-16289; NAS 1.60:2731) Avail: NTIS HC A05/MF A01 CSCL 01A

AIRFOILS, COMPARISON, INVISCID FLOW, OSCILLATIONS, TRANSONIC FLOW, VISCOUS FLOW

N87-27626*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DRAG MEASUREMENTS OF BLUNT STORES TANGENTIALLY MOUNTED ON A FLAT PLATE AT SUPERSONIC SPEEDS
FLOYD J. WILCOX, JR. Sep. 1987 68 p
(NASA-TP-2742; L-16284; NAS 1.60:2742) Avail: NTIS HC A04/MF A01 CSCL 01A

AERODYNAMIC DRAG, BLUNT BODIES, EXTERNAL STORES, FLAT PLATES, MOUNTING, SUPERSONIC SPEED, TANGENTS

N87-27643*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

PRESSURE MEASUREMENTS ON A THICK CAMBERED AND TWISTED 58 DEG DELTA WING AT HIGH SUBSONIC SPEEDS
JULIO CHU and JOHN E. LAMAR Sep. 1987 233 p
(NASA-TP-2713; L-16224; NAS 1.60:2713) Avail: NTIS HC A11/MF A02 CSCL 01A

CAMBER, DELTA WINGS, PRESSURE MEASUREMENT, SUBSONIC SPEED, THICKNESS, TWISTED WINGS

N87-29432*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

AUTOMATED REDUCTION OF DATA FROM IMAGES AND HOLOGRAMS
G. LEE, ed., JAMES D. TROLINGER, ed. (Spectron Development Labs., Inc., Costa Mesa, Calif.), and Y. H. YU, ed. May 1987 614 p Workshop held at Moffett Field, Calif., 10-11 Jan. 1985
(NASA-CP-2477; A-87135; NAS 1.55:2477) Avail: NTIS HC A99/MF A04 CSCL 01A

COMBUSTIBLE FLOW, DIGITAL TECHNIQUES, HOLOGRAPHIC INTERFEROMETRY, IMAGE ANALYSIS, PARTICLE SIZE DISTRIBUTION

N87-29462*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

LOW-SPEED AERODYNAMIC CHARACTERISTICS OF A TWIN-ENGINE GENERAL AVIATION CONFIGURATION WITH AFT-FUSELAGE-MOUNTED PUSHER PROPELLERS
DANA MORRIS DUNHAM, GARL L. GENTRY, JR., GREGORY S. MANUEL, ZACHARY T. APPLIN, and P. FRANK QUINTO Oct. 1987 116 p
(NASA-TP-2763; L-16331; NAS 1.60:2763) Avail: NTIS HC A06/MF A01 CSCL 01A

AERODYNAMIC CHARACTERISTICS, GENERAL AVIATION AIRCRAFT, LOW SPEED, PROPELLERS, PROPULSION SYSTEM CONFIGURATIONS, PYLON MOUNTING, TURBOPROP ENGINES

N88-10009*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

WIND-TUNNEL INVESTIGATION OF A FULL-SCALE GENERAL AVIATION AIRPLANE EQUIPPED WITH AN ADVANCED NATURAL LAMINAR FLOW WING
DANIEL G. MURRI and FRANK L. JORDAN, JR. Nov. 1987 136 p
(NASA-TP-2772; L-16283; NAS 1.60:2772) Avail: NTIS HC A07/MF A01 CSCL 01A

GENERAL AVIATION AIRCRAFT, LAMINAR FLOW AIRFOILS, WIND TUNNEL TESTS, WINGS

N88-10765*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

COMPARISON OF WIND TUNNEL AND FLIGHT TEST AFTERBODY AND NOZZLE PRESSURES FOR A TWIN-JET FIGHTER AIRCRAFT AT TRANSONIC SPEEDS
JACK NUGENT and ODIS C. PENDERGRAFT, JR. Mar. 1987 125 p
(NASA-TP-2588; H-1214; NAS 1.60:2588) Avail: NTIS HC A06/MF A01 CSCL 01A

AFTERBODIES, FIGHTER AIRCRAFT, FLIGHT TESTS, NOZZLE THRUST COEFFICIENTS, TRANSONIC SPEED, WIND TUNNEL MODELS, WIND TUNNEL TESTS

N88-10771*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECT OF EMPENNAGE ARRANGEMENT ON SINGLE-ENGINE NOZZLE/AFTERBODY STATIC PRESSURES AT TRANSONIC SPEEDS
WILLIAM P. HENDERSON and JAMES R. BURLEY, II Nov. 1987 230 p
(NASA-TP-2753; L-16223; NAS 1.60:2753) Avail: NTIS HC A11/MF A02 CSCL 01A

AFTERBODIES, AXISYMMETRIC FLOW, JET AIRCRAFT, JET ENGINES, NOZZLES, STATIC PRESSURE, TAIL ASSEMBLIES, TRANSONIC SPEED

N88-12454*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

PLANFORM EFFECTS ON THE SUPERSONIC AERODYNAMICS OF MULTIBODY CONFIGURATIONS
NAOMI MCMILLIN and RICHARD M. WOOD 1987 138 p
(NASA-TP-2762; L-16312; NAS 1.60:2762) Avail: NTIS HC A07/MF A01 CSCL 01A

AERODYNAMIC CHARACTERISTICS, AERODYNAMIC DRAG, AIRCRAFT CONFIGURATIONS, FINENESS RATIO, PLANFORMS, SUPERSONICS, ZERO LIFT

N88-12455*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECTS OF THE INSTALLATION AND OPERATION OF JET-EXHAUST YAW VANES ON THE LONGITUDINAL AND LATERAL-DIRECTIONAL CHARACTERISTICS OF THE F-14 AIRPLANE
DAVID E. REUBUSH and BOBBY L. BERRIER Dec. 1987 121 p

(NASA-TP-2769; L-16302; NAS 1.60:2769) Avail: NTIS HC
A06/MF A01 CSCL 01A

AERODYNAMIC STABILITY, AIRCRAFT CONTROL, DIRECTIONAL STABILITY, F-14 AIRCRAFT, JET VANES, LATERAL STABILITY, LONGITUDINAL STABILITY, THRUST VECTOR CONTROL, WIND TUNNEL STABILITY TESTS

N88-16662*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

A SIMPLIFIED APPROACH TO AXISYMMETRIC DUAL-REFLECTOR ANTENNA DESIGN

RAYMOND L. BARGER Mar. 1988 14 p
(NASA-TP-2797; L-16392; NAS 1.60:2797) Avail: NTIS HC
A03/MF A01 CSCL 20N

ANTENNA DESIGN, ANTENNA RADIATION PATTERNS, REFLECTOR ANTENNAS, REFLECTORS, STIMULATED EMISSION

N88-17586*# National Aeronautics and Space Administration, Ames Research Center, Moffett Field, CA.

PROCEEDINGS OF THE CIRCULATION-CONTROL WORKSHOP, 1986

JACK N. NIELSEN, comp. May 1987 591 p Workshop held at Moffett Field, Calif., 19-21 Feb. 1986 Original contains color illustrations

(NASA-CP-2432; A-86314; NAS 1.55:2432) Avail: NTIS HC
A25/MF A04 CSCL 01A

AIRCRAFT CONTROL, CIRCULATION CONTROL AIRFOILS, CIRCULATION CONTROL ROTORS, COANDA EFFECT, X WING ROTORS

N88-17614*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

A TRANSONIC-SMALL-DISTURBANCE WING DESIGN METHODOLOGY

PAMELA S. PHILLIPS, EDGAR G. WAGGONER, and RICHARD L. CAMPBELL Mar. 1988 32 p
(NASA-TP-2806; L-16393; NAS 1.60:2806) Avail: NTIS HC
A03/MF A01 CSCL 01A

CODING, COMPUTER PROGRAMS, DESIGN ANALYSIS, SMALL PERTURBATION FLOW, TRANSONIC FLOW, WINGS

N88-17615*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

SUPERSONIC AERODYNAMICS OF DELTA WINGS

RICHARD M. WOOD Mar. 1988 106 p
(NASA-TP-2771; L-16212; NAS 1.60:2771) Avail: NTIS HC
A06/MF A01 CSCL 01A

AERODYNAMICS, DELTA WINGS, INVISCID FLOW, SUPERSONIC AIRFOILS, SUPERSONIC SPEED

N88-18552*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

A PERFORMANCE INDEX APPROACH TO AERODYNAMIC DESIGN WITH THE USE OF ANALYSIS CODES ONLY

RAYMOND L. BARGER and ANUTOSH MOITRA (High Technology Corp., Hampton, Va.) Mar. 1988 21 p
(NASA-TP-2805; L-16379; NAS 1.60:2805) Avail: NTIS HC
A03/MF A01 CSCL 01A

AERODYNAMIC CONFIGURATIONS, CODING, COMPUTER PROGRAMS, DESIGN ANALYSIS, INDEXES (DOCUMENTATION), PERFORMANCE TESTS

N88-18567*# National Aeronautics and Space Administration, Hugh L. Dryden Flight Research Center, Edwards, CA.

EFFECTS OF WINGLETS ON A FIRST-GENERATION JET TRANSPORT WING. 7: SIDESLIP EFFECTS ON WINGLET LOADS AND SELECTED WING LOADS AT SUBSONIC SPEEDS FOR A FULL-SPAN MODEL

ROBERT R. MEYER, JR. and PETER F. COVELL Sep. 1986 60 p
(NASA-TP-2619; H-1193; NAS 1.60:2619) Avail: NTIS HC
A04/MF A01 CSCL 01A

SIDESLIP, SUBSONIC SPEED, WIND TUNNEL MODELS, WINGLETS

N88-19412*# National Aeronautics and Space Administration, Ames Research Center, Moffett Field, CA.

TRAJECTORY CHARACTERISTICS AND HEATING OF HYPERVELOCITY PROJECTILES HAVING LARGE BALLISTIC COEFFICIENTS

MICHAEL E. TAUBER Aug. 1986 21 p
(NASA-TP-2614; A-86187; NAS 1.60:2614) Avail: NTIS HC
A03/MF A01 CSCL 01A

AERODYNAMIC HEATING, BALLISTIC TRAJECTORIES, HYPERVELOCITY PROJECTILES, TRAJECTORY ANALYSIS

N88-19416* National Aeronautics and Space Administration, Washington, DC.

AERONAUTICAL ENGINEERING: A CUMULATIVE INDEX TO A CONTINUING BIBLIOGRAPHY

Jan. 1988 499 p
(NASA-SP-7037(222); NAS 1.21:7037(222)) Avail: NTIS HC
\$14.50 domestic, \$29.00 foreign CSCL 01A

This bibliography is a cumulative index to the abstracts contained in NASA SP-7037(210) through NASA SP-7037(221) of Aeronautical Engineering: A Continuing Bibliography. NASA SP-7037 and its supplements have been compiled through the cooperative efforts of the American Institute of Aeronautics and Astronautics (AIAA) and the National Aeronautics and Space Administration (NASA). This cumulative index includes subject, personal author, corporate source, foreign technology, contract number, report number, and accession number indexes. Author

N88-19420*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

AERODYNAMIC CHARACTERISTICS OF WINGS DESIGNED WITH A COMBINED-THEORY METHOD TO CRUISE AT A MACH NUMBER OF 4.5

ROBERT J. MACK Apr. 1988 60 p Sponsored by NASA, Washington

(NASA-TP-2799; L-16333; NAS 1.60:2799) Avail: NTIS HC
A04/MF A01 CSCL 01A

AERODYNAMIC CHARACTERISTICS, AIRCRAFT DESIGN, CAMBERED WINGS, DESIGN ANALYSIS, HYPERSONIC SPEED, SUPERSONIC SPEED

N88-20257*# National Aeronautics and Space Administration, Ames Research Center, Moffett Field, CA.

AN EXPERIMENTAL INVESTIGATION OF THE FLAP-LAG-TORSION AEROELASTIC STABILITY OF A SMALL-SCALE HINGELESS HELICOPTER ROTOR IN HOVER

DAVID L. SHARPE Jan. 1986 86 p Prepared in cooperation with Army Aviation Research and Development Command, Moffett Field, Calif.

(NASA-TP-2546; REPT-85142; NAS 1.60:2546; AVSCOM-TR-85-A-9) Avail: NTIS HC A05/MF A01 CSCL 01A

AEROELASTICITY, FLAPS (CONTROL SURFACES), HELICOPTERS, HOVERING, RIGID ROTORS, STABILITY, TORSION

N88-20264*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

A REVIEW OF TECHNOLOGIES APPLICABLE TO LOW-SPEED FLIGHT OF HIGH-PERFORMANCE AIRCRAFT INVESTIGATED IN THE LANGLEY 14- X 22-FOOT SUBSONIC TUNNEL

JOHN W. PAULSON, JR., P. FRANK QUINTO, DANIEL W. BANKS, GUY T. KEMMERLY, and GREGORY M. GATLIN May 1988 94 p

(NASA-TP-2796; L-16364; NAS 1.60:2796) Avail: NTIS HC
A05/MF A01 CSCL 01A

AERODYNAMIC CONFIGURATIONS, FLIGHT TESTS, LOW SPEED, RESEARCH FACILITIES, SHORT TAKEOFF AIRCRAFT, TECHNOLOGY ASSESSMENT, V/STOL AIRCRAFT, WIND TUNNEL TESTS

02 AERODYNAMICS

N88-20280*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
STATIC PERFORMANCE OF AN AXISYMMETRIC NOZZLE WITH POST-EXIT VANES FOR MULTIAXIS THRUST VECTORING

BOBBY L. BERRIER and MARY L. MASON May 1988 54 p
(NASA-TP-2800; L-16371; NAS 1.60:2800) Avail: NTIS HC A04/MF A01 CSCL 01A
AXISYMMETRIC BODIES, CONVERGENT-DIVERGENT NOZZLES, STATIC TESTS, THRUST VECTOR CONTROL, VANES

N88-21117*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
THE NASA LANGLEY LAMINAR-FLOW-CONTROL (LFC) EXPERIMENT ON A SWEEPED, SUPERCRITICAL AIRFOIL: DESIGN OVERVIEW

CHARLES D. HARRIS, WILLIAM D. HARVEY, and CUYLER W. BROOKS, JR. May 1988 128 p
(NASA-TP-2809; L-16324; NAS 1.60:2809) Avail: NTIS HC A07/MF A01 CSCL 01A
BOUNDARY LAYER CONTROL, LAMINAR BOUNDARY LAYER, LAMINAR FLOW, SUPERCRITICAL AIRFOILS, SWEEPED WINGS

N88-21118*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
STATIC PERFORMANCE OF NONAXISYMMETRIC NOZZLES WITH YAW THRUST-VECTORING VANES

MARY L. MASON and BOBBY L. BERRIER May 1988 79 p
(NASA-TP-2813; L-16389; NAS 1.60:2813) Avail: NTIS HC A05/MF A01 CSCL 01A
CONVERGENT NOZZLES, CONVERGENT-DIVERGENT NOZZLES, STATIC TESTS, STATIC THRUST, THRUST VECTOR CONTROL

N88-23735*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
NUMERICAL SIMULATION OF SCRAMJET INLET FLOW FIELDS

AJAY KUMAR May 1986 29 p
(NASA-TP-2517; L-16000; NAS 1.60:2517) Avail: NTIS HC A03/MF A01 CSCL 01A
APPLICATIONS PROGRAMS (COMPUTERS), COMPUTATIONAL FLUID DYNAMICS, INLET FLOW, NAVIER-STOKES EQUATION, SUPERSONIC COMBUSTION RAMJET ENGINES, THREE DIMENSIONAL FLOW, TURBULENT FLOW

N88-23737*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
LAMINAR FLOW AIRCRAFT CERTIFICATION

LOUIS J. WILLIAMS, comp. May 1986 325 p Workshop held in Wichita, Kans., 15-16 Apr. 1985; sponsored by NASA, AIAA, SAE and FAA Sponsored by NASA, Washington
(NASA-CP-2413; L-16111; NAS 1.55:2413) Avail: NTIS HC A14/MF A02 CSCL 01A
AIRCRAFT DESIGN, CERTIFICATION, CONFERENCES, LAMINAR FLOW, LAMINAR FLOW AIRFOILS

N88-23757*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
AEROPROPULSIVE CHARACTERISTICS OF ISOLATED COMBINED TURBOJET/RAMJET NOZZLES AT MACH NUMBERS FROM 0 TO 1.20

GEORGE T. CARSON, JR. and MILTON LAMB Jun. 1988 174 p
(NASA-TP-2814; L-16390; NAS 1.60:2814) Avail: NTIS HC A08/MF A01 CSCL 01A
MACH NUMBER, NOZZLE EFFICIENCY, NOZZLE GEOMETRY, RAMJET ENGINES, ROCKET NOZZLES, TURBINE ENGINES

N88-23760*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
SENSITIVITY OF F-106B LEADING-EDGE-VORTEX IMAGES TO FLIGHT AND VAPOR-SCREEN PARAMETERS

JOHN E. LAMAR and THOMAS D. JOHNSON, JR. (Planning Research Corp., Hampton, Va.) Jun. 1988 80 p Original contains color illustrations
(NASA-TP-2818; L-16395; NAS 1.60:2818) Avail: NTIS HC A05/MF A01 CSCL 01A
F-106 AIRCRAFT, IMAGE PROCESSING, LEADING EDGES, SCREEN EFFECT, TRANSONIC FLIGHT, VAPORS, VORTICES, WINGS

N88-28895*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
STEADY AND UNSTEADY TRANSONIC PRESSURE MEASUREMENTS ON A CLIPPED DELTA WING FOR PITCHING AND CONTROL-SURFACE OSCILLATIONS

ROBERT W. HESS, F. W. CAZIER, JR., and ELEANOR C. WYNNE Washington, D.C. Oct. 1986 118 p MF as supplement
(NASA-TP-2594; L-16082; NAS 1.60:2594) Avail: NTIS HC A06/MF A01 CSCL 01A
CONTROL SURFACES, DELTA WINGS, LONGITUDINAL CONTROL, OSCILLATIONS, PRESSURE MEASUREMENT, STEADY STATE, WIND TUNNEL TESTS

N88-29752*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
AERODYNAMICS IN GROUND EFFECT AND PREDICTED LANDING GROUND ROLL OF A FIGHTER CONFIGURATION WITH A SECONDARY-NOZZLE THRUST REVERSER

DANIEL W. BANKS Oct. 1988 131 p
(NASA-TP-2834; L-16435; NAS 1.60:2834) Avail: NTIS HC A07/MF A01 CSCL 01A
CASCADE FLOW, GROUND EFFECT (AERODYNAMICS), NOZZLE FLOW, ROLL, SHORT TAKEOFF AIRCRAFT, THRUST REVERSAL

N89-10020*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
WEAK-WAVE ANALYSIS OF SHOCK INTERACTION WITH A SLIPSTREAM

RAYMOND L. BARGER Nov. 1988 20 p
(NASA-TP-2848; L-16469; NAS 1.60:2848) Avail: NTIS HC A03/MF A01 CSCL 01A
COUNTERFLOW, SHOCK WAVE INTERACTION, SLIPSTREAMS

N89-10024*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
VALIDATION OF A PAIR OF COMPUTER CODES FOR ESTIMATION AND OPTIMIZATION OF SUBSONIC AERODYNAMIC PERFORMANCE OF SIMPLE HINGED-FLAP SYSTEMS FOR THIN SWEEPED WINGS

HARRY W. CARLSON (PRC Systems Services Co., Hampton, Va.) and CHRISTINE M. DARDEN Washington Nov. 1988 118 p
(NASA-TP-2828; L-16428; NAS 1.60:2828) Avail: NTIS HC A06/MF A01 CSCL 01A
AERODYNAMICS, COMPUTER PROGRAMS, FLAPPING HINGES, OPTIMIZATION, SUBSONIC FLOW, SWEEPED WINGS

N89-10844*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.
THREE COMPONENT LASER ANEMOMETER MEASUREMENTS IN AN ANNULAR CASCADE OF CORE TURBINE VANES WITH CONTOURED END WALL

LOUIS J. GOLDMAN and RICHARD G. SEASHOLTZ Nov. 1988 44 p
(NASA-TP-2846; E-4183; NAS 1.60:2846) Avail: NTIS HC A03/MF A01 CSCL 20D
ANNULAR FLOW, CASCADE FLOW, FABRY-PEROT

INTERFEROMETERS, FLOW MEASUREMENT, LASER ANEMOMETERS, STATOR BLADES, VELOCITY MEASUREMENT

N89-10849*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

THE 1987 GROUND VORTEX WORKSHOP

RICHARD J. MARGASON, ed. Feb. 1988 216 p Workshop held at Moffett Field, Calif., 22-23 Apr. 1987 (NASA-CP-10008; A-88008; NAS 1.55:10008) Avail: NTIS HC A10/MF A02 CSCL 01A

CONFERENCES, EXHAUST GASES, GROUND EFFECT (AERODYNAMICS), SHORT TAKEOFF AIRCRAFT, VATOL AIRCRAFT, VERTICAL TAKEOFF AIRCRAFT, VORTICES

N89-12543*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A SPECTRAL COLLOCATION SOLUTION TO THE COMPRESSIBLE STABILITY EIGENVALUE PROBLEM

MICHELE G. MACARAEG, CRAIG L. STREETT, and M. YOUSUFF HUSSAINI Washington, D.C. Dec. 1988 42 p (NASA-TP-2858; L-16470; NAS 1.60:2858) Avail: NTIS HC A03/MF A01 CSCL 01A

BOUNDARY LAYER FLOW, COMPRESSIBLE FLOW, COMPUTATIONAL GRIDS, FLOW DISTRIBUTION, FLOW STABILITY, SHEAR FLOW

N89-14213*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THRUST-REVERSER FLOW INVESTIGATION ON A TWIN-ENGINE TRANSPORT

GREGORY M. GATLIN and P. FRANK QUINTO Washington, DC Dec. 1988 156 p (NASA-TP-2856; L-16426; NAS 1.60:2856) Avail: NTIS HC A08/MF A01 CSCL 01A

ENGINE TESTS, FREE FLOW, GROUND EFFECT (AERODYNAMICS), REVERSED FLOW, THRUST REVERSAL, TRANSPORT AIRCRAFT

N89-15888*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

INTEGRATION EFFECTS OF PYLON GEOMETRY ON A HIGH-WING TRANSPORT AIRPLANE

JOHN R. CARLSON and MILTON LAMB Washington, DC Feb. 1989 78 p (NASA-TP-2877; L-16489; NAS 1.60:2877) Avail: NTIS HC A05/MF A01 CSCL 01A

INSTALLING, NACELLES, PYLONS, TRANSPORT AIRCRAFT, WINGS

N89-17568*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

NASA SC(2)-0714 AIRFOIL DATA CORRECTED FOR SIDEWALL BOUNDARY-LAYER EFFECTS IN THE LANGLEY 0.3-METER TRANSONIC CRYOGENIC TUNNEL

RENALDO V. JENKINS Washington, DC Mar. 1989 58 p (NASA-TP-2890; L-16385; NAS 1.60:2890) Avail: NTIS HC A04/MF A01 CSCL 01A

BOUNDARY LAYERS, CRYOGENIC WIND TUNNELS, SUPERCRITICAL AIRFOILS, WIND TUNNEL WALLS

N89-17579*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

TIP AERODYNAMICS AND ACOUSTICS TEST: A REPORT AND DATA SURVEY

JEFFREY L. CROSS and MICHAEL E. WATTS Dec. 1988 463 p (NASA-RP-1179; A-87128; NAS 1.61:1179) Avail: NTIS HC A20/MF A03 CSCL 01A

In a continuing effort to understand helicopter rotor tip aerodynamics and acoustics, a flight test was conducted by NASA Ames Research Center. The test was performed using the NASA White Cobra and a set of highly instrumented blades. All aspects of the flight test instrumentation and test procedures are explained.

Additionally, complete data sets for selected test points are presented and analyzed. Because of the high volume of data acquired, only selected data points are presented. However, access to the entire data set is available to the researcher on request.

Author

N89-19232*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DRAG MEASUREMENTS ON A LAMINAR-FLOW BODY OF REVOLUTION IN THE 13-INCH MAGNETIC SUSPENSION AND BALANCE SYSTEM

DAVID A. DRESS 1989 37 p (NASA-TP-2895; L-16483; NAS 1.60:2895) Avail: NTIS HC A03/MF A01 CSCL 01A

AERODYNAMIC BALANCE, BODIES OF REVOLUTION, DRAG MEASUREMENT, LAMINAR FLOW, MAGNETIC SUSPENSION

N89-19234*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

TRANSONIC UNSTEADY AERODYNAMICS AND AEROELASTICITY 1987, PART 1

SAMUEL R. BLAND, comp. Washington, DC Feb. 1989 261 p Symposium held in Hampton, VA, 20-22 May 1987 (NASA-CP-3022-PT-1; L-16532-PT-1; NAS 1.55:3022-PT-1) Avail: NTIS HC A12/MF A02 CSCL 01A

AEROELASTICITY, AIRCRAFT CONFIGURATIONS, COMPUTATIONAL FLUID DYNAMICS, FLUTTER ANALYSIS, TRANSONIC FLOW, UNSTEADY AERODYNAMICS

N89-19247*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

TRANSONIC UNSTEADY AERODYNAMICS AND AEROELASTICITY 1987, PART 2

SAMUEL R. BLAND, comp. Washington, DC Feb. 1989 379 p Symposium held in Hampton, VA, 20-22 May 1987 (NASA-CP-3022-PT-2; L-16532-PT-2; NAS 1.55:3022-PT-2) Avail: NTIS HC A17/MF A03 CSCL 01A

AEROELASTICITY, AIRCRAFT STABILITY, FLOW DISTRIBUTION, TRANSONIC FLOW, UNSTEADY AERODYNAMICS, VISCOUS FLOW

N89-20925*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

TRANSONIC SYMPOSIUM: THEORY, APPLICATION, AND EXPERIMENT, VOLUME 1, PART 1

JEROME T. FOUGHNER, JR., comp. Mar. 1989 416 p Symposium held in Hampton, VA, 19-21 Apr. 1988; sponsored by NASA, Washington Original contains color illustrations (NASA-CP-3020-VOL-1-PT-1; L-16501-VOL-1-PT-1; NAS 1.55:3020-VOL-1-PT-1) Avail: NTIS HC A18/MF A03 CSCL 01A

AIRCRAFT DESIGN, COMPUTATIONAL FLUID DYNAMICS, CONFERENCES, FLIGHT TESTS, GRID GENERATION (MATHEMATICS), WIND TUNNEL TESTS

N89-20942*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

TRANSONIC SYMPOSIUM: THEORY, APPLICATION, AND EXPERIMENT, VOLUME 1, PART 2

JEROME T. FOUGHNER, JR., comp. Mar. 1989 511 p Symposium held in Hampton, VA, 19-21 Apr. 1988; sponsored by NASA, Washington Original contains color illustrations (NASA-CP-3020-VOL-1-PT-2; L-16501-VOL-1-PT-2; NAS 1.55:3020-VOL-1-PT-2) Avail: NTIS HC A22/MF A03 CSCL 01A

COMPUTATIONAL FLUID DYNAMICS, COMPUTERIZED SIMULATION, GRID GENERATION (MATHEMATICS), INTERACTIONAL AERODYNAMICS, TRANSONIC FLOW, WIND TUNNEL TESTS

N89-23415*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

STATUS OF SONIC BOOM METHODOLOGY AND UNDERSTANDING

02 AERODYNAMICS

CHRISTINE M. DARDEN, CLEMANS A. POWELL, WALLACE D. HAYES, ALBERT R. GEORGE, and ALLAN D. PIERCE (Pennsylvania State Univ., University Park.) Washington Jun. 1989 32 p Presented at the Sonic Boom Workshop, Hampton, VA, Jan. 1988

(NASA-CP-3027; L-16567; NAS 1.55:3027) Avail: NTIS HC A03/MF A01 CSCL 01A
NOISE PREDICTION (AIRCRAFT), SONIC BOOMS, SUPERSONIC FLIGHT

N89-24264*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECT OF ADVANCED ROTORCRAFT AIRFOIL SECTIONS ON THE HOVER PERFORMANCE OF A SMALL-SCALE ROTOR MODEL

SUSAN L. ALTHOFF (Army Aviation Systems Command, Hampton, VA.) Sep. 1988 35 p

(DA PROJ. 1L1-61102-AH-45-A)
(NASA-TP-2832; L-16407; NAS 1.60:2832; AVSCOM-TP-88-B-001) Avail: NTIS HC A03/MF A01 CSCL 01A

AIRFOIL PROFILES, FLIGHT TESTS, HOVERING, ROTARY WINGS, ROTORCRAFT AIRCRAFT

N89-25117*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECT OF MILLING MACHINE ROUGHNESS AND WING DIHEDRAL ON THE SUPERSONIC AERODYNAMIC CHARACTERISTICS OF A HIGHLY SWEEP WING

CHRISTINE M. DARDEN Washington Aug. 1989 88 p
(NASA-TP-2918; L-16546; NAS 1.60:2918) Avail: NTIS HC A05/MF A01 CSCL 01A

DIHEDRAL ANGLE, LIFT DRAG RATIO, MILLING (MACHINING), SUPERSONIC SPEED, SURFACE ROUGHNESS EFFECTS, SWEEP WINGS

N89-25118*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

INTERACTIONS OF TOLLMIEN-SCHLICHTING WAVES AND DEAN VORTICES. COMPARISON OF DIRECT NUMERICAL SIMULATION AND A WEAKLY NONLINEAR THEORY

BART A. SINGER (High Technology Corp., Hampton, VA.) and THOMAS A. ZANG Washington Aug. 1989 21 p

(NASA-TP-2919; L-16559; NAS 1.60:2919) Avail: NTIS HC A03/MF A01 CSCL 01A

CHANNEL FLOW, COMPUTERIZED SIMULATION, NONLINEAR SYSTEMS, TOLLMIEN-SCHLICHTING WAVES, VORTICES, WAVE INTERACTION

N89-25951*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

STEADY-STATE AND TRANSITIONAL AERODYNAMIC CHARACTERISTICS OF A WING IN SIMULATED HEAVY RAIN

BRYAN A. CAMPBELL and GAUDY M. BEZOS Washington Aug. 1989 95 p

(NASA-TP-2932; L-16576; NAS 1.60:2932) Avail: NTIS HC A05/MF A01 CSCL 01A

AERODYNAMIC CHARACTERISTICS, AERODYNAMIC STALLING, AIRFOILS, RAIN, STEADY STATE, TRANSIENT RESPONSE, WINGS

N89-26811*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A PROCEDURE FOR COMPUTING SURFACE WAVE TRAJECTORIES ON AN INHOMOGENEOUS SURFACE

RAYMOND L. BARGER Washington Aug. 1989 14 p
(NASA-TP-2929; L-16558; NAS 1.60:2929) Avail: NTIS HC A03/MF A01 CSCL 01A

AERODYNAMIC CHARACTERISTICS, COMPUTATIONAL FLUID DYNAMICS, HYDRODYNAMICS, INHOMOGENEITY, MATHEMATICAL MODELS, SURFACE WAVES

N89-27634*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

STATIC INTERNAL PERFORMANCE OF A NONAXISYMMETRIC VANED THRUST REVERSER WITH FLOW SPLAY CAPABILITY

LINDA S. BANGERT and LAURENCE D. LEAVITT Washington Sep. 1989 89 p

(NASA-TP-2933; L-16552; NAS 1.60:2933) Avail: NTIS HC A05/MF A01 CSCL 01A

DEFLECTORS, FLOW DEFLECTION, STATIC TESTS, THRUST REVERSAL, THRUST VECTOR CONTROL, WIND TUNNEL TESTS

N90-10829*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

MEASUREMENTS OF PRESSURES ON THE TAIL AND AFT FUSELAGE OF AN AIRPLANE MODEL DURING ROTARY MOTIONS AT SPIN ATTITUDES

JAMES S. BOWMAN, JR., RANDY S. HULTBERG, and COLIN A. MARTIN (Aeronautical Research Labs., Melbourne, Australia) Washington Nov. 1989 85 p

(NASA-TP-2939; L-16570; NAS 1.60:2939) Avail: NTIS HC A05/MF A01 CSCL 01A

AIRCRAFT MODELS, FUSELAGES, PRESSURE MEASUREMENT, SPIN TESTS, TAIL ASSEMBLIES

N90-10830*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

LOW-SPEED, HIGH-LIFT AERODYNAMIC CHARACTERISTICS OF SLENDER, HYPERSONIC ACCELERATOR-TYPE CONFIGURATIONS

GREGORY M. GATLIN Washington Nov. 1989 46 p
(NASA-TP-2945; L-16537; NAS 1.60:2945) Avail: NTIS HC A03/MF A01 CSCL 01A

AERODYNAMIC CHARACTERISTICS, AEROSPACE PLANES, AIRCRAFT DESIGN, BODY-WING CONFIGURATIONS, HYPERSONIC FLOW, LIFT

N90-12503*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

RESEARCH IN NATURAL LAMINAR FLOW AND LAMINAR-FLOW CONTROL, PART 1

JERRY N. HEFNER, comp. and FRANCES E. SABO, comp. Dec. 1987 322 p Symposium held in Hampton, VA, 16-19 Mar. 1987

(NASA-CP-2487-PT-1; L-16350-PT-1; NAS 1.55:2487-PT-1) Avail: NTIS HC A14/MF A02 CSCL 01A

BOUNDARY LAYER CONTROL, BOUNDARY LAYER TRANSITION, CONFERENCES, FLOW STABILITY, LAMINAR BOUNDARY LAYER, LAMINAR FLOW, LAMINAR FLOW AIRFOILS

N90-12519*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

RESEARCH IN NATURAL LAMINAR FLOW AND LAMINAR-FLOW CONTROL, PART 2

JERRY N. HEFNER, comp. and FRANCES E. SABO, comp. Dec. 1987 328 p Symposium held in Hampton, VA, 16-19 Mar. 1987

(NASA-CP-2487-PT-2; L-16350-PT-2; NAS 1.55:2487-PT-2) Avail: NTIS HC A15/MF A02 CSCL 01A

AIRCRAFT DESIGN, BOUNDARY LAYER CONTROL, BOUNDARY LAYER TRANSITION, COMPUTATIONAL FLUID DYNAMICS, CONFERENCES, LAMINAR BOUNDARY LAYER, LAMINAR FLOW, LAMINAR FLOW AIRFOILS, WIND TUNNEL TESTS

N90-12539*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

RESEARCH IN NATURAL LAMINAR FLOW AND LAMINAR-FLOW CONTROL, PART 3

JERRY N. HEFNER, comp. and FRANCES E. SABO, comp. Dec. 1987 399 p Symposium held in Hampton, VA, 16-19 Mar.

1987

(NASA-CP-2487-PT-3; L-16350-PT-3; NAS 1.55:2487-PT-3)

Avail: NTIS HC A17/MF A03 CSCL 01A

AIRCRAFT DESIGN, BOUNDARY LAYER CONTROL, BOUNDARY LAYER STABILITY, BOUNDARY LAYER TRANSITION, CONFERENCES, LAMINAR FLOW, LAMINAR FLOW AIRFOILS

N90-14185*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

MEASURED AND PREDICTED AERODYNAMIC COEFFICIENTS AND SHOCK SHAPES FOR AEROASSIST FLIGHT EXPERIMENT (AFE) CONFIGURATION

WILLIAM L. WELLS 1989 52 p

(NASA-TP-2956; L-16644; NAS 1.60:2956) Avail: NTIS HC

A04/MF A01 CSCL 01A

AEROASSIST, AERODYNAMIC CHARACTERISTICS, AERODYNAMIC COEFFICIENTS, AERODYNAMIC CONFIGURATIONS, BLUNT BODIES, HYPERSONIC FLOW, HYPERSONIC VEHICLES, NORMAL SHOCK WAVES, WIND TUNNEL TESTS

N90-14187*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

VALIDATION OF A COMPUTER CODE FOR ANALYSIS OF SUBSONIC AERODYNAMIC PERFORMANCE OF WINGS WITH FLAPS IN COMBINATION WITH A CANARD OR HORIZONTAL TAIL AND AN APPLICATION TO OPTIMIZATION

HARRY W. CARLSON (PRC Systems Services Co., Hampton, VA.), CHRISTINE M. DARDEN, and MICHAEL J. MANN Jan. 1990 125 p

(NASA-TP-2961; L-16611; NAS 1.60:2961) Avail: NTIS HC

A06/MF A01 CSCL 01A

CANARD CONFIGURATIONS, COMPUTER PROGRAMS, FLAPS (CONTROL SURFACES), HORIZONTAL TAIL SURFACES, PROGRAM VERIFICATION (COMPUTERS)

N90-15882*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ROTOR INDUCED-INFLOW-RATIO MEASUREMENTS AND CAMRAD CALCULATIONS

DANNY R. HOAD Washington Jan. 1990 28 p Original contains color illustrations

(DA PROJ. 1L1-62211-A-47-AA)

(NASA-TP-2946; L-16594; NAS 1.60:2946;

AVSCOM-TM-89-B-010; AD-A219296) Avail: NTIS HC A03/MF A01 CSCL 01/1

BLADE TIPS, BLADE-VORTEX INTERACTION, COMPUTER PROGRAMS, FLOW MEASUREMENT, HELICOPTER WAKES, INLET FLOW, MATHEMATICAL MODELS

N90-16710*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

NASA SUPERCRITICAL AIRFOILS: A MATRIX OF FAMILY-RELATED AIRFOILS

CHARLES D. HARRIS Washington Mar. 1990 73 p

(NASA-TP-2969; L-16625; NAS 1.60:2969) Avail: NTIS HC

A04/MF A01 CSCL 01A

AERODYNAMIC CHARACTERISTICS, AIRCRAFT DESIGN, SUPERCRITICAL AIRFOILS

N90-19193*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

STATIC INVESTIGATION OF A TWO-DIMENSIONAL CONVERGENT-DIVERGENT EXHAUST NOZZLE WITH MULTIAxis THRUST-VECTORING CAPABILITY

JOHN G. TAYLOR Washington Apr. 1990 104 p

(NASA-TP-2973; L-16632; NAS 1.60:2973) Avail: NTIS HC

A06/MF A01 CSCL 01A

CONVERGENT-DIVERGENT NOZZLES, EXHAUST NOZZLES, NOZZLE DESIGN, NOZZLE EFFICIENCY, STATIC TESTS, THRUST VECTOR CONTROL

N90-19200*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

INTERNAL PERFORMANCE OF TWO NOZZLES UTILIZING GIMBAL CONCEPTS FOR THRUST VECTORING

BOBBY L. BERRIER and JOHN G. TAYLOR Washington Apr. 1990 128 p

(NASA-TP-2991; L-16722; NAS 1.60:2991) Avail: NTIS HC

A07/MF A01 CSCL 01A

CONVERGENT-DIVERGENT NOZZLES, GIMBALS, NOZZLE EFFICIENCY, NOZZLE GEOMETRY, THRUST VECTOR CONTROL

N90-20046*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EXPERIMENTAL AND THEORETICAL AERODYNAMIC CHARACTERISTICS OF A HIGH-LIFT SEMISPAN WING MODEL

ZACHARY T. APPLIN and GARL L. GENTRY, JR. Washington May 1990 111 p

(NASA-TP-2990; L-16441; NAS 1.60:2990) Avail: NTIS HC

A06/MF A01 CSCL 01A

AERODYNAMIC CHARACTERISTICS, AERODYNAMIC CONFIGURATIONS, AIRFOIL PROFILES, BOUNDARY LAYER CONTROL, COMPUTER PROGRAMS, LAMINAR BOUNDARY LAYER, PANEL METHOD (FLUID DYNAMICS), SEMISPAN MODELS

N90-20946*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DISCRETE-VORTEX MODEL FOR THE SYMMETRIC-VORTEX FLOW ON CONES

THOMAS G. GAINER Washington May 1990 29 p

(NASA-TP-2989; L-16586; NAS 1.60:2989) Avail: NTIS HC

A03/MF A01 CSCL 01A

CONICAL BODIES, FLOW DISTRIBUTION, MATHEMATICAL MODELS, POTENTIAL FLOW, VORTICES

N90-22531*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DYNAMIC GROUND-EFFECT MEASUREMENTS ON THE F-15 STOL AND MANEUVER TECHNOLOGY DEMONSTRATOR (S/MTD) CONFIGURATION

GUY T. KEMMERLY Washington Jun. 1990 31 p

(NASA-TP-3000; L-16555; NAS 1.60:3000) Avail: NTIS HC

A03/MF A01 CSCL 01A

AERODYNAMIC CHARACTERISTICS, AIRCRAFT CONFIGURATIONS, AIRCRAFT LANDING, F-15 AIRCRAFT, GROUND EFFECT (AERODYNAMICS), GROUND TESTS, SHORTTAKE-OFF AIRCRAFT

N90-24239*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AERODYNAMIC CHARACTERISTICS OF TWO ROTORCRAFT AIRFOILS DESIGNED FOR APPLICATION TO THE INBOARD REGION OF A MAIN ROTOR BLADE

KEVIN W. NOONAN (Army Aerostructures Directorate, Hampton, VA.) Washington Jul. 1990 89 p

(DA PROJ. 1L1-62211-A-47-AA)

(NASA-TP-3009; L-16737; NAS 1.60:3009;

AVSCOM-TR-90-B-005) Avail: NTIS HC A05/MF A01 CSCL 01A

AERODYNAMIC CHARACTERISTICS, AERODYNAMIC COEFFICIENTS, ROTARY WINGS, ROTORCRAFT AIRCRAFT

N90-25938*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECT OF TAIL SIZE REDUCTIONS ON LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF A THREE SURFACE F-15 MODEL WITH NONAXISYMMETRIC NOZZLES

MARK C. FRASSINELLI (Air Force Wright Aeronautical Labs., Wright-Patterson AFB, OH.) and GEORGE T. CARSON, JR. Washington Aug. 1990 59 p

02 AERODYNAMICS

(NASA-TP-3036; L-16800; NAS 1.60:3036) Avail: NTIS HC A04/MF A01 CSCL 01A
AERODYNAMIC CHARACTERISTICS, CANARD CONFIGURATIONS, F-15 AIRCRAFT, NOZZLE FLOW, NOZZLE GEOMETRY, TAIL ASSEMBLIES, TRANSONIC WIND TUNNELS

N90-27649*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THE LANGLEY 14- BY 22-FOOT SUBSONIC TUNNEL: DESCRIPTION, FLOW CHARACTERISTICS, AND GUIDE FOR USERS

GARL L. GENTRY, JR., P. FRANK QUINTO, GREGORY M. GATLIN, and ZACHARY T. APPLIN Washington Sep. 1990 73 p

(NASA-TP-3008; L-16731; NAS 1.60:3008) Avail: NTIS HC A04/MF A01 CSCL 01A

DATA ACQUISITION, FLOW CHARACTERISTICS, GROUND EFFECT (AERODYNAMICS), SUBSONIC WIND TUNNELS, USER REQUIREMENTS, WIND TUNNEL APPARATUS

N90-28503*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

THE EFFECTS OF STRUCTURAL FLAP-LAG AND PITCH-LAG COUPLING ON SOFT INPLANE HINGELESS ROTOR STABILITY IN HOVER

WILLIAM G. BOUSMAN Washington May 1990 65 p Sponsored by Army Aviation Systems Command, Saint Louis, MO Prepared in cooperation with Army Aviation Systems Command, Moffett Field, CA

(NASA-TP-3002; A-89093; NAS 1.60:3002; AVSCOM-TR-89-A-002; AD-A226087) Avail: NTIS HC A04/MF A01 CSCL 01/1

COUPLING, HOVERING, HOVERING STABILITY, MATHEMATICAL MODELS, RIGID ROTORS, ROTARY WINGS

03

AIR TRANSPORTATION AND SAFETY

Includes passenger and cargo air transport operations; and aircraft accidents.

N87-10054*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DOPPLER RADAR DETECTION OF WIND SHEAR

V. E. DELNORE, Comp. (PRC Kentron, Inc., Hampton, Va.) and V. A. MCCLELLAN (Research Triangle Inst., Research Triangle Park, N.C.) Sep. 1985 118 p Presented at a Meeting, Hampton, Va., 24-25 Sep., 1985; sponsored in part by FAA

(NASA-CP-2435; NAS 1.55:2435; FAA/PM-86/31) Avail: NTIS HC A06/MF A01 CSCL 01C

AIRCRAFT HAZARDS, AVIATION METEOROLOGY, CONFERENCES, DOPPLER RADAR, MICROBURSTS (METEOROLOGY), RADAR MEASUREMENT, WIND SHEAR

N87-22634*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

COCKPIT RESOURCE MANAGEMENT TRAINING

HARRY W. ORLADY, ed. (Orlady Associates, Inc., Los Gatos, Calif.) and H. CLAYTON FOUSHEE, ed. May 1987 308 p Workshop held in San Francisco, Calif., 6-8 May 1986; sponsored by NASA. Ames Research Center and Air Force Military Airlift

(NASA-CP-2455; A-87038; NAS 1.55:2455) Avail: NTIS HC A14/MF A02 CSCL 01C

FLIGHT CREWS, FLIGHT SIMULATION, FLIGHT TRAINING, GROUP DYNAMICS, PERSONNEL MANAGEMENT

N87-29469*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

JET TRANSPORT FLIGHT OPERATIONS USING COCKPIT DISPLAY OF TRAFFIC INFORMATION DURING INSTRUMENT METEOROLOGICAL CONDITIONS: SIMULATION EVALUATION

DAVID H. WILLIAMS and DOUGLAS C. WELLS May 1986 50 p

(NASA-TP-2567; L-16091; NAS 1.60:2567) Avail: NTIS HC A03/MF A01 CSCL 01C
AIR TRAFFIC CONTROL, COCKPIT SIMULATORS, DISPLAY DEVICES, INSTRUMENT APPROACH, JET AIRCRAFT, TRANSPORT AIRCRAFT, VIDEO COMMUNICATION, WORKLOADS (PSYCHOPHYSIOLOGY)

N88-14970*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

WIND SHEAR DETECTION. FORWARD-LOOKING SENSOR TECHNOLOGY

E. M. BRACALENTE, comp. and V. E. DELNORE, comp. (PRC Kentron, Inc., Hampton, Va.) Oct. 1987 282 p Presented at the 1st Industry Review, Hampton, Va., 24-25 Feb. 1987

(NASA-CP-10004; NAS 1.55:10004; DOT/FAA/PS-87/2) Avail: NTIS HC A13/MF A02 CSCL 01C

AEROSPACE INDUSTRY, CONFERENCES, DOPPLER RADAR, FLIR DETECTORS, REMOTE SENSING, WIND SHEAR

N88-17616*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AIRBORNE WIND SHEAR DETECTION AND WARNING SYSTEMS: FIRST COMBINED MANUFACTURERS' AND TECHNOLOGISTS' CONFERENCE

AMOS A. SPADY, JR., comp., ROLAND L. BOWLES, comp., and HERBERT SCHLICKENMAIER, comp. (Federal Aviation Administration, Washington, D.C.) Jan. 1988 558 p Conference held in Hampton, Va., 22-23 Oct. 1987

(NASA-CP-10006; NAS 1.55:10006; DOT/FAA/PS-88/7) Avail: NTIS HC A24/MF A03 CSCL 01C

AIRBORNE EQUIPMENT, AIRCRAFT CONTROL, CONFERENCES, DETECTION, DOPPLER RADAR, INFORMATION TRANSFER, OPTICAL RADAR, WARNING SYSTEMS, WIND SHEAR

N88-21144*# National Aeronautics and Space Administration. Wallops Flight Center, Wallops Island, VA.

INVESTIGATION OF THE MISFUELING OF RECIPROCATING PISTON AIRCRAFT ENGINES

J. HOLLAND SCOTT, JR. Mar. 1988 82 p

(NASA-TP-2803; NAS 1.60:2803) Avail: NTIS HC A05/MF A01 CSCL 01C

AIRCRAFT ENGINES, ERRORS, GENERAL AVIATION AIRCRAFT, PISTON ENGINES, REFUELING

N88-26344*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

INFLUENCE OF WIND SHEAR ON THE AERODYNAMIC CHARACTERISTICS OF AIRPLANES

DAN D. VICROY Aug. 1988 62 p Sponsored by NASA, Washington, D.C. and DOT, Washington, D.C.

(NASA-TP-2827; L-16439; NAS 1.60:2827; DOT/FAA/PS-88/15) Avail: NTIS HC A04/MF A01 CSCL 01C

AERODYNAMIC CHARACTERISTICS, AIRCRAFT CONTROL, MICROBURSTS (METEOROLOGY), SHEAR FLOW, WIND SHEAR

04

AIRCRAFT COMMUNICATIONS AND NAVIGATION

Includes digital and voice communication with aircraft; air navigation systems (satellite and ground based); and air traffic control.

N89-11726*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A SIMULATOR INVESTIGATION OF THE USE OF DIGITAL DATA LINK FOR PILOT/ATC COMMUNICATIONS IN A SINGLE PILOT OPERATION

DAVID A. HINTON and GARY W. LOHR (Embry-Riddle Aeronautical Univ., Daytona Beach, Fla.) Jun. 1988 41 p (NASA-TP-2837; L-16457; NAS 1.60:2837) Avail: NTIS HC A03/MF A01 CSCL 17B

DATA TRANSMISSION, DIGITAL DATA, PILOT PERFORMANCE, RADIO COMMUNICATION, SIMULATION, VOICE COMMUNICATION

N89-15900*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A PILOTED SIMULATION STUDY OF DATA LINK ATC MESSAGE EXCHANGE

MARVIN C. WALLER and GARY W. LOHR (Embry-Riddle Aeronautical Univ., Daytona Beach, FL.) Washington, DC Feb. 1989 38 p

(NASA-TP-2859; L-16450; NAS 1.60:2859) Avail: NTIS HC A03/MF A01 CSCL 17B

AIR TRAFFIC CONTROL, DATA LINKS, FLIGHT SIMULATION, MESSAGE PROCESSING

N89-15901*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SIMULATION EVALUATION OF TIMER, A TIME-BASED, TERMINAL AIR TRAFFIC, FLOW-MANAGEMENT CONCEPT

LEONARD CREDEUR and WILLIAM R. CAPRON (PRC Kentron, Inc., Hampton, VA.) Washington, DC Feb. 1989 69 p (NASA-TP-2870; L-16386; NAS 1.60:2870) Avail: NTIS HC A04/MF A01 CSCL 17G

AIR TRAFFIC CONTROL, AUTOMATIC CONTROL, EVALUATION, MANAGEMENT PLANNING, SCHEDULING, SIMULATION, TERMINAL FACILITIES

N90-18378*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DELIVERY PERFORMANCE OF CONVENTIONAL AIRCRAFT BY TERMINAL-AREA, TIME-BASED AIR TRAFFIC CONTROL: A REAL-TIME SIMULATION EVALUATION

LEONARD CREDEUR, JACOB A. HOUCK, WILLIAM R. CAPRON, and GARY W. LOHR (Embry-Riddle Aeronautical Univ., Daytona Beach, FL.) Washington Apr. 1990 66 p (NASA-TP-2978; L-16615; NAS 1.60:2978) Avail: NTIS HC A04/MF A01 CSCL 17G

AIR TRAFFIC CONTROL, AIR TRAFFIC CONTROLLERS (PERSONNEL), COMPUTERIZED SIMULATION, FLIGHT CREWS, PILOT PERFORMANCE, REAL TIME OPERATION

05

AIRCRAFT DESIGN, TESTING AND PERFORMANCE

Includes aircraft simulation technology.

N87-11717*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

RECENT EXPERIENCES IN MULTIDISCIPLINARY ANALYSIS AND OPTIMIZATION, PART 1

J. SOBIESKI, comp. 1984 517 p Symposium held in Hampton, Va., 24-26 Apr. 1984

(NASA-CP-2327-PT-1; NAS 1.55:2327-PT-1) Avail: NTIS HC A22/MF A03 CSCL 01C

AIRCRAFT DESIGN, COMPUTER AIDED DESIGN, CONFERENCES, DESIGN ANALYSIS, OPTIMIZATION, STRUCTURAL DESIGN

N87-11750*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

RECENT EXPERIENCES IN MULTIDISCIPLINARY ANALYSIS AND OPTIMIZATION, PART 2

J. SOBIESKI, comp. 1984 509 p Symposium held in Hampton, Va., 24-26 Apr. 1984

(NASA-CP-2327-PT-2; L-15830; NAS 1.55:2327-PT-2) Avail: NTIS HC A22/MF A03 CSCL 01C

AIRCRAFT DESIGN, COMPUTER AIDED DESIGN, HELICOPTERS, OPTIMIZATION

N87-15959*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

LARGE-SCALE STATIC INVESTIGATION OF CIRCULATION-CONTROL-WING CONCEPTS APPLIED TO UPPER SURFACE-BLOWING AIRCRAFT

M. D. SHOVLIN, R. J. ENGLAR (Naval Ship Research and Development Center, Bethesda, Md.), J. C. EPPEL, and J. H. NICHOLS, JR. Jan. 1987 65 p

(NASA-TP-2684; NAS 1.60:2684) Avail: NTIS HC A04/MF A01 CSCL 01C

CIRCULATION CONTROL AIRFOILS, GROUND TESTS, LIFT AUGMENTATION, SHORT TAKEOFF AIRCRAFT, STATIC TESTS, THRUST CONTROL, TURBOFAN ENGINES, UPPER SURFACE BLOWING

N87-16815*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

FLIGHT INVESTIGATION OF THE EFFECT OF TAIL CONFIGURATION ON STALL, SPIN, AND RECOVERY CHARACTERISTICS OF A LOW-WING GENERAL AVIATION RESEARCH AIRPLANE

H. PAUL STOUGH, III, JAMES M. PATTON, JR., and STEVEN M. SLIWA Feb. 1987 125 p

(NASA-TP-2644; L-16194; NAS 1.60:2644) Avail: NTIS HC A06/MF A01 CSCL 01C

AERODYNAMIC CONFIGURATIONS, AERODYNAMIC STALLING, AIRCRAFT SPIN, GENERAL AVIATION AIRCRAFT, RESEARCH AIRCRAFT, TAIL ASSEMBLIES

N87-17690*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EXPLOITING SYMMETRIES IN THE MODELING AND ANALYSIS OF TIRES

AHMED K. NOOR (Joint Inst. for Advancement of Flight Sciences, Hampton, Va.), CARL M. ANDERSEN (College of William and Mary, Hampton, Va.), and JOHN A. TANNER Mar. 1987 63 p (NCC1-40)

(NASA-TP-2649; L-16185; NAS 1.60:2649) Avail: NTIS HC A04/MF A01 CSCL 01C

FINITE ELEMENT METHOD, MATHEMATICAL MODELS, SYMMETRY, TIRES

05 AIRCRAFT DESIGN, TESTING AND PERFORMANCE

N87-17693*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECTS OF EMPENNAGE SURFACE LOCATION ON AERODYNAMIC CHARACTERISTICS OF A TWIN-ENGINE AFTERBODY MODEL WITH NONAXISYMMETRIC NOZZLES

FRANCIS J. CAPONE and GEORGE T. CARSON, JR. Feb. 1985 79 p

(NASA-TP-2392; L-15825; NAS 1.60:2392) Avail: NTIS HC A05/MF A01 CSCL 01C

AERODYNAMIC CHARACTERISTICS, AERODYNAMIC DRAG, AFTERBODIES, AXISYMMETRIC BODIES, FIGHTER AIRCRAFT, NOZZLE GEOMETRY, TAIL ASSEMBLIES, TAIL SURFACES

N87-20990*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

SUMMARY OF STUDIES TO REDUCE WING-MOUNTED PROPFAN INSTALLATION DRAG ON AN M = 0.8 TRANSPORT

RONALD C. SMITH, ALAN D. LEVIN, and RICHARD D. WOOD May 1987 29 p

(NASA-TP-2678; A-86242; NAS 1.60:2678) Avail: NTIS HC A03/MF A01 CSCL 01C

DRAG REDUCTION, HIGH SPEED, PROP-FAN TECHNOLOGY, TRANSPORT AIRCRAFT, WIND TUNNEL TESTS

N87-23614*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

FLIGHT INVESTIGATION OF THE EFFECTS OF AN OUTBOARD WING-LEADING-EDGE MODIFICATION ON STALL/SPIN CHARACTERISTICS OF A LOW-WING, SINGLE-ENGINE, T-TAIL LIGHT AIRPLANE

H. PAUL STOUGH, III, DANIEL J. DICARLO, and JAMES M. PATTON, JR. Jul. 1987 117 p

(NASA-TP-2691; L-16243; NAS 1.60:2691) Avail: NTIS HC A06/MF A01 CSCL 01A

AERODYNAMIC STALLING, FLIGHT TESTS, INVESTIGATION, LEADING EDGES, REVISIONS, SPIN, WINGS

N87-24458*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

MEASUREMENTS OF FLOW RATE AND TRAJECTORY OF AIRCRAFT TIRE-GENERATED WATER SPRAY

ROBERT H. DAUGHERTY and SANDY M. STUBBS Jul. 1987 118 p

(NASA-TP-2718; L-16195; NAS 1.60:2718) Avail: NTIS HC A06/MF A01 CSCL 01C

AIRCRAFT TIRES, ENGINE INLETS, FLOW VELOCITY, INGESTION (ENGINES), SPLASHING, SPRAYING

N87-26041*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EVALUATION OF INSTALLED PERFORMANCE OF A WING-TIP-MOUNTED PUSHER TURBOPROP ON A SEMISPAN WING

JAMES C. PATTERSON, JR. and GLYNN R. BARTLETT Aug. 1987 30 p

(NASA-TP-2739; L-16252; NAS 1.60:2739) Avail: NTIS HC A03/MF A01 CSCL 01C

INSTALLING, PROPELLERS, SEMISPAN MODELS, TURBOFAN ENGINES, TURBOPROP ENGINES, WING TIP VORTICES

N87-29497*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

QUALITATIVE EVALUATION OF A FLUSH AIR DATA SYSTEM AT TRANSONIC SPEEDS AND HIGH ANGLES OF ATTACK

TERRY J. LARSON, STEPHEN A. WHITMORE, L. J. EHERNBERGER, J. BLAIR JOHNSON, and PAUL M. SIEMERS, III Washington NASA Apr. 1987 64 p

(NASA-TP-2716; H-1277; NAS 1.60:2716) Avail: NTIS HC A04/MF A01 CSCL 01C

AIR DATA SYSTEMS, ANGLE OF ATTACK, FLOW

DISTRIBUTION, ORIFICE FLOW, PITOT TUBES, STAGNATION PRESSURE, TRANSONIC SPEED

N87-29499*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Center, Edwards, CA.

APPLICATION OF PARAMETER ESTIMATION TO AIRCRAFT STABILITY AND CONTROL: THE OUTPUT-ERROR APPROACH

RICHARD E. MAINE and KENNETH W. ILIFF Jun. 1986 175 p Submitted for publication

(NASA-RP-1168; H-1299; NAS 1.61:1168) Avail: NTIS HC A08/MF A01 CSCL 01C

The practical application of parameter estimation methodology to the problem of estimating aircraft stability and control derivatives from flight test data is examined. The primary purpose of the document is to present a comprehensive and unified picture of the entire parameter estimation process and its integration into a flight test program. The document concentrates on the output-error method to provide a focus for detailed examination and to allow us to give specific examples of situations that have arisen. The document first derives the aircraft equations of motion in a form suitable for application to estimation of stability and control derivatives. It then discusses the issues that arise in adapting the equations to the limitations of analysis programs, using a specific program for an example. The roles and issues relating to mass distribution data, preflight predictions, maneuver design, flight scheduling, instrumentation sensors, data acquisition systems, and data processing are then addressed. Finally, the document discusses evaluation and the use of the analysis results. Author

N88-12480*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECT OF MOTION CUES DURING COMPLEX CURVED APPROACH AND LANDING TASKS: A PILOTTED SIMULATION STUDY

CHARLES H. SCANLON (Arkansas State Univ., State University.) Dec. 1987 28 p

(NCC1-107) (NASA-TP-2773; L-16351; NAS 1.60:2773) Avail: NTIS HC A03/MF A01 CSCL 01C

APPROACH, CUES, LANDING, MICROWAVE LANDING SYSTEMS, MOTION, PILOT PERFORMANCE, TRACKING (POSITION), WORKLOADS (PSYCHOPHYSIOLOGY)

N88-18583*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

CORNERING CHARACTERISTICS OF THE MAIN-GEAR TIRE OF THE SPACE SHUTTLE ORBITER

ROBERT H. DAUGHERTY, SANDY M. STUBBS, and MARTHA P. ROBINSON Mar. 1988 29 p

(NASA-TP-2790; L-16370; NAS 1.60:2790) Avail: NTIS HC A03/MF A01 CSCL 01C

AERODYNAMIC LOADS, COEFFICIENTS, LANDING GEAR, SPACE SHUTTLES, TIRES, YAWING MOMENTS

N88-19467*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

A PERSPECTIVE ON 15 YEARS OF PROOF-OF-CONCEPT AIRCRAFT DEVELOPMENT AND FLIGHT RESEARCH AT AMES-MOFFETT BY THE ROTORCRAFT AND POWERED-LIFT FLIGHT PROJECTS DIVISION, 1970-1985

DAVID D. FEW Aug. 1987 55 p

(NASA-RP-1187; A-86404; NAS 1.61:1187) Avail: NTIS HC A04/MF A01 CSCL 01C

A proof-of-concept (POC) aircraft is defined and the concept of interest described for each of the six aircraft developed by the Ames-Moffett Rotorcraft and Powered-Lift Flight Projects Division from 1970 through 1985; namely, the OV-10, the C-8A Augmentor Wing, the Quiet Short-Haul Research Aircraft (QSRA), the XV-15 Tilt Rotor Research Aircraft (TRRA), the Rotor Systems Research Aircraft (RSRA)-compound, and the yet-to-fly RSRA/X-Wing Aircraft. The program/project chronology and most noteworthy features of the concepts are reviewed. The paper discusses the significance of each concept and the project demonstrating it; it

05 AIRCRAFT DESIGN, TESTING AND PERFORMANCE

briefly looks at what concepts are on the horizon as potential POC research aircraft and emphasizes that no significant advanced concept in aviation technology has ever been accepted by civilian or military users without first completing a demonstration through flight testing.
Author

N88-21153*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
DEVELOPMENT AND FLIGHT TEST OF AN EXPERIMENTAL MANEUVER AUTOPILOT FOR A HIGHLY MANEUVERABLE AIRCRAFT

EUGENE L. DUKE, FRANK P. JONES, and RALPH B. RONCOLI
Sep. 1986 61 p
(NASA-TP-2618; H-1258; NAS 1.60:2618) Avail: NTIS HC A04/MF A01 CSCL 01C
AUTOMATIC CONTROL, AUTOMATIC PILOTS, FLIGHT TESTS, HIGHLY MANEUVERABLE AIRCRAFT

N88-21157*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

STATIC MECHANICAL PROPERTIES OF 30 X 11.5 - 14.5, TYPE 8 AIRCRAFT TIRES OF BIAS-PLY AND RADIAL-BELTED DESIGN

PAMELA A. DAVIS and MERCEDES C. LOPEZ May 1988 24 p
(NASA-TP-2810; L-16374; NAS 1.60:2810) Avail: NTIS HC A03/MF A01 CSCL 01C
AIRCRAFT TIRES, MECHANICAL PROPERTIES, STATIC TESTS

N88-22031*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SHAPE SENSITIVITY ANALYSIS OF WING STATIC AEROELASTIC CHARACTERISTICS

JEAN-FRANCOIS M. BARTHELEMY and FRED D. BERGEN (Virginia Polytechnic Inst. and State Univ., Blacksburg.) May 1988 30 p
(NASA-TP-2808; L-16418; NAS 1.60:2808) Avail: NTIS HC A03/MF A01 CSCL 01C
AEROELASTICITY, DYNAMIC RESPONSE, SENSITIVITY, WING LOADING, WING PROFILES

N88-24623*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

NONLINEAR PROGRAMMING EXTENSIONS TO RATIONAL FUNCTION APPROXIMATION METHODS FOR UNSTEADY AERODYNAMIC FORCES

SHERWOOD H. TIFFANY and WILLIAM M. ADAMS, JR. Jul. 1988 55 p Previously announced in IAA as A87-33694
Sponsored by NASA, Washington
(NASA-TP-2776; L-16205; NAS 1.60:2776) Avail: NTIS HC A04/MF A01 CSCL 01C
AERODYNAMIC FORCES, AERODYNAMICS, APPROXIMATION, EQUATIONS OF MOTION, FLEXIBLE BODIES, NON-LINEAR PROGRAMMING, OPTIMIZATION

N89-23448*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

HOT-JET SIMULATION IN CRYOGENIC WIND TUNNELS
KEISUKE ASAI (National Aerospace Lab., Tokyo, Japan)
Washington Jul. 1989 49 p
(NASA-RP-1220; L-16564; NAS 1.61:1220) Avail: NTIS HC A03/MF A01 CSCL 01C

In order to evaluate hot jet simulation capability in cryogenic wind tunnel testing, simple theoretical calculations were performed. The similarity parameters, isentropic flow properties, and normal shock relations were calculated for a variety of jet simulation techniques. The results were compared with those estimated for a full scale flight condition. It was shown that the cryogenic wind tunnel testing provides an opportunity for the most accurate hot jet simulation technique. By using a compressed nitrogen gas at ambient or moderately elevated temperatures as a jet gas, most all of the relevant similarity parameters including the jet temperature

and velocity ratios and the Reynolds numbers, can be set to the full scale flight values. The only exception is the ratio of specific heats for jet flow. In an attempt to match the ratio of specific heats for the turbojet flow, gases other than pure nitrogen were considered. It was found that a nitrogen/methane mixture at moderately elevated temperature behaves like the real combustion gas. Using this mixture as a jet gas, complete simulation of the full scale turbojet exhaust becomes possible in cryogenic wind tunnels.
Author

N89-25146*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

RECENT ADVANCES IN MULTIDISCIPLINARY ANALYSIS AND OPTIMIZATION, PART 1

JEAN-FRANCOIS M. BARTHELEMY, ed. Washington Apr. 1989 527 p Symposium held in Hampton, VA, 28-30 Sep. 1988; sponsored by NASA, Langley Research Center, NASA, LeResearch Center, and Wright Research Development Center (NASA-CP-3031-PT-1; L-16568-PT-1; NAS 1.55:3031-PT-1)
Avail: NTIS HC A23/MF A03 CSCL 01C

AIRCRAFT DESIGN, COMPUTATIONAL FLUID DYNAMICS, COMPUTER AIDED DESIGN, CONFERENCES, EXPERT SYSTEMS, OPTIMIZATION, STRUCTURAL ENGINEERING

N89-25173*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

RECENT ADVANCES IN MULTIDISCIPLINARY ANALYSIS AND OPTIMIZATION, PART 2

JEAN-FRANCOIS M. BARTHELEMY, ed. Washington Apr. 1989 501 p Symposium held in Hampton, VA, 28-30 Sep. 1988; sponsored by NASA, Langley Research Center, NASA, Lewis Research Center, and Wright Research Development Center (NASA-CP-3031-PT-2; L-16568-PT-2; NAS 1.55:3031-PT-2)
Avail: NTIS HC A22/MF A03 CSCL 01C

AIRCRAFT DESIGN, ARTIFICIAL INTELLIGENCE, COMPUTER AIDED DESIGN, CONFERENCES, DESIGN ANALYSIS, OPTIMIZATION, STRUCTURAL ANALYSIS, STRUCTURAL DESIGN

N89-25201*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

RECENT ADVANCES IN MULTIDISCIPLINARY ANALYSIS AND OPTIMIZATION, PART 3

JEAN-FRANCOIS M. BARTHELEMY, ed. Washington Apr. 1989 513 p Symposium held in Hampton, VA, 28-30 Sep. 1988; sponsored by NASA, Langley Research Center, NASA, Lewis Research Center, and Wright Research Development Center (NASA-CP-3031-PT-3; L-16568-PT-3; NAS 1.55:3031-PT-3)
Avail: NTIS HC A22/MF A03 CSCL 01C

AIRCRAFT DESIGN, COMPUTER AIDED DESIGN, COMPUTERIZED SIMULATION, CONFERENCES, CONTROL THEORY, DESIGN ANALYSIS, FLEXIBLE SPACECRAFT, LARGE SPACE STRUCTURES, OPTIMIZATION, SPACECRAFT DESIGN, STRUCTURAL DESIGN, STRUCTURAL ENGINEERING, SYSTEMS ENGINEERING

N89-26844*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

METHOD FOR EXPERIMENTAL DETERMINATION OF FLUTTER SPEED BY PARAMETER IDENTIFICATION

E. NISSIM (Technion - Israel Inst. of Tech., Haifa.) and GLENN B. GILYARD Washington Jun. 1989 44 p Previously announced in IAA as A89-30801
(NASA-TP-2923; H-1510; NAS 1.60:2923) Avail: NTIS HC A03/MF A01 CSCL 01C

AEROELASTICITY, DYNAMIC PRESSURE, FLIGHT TESTS, FLUTTER, PARAMETER IDENTIFICATION

N90-12589*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

POWERED-LIFT AIRCRAFT TECHNOLOGY

W. H. DECKERT and J. A. FRANKLIN 1989 36 p Original

05 AIRCRAFT DESIGN, TESTING AND PERFORMANCE

contains color illustrations

(NASA-SP-501; NAS 1.21:501; LC-89-39482) Avail: SOD HC \$4.25 as 033-000-01062-1; NTIS HC A03/MF A01 CSCL 01C

Powered lift aircraft have the ability to vary the magnitude and direction of the force produced by the propulsion system so as to control the overall lift and streamwise force components of the aircraft, with the objective of enabling the aircraft to operate from minimum sized terminal sites. Power lift technology has contributed to the development of the jet lift Harrier and to the forth coming operational V-22 Tilt Rotor and the C-17 military transport. This technology will soon be expanded to include supersonic fighters with short takeoff and vertical landing capability, and will continue to be used for the development of short- and vertical-takeoff and landing transport. An overview of this field of aeronautical technology is provided for several types of powered lift aircraft. It focuses on the description of various powered lift concepts and their operational capability. Aspects of aerodynamics and flight controls pertinent to powered lift are also discussed. Author

N90-14220*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

GLOBAL STRATOSPHERIC CHANGE: REQUIREMENTS FOR A VERY-HIGH-ALTITUDE AIRCRAFT FOR ATMOSPHERIC RESEARCH

1989 41 p Workshop held in Truckee, CA, 15-16 Jul. 1989 (NASA-CP-10041; A-89243; NAS 1.55:10041) Avail: NTIS HC A03/MF A01 CSCL 01C

ATMOSPHERIC CHEMISTRY, FLIGHT CHARACTERISTICS, METEOROLOGICAL FLIGHT, REMOTE SENSING, STRATOSPHERE, U-2 AIRCRAFT

N90-15100*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

THE EFFECTIVENESS OF VANE-AILERON EXCITATION IN THE EXPERIMENTAL DETERMINATION OF FLUTTER SPEED BY PARAMETER IDENTIFICATION

ELI NISSIM (Technion - Israel Inst. of Tech., Haifa.) Jan. 1990 23 p

(NASA-TP-2971; H-1516; NAS 1.60:2971) Avail: NTIS HC A03/MF A01 CSCL 01C

EXCITATION, FLUTTER, PARAMETER IDENTIFICATION, VANES

N90-15902*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EVALUATION OF TWO TRANSPORT AIRCRAFT AND SEVERAL GROUND TEST VEHICLE FRICTION MEASUREMENTS OBTAINED FOR VARIOUS RUNWAY SURFACE TYPES AND CONDITIONS. A SUMMARY OF TEST RESULTS FROM JOINT FAA/NASA RUNWAY FRICTION PROGRAM

THOMAS J. YAGER, WILLIAM A. VOGLER (PRC Kentron, Inc., Hampton, VA.), and PAUL BALDASARE Washington Feb. 1990 301 p

(NASA-TP-2917; L-16536; NAS 1.60:2917) Avail: NTIS HC A14/MF A02 CSCL 01C

AIRCRAFT TIRES, ASPHALT, CONCRETES, FRICTION MEASUREMENT, GROUND TESTS, RUNWAY CONDITIONS, TRANSPORT AIRCRAFT

N90-17627*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SIMULATED-AIRLINE-SERVICE FLIGHT TESTS OF LAMINAR-FLOW CONTROL WITH PERFORATED-SURFACE SUCTION SYSTEM

DAL V. MADDALON and ALBERT L. BRASLOW (Analytical Services and Materials, Inc., Hampton, VA.) Washington Mar. 1990 40 p

(NASA-TP-2966; L-16589; NAS 1.60:2966) Avail: NTIS HC A03/MF A01 CSCL 01C

BOUNDARY LAYER CONTROL, C-140 AIRCRAFT, LAMINAR FLOW, LEADING EDGES, PERFORATION, SUCTION

N90-18385*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

FUSELAGE DESIGN FOR A SPECIFIED MACH-SLICED AREA DISTRIBUTION

RAYMOND L. BARGER and MARY S. ADAMS Washington Feb. 1990 88 p

(NASA-TP-2975; L-16651; NAS 1.60:2975) Avail: NTIS HC A05/MF A01 CSCL 01C

AIRCRAFT CONFIGURATIONS, AIRCRAFT DESIGN, FUSELAGES, MACH NUMBER, NOISE REDUCTION

N90-25134*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Facility, Edwards, CA.

EVALUATION OF VARIOUS THRUST CALCULATION TECHNIQUES ON AN F404 ENGINE

RONALD J. RAY Apr. 1990 31 p

(NASA-TP-3001; H-1505; NAS 1.60:3001) Avail: NTIS HC A03/MF A01 CSCL 21E

CALIBRATING, ENGINE TESTS, FLIGHT TESTS, PERFORMANCE PREDICTION, REAL TIME OPERATION, THRUST

N90-26823*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EVALUATION OF ENERGY ABSORPTION OF NEW CONCEPTS OF AIRCRAFT COMPOSITE SUBFLOOR INTERSECTIONS

LISA E. JONES (PRC Kentron, Inc., Hampton, VA.) and HUEY D. CARDEN Washington Nov. 1989 33 p

(NASA-TP-2951; L-16628; NAS 1.60:2951) Avail: NTIS HC A03/MF A01 CSCL 01C

AIRCRAFT CONSTRUCTION MATERIALS, CRASHWORTHINESS, FLOORS, LAMINATES, STRUCTURAL ANALYSIS, STRUCTURAL FAILURE, SUBSTRUCTURES

06

AIRCRAFT INSTRUMENTATION

Includes cockpit and cabin display devices; and flight instruments.

N87-10864*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

GROUND-BASED TIME-GUIDANCE ALGORITHM FOR CONTROL OF AIRPLANES IN A TIME-METERED AIR TRAFFIC CONTROL ENVIRONMENT: A PILOTTED SIMULATION STUDY

C. E. KNOX and N. IMBERT (Office National d'Etudes et de Recherches Aeronautiques, Toulouse, France) Nov. 1986 36 p

(NASA-TP-2616; L-16116; NAS 1.60:2616) Avail: NTIS HC A03/MF A01 CSCL 01D

AIR TRAFFIC CONTROL, ENERGY CONSERVATION, FLIGHT MANAGEMENT SYSTEMS, FLIGHT SIMULATION, FUEL CONSUMPTION, PILOTS (PERSONNEL), TIMING DEVICES

N87-13438*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DEVELOPMENT AND EVALUATION OF AN AIRPLANE ELECTRONIC DISPLAY FORMAT ALIGNED WITH THE INERTIAL VELOCITY VECTOR

G. G. STEINMETZ Dec. 1986 23 p

(NASA-TP-2648; L-16168; NAS 1.60:2648) Avail: NTIS HC A03/MF A01 CSCL 01D

ALIGNMENT, DIRECTIONAL CONTROL, DISPLAY DEVICES, ELECTRONIC EQUIPMENT, FLIGHT TESTS, INERTIAL NAVIGATION, PERFORMANCE TESTS, VELOCITY

N87-19393*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A SIMULATION EVALUATION OF A PILOT INTERFACE WITH AN AUTOMATIC TERMINAL APPROACH SYSTEM

07 AIRCRAFT PROPULSION AND POWER

DAVID A. HINTON Apr. 1987 21 p
(NASA-TP-2669; L-16222; NAS 1.60:2669) Avail: NTIS HC
A03/MF A01 CSCL 17G

APPROACH CONTROL, AUTOMATIC CONTROL, AUTOMATIC
PILOTS, GENERAL AVIATION AIRCRAFT, MAN MACHINE
SYSTEMS

N87-29533*# National Aeronautics and Space Administration.
Ames Research Center, Moffett Field, CA.

ANALOG SIGNAL CONDITIONING FOR FLIGHT-TEST INSTRUMENTATION

DONALD W. VEATCH and RODNEY K. BOGUE Washington
NASA Jan. 1986 173 p Presented at the AGARD Flight
Mechanics Panel, Flight-test Techniques Working Group,
AGARDograph 160, Flight-Test Instrumentation Series Previously
announced as N86-29816

(NASA-RP-1159; H-1191; NAS 1.61:1159) Avail: NTIS HC
A08/MF A01 CSCL 01D

The application of analog signal conditioning to flight-tests data
acquisition systems is discussed. Emphasis is placed on practical
applications of signal conditioning for the most common flight-test
data-acquisition systems. A limited amount of theoretical discussion
is included to assist the reader in a more complete understanding
of the subject matter. Nonspecific signal conditioning, such as
amplification, filtering, and multiplexing, is discussed. Signal
conditioning for various specific transducers and data terminal
devices is also discussed to illustrate signal conditioning that is
unique to particular types of transducers. The purpose is to
delineate for the reader the various signal-conditioning technique
options, together with tradeoff considerations, for commonly
encountered flight-test situations. Author

N88-12487*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

EFFECTS OF COMBINING VERTICAL AND HORIZONTAL INFORMATION INTO A PRIMARY FLIGHT DISPLAY

TERENCE S. ABBOTT, MARK NATAUPSKY, and GEORGE G.
STEINMETZ Dec. 1987 21 p

(NASA-TP-2783; L-16366; NAS 1.60:2783) Avail: NTIS HC
A03/MF A01 CSCL 01D

COCKPITS, CONSOLIDATION, DISPLAY DEVICES,
HORIZONTAL ORIENTATION, POSITION INDICATORS,
VERTICAL ORIENTATION

N89-16820*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

PILOTED-SIMULATION EVALUATION OF ESCAPE GUIDANCE FOR MICROBURST WIND SHEAR ENCOUNTERS M.S. Thesis - George Washington Univ.

DAVID A. HINTON Washington, DC Mar. 1989 57 p Sponsored
in part by FAA, Washington, DC

(NASA-TP-2886; L-16498; NAS 1.60:2886; DOT/FAA/DS-89/06)
Avail: NTIS HC A04/MF A01 CSCL 01D

FLIGHT HAZARDS, FLIGHT SIMULATION, MICROBURSTS
(METEOROLOGY), PILOT PERFORMANCE, WIND SHEAR

N90-13384*# National Aeronautics and Space Administration.
Ames Research Center, Moffett Field, CA.

FLIGHT DECK AUTOMATION: PROMISES AND REALITIES

SUSAN D. NORMAN, ed. and HARRY W. ORLADY, ed. (Orlady
Associates, Inc., Los Gatos, CA.) Sep. 1989 200 p Proceedings
of a NASA/FAA/Industry Workshop, Carmel Valley, CA, 1-4 Aug.
1988

(NASA-CP-10036; A-89196; NAS 1.55:10036) Avail: NTIS HC
A09/MF A02 CSCL 01D

AIR TRAFFIC CONTROL, AIR TRANSPORTATION,
AUTOMATIC CONTROL, COCKPITS, CONFERENCES,
MAN-COMPUTER INTERFACE

N90-18393*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

A SIMULATION EVALUATION OF THE ENGINE MONITORING AND CONTROL SYSTEM DISPLAY

TERENCE S. ABBOTT Washington Feb. 1990 39 p Original
contains color illustrations

(NASA-TP-2960; L-16637; NAS 1.60:2960) Avail: NTIS HC
A03/MF A01; 6 functional color pages CSCL 01D

AIRCRAFT INSTRUMENTS, DISPLAY DEVICES, ENGINE
MONITORING INSTRUMENTS, FLIGHT INSTRUMENTS

N90-21004*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

STEREOPSIS CUEING EFFECTS ON HOVER-IN-TURBULENCE PERFORMANCE IN A SIMULATED ROTORCRAFT

RUSSELL V. PARRISH and STEVEN P. WILLIAMS (Army Aviation
Systems Command, Hampton, VA.) Washington May 1990
62 p

(DA PROJ. 1L1-61102-AH-45)

(NASA-TP-2980; L-16652; NAS 1.60:2980;

AVSCOM-TR-90-B-002; AD-A224484) Avail: NTIS HC A04/MF
A01 CSCL 01/4

CUES, DISPLAY DEVICES, FLIGHT SIMULATION, HOVERING,
PILOT PERFORMANCE, ROTARY WING AIRCRAFT,
TURBULENCE

N90-25980*# National Aeronautics and Space Administration,
Washington, DC.

SPACE TRANSPORTATION AVIONICS TECHNOLOGY SYMPOSIUM. VOLUME 1: EXECUTIVE SUMMARY

Aug. 1990 24 p Symposium held in Williamsburg, VA, 7-9
Nov. 1989

(NASA-CP-3081-VOL-1; NAS 1.55:3081-VOL-1) Avail: NTIS HC
A03/MF A01 CSCL 01D

AVIONICS, CONFERENCES, SPACE TRANSPORTATION

07

AIRCRAFT PROPULSION AND POWER

Includes prime propulsion systems and systems components, e.g.,
gas turbine engines and compressors; and onboard auxiliary power
plants for aircraft.

N87-17699*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

DESIGN OF 9.271-PRESSURE-RATIO 5-STAGE CORE COMPRESSOR AND OVERALL PERFORMANCE FOR FIRST 3 STAGES

RONALD J. STEINKE May 1986 35 p

(NASA-TP-2597; E-2589; NAS 1.60:2597) Avail: NTIS HC
A03/MF A01 CSCL 21E

COMPRESSORS, DESIGN ANALYSIS, FLOW DISTRIBUTION,
PERFORMANCE TESTS, ROTOR BLADES (TURBOMACHINERY)

N87-20267*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

NASA-CHINESE AERONAUTICAL ESTABLISHMENT (CAE) SYMPOSIUM

1986 230 p Symposium held in Cleveland, Ohio, 23-27 Sep.
1985

(NASA-CP-2433; E-3033; NAS 1.55:2433) Avail: NTIS HC
A11/MF A02 CSCL 21E

COMBUSTION, FLUID DYNAMICS, THERMODYNAMICS

N87-24481*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

LOW-COST FM OSCILLATOR FOR CAPACITANCE TYPE OF BLADE TIP CLEARANCE MEASUREMENT SYSTEM

JOHN P. BARRANGER Jul. 1987 16 p

(NASA-TP-2746; E-3455; NAS 1.60:2746) Avail: NTIS HC
A03/MF A01 CSCL 21E

07 AIRCRAFT PROPULSION AND POWER

BLADE TIPS, ERROR ANALYSIS, FREQUENCY MODULATION, NONDESTRUCTIVE TESTS, OSCILLATORS, ROTOR BLADES (TURBOMACHINERY)

N88-15785*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

AEROPROPULSION '87. SESSION 2: AEROPROPULSION STRUCTURES RESEARCH

Nov. 1987 52 p Conference held in Cleveland, Ohio, 17-19

Nov. 1987 Submitted for publication

(NASA-CP-10003-SESS-2; E-3798-SESS-2; NAS 1.55:10003-SESS-2) Avail: NTIS HC A04/MF A01 CSDL 21E

CONTROL SYSTEMS DESIGN, DESIGN ANALYSIS, PROPULSION SYSTEM CONFIGURATIONS, STRUCTURAL ANALYSIS

N88-15790*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

AEROPROPULSION '87. SESSION 3: INTERNAL FLUID MECHANICS RESEARCH

Nov. 1987 75 p Conference held in Cleveland, Ohio, 17-19

Nov. 1987 Submitted for publication

(NASA-CP-10003-SESS-3; E-3798-SESS-3; NAS 1.55:10003-SESS-3) Avail: NTIS HC A04/MF A01 CSDL 21E

CHEMICAL REACTIONS, DUCTS, FLUID MECHANICS, INLET FLOW, NOZZLES, PREDICTION ANALYSIS TECHNIQUES, PROPULSION, TURBOMACHINERY

N88-15794*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

AEROPROPULSION '87. SESSION 4: INSTRUMENTATION AND CONTROLS RESEARCH

Nov. 1987 77 p Conference held in Cleveland, Ohio, 17-19

Nov. 1987 Submitted for publication

(NASA-CP-10003-SESS-4; E-3798-SESS-4; NAS 1.55:10003-SESS-4) Avail: NTIS HC A05/MF A01 CSDL 21E

CONFERENCES, CONTROL SYSTEMS DESIGN, FIBER OPTICS, FLUID MECHANICS, MEASURING INSTRUMENTS, PROPULSION

N88-15800*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

AEROPROPULSION '87. SESSION 5: SUBSONIC PROPULSION TECHNOLOGY

Nov. 1987 153 p Conference held in Cleveland, Ohio, 17-19

Nov. 1987 Submitted for publication

(NASA-CP-10003-SESS-5; E-3798-SESS-5; NAS 1.55:10003-SESS-5) Avail: NTIS HC A08/MF A01 CSDL 21E

CONFERENCES, ENGINE DESIGN, FLUID MECHANICS, PROP-FAN TECHNOLOGY, PROPULSION

N88-15807*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

AEROPROPULSION '87. SESSION 6: HIGH-SPEED PROPULSION TECHNOLOGY

Nov. 1987 119 p Conference held in Cleveland, Ohio, 17-19

Nov. 1987 Submitted for publication

(NASA-CP-10003-SESS-6; E-3798-SESS-6; NAS 1.55:10003-SESS-6) Avail: NTIS HC A06/MF A01 CSDL 21E

CONFERENCES, FLUID MECHANICS, HYPERSONIC AIRCRAFT, PROPULSION SYSTEM CONFIGURATIONS, SUPERSONIC AIRCRAFT, SUPERSONIC COMBUSTION RAMJET ENGINES, TRANSPORT AIRCRAFT

N88-16697*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

AEROPROPULSION '87. SESSION 1: AEROPROPULSION MATERIALS RESEARCH

Nov. 1987 121 p Conference held in Cleveland, Ohio, 17-19

Nov. 1987 Submitted for publication

(NASA-CP-10003-SESS-1; E-3798-SESS-1; NAS 1.55:10003-SESS-1) Avail: NTIS HC A06/MF A01 CSDL 21E

CERAMICS, CREEP PROPERTIES, ENGINE DESIGN, ENGINE

PARTS, FATIGUE (MATERIALS), METAL MATRIX COMPOSITES, POLYMER MATRIX COMPOSITES

N89-12565*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

ADVANCED TURBOPROP PROJECT

ROY D. HAGER and DEBORAH VRABEL (Sverdrup Technology, Inc., Cleveland, Ohio.) 1988 130 p Original contains color illustrations

(NASA-SP-495; NAS 1.21:495; LC88-1690) Avail: NTIS HC A07/MF A01 CSDL 21E

At the direction of Congress, a task force headed by NASA was organized in 1975 to identify potential fuel saving concepts for aviation. The result was the Aircraft Energy Efficiency (ACEE) Program implemented in 1976. An important part of the program was the development of advanced turboprop technology for Mach 0.65 to 0.85 applications having the potential fuel saving of 30 to 50 percent relative to existing turbofan engines. A historical perspective is presented of the development and the accomplishments that brought the turboprop to successful flight tests in 1986 and 1987. Author

N90-21037*# Sverdrup Technology, Inc., Cleveland, OH.

EXHAUST NOZZLES FOR PROPULSION SYSTEMS WITH EMPHASIS ON SUPERSONIC CRUISE AIRCRAFT

LEONARD E. STITT May 1990 107 p

(NAS3-25266)

(NASA-RP-1235; E-4789; NAS 1.61:1235) Avail: NTIS HC A06/MF A01 CSDL 21E

This compendium summarizes the contributions of the NASA-Lewis and its contractors to supersonic exhaust nozzle research from 1963 to 1985. Two major research and technology efforts sponsored this nozzle research work; the U.S. Supersonic Transport (SST) Program and the follow-on Supersonic Cruise Research (SCR) Program. They account for two generations of nozzle technology: the first from 1963 to 1971, and the second from 1971 to 1985. First, the equations used to calculate nozzle thrust are introduced. Then the general types of nozzles are presented, followed by a discussion of those types proposed for supersonic aircraft. Next, the first-generation nozzles designed specifically for the Boeing SST and the second-generation nozzles designed under the SCR program are separately reviewed and then compared. A chapter on throttle-dependent afterbody drag is included, since drag has a major effect on the off-design performance of supersonic nozzles. A chapter on the performance of supersonic dash nozzles follows, since these nozzles have similar design problems. Finally, the nozzle test facilities used at NASA-Lewis during this nozzle research effort are identified and discussed. These facilities include static test stands, a transonic wind tunnel, and a flying testbed aircraft. A concluding section points to the future: a third generation of nozzles designed for a new era of high speed civil transports to produce even greater advances in performance, to meet new noise rules, and to ensure the continuity of over two decades of NASA research. Author

N90-23403*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

EXPERIMENTAL EVALUATION OF A TUNED ELECTROMAGNETIC DAMPER FOR VIBRATION CONTROL OF CRYOGENIC TURBOPUMP ROTORS

ELISEO DIRUSSO and GERALD V. BROWN Washington Jun. 1990 17 p

(NASA-TP-3005; E-5012; NAS 1.60:3005) Avail: NTIS HC A03/MF A01 CSDL 21E

CRYOGENIC TEMPERATURE, ELECTROMAGNETISM, ROCKET ENGINES, ROTOR SPEED, ROTORS, SHAFTS (MACHINE ELEMENTS), TURBINE PUMPS, VIBRATION DAMPING

N90-27722*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

COMPUTER CODE FOR PREDICTING COOLANT FLOW AND HEAT TRANSFER IN TURBOMACHINERY

PETER L. MEITNER Washington Sep. 1990 41 p Prepared in cooperation with Army Aviation Systems Command, Cleveland, OH
(DA PROJ. 1L1-61102-AH-45)
(NASA-TP-2985; E-5186; NAS 1.60:2985; AVSCOM-TR-89-C-008)
Avail: NTIS HC A03/MF A01 CSCL 21E
COMPUTER PROGRAMS, ENGINE COOLANTS, FLOW DISTRIBUTION, HEAT TRANSFER, TURBOMACHINERY

08

AIRCRAFT STABILITY AND CONTROL

Includes aircraft handling qualities; piloting; flight controls; and autopilots.

N87-10103*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.
IN-FLIGHT TOTAL FORCES, MOMENTS AND STATIC AEROELASTIC CHARACTERISTICS OF AN OBLIQUE-WING RESEARCH AIRPLANE
R. E. CURRY and A. G. SIM Oct. 1984 30 p
(NASA-TP-2224; H-1181; NAS 1.60:2224) Avail: NTIS HC A03/MF A01 CSCL 01C

AEROELASTIC RESEARCH WINGS, AIRCRAFT DESIGN, FLIGHT TESTS, OBLIQUE WINGS, RESEARCH AIRCRAFT, STRUCTURAL DESIGN, WIND TUNNEL TESTS

N87-10870*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
INTERFERENCE EFFECTS OF THRUST REVERSING ON HORIZONTAL TAIL EFFECTIVENESS OF TWIN-ENGINE FIGHTER AIRCRAFT AT MACH NUMBERS FROM 0.15 TO 0.90
F. J. CAPONE and M. L. MASON Oct. 1984 104 p
(NASA-TP-2350; L-15811; NAS 1.60:2350) Avail: NTIS HC A06/MF A01 CSCL 01C

AERODYNAMIC INTERFERENCE, FIGHTER AIRCRAFT, TAIL ASSEMBLIES, THRUST REVERSAL, WIND TUNNEL TESTS

N87-10871*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.
FLIGHT-DETERMINED AERODYNAMIC DERIVATIVES OF THE AD-1 OBLIQUE-WING RESEARCH AIRPLANE
A. G. SIM and R. E. CURRY Oct. 1984 40 p
(NASA-TP-2222; H-1179; NAS 1.60:2222) Avail: NTIS HC A03/MF A01 CSCL 01C

AERODYNAMIC COEFFICIENTS, OBLIQUE WINGS, RESEARCH AIRCRAFT, VARIABLE SWEEP WINGS

N87-16849*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
PILOTED SIMULATOR STUDY OF ALLOWABLE TIME DELAYS IN LARGE-AIRPLANE RESPONSE
WILLIAM D. GRANTHAM, PAUL M. SMITH (PRC Kentron, Inc., Hampton, Va.), LEE H. PERSON, JR., ROBERT T. MEYER (Lockheed-Georgia Co., Marietta), and STEPHEN A. TINGAS Feb. 1987 69 p
(NASA-TP-2652; L-16149; NAS 1.60:2652) Avail: NTIS HC A04/MF A01 CSCL 01C

CONTROL SYSTEMS DESIGN, FLIGHT CHARACTERISTICS, FLIGHT SIMULATORS, LOW SPEED, TIME LAG, TRANSPORT AIRCRAFT

N87-18570*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.
FLIGHT CHARACTERISTICS OF THE AD-1 OBLIQUE-WING RESEARCH AIRCRAFT
ALEX G. SIM and ROBERT E. CURRY Mar. 1985 29 p
(NASA-TP-2223; H-1180; NAS 1.60:2223) Avail: NTIS HC A03/MF A01 CSCL 01C

AERODYNAMIC CONFIGURATIONS, FLIGHT CHARACTERISTICS, LOW SPEED, OBLIQUE WINGS, RESEARCH AIRCRAFT

N87-25331*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.
ADVANCED DETECTION, ISOLATION AND ACCOMMODATION OF SENSOR FAILURES: REAL-TIME EVALUATION
WALTER C. MERRILL, JOHN C. DELAAT, and WILLIAM M. BRUTON Jul. 1987 30 p
(NASA-TP-2740; E-3479; NAS 1.60:2740) Avail: US Patent and Trademark Office CSCL 01C

ENGINE CONTROL, ENGINE FAILURE, FAULT TOLERANCE, REDUNDANCY ENCODING, REMOTE SENSORS, TURBINE ENGINES

N87-26922*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
PILOTED-SIMULATION STUDY OF EFFECTS OF VORTEX FLAPS ON LOW-SPEED HANDLING QUALITIES OF A DELTA-WING AIRPLANE
JAY M. BRANDON, PHILIP W. BROWN, and ALFRED J. WUNSCHER Sep. 1987 38 p
(NASA-TP-2747; L-16307; NAS 1.60:2747) Avail: NTIS HC A03/MF A01 CSCL 01C

CONTROLLABILITY, DELTA WINGS, FLIGHT SIMULATION, LOW SPEED, PILOTS (PERSONNEL), VORTEX FLAPS

N88-14987*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
HANDLING QUALITIES OF A WIDE-BODY TRANSPORT AIRPLANE UTILIZING PITCH ACTIVE CONTROL SYSTEMS (PACS) FOR RELAXED STATIC STABILITY APPLICATION
WILLIAM D. GRANTHAM, LEE H. PERSON, JR., PHILIP W. BROWN, LAWRENCE E. BECKER, GEORGE E. HUNT, J. J. RISING, W. J. DAVIS, C. S. WILLEY, W. A. WEAVER, and R. COKELEY Dec. 1985 109 p
(NASA-TP-2482; L-15928; NAS 1.60:2482) Avail: NTIS HC A06/MF A01 CSCL 01C

ACTIVE CONTROL, FLIGHT CHARACTERISTICS, FLIGHT SIMULATION, PITCH (INCLINATION), STATIC STABILITY, TRANSPORT AIRCRAFT

N88-19475*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.
ROTORCRAFT FLIGHT-PROPULSION CONTROL INTEGRATION: AN ECLECTIC DESIGN CONCEPT
JAMES R. MIHALOEW, MARK G. BALLIN, and D. C. G. RUTLEDGE (Sikorsky Aircraft, Stratford, Conn.) Apr. 1988 34 p
(NASA-TP-2815; E-3812; NAS 1.60:2815) Avail: NTIS HC A03/MF A01 CSCL 01C

AIRCRAFT CONTROL, DESIGN ANALYSIS, INTEGRATORS, PROPULSIVE EFFICIENCY, ROTARY WING AIRCRAFT

N89-12569*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
SINGULAR PERTURBATIONS AND TIME SCALES IN THE DESIGN OF DIGITAL FLIGHT CONTROL SYSTEMS
DESINENI S. NAIDU (Old Dominion Univ., Norfolk, Va.) and DOUGLAS B. PRICE Washington, D.C. Dec. 1988 30 p
(NASA-TP-2844; L-16440; NAS 1.60:2844) Avail: NTIS HC A03/MF A01 CSCL 01C

DIGITAL SYSTEMS, FLIGHT CONTROL, OPTIMAL CONTROL, PERTURBATION THEORY

N89-15123*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Center, Edwards, CA.
DERIVATION AND DEFINITION OF A LINEAR AIRCRAFT MODEL
EUGENE L. DUKE, ROBERT F. ANTONIEWICZ, and KEITH D. KRAMBEER Aug. 1988 106 p
(NASA-RP-1207; H-1391; NAS 1.61:1207) Avail: NTIS HC A06/MF A01 CSCL 01C

08 AIRCRAFT STABILITY AND CONTROL

A linear aircraft model for a rigid aircraft of constant mass flying over a flat, nonrotating earth is derived and defined. The derivation makes no assumptions of reference trajectory or vehicle symmetry. The linear system equations are derived and evaluated along a general trajectory and include both aircraft dynamics and observation variables. Author

N89-15929*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Facility, Edwards, CA.
FLIGHT CONTROL SYSTEMS DEVELOPMENT AND FLIGHT TEST EXPERIENCE WITH THE HIMAT RESEARCH VEHICLES
ROBERT W. KEMPEL and MICHAEL R. EARLS Jun. 1988 88 p
(NASA-TP-2822; H-1428; NAS 1.60:2822) Avail: NTIS HC A05/MF A01 CSCL 01C

DIGITAL SYSTEMS, FLIGHT CONTROL, FLIGHT TESTS, HIGHLY MANEUVERABLE AIRCRAFT, REMOTELY PILOTED VEHICLES, RESEARCH AIRCRAFT, SCALE MODELS

N89-15930*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Facility, Edwards, CA.
A PILOTTED EVALUATION OF AN OBLIQUE-WING RESEARCH AIRCRAFT MOTION SIMULATION WITH DECOUPLING CONTROL LAWS
ROBERT W. KEMPEL, WALTER E. MCNEILL, GLENN B. GILYARD, and TRINDEL A. MAINE Nov. 1988 52 p
(NASA-TP-2874; H-1430; NAS 1.60:2874) Avail: NTIS HC A04/MF A01 CSCL 01C

DECOUPLING, EVALUATION, FLIGHT SIMULATION, FLIGHT TESTS, OBLIQUE WINGS, PILOT PERFORMANCE

N89-16845*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.
MODAL CONTROL OF AN OBLIQUE WING AIRCRAFT
JAMES D. PHILLIPS Jan. 1989 49 p
(NASA-TP-2898; A-88250; NAS 1.60:2898) Avail: NTIS HC A03/MF A01 CSCL 01C

FLIGHT CONTROL, MODAL RESPONSE, OBLIQUE WINGS, RESEARCH AIRCRAFT

N89-19309*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
INTEGRATED TOOLS FOR CONTROL-SYSTEM ANALYSIS
AARON J. OSTROFF, MELISSA S. PROFFITT, and DAVID R. CLARK (Planning Research Corp., Hampton, VA.) Washington NASA Mar. 1989 61 p
(NASA-TP-2885; L-16482; NAS 1.60:2885) Avail: NTIS HC A04/MF A01 CSCL 01C

ACTUATORS, COMPUTER PROGRAMS, CONTROL SYSTEMS DESIGN, CONTROLLERS, LINEAR SYSTEMS, SOFTWARE TOOLS, SYSTEMS ANALYSIS

N89-23468*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
A CLOSED-FORM TRIM SOLUTION YIELDING MINIMUM TRIM DRAG FOR AIRPLANES WITH MULTIPLE LONGITUDINAL-CONTROL EFFECTORS
KENNETH H. GOODRICH, STEVEN M. SLIWA, and FREDERICK J. LALLMAN Washington May 1989 30 p
(NASA-TP-2907; L-16484; NAS 1.60:2907) Avail: NTIS HC A03/MF A01 CSCL 01C

AERODYNAMIC BALANCE, AIRCRAFT DESIGN, COMPUTATION, LIFT DEVICES, OPTIMIZATION, REDUNDANCY, THRUST VECTOR CONTROL

N89-23469*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
SIMULATOR EVALUATION OF A DISPLAY FOR A TAKEOFF PERFORMANCE MONITORING SYSTEM
DAVID B. MIDDLETON, RAGHAVACHARI SRIVATSAN, and LEE H. PERSON, JR. Washington May 1989 29 p
(NASA-TP-2908; L-16510; NAS 1.60:2908) Avail: NTIS HC A03/MF A01 CSCL 01C

ABORTED MISSIONS, DISPLAY DEVICES, MONITORS, RATINGS, SIMULATORS, TAKEOFF

N89-24327*# National Aeronautics and Space Administration. Flight Research Center, Edwards, CA.
DEVELOPMENT AND FLIGHT TEST EXPERIENCES WITH A FLIGHT-CRUCIAL DIGITAL CONTROL SYSTEM
DALE A. MACKALL Washington Nov. 1988 116 p
(NASA-TP-2857; H-1344; NAS 1.60:2857) Avail: NTIS HC A06/MF A01 CSCL 01C

AIRCRAFT PERFORMANCE, CONTROL SYSTEMS DESIGN, DIGITAL SYSTEMS, F-16 AIRCRAFT, FLIGHT CONTROL, SYSTEMS INTEGRATION

N90-10074*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
ANALYSIS OF FLIGHT DATA FROM A HIGH-INCIDENCE RESEARCH MODEL BY SYSTEM IDENTIFICATION METHODS
JAMES G. BATTERSON and VLADISLAV KLEIN (Joint Inst. for Advancement of Flight Sciences, Hampton, VA.) Washington Nov. 1989 50 p
(NASA-TP-2940; L-16571; NAS 1.60:2940) Avail: NTIS HC A03/MF A01 CSCL 01C

AERODYNAMIC CONFIGURATIONS, AERODYNAMIC STABILITY, ANGLE OF ATTACK, DYNAMIC CONTROL, FLIGHT CHARACTERISTICS, STABILITY DERIVATIVES

N90-11757*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
COMPARISON OF FLYING QUALITIES DERIVED FROM IN-FLIGHT AND GROUND-BASED SIMULATORS FOR A JET-TRANSPORT AIRPLANE FOR THE APPROACH AND LANDING PILOT TASKS
WILLIAM D. GRANTHAM Washington Dec. 1989 32 p
(NASA-TP-2962; L-16609; NAS 1.60:2962) Avail: NTIS HC A03/MF A01 CSCL 01C

FLIGHT CHARACTERISTICS, FLIGHT CONTROL, FLIGHT SIMULATION, JET AIRCRAFT, TRANSPORT AIRCRAFT

N90-15112*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.
ADVANCED DETECTION, ISOLATION, AND ACCOMMODATION OF SENSOR FAILURES IN TURBOFAN ENGINES: REAL-TIME MICROCOMPUTER IMPLEMENTATION
JOHN C. DELAAT and WALTER C. MERRILL Washington Feb. 1990 28 p
(NASA-TP-2925; E-4391; NAS 1.60:2925) Avail: NTIS HC A03/MF A01 CSCL 01C

ALGORITHMS, DIGITAL ELECTRONICS, ELECTRONIC CONTROL, ENGINE TESTS, FEEDBACK CONTROL, TURBOFAN ENGINES

N90-17639*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.
LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF THE QUIET SHORT-HAUL RESEARCH AIRCRAFT (QSRA)
JACK D. STEPHENSON and GORDON H. HARDY Washington Dec. 1989 43 p
(NASA-TP-2965; A-89133; NAS 1.60:2965) Avail: NTIS HC A03/MF A01 CSCL 01C

AIRCRAFT PERFORMANCE, FLIGHT CHARACTERISTICS, FLIGHT TESTS, LONGITUDINAL CONTROL, LONGITUDINAL STABILITY, RESEARCH AIRCRAFT, SHORT HAUL AIRCRAFT

N90-19239*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
LOW-SPEED WIND-TUNNEL INVESTIGATION OF THE FLIGHT DYNAMIC CHARACTERISTICS OF AN ADVANCED TURBOPROP BUSINESS/COMMUTER AIRCRAFT CONFIGURATION
PAUL L. COE, JR., STEVEN G. TURNER, and D. BRUCE OWENS Washington Apr. 1990 50 p

09 RESEARCH AND SUPPORT FACILITIES (AIR)

(NASA-TP-2982; L-16664; NAS 1.60:2982) Avail: NTIS HC A03/MF A01 CSCL 01C

AERODYNAMIC CHARACTERISTICS, COMMUTER AIRCRAFT, DYNAMIC CHARACTERISTICS, FLIGHT CHARACTERISTICS, FLIGHT TESTS, TURBOPROP AIRCRAFT, WIND TUNNEL TESTS

09

RESEARCH AND SUPPORT FACILITIES (AIR)

Includes airports, hangars and runways; aircraft repair and overhaul facilities; wind tunnels; shock tubes; and aircraft engine test stands.

N87-10876*# National Aeronautics and Space Administration, Washington, DC.

AERONAUTICAL FACILITIES ASSESSMENT

F. E. PENARANDA, comp. Nov. 1985 204 p

(NASA-RP-1146; NAS 1.61:1146) Avail: NTIS HC A10/MF A02 CSCL 14B

A survey of the free world's aeronautical facilities was undertaken and an evaluation made on where the relative strengths and weaknesses exist. Special emphasis is given to NASA's own capabilities and needs. The types of facilities surveyed are: Wind Tunnels; Airbreathing Propulsion Facilities; and Flight Simulators

Author

N87-17717*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

EXPERIMENTAL EVALUATION OF WALL MACH NUMBER DISTRIBUTIONS OF THE OCTAGONAL TEST SECTION PROPOSED FOR NASA LEWIS RESEARCH CENTER'S ALTITUDE WIND TUNNEL

DOUGLAS E. HARRINGTON, RICHARD R. BURLEY, and ROBERT R. CORBAN Nov. 1986 35 p

(NASA-TP-2666; E-3145; NAS 1.60:2666) Avail: NTIS HC A03/MF A01 CSCL 14B

FLOW VELOCITY, MACH NUMBER, WIND TUNNEL APPARATUS, WIND TUNNEL WALLS

N87-18576*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

EXPERIMENTAL EVALUATION OF TWO TURNING VANE DESIGNS FOR FAN DRIVE CORNER OF 0.1-SCALE MODEL OF NASA LEWIS RESEARCH CENTER'S PROPOSED ALTITUDE WIND TUNNEL

DONALD R. BOLDMAN, ROYCE D. MOORE, and RICKEY J. SHYNE Mar. 1987 148 p

(NASA-TP-2646; E-3175; NAS 1.60:2646) Avail: NTIS HC A07/MF A01 CSCL 14B

CORNER FLOW, VANES, WIND TUNNEL APPARATUS, WIND TUNNEL DRIVES

N87-20295*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

DETAILED FLOW SURVEYS OF TURNING VANES DESIGNED FOR A 0.1-SCALE MODEL OF NASA LEWIS RESEARCH CENTER'S PROPOSED ALTITUDE WIND TUNNEL

ROYCE D. MOORE, RICKEY J. SHYNE, DONALD R. BOLDMAN, and THOMAS F. GELDER Apr. 1987 151 p

(NASA-TP-2680; E-3294; NAS 1.60:2680) Avail: NTIS HC A08/MF A01 CSCL 14B

ALTITUDE SIMULATION, FLOW DISTRIBUTION, GUIDE VANES, WIND TUNNEL APPARATUS, WIND TUNNEL DRIVES

N87-22694*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

EXPERIMENTAL EVALUATION OF BLOCKAGE RATIO AND PLENUM EVACUATION SYSTEM FLOW EFFECTS ON PRESSURE DISTRIBUTION FOR BODIES OF REVOLUTION IN 0.1 SCALE MODEL TEST SECTION OF NASA LEWIS RESEARCH CENTER'S PROPOSED ALTITUDE WIND TUNNEL

RICHARD R. BURLEY and DOUGLAS E. HARRINGTON Apr. 1987 26 p

(NASA-TP-2702; E-3267; NAS 1.60:2702) Avail: NTIS HC A03/MF A01 CSCL 14B

EVACUATING (VACUUM), EVALUATION, PLENUM CHAMBERS, WIND TUNNEL MODELS, WIND TUNNEL TESTS

N87-23662*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

EXPERIMENTAL EVALUATION OF HONEYCOMB/SCREEN CONFIGURATIONS AND SHORT CONTRACTION SECTION FOR NASA LEWIS RESEARCH CENTER'S ALTITUDE WIND TUNNEL

RICHARD R. BURLEY and DOUGLAS E. HARRINGTON May 1987 30 p

(NASA-TP-2692; E-3142; NAS 1.60:2692) Avail: NTIS HC A03/MF A01 CSCL 14B

HONEYCOMB STRUCTURES, PRESSURE DISTRIBUTION, SCREENS, TURBULENCE EFFECTS, TURBULENT FLOW, WIND TUNNEL CALIBRATION

N87-28570*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

EVOLUTION, CALIBRATION, AND OPERATIONAL CHARACTERISTICS OF THE TWO-DIMENSIONAL TEST SECTION OF THE LANGLEY 0.3-METER TRANSONIC CRYOGENIC TUNNEL

CHARLES L. LADSON and EDWARD J. RAY Sep. 1987 171 p

(NASA-TP-2749; L-16190; NAS 1.60:2749) Avail: NTIS HC A08/MF A01 CSCL 14B

CRYOGENIC WIND TUNNELS, EVOLUTION (DEVELOPMENT), HISTORIES, TRANSONIC WIND TUNNELS, TWO DIMENSIONAL FLOW

N87-29544*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

LANGLEY AIRCRAFT LANDING DYNAMICS FACILITY

PAMELA A. DAVIS, SANDY M. STUBBS, and JOHN A. TANNER Oct. 1987 35 p

(NASA-RP-1189; L-16293; NAS 1.61:1189) Avail: NTIS HC A03/MF A01 CSCL 14B

The Langley Research Center has recently upgraded the Landing Loads Track (LLT) to improve the capability of low-cost testing of conventional and advanced landing gear systems. The unique feature of the Langley Aircraft Landing Dynamics Facility (ALDF) is the ability to test aircraft landing gear systems on actual runway surfaces at operational ground speeds and loading conditions. A historical overview of the original LLT is given, followed by a detailed description of the new ALDF systems and operational capabilities.

Author

N88-17686*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

EXPERIMENTAL EVALUATION OF TURNING VANE DESIGNS FOR HIGH-SPEED AND COUPLED FAN-DRIVE CORNERS OF 0.1-SCALE MODEL OF NASA LEWIS RESEARCH CENTER'S PROPOSED ALTITUDE WIND TUNNEL

THOMAS F. GELDER, ROYCE D. MOORE, RICKEY J. SHYNE, and DONALD R. BOLDMAN May 1987 54 p Microfiche available as supplement

(NASA-TP-2681; E-3218; NAS 1.60:2681) Avail: NTIS HC A04/MF A01 CSCL 14B

ALTITUDE SIMULATION, CORNER FLOW, COUPLING, GUIDE VANES, HIGH SPEED, WIND TUNNEL APPARATUS, WIND TUNNEL DRIVES

09 RESEARCH AND SUPPORT FACILITIES (AIR)

N88-28075*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
FINITE-RATE WATER CONDENSATION IN COMBUSTION-HEATED WIND TUNNELS
WAYNE D. ERICKSON, GERALD H. MALL, and RAMADAS K. PRABHU (PRC Systems Services Co., Hampton, Va.) Sep. 1988 76 p
(NASA-TP-2833; L-16443; NAS 1.60:2833) Avail: NTIS HC A05/MF A01 CSCL 14B
COMBUSTION PRODUCTS, COMBUSTION WIND TUNNELS, CONDENSING, HIGH TEMPERATURE ENVIRONMENTS, NUCLEATION, WATER

N90-17647*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
CAST-10-2/DOA 2 AIRFOIL STUDIES WORKSHOP RESULTS
EDWARD J. RAY, comp. and ACQUILLA S. HILL, comp. Washington Nov. 1989 259 p Workshop held in Hampton, VA, 23-27 Sep. 1988
(NASA-CP-3052; L-16633; NAS 1.55:3052) Avail: NTIS HC A12/MF A02 CSCL 14B
AERODYNAMIC CHARACTERISTICS, AERODYNAMIC INTERFERENCE, AIRFOIL PROFILES, AIRFOILS, CONFERENCES, FLOW DISTRIBUTION, REYNOLDS NUMBER, WIND TUNNEL TESTS

N90-19242*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.
COMPARISON BETWEEN DESIGN AND INSTALLED ACOUSTIC CHARACTERISTICS OF NASA LEWIS 9- BY 15-FOOT LOW-SPEED WIND TUNNEL ACOUSTIC TREATMENT
MILO D. DAHL and RICHARD P. WOODWARD Washington Apr. 1990 28 p Presented at the 115th Meeting of the Acoustical Society of America, Seattle, WA, 16-20 May 1988
(NASA-TP-2996; E-4981; NAS 1.60:2996) Avail: NTIS HC A03/MF A01 CSCL 14B
ACOUSTIC ATTENUATION, ACOUSTIC MEASUREMENT, AIRCRAFT NOISE, LOW SPEED WIND TUNNELS, PANELS, PERFORATED PLATES

12

ASTRONAUTICS (GENERAL)

N78-76855* National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.
FLIGHT MECHANICS/ESTIMATION THEORY SYMPOSIUM
A. FUCHS 1975 265 p refs Symp. held at Greenbelt, Md., 29-30 1975
(NASA-CP-2002) Avail: Goddard Space Flight Center, Code 582
CONFERENCES, FLIGHT MECHANICS, ORBIT CALCULATION, ORBITAL POSITION ESTIMATION

N87-20302*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.
THE 1986 GET AWAY SPECIAL EXPERIMENTER'S SYMPOSIUM
LAWRENCE R. THOMAS, ed. and FRANCES L. MOSIER, ed. Feb. 1987 236 p Symposium held in Greenbelt, Md., 7-8 Oct. 1986
(NASA-CP-2438; NAS 1.55:2438) Avail: NTIS HC A11/MF A02 CSCL 22A
CONFERENCES, GET AWAY SPECIALS (STS), GOVERNMENT/INDUSTRY RELATIONS, SPACE SHUTTLE PAYLOADS, UNIVERSITIES

N87-29576* National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
TECHNOLOGY FOR LARGE SPACE SYSTEMS: A BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 17)
Oct. 1987 140 p
(NASA-SP-7046(17); NAS 1.21:7046(17)) Avail: NTIS HC A07 CSCL 22B

This bibliography lists 512 reports, articles, and other documents introduced into the NASA scientific and technical information system between January 1, 1987 and June 30, 1987. Its purpose is to provide helpful information to the researcher, manager, and designer in technology development and mission design according to system, interactive analysis and design, structural and thermal analysis and design, structural concepts and control systems, electronics, advanced materials, assembly concepts, propulsion, and solar power satellite systems. Author

N88-17691*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.
THE 1987 GET AWAY SPECIAL EXPERIMENTER'S SYMPOSIUM
NEAL BARTHELME, ed. and FRANCES L. MOSIER, ed. (RMS Technologies, Inc., Landover, Md.) Feb. 1988 169 p Symposium held in Greenbelt, Md., 27-28 Oct. 1987
(NASA-CP-2500; REPT-88B0049; NAS 1.55:2500) Avail: NTIS HC A08/MF A01 CSCL 22A
GET AWAY SPECIALS (STS), MISSION PLANNING, PROJECT PLANNING, SPACE SHUTTLE MISSIONS, SPACE STATIONS

N88-27214* National Aeronautics and Space Administration, Washington, DC.
TECHNOLOGY FOR LARGE SPACE SYSTEMS: A BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 18)
Jun. 1988 162 p
(NASA-SP-7046(18); NAS 1.21:7046(18)) Avail: NTIS HC A08 CSCL 22B

This bibliography lists 569 reports, articles, and other documents introduced into the NASA scientific and technical information system between July 1, 1987 and December 31, 1987. Its purpose is to provide helpful information to the researcher, manager, and designer in technology development and mission design according to system, interactive analysis and design, structural and thermal analysis and design, structural concepts and control systems, electronics, advanced materials, assembly concepts, propulsion, and solar power satellite systems. Author

N89-10902*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.
THE 1988 GET AWAY SPECIAL EXPERIMENTER'S SYMPOSIUM
LAWRENCE R. THOMAS, ed. and FRANCES L. MOSIER, ed. (RMS Technologies, Inc., Landover, Md.) Sep. 1988 127 p Symposium held in Cocoa Beach, Fla., 27-30 Sep. 1988 Sponsored by NASA, Washington
(NASA-CP-3008; REPT-88-158; NAS 1.55:3008) Avail: NTIS HC A07/MF A01 CSCL 22A
CONFERENCES, GET AWAY SPECIALS (STS), SPACE SHUTTLE PAYLOADS, SPACEBORNE EXPERIMENTS

N89-11760*# National Aeronautics and Space Administration, Washington, DC.
TECHNOLOGY FOR FUTURE NASA MISSIONS: CIVIL SPACE TECHNOLOGY INITIATIVE (CSTI) AND PATHFINDER
Sep. 1988 550 p Conference held in Washington, D.C., 12-13 Sep. 1988; sponsored in part by NASA and AIAA
(NASA-CP-3016; NAS 1.55:3016) Avail: NTIS HC A23/MF A03 CSCL 22A
AEROASSIST, CONFERENCES, NASA PROGRAMS, ORBIT TRANSFER VEHICLES, SPACEBORNE EXPERIMENTS, SPACECRAFT CONSTRUCTION MATERIALS, SPACECRAFT INSTRUMENTS, SPACECRAFT POWER SUPPLIES, SPACECRAFT PROPULSION

13

ASTRODYNAMICS

Includes powered and free-flight trajectories; and orbital and launching dynamics.

N88-15820*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

A STUDY TO EVALUATE STS HEADS-UP ASCENT TRAJECTORY PERFORMANCE EMPLOYING A MINIMUM-HAMILTONIAN OPTIMIZATION STRATEGY

SUJIT SINHA Feb. 1988 56 p
(NASA-TP-2793; M-580; NAS 1.60:2793) Avail: NTIS HC A04/MF A01 CSCL 22A

ASCENT TRAJECTORIES, EVALUATION, HAMILTONIAN FUNCTIONS, OPTIMIZATION, SPACE TRANSPORTATION SYSTEM

N89-15934*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

FLIGHT MECHANICS/ESTIMATION THEORY SYMPOSIUM 1988

THOMAS STENGLE, ed. Washington, DC Sep. 1988 611 p
Symposium held in Greenbelt, MD, 10-11 May 1988
(NASA-CP-3011; REPT-88B0224; NAS 1.55:3011) Avail: NTIS HC A99/MF A04 CSCL 22A

ESTIMATES, FLIGHT MECHANICS, ORBITAL MECHANICS, SPACECRAFT PERFORMANCE

N90-13413*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

FLIGHT MECHANICS/ESTIMATION THEORY SYMPOSIUM, 1989

THOMAS STENGLE, ed. Washington Oct. 1989 466 p
Symposium held in Greenbelt, MD, 23-24 May 1989
(NASA-CP-3050; REPT-89B00261; NAS 1.55:3050) Avail: NTIS HC A20/MF A03 CSCL 22A

CONFERENCES, FLIGHT MECHANICS, ORBITAL MECHANICS, SATELLITE ATTITUDE CONTROL

N90-13444*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

A TRANSIENT RESPONSE METHOD FOR LINEAR COUPLED SUBSTRUCTURES

J. R. ADMIRE and J. A. BRUNTY Dec. 1989 26 p
(NASA-TP-2926; NAS 1.60:2926) Avail: NTIS HC A03/MF A01 CSCL 22A

DISCRETE FUNCTIONS, LINEAR SYSTEMS, LOADS (FORCES), MATHEMATICAL MODELS, NUMERICAL INTEGRATION, TRANSIENT RESPONSE

N90-26028*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

FORBIDDEN TANGENTIAL ORBIT TRANSFERS BETWEEN INTERSECTING KEPLERIAN ORBITS

ROWLAND E. BURNS Jul. 1990 53 p
(NASA-TP-3031; NAS 1.60:3031) Avail: NTIS HC A04/MF A01 CSCL 22A

KEPLER LAWS, PLANAR STRUCTURES, TRANSFER ORBITS, TWO BODY PROBLEM

14

GROUND SUPPORT SYSTEMS AND FACILITIES (SPACE)

Includes launch complexes, research and production facilities; ground support equipment, e.g., mobile transporters; and simulators.

N89-28545*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

DIGITALLY MODULATED BIT ERROR RATE MEASUREMENT SYSTEM FOR MICROWAVE COMPONENT EVALUATION

MARY JO W. SHALKHAUSER and JAMES M. BUDINGER Washington Jul. 1989 20 p
(NASA-TP-2912; E-4456; NAS 1.60:2912) Avail: NTIS HC A03/MF A01 CSCL 14B

BIT ERROR RATE, COMMUNICATION SATELLITES, DATA TRANSMISSION, DIGITAL DATA, MICROWAVE EQUIPMENT, MODULATION, TIME DIVISION MULTIPLE ACCESS

15

LAUNCH VEHICLES AND SPACE VEHICLES

Includes boosters; operating problems of launch/space vehicle systems; and reusable vehicles.

N87-12581*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

SOLAR ARRAY FLIGHT DYNAMIC EXPERIMENT

R. W. SCHOCK Washington May 1986 27 p
(NASA-TP-2598; NAS 1.60:2598) Avail: NTIS HC A03/MF A01 CSCL 10A

LARGE SPACE STRUCTURES, LASER APPLICATIONS, SOLAR ARRAYS, SPACE SHUTTLE PAYLOADS, TRACKING (POSITION)

N87-18588*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

SYSTEM STUDY OF THE CARBON DIOXIDE OBSERVATIONAL PLATFORM SYSTEM (CO-OPS): PROJECT OVERVIEW

J. BRISCOE STEPHENS and WILBUR E. THOMPSON Mar. 1987 35 p
(NASA-TP-2696; NAS 1.60:2696) Avail: NTIS HC A03/MF A01 CSCL 22B

ATMOSPHERIC COMPOSITION, CARBON DIOXIDE, REMOTE SENSING, SPACE PLATFORMS

N87-22702*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

STRUCTURAL DYNAMICS AND CONTROL INTERACTION OF FLEXIBLE STRUCTURES

ROBERT S. RYAN, ed. and HAROLD N. SCOFIELD, ed. Apr. 1987 680 p Workshop held in Huntsville, Ala., 22-24 Apr. 1986

(NASA-CP-2467-PT-1; M-554-PT-1; NAS 1.55:2467-PT-1) Avail: NTIS HC A99/MF A04 CSCL 22B

CONTROL SYSTEMS DESIGN, DYNAMIC STRUCTURAL ANALYSIS, FLEXIBLE BODIES, LARGE SPACE STRUCTURES, SPACECRAFT CONTROL

N87-22729*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

STRUCTURAL DYNAMICS AND CONTROL INTERACTION OF FLEXIBLE STRUCTURES

ROBERT S. RYAN, ed. and HAROLD N. SCOFIELD, ed. Apr.

15 LAUNCH VEHICLES AND SPACE VEHICLES

1987 729 p Workshop held in Huntsville, Ala., 22-24 Apr. 1986

(NASA-CP-2467-PT-2; M-554-PT-2; NAS 1.55:2467-PT-2) Avail: NTIS HC A99/MF A04 CSCL 22B
CONFERENCES, DESIGN ANALYSIS, DYNAMIC STRUCTURAL ANALYSIS, FLEXIBLE BODIES, JOINTS (JUNCTIONS), LARGE SPACE STRUCTURES, SPACE STATIONS

N88-14112*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

HYDROBURST TEST OF A CARBON-CARBON INVOLUTE EXIT CONE

ROY M. SULLIVAN Jan. 1986 33 p
(NASA-TP-2556; NAS 1.60:2556) Avail: NTIS HC A03/MF A01 CSCL 20H

BURST TESTS, CARBON-CARBON COMPOSITES, CONES, EXHAUST NOZZLES, HYDRODYNAMICS

N89-18504*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

PRACTICES IN ADEQUATE STRUCTURAL DESIGN

ROBERT S. RYAN Jan. 1989 98 p
(NASA-TP-2893; NAS 1.60:2893) Avail: NTIS HC A05/MF A01 CSCL 22B

FLIGHT SAFETY, MANAGEMENT METHODS, PROJECT MANAGEMENT, REQUIREMENTS, SPACE SHUTTLES, STRESS ANALYSIS, STRUCTURAL DESIGN

N90-14256*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

PAYLOAD CREW UTILIZATION FOR SPACELAB MISSIONS

K. Y. IBRAHIM and J. D. WEILER Jan. 1990 55 p
(NASA-TP-2976; NAS 1.60:2976) Avail: NTIS HC A04/MF A01 CSCL 22A

CREW PROCEDURES (INFLIGHT), PAYLOAD INTEGRATION, SCHEDULING, SPACECREWS, TASK COMPLEXITY

N90-19249*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EARTH SCIENCE GEOSTATIONARY PLATFORM TECHNOLOGY

ROBERT L. WRIGHT, ed. and THOMAS G. CAMPBELL, ed. Washington Jul. 1989 386 p Workshop held in Hampton, VA, 21-22 Sep. 1988
(NASA-CP-3040; L-16612; NAS 1.55:3040) Avail: NTIS HC A17/MF A03 CSCL 22B

ANTENNA DESIGN, CONFERENCES, ELECTROMAGNETISM, LARGE SPACE STRUCTURES, METROLOGY, MICROWAVE SENSORS, REMOTE SENSING, SYNCHRONOUS PLATFORMS

16

SPACE TRANSPORTATION

Includes passenger and cargo space transportation, e.g., shuttle operations; and space rescue techniques.

N87-12585*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

DEVELOPMENT TESTING OF LARGE VOLUME WATER SPRAYS FOR WARM FOG DISPERSAL

V. W. KELLER, B. J. ANDERSON, R. A. BURNS, G. G. LALA (New York State Univ., Albany), M. B. MEYER, and K. V. BEARD (Illinois Univ., Urbana-Champaign) Washington Jun. 1986 112 p
(NASA-TP-2607; NAS 1.60:2607) Avail: NTIS HC A06/MF A01 CSCL 14B

COALESCING, FOG DISPERSAL, SPACE SHUTTLES, SPACECRAFT LAUNCHING, SPRAY NOZZLES, WATER

N88-12520*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

SPACECRAFT FIRE SAFETY

JANICE M. MARGLE, ed. (Pennsylvania State Univ., Abington.) 1987 134 p Workshop held in Cleveland, Ohio, 20-21 Aug. 1986
(NASA-CP-2476; E-3464; NAS 1.55:2476) Avail: NTIS HC A07/MF A01 CSCL 22B

ATMOSPHERIC COMPOSITION, COMBUSTION PHYSICS, CONFERENCES, FIRE EXTINGUISHERS, FIRES, FLAMMABILITY, INERT ATMOSPHERE, SPACE STATIONS, SPACECRAFT ENVIRONMENTS

N90-25160*# National Aeronautics and Space Administration. Washington, DC.

SPACE SHUTTLE AVIONICS SYSTEM

JOHN F. HANAWAY (Intermetrics, Inc., Houston, TX.) and ROBERT W. MOOREHEAD 1989 75 p Original contains color illustrations
(NAS9-17826)

(NASA-SP-504; S-579; NAS 1.21:504; LC-89-600316) Avail: NTIS HC A04/MF A01; also available SOD HC \$8.50 as 033-000-01079-6; 5 functional color pages CSCL 22B

The Space Shuttle avionics system, which was conceived in the early 1970's and became operational in the 1980's represents a significant advancement of avionics system technology in the areas of systems and redundancy management, digital data base technology, flight software, flight control integration, digital fly-by-wire technology, crew display interface, and operational concepts. The origins and the evolution of the system are traced; the requirements, the constraints, and other factors which led to the final configuration are outlined; and the functional operation of the system is described. An overall system block diagram is included. Author

N90-26036*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THE EFFECT OF INTERPLANETARY TRAJECTORY OPTIONS ON A MANNED MARS AEROBRAKE CONFIGURATION

ROBERT D. BRAUN, RICHARD W. POWELL, and LIN C. HARTUNG Washington Aug. 1990 79 p
(NASA-TP-3019; L-16661; NAS 1.60:3019) Avail: NTIS HC A05/MF A01 CSCL 22B

AEROBRACING, ATMOSPHERIC ENTRY SIMULATION, INTERPLANETARY NAVIGATION, INTERPLANETARY TRAJECTORIES, MANNED MARS MISSIONS, PROPULSION SYSTEM PERFORMANCE, TRAJECTORY OPTIMIZATION

18

SPACECRAFT DESIGN, TESTING AND PERFORMANCE

Includes satellites; space platforms; space stations; spacecraft systems and components such as thermal and environmental controls; and attitude controls.

N87-16014*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

NASA/DOD CONTROL/STRUCTURES INTERACTION TECHNOLOGY, 1986

ROBERT L. WRIGHT, comp. Nov. 1986 549 p Conference held in Norfolk, Va., 18-21 Nov. 1986; sponsored by NASA Langley Research Center and AFWAL
(NASA-CP-2447-PT-1; L-16242-PT-1; NAS 1.55:2447-PT-1) Avail: NTIS HC A23/MF A04 CSCL 22B

ANTENNAS, CONFERENCES, FLEXIBLE SPACECRAFT, LARGE SPACE STRUCTURES, SPACE STATIONS, SPACECRAFT CONTROL, SPACECRAFT DESIGN, SYSTEMS ENGINEERING, TRUSSES, VIBRATION DAMPING

N87-24495*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

NASA/DOD CONTROL/STRUCTURES INTERACTION TECHNOLOGY, 1986

ROBERT L. WRIGHT, comp. Jun. 1987 314 p Conference held in Norfolk, Va., 18-21 Nov. 1986 (NASA-CP-2447-PT-2; L-16242-PT-2; NAS 1.55:2447-PT-2) Avail: NTIS HC A14/MF A02 CSCL 22B

CONTROL STABILITY, CONTROL SYSTEMS DESIGN, INTERACTIVE CONTROL, SPACE STATIONS, SPACECRAFT CONTROL, VIBRATION DAMPING

N87-26073*# National Aeronautics and Space Administration, Washington, DC.

SPACE STATION SYSTEMS: A BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 4)

May 1987 220 p (NASA-SP-7056(04); NAS 1.21:7056(04)) Avail: NTIS HC A10 CSCL 22B

This bibliography lists 832 reports, articles, and other documents introduced into the NASA scientific and technical information system between July 1, 1986 and December 31, 1986. Its purpose is to provide helpful information to the researcher, manager, and designer in technology development and mission design according to system, interactive analysis and design, structural and thermal analysis and design, structural concepts and control systems, electronics, advanced materials, assembly concepts, propulsion, and solar power satellite systems. The coverage includes documents that define major systems and subsystems, servicing and support requirements, procedures and operations, and missions for the current and future space station. Author

N88-10084*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

SPACECRAFT 2000

Jul. 1986 236 p Workshop held in Cleveland, Ohio, 29-31 Jul. 1986

(NASA-CP-2473; E-3358; NAS 1.55:2473) Avail: NTIS HC A11/MF A02 CSCL 22B

CONFERENCES, SPACE STATIONS, SPACECRAFT ELECTRONIC EQUIPMENT, SPACECRAFT PROPULSION, SPACECRAFT TRACKING, SYSTEMS ANALYSIS, TELEMETRY

N88-10829*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

FOURTEENTH SPACE SIMULATION CONFERENCE: TESTING FOR A PERMANENT PRESENCE IN SPACE

JOSEPH L. STECHER, III, ed. 1986 435 p Conference held in Baltimore, Md., 3-6 Nov. 1986; sponsored by NASA, Inst. of Environmental Sciences, AIAA, and the American Society for Testing and Materials

(NASA-CP-2446; REPT-86B0561; NAS 1.55:2446) Avail: NTIS HC A19/MF A03 CSCL 22B

CLEANING, CONFERENCES, SIMULATION, SPACE SHUTTLES, SPACE STATIONS, SPACECRAFT CONTAMINATION, SPACECRAFT ENVIRONMENTS, TEST FACILITIES, THERMAL ENVIRONMENTS

N88-10870*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

SPACE CONSTRUCTION

JANE A. HAGAMAN, ed. Oct. 1987 308 p Conference held in Hampton, Va., 6-7 Aug. 1986

(NASA-CP-2490; L-16378; NAS 1.55:2490) Avail: NTIS HC A14/MF A02 CSCL 22B

CONFERENCES, EXTRAVEHICULAR ACTIVITY, MANAGEMENT PLANNING, MISSION PLANNING, SPACE SHUTTLE PAYLOADS, SPACE STATIONS, SPACE TRANSPORTATION SYSTEM

N88-13382*# National Aeronautics and Space Administration, Washington, DC.

SPACE STATION SYSTEMS: A BIBLIOGRAPHY WITH INDEXES

Nov. 1987 245 p (NASA-SP-7056(05); NAS 1.21:7056(05)) Avail: NTIS HC A11 CSCL 22B

This bibliography lists 967 reports, articles, and other documents introduced into the NASA scientific and technical information system between January 1, 1987 and June 30, 1987. Its purpose is to provide helpful information to the researcher, manager, and designer in technology development and mission design according to system, interactive analysis and design, structural and thermal analysis and design, structural concepts and control systems, electronics, advanced materials, assembly concepts, propulsion, and solar power satellite systems. The coverage includes documents that define major systems and subsystems, servicing and support requirements, procedures and operations, and missions for the current and future space station. Author

N88-14115*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

CONTINUUM MODELING OF LARGE LATTICE STRUCTURES: STATUS AND PROJECTIONS

AHMED K. NOOR and MARTIN M. MIKULAS, JR. Feb. 1988 79 p

(NASA-TP-2767; L-16360; NAS 1.60:2767) Avail: NTIS HC A05/MF A01 CSCL 22B

CONTINUUM MODELING, LATTICES, STRUCTURAL ANALYSIS, TRUSSES

N89-12580*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

LIGHTWEIGHT STRUCTURAL DESIGN OF A BOLTED CASE JOINT FOR THE SPACE SHUTTLE SOLID ROCKET MOTOR

JOHN T. DORSEY, PETER A. STEIN (Coast Guard, Yorktown, Va.), and HAROLD G. BUSH Washington, D.C. Nov. 1988 24 p

(NASA-TP-2851; L-16496; NAS 1.60:2851) Avail: NTIS HC A03/MF A01 CSCL 22B

BOLTED JOINTS, ROCKET ENGINE CASES, SPACE SHUTTLE MAIN ENGINE, STRUCTURAL ANALYSIS

N89-12582*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

FIFTEENTH SPACE SIMULATION CONFERENCE: SUPPORT THE HIGHWAY TO SPACE THROUGH TESTING

JOSEPH STECHER, ed. 1988 492 p Conference held in Williamsburg, Va., 31 Oct. - 3 Nov. 1988; sponsored by NASA, Inst. of Environmental Sciences, AIAA, and the American Society for Testing and Materials

(NASA-CP-3015; REPT-88B0253; NAS 1.55:3015) Avail: NTIS HC A21/MF A03 CSCL 22B

COMMUNICATION SATELLITES, CONFERENCES, HEAT TRANSFER, RADIATION DAMAGE, SOLAR SIMULATORS, SPACE ENVIRONMENT SIMULATION, SPACE SIMULATORS, SPACE STATIONS, SPACECRAFT CONTAMINATION, THERMAL CONTROL COATINGS

N89-18522*# National Aeronautics and Space Administration, Washington, DC.

SPACE STATION SYSTEMS: A BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 7)

Dec. 1988 289 p (NASA-SP-7056(07); NAS 1.21:7056(07)) Avail: NTIS HC A13 CSCL 22B

This bibliography lists 1,158 reports, articles, and other documents introduced into the NASA scientific and technical information system between January 1, 1988 and June 30, 1988. Its purpose is to provide helpful information to researchers, designers and managers engaged in Space Station technology development and mission design. Coverage includes documents that define major systems and subsystems related to structures

18 SPACECRAFT DESIGN, TESTING AND PERFORMANCE

and dynamic control, electronics and power supplies, propulsion, and payload integration. In addition, orbital construction methods, servicing and support requirements, procedures and operations, and missions for the current and future Space Station are included. Author

N89-26037* National Aeronautics and Space Administration, Washington, DC.
TECHNOLOGY FOR LARGE SPACE SYSTEMS: A BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 20)
Jun. 1989 183 p
(NASA-SP-7046(20); NAS 1.21:7046(20)) Avail: NTIS HC A09 CSDL 22B

This bibliography lists 694 reports, articles, and other documents introduced into the NASA Scientific and Technical Information System between July, 1988 and December, 1988. Its purpose is to provide helpful information to the researcher or manager engaged in the development of technologies related to large space systems. Subject areas include mission and program definition, design techniques, structural and thermal analysis, structural dynamics and control systems, electronics, advanced materials, assembly concepts, and propulsion. Author

N90-21062*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.
NASA/DOD CONTROLS-STRUCTURES INTERACTION TECHNOLOGY 1989
JERRY R. NEWSOM, comp. Washington Aug. 1989 543 p
Conference held in San Diego, CA, 29 Jan. - 2 Feb. 1989; sponsored by NASA Langley Research Center, Hampton, VA and Wright Research Development Center, Wright-Patterson AFB, OH (NASA-CP-3041; L-16602; NAS 1.55:3041) Avail: NTIS HC A23/MF A03 CSDL 22B

CONFERENCES, CONTROL SYSTEMS DESIGN, FLEXIBLE BODIES, GROUND TESTS, LARGE SPACE STRUCTURES, MATHEMATICAL MODELS, STRUCTURAL DESIGN, SYSTEMS ENGINEERING

N90-25171* National Aeronautics and Space Administration, Washington, DC.
SPACE STATION SYSTEMS: A BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 10)
Jun. 1990 352 p
(NASA-SP-7056(10); NAS 1.21:7056(10)) Avail: NTIS HC A16 CSDL 22B

This bibliography lists 1,422 reports, articles, and other documents introduced into the NASA scientific and technical information system between July 1, 1989 and December 31, 1989. Its purpose is to provide helpful information to researchers, designers and managers engaged in Space Station technology development and mission design. Coverage includes documents that define major systems and subsystems related to structures and dynamic control, electronics and power supplies, propulsion, and payload integration. In addition, orbital construction methods, servicing and support requirements, procedures and operations, and missions for the current and future Space Station are included. Author

N90-26056* National Aeronautics and Space Administration, Washington, DC.
TECHNOLOGY FOR LARGE SPACE SYSTEMS: A BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 22)
Jul. 1990 274 p
(NASA-SP-7046(22); NAS 1.21:7046(22)) Avail: NTIS HC A12 CSDL 22B

This bibliography lists 1077 reports, articles, and other documents introduced into the NASA Scientific and Technical Information System between July 1, 1989 and December 31, 1989. Its purpose is to provide helpful information to the researcher or manager engaged in the development of technologies related to large space systems. Subject areas include mission and program definition, design techniques, structural and thermal analysis,

structural dynamics and control systems, electronics, advanced materials, assembly concepts, and propulsion. Author

N90-27738*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.
THERMAL-DISTORTION ANALYSIS OF AN ANTENNA STRONGBACK FOR GEOSTATIONARY HIGH-FREQUENCY MICROWAVE APPLICATIONS
JEFFREY T. FARMER, DEBORAH M. WAHLS, and ROBERT L. WRIGHT Washington Sep. 1990 22 p
(NASA-TP-3016; L-16739; NAS 1.60:3016) Avail: NTIS HC A03/MF A01 CSDL 22A
ANTENNA DESIGN, GEOSYNCHRONOUS ORBITS, MICROWAVE ANTENNAS, MICROWAVE SOUNDING, STRUCTURAL ANALYSIS, SYNCHRONOUS PLATFORMS, THERMAL ENVIRONMENTS

20

SPACECRAFT PROPULSION AND POWER

Includes main propulsion systems and components, e.g., rocket engines; and spacecraft auxiliary power sources.

N87-20380*# National Aeronautics and Space Administration, Marshall Space Flight Center, Huntsville, AL.
SOLAR ARRAY FLIGHT EXPERIMENT/DYNAMIC AUGMENTATION EXPERIMENT
LEIGHTON E. YOUNG and HOMER C. PACK, JR. Feb. 1987 72 p
(NASA-TP-2690; NAS 1.60:2690) Avail: NTIS HC A04/MF A01 CSDL 10A
LARGE SPACE STRUCTURES, SOLAR ARRAYS, SOLAR DYNAMIC POWER SYSTEMS, SPACE ERECTABLE STRUCTURES, SPACE SHUTTLE PAYLOADS

N87-20381*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.
EXPERIMENTAL THRUST PERFORMANCE OF A HIGH-AREA-RATIO ROCKET NOZZLE
ALBERT J. PAVLI, KENNETH J. KACYNSKI, and TAMARA A. SMITH Apr. 1987 16 p Presented at the 23rd JANNAF Combustion Meeting, Hampton, Va., 20-24 Oct. 1986
(NASA-TP-2720; E-3236-1; NAS 1.60:2720) Avail: NTIS HC A03/MF A01 CSDL 21H
AREA, NOZZLE GEOMETRY, ROCKET NOZZLES, ROCKET THRUST

N87-22766*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.
STRUCTURAL INTEGRITY AND DURABILITY OF REUSABLE SPACE PROPULSION SYSTEMS
1987 205 p Conference held in Cleveland, Ohio, 12-13 May 1987
(NASA-CP-2471; E-3512; NAS 1.55:2471) Avail: NTIS HC A10/MF A02 CSDL 21H
AEROTHERMODYNAMICS, CONFERENCES, DURABILITY, DYNAMIC STRUCTURAL ANALYSIS, FATIGUE (MATERIALS), FRACTURE MECHANICS, SPACE SHUTTLE MAIN ENGINE, SPACECRAFT PROPULSION, STRUCTURAL RELIABILITY

N87-25423*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.
COMPARISON OF THEORETICAL AND EXPERIMENTAL THRUST PERFORMANCE OF A 1030:1 AREA RATIO ROCKET NOZZLE AT A CHAMBER PRESSURE OF 2413 KN/M² (350 PSIA)
TAMARA A. SMITH, ALBERT J. PAVLI, and KENNETH J. KACYNSKI 1987 25 p Presented at the 23rd Joint Propulsion Conference, San Diego, Calif., 29 Jun. - 2 Jul. 1987; sponsored

23 CHEMISTRY AND MATERIALS (GENERAL)

by AIAA, SAE, ASME and ASEE
(NASA-TP-2725; E-3523; NAS 1.60:2725; AIAA-87-2069) Avail:
NTIS HC A03/MF A01 CSCL 21H
ENGINE TESTS, PREDICTIONS, ROCKET NOZZLES, ROCKET
THRUST

N87-25424*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
**EXPERIMENTAL EVALUATION OF HEAT TRANSFER ON A
1030:1 AREA RATIO ROCKET NOZZLE**
KENNETH J. KACYNSKI, ALBERT J. PAVLI, and TAMARA A.
SMITH Aug. 1987 28 p Presented at the 23rd Joint Propulsion
Conference, San Diego, Calif., 29 Jun. - 2 Jul. 1987; sponsored
by AIAA, SAE, ASME and ASEE
(NASA-TP-2726; E-3558; NAS 1.60:2726; AIAA-87-2070) Avail:
NTIS HC A03/MF A01 CSCL 21H
EXHAUST NOZZLES, HEAT FLUX, HEAT TRANSFER,
NOZZLE FLOW, ROCKET NOZZLES, WALL TEMPERATURE

N87-25425*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
**ANALYSIS OF QUASI-HYBRID SOLID ROCKET BOOSTER
CONCEPTS FOR ADVANCED EARTH-TO-ORBIT VEHICLES**
ROBERT L. ZURAWSKI and DOUGLAS C. RAPP (Sverdrup
Technology, Inc., Cleveland, Ohio.) Aug. 1987 32 p Presented
at the 23rd Joint Propulsion Conference, San Diego, Calif. 29
Jun. - 2 Jul. 1987; sponsored by AIAA, SAE, ASME and ASEE
(NASA-TP-2751; E-3554; NAS 1.60:2751; AIAA-87-2082) Avail:
NTIS HC A03/MF A01 CSCL 21H
FEASIBILITY ANALYSIS, HYBRID PROPELLANT ROCKET
ENGINES, SPACE SHUTTLE BOOSTERS

N88-12538*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
**COMPATIBILITY OF DISPERSION-STRENGTHENED
PLATINUM WITH RESISTOJET PROPELLANTS**
MARGARET V. WHALEN and MICHAEL V. NATHAL Oct. 1987
29 p
(NASA-TP-2765; E-3738; NAS 1.60:2765) Avail: NTIS HC
A03/MF A01 CSCL 21H
COMPATIBILITY, DISPERSING, PLATINUM, PRECIPITATION
HARDENING, RESISTOJET ENGINES, ROCKET PROPELLANTS

N89-12626*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.
**ADVANCED EARTH-TO-ORBIT PROPULSION TECHNOLOGY
1986, VOLUME 2**
R. J. RICHMOND, ed. and S. T. WU, ed. (Alabama Univ.,
Huntsville.) Oct. 1986 775 p Conference held in Huntsville,
Ala., 13-15 May 1986
(NASA-CP-2437-VOL-2; M-541-VOL-2; NAS 1.55:2437-VOL-2)
Avail: NTIS HC A99/MF E06 CSCL 21H
BEARINGS, BOOSTER ROCKET ENGINES, CONFERENCES,
FRACTURE MECHANICS, FUEL COMBUSTION, HYDROGEN
EMBRIEMENT, HYDROGEN OXYGEN ENGINES, METAL
FATIGUE, PROPULSION SYSTEM CONFIGURATIONS, ROCKET
ENGINE DESIGN, SPACE SHUTTLE MAIN ENGINE,
SPACECRAFT PROPULSION

N89-15979*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
**HIGH-PRESSURE CALORIMETER CHAMBER TESTS FOR
LIQUID OXYGEN/KEROSENE (LOX/RP-1) ROCKET
COMBUSTION**
PHILIP A. MASTERS, ELIZABETH S. ARMSTRONG, and HAROLD
G. PRICE Dec. 1988 18 p
(NASA-TP-2862; E-2645; NAS 1.60:2862) Avail: NTIS HC
A03/MF A01 CSCL 21H
CALORIMETERS, COMBUSTION CHAMBERS, HIGH
PRESSURE, KEROSENE, LIQUID OXYGEN, OXYGEN-HYDRO-
CARBON ROCKET ENGINES, RP-1 ROCKET PROPELLANTS

N90-10140*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

SECOND BEAMED SPACE-POWER WORKSHOP
RUSSELL J. DEYOUNG, ed. Washington Jul. 1989 439 p
Workshop held in Hampton, VA, 28 Feb. - 2 Mar. 1989
(NASA-CP-3037; L-16590; NAS 1.55:3037) Avail: NTIS HC
A19/MF A03 CSCL 10B

CONFERENCES, ENERGY CONVERSION, LASER POWER
BEAMING, LASER PROPULSION, LUNAR BASES, MICROWAVE
POWER BEAMING, SATELLITE POWER TRANSMISSION, SOLAR
POWER SATELLITES, SPACECRAFT POWER SUPPLIES,
SPACECRAFT PROPULSION

N90-21795*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

FREE-SPACE POWER TRANSMISSION
Washington Nov. 1989 189 p Workshop held in Cleveland,
OH, 29-30 Mar. 1988
(NASA-CP-10016; E-4161; NAS 1.55:10016) Avail: NTIS HC
A09/MF A02 CSCL 10B

CONFERENCES, CYCLOTRON RESONANCE DEVICES, FREE
ELECTRON LASERS, INFLATABLE STRUCTURES, POWER
TRANSMISSION, SOLAR-PUMPED LASERS

N90-28611*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.

**ADVANCED EARTH-TO-ORBIT PROPULSION TECHNOLOGY
1988, VOLUME 1**
ROBERT J. RICHMOND, ed. and S. T. WU, ed. (Alabama Univ.,
Huntsville.) Washington Sep. 1988 775 p Conference held
in Huntsville, AL, 10-12 May 1988
(NASA-CP-3012-VOL-1; M-593-VOL-1; NAS 1.55:3012-VOL-1)
Avail: NTIS HC A99/MF E06 CSCL 21H

CONFERENCES, LIQUID PROPELLANT ROCKET ENGINES,
LIQUID ROCKET PROPELLANTS, OXYGEN-HYDROCARBON
ROCKET ENGINES, PROPULSION SYSTEM PERFORMANCE,
TRANSFER ORBITS

23

CHEMISTRY AND MATERIALS (GENERAL)

N87-18611*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**SPECTROSCOPIC COMPARISON OF EFFECTS OF ELECTRON
RADIATION ON MECHANICAL PROPERTIES OF TWO
POLYIMIDES**
EDWARD R. LONG, JR. and SHEILA ANN T. LONG Apr. 1987
21 p

(NASA-TP-2663; L-16200; NAS 1.60:2663) Avail: NTIS HC
A03/MF A01 CSCL 11C
DURABILITY, ELECTRON RADIATION, KAPTON
(TRADEMARK), RADIATION DAMAGE, TENSILE PROPERTIES

N88-12543*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

**SURFACE CATALYTIC DEGRADATION STUDY OF TWO
LINEAR PERFLUOROPOLYALKYLETHERS AT 345 C**
WILFREDO MORALES Nov. 1987 12 p
(NASA-TP-2774; E-3395; NAS 1.60:2774) Avail: NTIS HC
A03/MF A01 CSCL 07A

ALKYL COMPOUNDS, CATALYSIS, DEGRADATION, ETHERS,
PERFLUORO COMPOUNDS, SURFACE REACTIONS

N89-23528*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**NASA/SDIO SPACE ENVIRONMENTAL EFFECTS ON
MATERIALS WORKSHOP, PART 1**

23 CHEMISTRY AND MATERIALS (GENERAL)

LOUIS A. TEICHMAN, comp. and BLAND A. STEIN, comp.
Washington May 1989 356 p Workshop held in Hampton,
VA, 28 Jun. - 1 Jul. 1988

(NASA-CP-3035-PT-1; L-16575-PT-1; NAS 1.55:3035-PT-1)

Avail: NTIS HC A16/MF A02 CSCL 11G

CONFERENCES, EARTH ORBITAL ENVIRONMENTS,
MICROMETEOROIDS, OXYGEN ATOMS, RADIATION EFFECTS,
SPACE DEBRIS, SPACECRAFT CHARGING, SPACECRAFT
CONTAMINATION

N89-23547*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

NASA/SDIO SPACE ENVIRONMENTAL EFFECTS ON MATERIALS WORKSHOP, PART 2

LOUIS A. TEICHMAN, comp. and BLAND A. STEIN, comp.
Washington May 1989 253 p Workshop held in Hampton,
VA, 28 Jun. - 1 Jul. 1988

(NASA-CP-3035-PT-2; L-16575-PT-2; NAS 1.55:3035-PT-2)

Avail: NTIS HC A12/MF A02 CSCL 11G

EXTRATERRESTRIAL ENVIRONMENTS, MICROMETE-
OROIDS, OXYGEN ATOMS, RADIATION EFFECTS, THERMAL
RADIATION

N90-24350*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

NATIONAL EDUCATORS' WORKSHOP: UPDATE 1989 STANDARD EXPERIMENTS IN ENGINEERING MATERIALS SCIENCE AND TECHNOLOGY

JAMES E. GARDNER, comp. and JAMES A. JACOBS, comp.
(Norfolk State Univ., VA.) Washington May 1990 182 p
Workshop held in Hampton, VA, 17-19 Oct. 1989

(NAG1-976)

(NASA-CP-3074; L-16785; NAS 1.55:3074) Avail: NTIS HC

A09/MF A02 CSCL 07A

COMPUTER ASSISTED INSTRUCTION, CONFERENCES,
DECISION MAKING, EDUCATION, ELECTROCHEMISTRY,
EXPERIMENT DESIGN, FIBER COMPOSITES, MANUFACTUR-
ING, NASA PROGRAMS, PLASTICS, PROCESS CONTROL
(INDUSTRY), RESEARCH AND DEVELOPMENT, TECHNOL-
OGIES, THERMAL CONDUCTIVITY

N90-26075*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

PROCEEDINGS OF THE LDEF MATERIALS DATA ANALYSIS WORKSHOP

BLAND A. STEIN, comp. and PHILIP R. YOUNG, comp. Jul.
1990 289 p Workshop held at Cocoa Beach, FL, 13-14 Feb.
1990

(NASA-CP-10046; NAS 1.55:10046) Avail: NTIS HC A13/MF

A02 CSCL 07A

CONFERENCES, DATA BASES, ENVIRONMENT EFFECTS,
LIFE (DURABILITY), LONG DURATION EXPOSURE FACILITY,
SPACEBORNE EXPERIMENTS, SPACECRAFT CONSTRUCTION
MATERIALS

24

COMPOSITE MATERIALS

*Includes physical, chemical, and mechanical properties of laminates
and other composite materials.*

N87-10184*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

EFFECTS OF THERMAL CYCLING ON GRAPHITE-FIBER-REINFORCED 6061 ALUMINUM

G. A. DRIES (PRC Kentron, Inc., Hampton, Va.) and S. S.
TOMPkins Oct. 1986 29 p

(NASA-TP-2612; L-16139; NAS 1.60:2612) Avail: NTIS HC

A03/MF A01 CSCL 11D

ALUMINUM GRAPHITE COMPOSITES, CARBON FIBERS,
METAL MATRIX COMPOSITES, REINFORCING FIBERS,
SPACECRAFT STRUCTURES, THERMAL CYCLING TESTS

N87-25435*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

PRELIMINARY STRUCTURAL DESIGN OF COMPOSITE MAIN ROTOR BLADES FOR MINIMUM WEIGHT

MARK W. NIXON Jul. 1987 28 p Prepared in cooperation
with Army Aviation Research and Development Command,
Hampton, Va.

(DA PROJ. 1L1-62209-AH-76)

(NASA-TP-2730; L-16310; NAS 1.60:2730; AVSCOM-TM-87-B-6;

AD-A180364) Avail: NTIS HC A03/MF A01 CSCL 11/4

BLADES, COMPOSITE MATERIALS, DYNAMIC STRUCTURAL
ANALYSIS, HELICOPTERS, ROTORS, WEIGHT REDUCTION

N87-29612*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

THE ACEE PROGRAM AND BASIC COMPOSITES RESEARCH AT LANGLEY RESEARCH CENTER (1975 TO 1986): SUMMARY AND BIBLIOGRAPHY

MARVIN B. DOW Oct. 1987 147 p

(NASA-RP-1177; L-16290; NAS 1.61:1177) Avail: NTIS HC

A07/MF A01 CSCL 11D

Composites research conducted at the Langley Research
Center during the period from 1975 to 1986 is described, and an
annotated bibliography of over 600 documents (with their abstracts)
is presented. The research includes Langley basic technology and
the composite primary structures element of the NASA Aircraft
Energy Efficiency (ACEE) Program. The basic technology
documents cited in the bibliography are grouped according to the
research activity such as design and analysis, fatigue and fracture,
and damage tolerance. The ACEE documents cover development
of composite structures for transport aircraft. Author

N88-10117*# National Aeronautics and Space Administration.
Goddard Space Flight Center, Greenbelt, MD.

OUTGASSING DATA FOR SELECTING SPACECRAFT MATERIALS

WILLIAM A. CAMPBELL, JR. and RICHARD S. MARRIOTT Aug.
1987 323 p Revised

(NASA-RP-1124; REPT-87B0347; NAS 1.61:1124) Avail: NTIS

HC A14/MF A02 CSCL 11D

Outgassing data, derived from tests at 398 K (125 C) for 24
hours in vacuum as per ASTM E 595-77, have been compiled for
numerous materials for spacecraft use. The data presented are
the total mass loss (TML) and the collected volatile condensable
materials (CVCM). The various materials are listed by likely usage
and alphabetically. Author

N88-25480*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

PROPERTIES OF TWO COMPOSITE MATERIALS MADE OF TOUGHENED EPOXY RESIN AND HIGH-STRAIN GRAPHITE FIBER

MARVIN B. DOW and DONALD L. SMITH (PRC Kentron, Inc.,
Hampton, Va.) Jul. 1988 44 p

(NASA-TP-2826; L-16425; NAS 1.60:2826) Avail: NTIS HC

A03/MF A01 CSCL 11D

COMPRESSIVE STRENGTH, EPOXY RESINS,
GRAPHITE-EPOXY COMPOSITES, REINFORCING FIBERS

N88-70029*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

EFFECTS OF CONTINUOUS AND CYCLIC THERMAL EXPOSURES ON BORON- AND BORSIC-REINFORCED 6061 ALUMINUM COMPOSITES

GEORGE C. OLSEN and STEPHEN S. TOMPKINS Nov. 1977
48 p

(NASA-TP-1063; L-11722; NAS 1.60:1063) Avail: NTIS

ALUMINUM, BORON, BORSIC (TRADENAME), COMPOSITE

MATERIALS, CYCLIC LOADS, METAL MATRIX COMPOSITES, THERMAL CYCLING TESTS

N89-19385*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THE EFFECTS OF SIMULATED SPACE ENVIRONMENTAL PARAMETERS ON SIX COMMERCIALY AVAILABLE COMPOSITE MATERIALS

JOAN G. FUNK and GEORGE F. SYKES, JR. Apr. 1989 34 p (NASA-TP-2906; L-16549; NAS 1.60:2906) Avail: NTIS HC A03/MF A01 CSCL 11D

COMPOSITE MATERIALS, EARTH ORBITAL ENVIRONMENTS, FIBER COMPOSITES, RADIATION EFFECTS, SPACE ENVIRONMENT SIMULATION

N89-27796*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

TUNGSTEN FIBER REINFORCED COPPER MATRIX COMPOSITES: A REVIEW

DAVID L. MCDANELS Sep. 1989 24 p (NASA-TP-2924; E-4318; NAS 1.60:2924) Avail: NTIS HC A03/MF A01 CSCL 11D

COPPER, FIBER COMPOSITES, METAL MATRIX COMPOSITES, STRESS-STRAIN RELATIONSHIPS, TUNGSTEN

N90-10179*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THE INTERLAMINAR FRACTURE TOUGHNESS OF WOVEN GRAPHITE/EPOXY COMPOSITES

JOAN G. FUNK and JERRY W. DEATON Washington Nov. 1989 28 p (NASA-TP-2950; L-16629; NAS 1.60:2950) Avail: NTIS HC A03/MF A01 CSCL 11D

FABRICS, FRACTURE STRENGTH, GRAPHITE-EPOXY COMPOSITES, WEAVING

N90-16007*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

INSTRUMENTED IMPACT AND RESIDUAL TENSILE STRENGTH TESTING OF EIGHT-PLY CARBON EPOXY SPECIMENS

A. T. NETTLES Jan. 1990 43 p (NASA-TP-2981; NAS 1.60:2981) Avail: NTIS HC A03/MF A01 CSCL 11D

CARBON FIBERS, EPOXY MATRIX COMPOSITES, IMPACT STRENGTH, IMPACT TESTS

N90-19302*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

HEAT TREATMENT STUDY OF THE SIC/TI-15-3 COMPOSITE SYSTEM Final Report

BRADLEY A. LERCH; TIMOTHY P. GABB, and REBECCA A. MACKAY Washington Jan. 1990 31 p (NASA-TP-2970; E-4985; NAS 1.60:2970) Avail: NTIS HC A03/MF A01 CSCL 11D

AGING (METALLURGY), FIBER COMPOSITES, OXIDATION, SILICON CARBIDES, TENSILE STRENGTH, TITANATES

N90-25198*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

LOW VELOCITY INSTRUMENTED IMPACT TESTING OF FOUR NEW DAMAGE TOLERANT CARBON/EPOXY COMPOSITE SYSTEMS

D. G. LANCE and A. T. NETTLES Jul. 1990 39 p (NASA-TP-3029; NAS 1.60:3029) Avail: NTIS HC A03/MF A01 CSCL 11D

CARBON FIBERS, DAMAGE ASSESSMENT, EPOXY MATRIX COMPOSITES, IMPACT DAMAGE, IMPACT TESTS, LOW SPEED

N90-26077*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

BUCKLING AND POSTBUCKLING BEHAVIOR OF SQUARE COMPRESSION-LOADED GRAPHITE-EPOXY PLATES WITH CIRCULAR CUTOUTS

MICHAEL P. NEMETH Washington Aug. 1990 33 p Presented at the 8th DOD/NASA/FAA Conference on Fibrous Composites in Structural Design, Norfolk, VA, 28-30 1989

(NASA-TP-3007; L-16777; NAS 1.60:3007) Avail: NTIS HC A03/MF A01 CSCL 11D

BENDING, BUCKLING, COMPRESSION LOADS, GRAPHITE-EPOXY COMPOSITES, METAL PLATES, OPENINGS, ORTHOTROPIC PLATES

N90-27788*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A PROTECTION AND DETECTION SURFACE (PADS) FOR DAMAGE TOLERANCE

MARK J. SHUART, CHUNCHU B. PRASAD, and SHERRILL B. BIGGERS (Lockheed Aeronautical Systems Co., Burbank, CA.) Washington Sep. 1990 21 p

(NASA-TP-3011; L-16775; NAS 1.60:3011) Avail: NTIS HC A03/MF A01 CSCL 11D

AIRCRAFT STRUCTURES, COMPOSITE STRUCTURES, FAILURE, IMPACT DAMAGE, PROTECTION, TOLERANCES (MECHANICS)

N90-27792*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

AMSAHTS 1990: ADVANCES IN MATERIALS SCIENCE AND APPLICATIONS OF HIGH TEMPERATURE SUPERCONDUCTORS

YURY FLOM, ed. Washington Apr. 1990 137 p Conference held in Greenbelt, MD, 2-6 Apr. 1990

(NASA-CP-10043; REPT-90B00018; NAS 1.55:10043) Avail: NTIS HC A07/MF A02 CSCL 11D

CONFERENCES, HIGH TEMPERATURE SUPERCONDUCTORS, REACTION KINETICS, SURFACE REACTIONS, TECHNOLOGY UTILIZATION, THERMODYNAMIC PROPERTIES

N90-27876*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

AN EXAMINATION OF IMPACT DAMAGE IN GLASS-PHENOLIC AND ALUMINUM HONEYCOMB CORE COMPOSITE PANELS

A. T. NETTLES, D. G. LANCE, and A. J. HODGE Aug. 1990 25 p

(NASA-TP-3042; NAS 1.60:3042) Avail: NTIS HC A03/MF A01 CSCL 11D

ALUMINUM, GLASS FIBER REINFORCED PLASTICS, GRAPHITE-EPOXY COMPOSITES, HONEYCOMB CORES, IMPACT DAMAGE, PHENOLIC RESINS, SANDWICH STRUCTURES

25

INORGANIC AND PHYSICAL CHEMISTRY

Includes chemical analysis, e.g., chromatography; combustion theory; electrochemistry; and photochemistry.

N87-18629*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ELECTRON STIMULATED DESORPTION OF ATOMIC OXYGEN FROM SILVER

R. A. OUTLAW, W. K. PEREGOY, GAR B. HOF LUND (Florida Univ., Gainesville), and GREGORY R. CORALLO Apr. 1987 25 p

(NASA-TP-2668; L-16225; NAS 1.60:2668) Avail: NTIS HC A03/MF A01 CSCL 07D

ATOMIC BEAMS, DESORPTION, ELECTRON EMISSION, OXYGEN, SILVER, STIMULATED EMISSION

25 INORGANIC AND PHYSICAL CHEMISTRY

N88-15846*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AN ANALYTICAL STUDY OF THE HYDROGEN-AIR REACTION MECHANISM WITH APPLICATION TO SCRAMJET COMBUSTION

CASIMIR J. JACHIMOWSKI Feb. 1988 18 p
(NASA-TP-2791; L-16372; NAS 1.60:2791) Avail: NTIS HC A03/MF A01 CSCL 07D

CHEMICAL REACTIONS, COMBUSTION, HYDROGEN OXYGEN ENGINES, REACTION KINETICS, SUPERSONIC COMBUSTION RAMJET ENGINES

N88-16830*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A RAPID METHOD FOR THE COMPUTATION OF EQUILIBRIUM CHEMICAL COMPOSITION OF AIR TO 15000 K
RAMADAS K. PRABHU (Planning Research Corp., Hampton, Va.) and WAYNE D. ERICKSON Mar. 1988 31 p
(NASA-TP-2792; L-16375; NAS 1.60:2792) Avail: NTIS HC A03/MF A01 CSCL 07D

AIR, ATMOSPHERIC COMPOSITION, CHEMICAL COMPOSITION, CHEMICAL EQUILIBRIUM, COMPUTATION, HIGH TEMPERATURE

26

METALLIC MATERIALS

Includes physical, chemical, and mechanical properties of metals, e.g., corrosion; and metallurgy.

N87-16902*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

CONVENTIONALLY CAST AND FORGED COPPER ALLOY FOR HIGH-HEAT-FLUX THRUST CHAMBERS

JOHN M. KAZAROFF and GEORGE A. REPAS Feb. 1987 12 p
(NASA-TP-2694; E-3304; NAS 1.60:2694) Avail: NTIS HC A03/MF A01 CSCL 11F

COMBUSTION CHAMBERS, COPPER ALLOYS, HEAT FLUX, HIGH TEMPERATURE, LININGS, SPACE SHUTTLE MAIN ENGINE

N87-18644*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECT OF LID (REGISTERED) PROCESSING ON THE MICROSTRUCTURE AND MECHANICAL PROPERTIES OF TI-6AL-4V AND TI-6AL-2SN-4ZR-2MO TITANIUM FOIL-GAUGE MATERIALS

LINDA B. BALCKBURN Apr. 1987 27 p
(NASA-TP-2677; L-16098; NAS 1.60:2677) Avail: NTIS HC A03/MF A01 CSCL 11F

BONDING, DIFFUSION, INTERFACES, LIQUIDS, MECHANICAL PROPERTIES, MICROSTRUCTURE, PROTECTIVE COATINGS, TITANIUM ALLOYS

N87-20407*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

MATERIAL CHARACTERIZATION OF SUPERPLASTICALLY FORMED TITANIUM (TI-6AL-2SN-4ZR-2MO) SHEET

WILLIAM A. OSSA (PRC Kentron, Inc., Hampton, Va.) and DICK M. ROYSTER 1987 38 p
(NASA-TP-2674; L-16115; NAS 1.60:2674) Avail: NTIS HC A03/MF A01 CSCL 11F

AEROSPACE INDUSTRY, SUPERPLASTICITY, TENSILE CREEP, TITANIUM ALLOYS

N87-21076*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

THE CORROSION MECHANISMS FOR PRIMER COATED 2219-T87 ALUMINUM

MERLIN D. DANFORD and WARD W. KNOCKEMUS (Huntingdon Coll., Montgomery, Ala.) Apr. 1987 25 p
(NASA-TP-2715; M-559; NAS 1.60:2715) Avail: NTIS HC A03/MF A01 CSCL 11F

ALUMINUM ALLOYS, CORROSION RESISTANCE, PRIMERS (COATINGS), PROTECTIVE COATINGS

N87-25463*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

HYDROGEN TRAPPING AND THE INTERACTION OF HYDROGEN WITH METALS

MERLIN D. DANFORD Jul. 1987 36 p
(NASA-TP-2744; NAS 1.60:2744) Avail: NTIS HC A03/MF A01 CSCL 11F

CRYSTAL LATTICES, GAS-METAL INTERACTIONS, HYDROGEN, TRAPPING

N87-27024*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

PERMEATION OF OXYGEN THROUGH HIGH PURITY, LARGE GRAIN SILVER

R. A. OUTLAW, W. K. PEREGOY, and GAR B. HOF LUND (Florida Univ., Gainesville.) Sep. 1987 19 p
(NASA-TP-2755; L-16305; NAS 1.60:2755) Avail: NTIS HC A03/MF A01 CSCL 11F

GRAIN BOUNDARIES, OXYGEN, PERMEATING, PURITY, SILVER

N89-10996*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

INDENTATION PLASTICITY AND FRACTURE IN SILICON

GEORGE C. RYBICKI and P. PIROUZ (Case Western Reserve Univ., Cleveland, Ohio.) Nov. 1988 30 p
(NASA-TP-2863; E-4184; NAS 1.60:2863) Avail: NTIS HC A03/MF A01 CSCL 11B

CRYSTAL DISLOCATIONS, DOPED CRYSTALS, FRACTURE STRENGTH, HARDNESS, PLASTIC PROPERTIES, SILICON, SINGLE CRYSTALS, TRANSITION TEMPERATURE

N89-17650*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

SECONDARY ELECTRON EMISSION CHARACTERISTICS OF UNTREATED AND ION-TEXTURED TITANIUM

ARTHUR N. CURREN, KENNETH A. JENSEN, and GARY A. BLACKFORD (Case Western Reserve Univ., Cleveland, OH.) Mar. 1989 16 p
(NASA-TP-2902; E-4495; NAS 1.60:2902) Avail: NTIS HC A03/MF A01 CSCL 11F

ELECTRON EMISSION, ION PLATING, MACHINING, SECONDARY EMISSION, SURFACE FINISHING, TITANIUM

N89-19406*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

AN ELECTROCHEMICAL STUDY OF CORROSION PROTECTION BY PRIMER-TOPCOAT SYSTEMS ON 4130 STEEL WITH AC IMPEDANCE AND DC METHODS

M. J. MENDREK, R. H. HIGGINS, and M. D. DANFORD May 1988 56 p
(NASA-TP-2820; NAS 1.60:2820) Avail: NTIS HC A04/MF A01 CSCL 11F

ALTERNATING CURRENT, DIRECT CURRENT, ELECTROCHEMICAL CORROSION, IMPEDANCE, METAL SURFACES, PRIMERS (COATINGS), PROTECTIVE COATINGS, STAINLESS STEELS

N89-26976*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

STRESS CORROSION STUDY OF PH13-8MO STAINLESS STEEL USING THE SLOW STRAIN RATE TECHNIQUE

PABLO D. TORRES Washington Jul. 1989 32 p
(NASA-TP-2934; NAS 1.60:2934) Avail: NTIS HC A03/MF A01
CSCL 11F

AGING (METALLURGY), SALT SPRAY TESTS, STAINLESS
STEELS, STRAIN RATE, STRESS CORROSION CRACKING

N90-10248*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**EMITTANCE, CATALYSIS, AND DYNAMIC OXIDATION OF
TI-14AL-21NB**

K. E. WIEDEMANN, R. K. CLARK, and S. N. SANKARAN (Analytical
Services and Materials, Inc., Hampton, VA.) 1989 1 p Presented
at the 1988 Annual Meeting of TMS AIME, Phoenix, AZ, Jan.
1988

(NASA-TP-2955; L-16606; NAS 1.60:2955) PREVIEW CSCL
11F

ALUMINUM ALLOYS, CATALYSIS, EMITTANCE, NIOBIUM
ALLOYS, OXIDATION, OXIDATION RESISTANCE, TITANIUM
ALLOYS

N90-15211*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

**SECONDARY ELECTRON EMISSION CHARACTERISTICS OF
MOLYBDENUM-MASKED, ION-TEXTURED OFHC COPPER**

ARTHUR N. CURREN, KENNETH A. JENSEN, and ROBERT F.
ROMAN Jan. 1990 15 p
(NASA-TP-2967; E-5009; NAS 1.60:2967) Avail: NTIS HC
A03/MF A01 CSCL 11F

COPPER, ELECTRON BOMBARDMENT, MOLYBDENUM,
SECONDARY EMISSION, TRAVELING WAVE TUBES

N90-25206*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**OXIDATION CHARACTERISTICS OF TI-14AL-21NB INGOT
ALLOY**

SANKARA N. SANKARAN, RONALD K. CLARK, JALAIH UNNAM,
and KARL E. WIEDEMANN (Analytical Services and Materials,
Inc., Hampton, VA.) Washington Jul. 1990 24 p
(NASA-TP-3012; L-18658; NAS 1.60:3012) Avail: NTIS HC
A03/MF A01 CSCL 11F

ALUMINUM OXIDES, INGOTS, NIOBIUM ALLOYS,
OXIDATION, REACTION KINETICS, TEMPERATURE EFFECTS,
TITANIUM ALLOYS

27

NONMETALLIC MATERIALS

Includes physical, chemical, and mechanical properties of plastics,
elastomers, lubricants, polymers, textiles, adhesives, and ceramic
materials.

N87-12680*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**INVESTIGATION OF THE EFFECTS OF COBALT IONS ON
EPOXY PROPERTIES**

J. J. SINGH and D. M. STOAKLEY Dec. 1986 16 p
(NASA-TP-2639; L-18196; NAS 1.60:2639) Avail: NTIS HC
A03/MF A01 CSCL 11G

COBALT, EPOXY RESINS, INVESTIGATION, IONS,
MECHANICAL PROPERTIES

N87-18666*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

**ESTER OXIDATION ON AN ALUMINUM SURFACE USING
CHEMILUMINESCENCE**

WILLIAM R. JONES, JR., MICHAEL A. MEADOR, and WILFREDO
MORALES Jul. 1986 16 p
(NASA-TP-2611; E-2647; NAS 1.60:2611) Avail: NTIS HC
A03/MF A01 CSCL 11B

ALUMINUM ALLOYS, CHEMILUMINESCENCE, ESTERS,
METAL SURFACES, OXIDATION

N87-20423*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.

**MICROGRAVITY CRYSTALLIZATION OF MACROMOLECULES:
AN INTERIM REPORT AND PROPOSAL FOR CONTINUED
RESEARCH**

BENJAMIN E. GOLDBERG Dec. 1986 26 p
(NASA-TP-2671; NAS 1.60:2671) Avail: NTIS HC A03/MF A01
CSCL 20B

MOLECULES, POLYMER CHEMISTRY, RECRYSTALLIZA-
TION, REDUCED GRAVITY

N88-23872*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

STRUCTURAL CERAMICS

May 1986 226 p Workshop held in Cleveland, Ohio, 20-21
May 1986 Sponsored by NASA, Washington
(NASA-CP-2427; E-3063; NAS 1.55:2427) Avail: NTIS HC
A11/MF A02 CSCL 11B

CERAMICS, CONFERENCES, CORROSION, FRACTURE
MECHANICS, NONDESTRUCTIVE TESTS, POLYMER
CHEMISTRY, TRIBOLOGY

N89-13642*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

THERMAL BARRIER COATINGS. ABSTRACTS AND FIGURES

1985 220 p Workshop held in Cleveland, Ohio, 21-22 May
1985

(NASA-CP-10019; E-4425; NAS 1.55:10019) Avail: NTIS HC
A10/MF A02 CSCL 11C

BARRIER LAYERS, CONFERENCES, FAILURE ANALYSIS,
GAS TURBINES, LIFE (DURABILITY), MATHEMATICAL MODELS,
NONDESTRUCTIVE TESTS, PLASMA SPRAYING, THERMAL
CONTROL COATINGS

N89-21103*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

**DEGRADATION AND CROSSLINKING OF PERFLUOROALKYL
POLYETHERS UNDER X-RAY IRRADIATION IN ULTRAHIGH
VACUUM**

SHIGEYUKI MORI (National Academy of Sciences - National
Research Council, Washington, DC.) and WILFREDO MORALES
Mar. 1989 15 p Prepared in cooperation with Iwate Univ.,
Morioka (Japan)

(NASA-TP-2910; E-4500; NAS 1.60:2910) Avail: NTIS HC
A03/MF A01 CSCL 11B

CROSSLINKING, PHOTOELECTRON SPECTROSCOPY,
POLYETHER RESINS, RADIATION EFFECTS

N89-25332*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**ABSORBED DOSE THRESHOLDS AND ABSORBED DOSE
RATE LIMITATIONS FOR STUDIES OF ELECTRON
RADIATION EFFECTS ON POLYETHERIMIDES**

EDWARD R. LONG, JR., SHEILA ANN T. LONG, STEPHANIE L.
GRAY, and WILLIAM D. COLLINS (Old Dominion Univ., Norfolk,
VA.) Washington Aug. 1989 22 p
(NASA-TP-2928; L-16585; NAS 1.60:2928) Avail: NTIS HC
A03/MF A01 CSCL 11C

ELECTRON RADIATION, POLYETHER RESINS, POLYIMIDE
RESINS, RADIATION ABSORPTION, RADIATION DOSAGE,
RADIATION EFFECTS

N89-26091*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

**REACTION OF PERFLUOROALKYLPOLYETHERS (PFPE)
WITH 440C STEEL IN VACUUM UNDER SLIDING CONDITIONS
AT ROOM TEMPERATURE**

SHIGEYUKI MORI (Iwate Univ., Morioka, Japan) and WILFREDO
MORALES Jan. 1989 12 p
(NASA-TP-2883; E-4209; NAS 1.60:2883) Avail: NTIS HC
A03/MF A01 CSCL 07D

29 MATERIALS PROCESSING

ALKYL COMPOUNDS, PERFLUORO COMPOUNDS, POLYETHER RESINS, SLIDING FRICTION, STAINLESS STEELS, VACUUM EFFECTS

29

MATERIALS PROCESSING

Includes space-based development of products and processes for commercial applications.

N87-21141*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

MICROGRAVITY FLUID MANAGEMENT SYMPOSIUM

Apr. 1987 225 p Symposium held in Cleveland, Ohio, 9-10 Sep. 1986

(NASA-CP-2465; E-3386; NAS 1.55:2465) Avail: NTIS HC A10/MF A02 CSCL 22A

AEROSPACE ENVIRONMENTS, CONFERENCES, FLUID MANAGEMENT, WEIGHTLESSNESS

N88-10977*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

PREPARATIVE ELECTROPHORESIS FOR SPACE

PERCY H. RHODES and ROBERT S. SNYDER Oct. 1987 15 p

(NASA-TP-2777; NAS 1.60:2777) Avail: NTIS HC A03/MF A01 CSCL 22A

CONVECTIVE FLOW, ELECTROHYDRODYNAMICS, ELECTROKINETICS, ELECTROPHORESIS, TEMPERATURE EFFECTS

N88-10978*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

CONTINUOUS FLOW ELECTROPHORESIS SYSTEM

EXPERIMENTS ON SHUTTLE FLIGHTS STS-6 AND STS-7 ROBERT S. SNYDER, PERCY H. RHODES, and TERESA Y. MILLER Oct. 1987 17 p

(NASA-TP-2778; NAS 1.60:2778) Avail: NTIS HC A03/MF A01 CSCL 22A

CONVECTIVE FLOW, ELECTRICAL RESISTIVITY, ELECTRODYNAMICS, ELECTROPHORESIS, GRAVITATIONAL EFFECTS

N88-14212*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

GROWTH OF SOLID SOLUTION SINGLE CRYSTALS

S. L. LEHOCZKY and F. R. SZOFRAN Dec. 1987 18 p

(NASA-TP-2787; NAS 1.60:2787) Avail: NTIS HC A03/MF A01 CSCL 20B

CRYSTAL GROWTH, MERCURY CADMIUM TELLURIDES, SINGLE CRYSTALS, SOLID SOLUTIONS, THERMOPHYSICAL PROPERTIES

N88-23895*# National Aeronautics and Space Administration, Washington, DC.

NONCONTACT TEMPERATURE MEASUREMENT

MARK C. LEE, ed. Mar. 1988 429 p Workshop held in Washington, D.C., 30 Apr. - 1 May 1987

(NASA-CP-2503; NAS 1.55:2503) Avail: NTIS HC A19/MF A03 CSCL 12A

CONFERENCES, INFRARED RADIOMETERS, OPTICAL PYROMETERS, RADIATION PYROMETERS, TEMPERATURE MEASUREMENT, TEMPERATURE MEASURING INSTRUMENTS

N89-17682*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

MICROGRAVITY COMBUSTION DIAGNOSTICS WORKSHOP

GILBERT J. SANTORO, ed., PAUL S. GREENBERG, ed., and NANCY D. PILTCH, ed. 1988 47 p Workshop held in Cleveland,

OH, 28-29 Jul. 1987

(NASA-CP-10017; E-4213; NAS 1.55:10017) Avail: NTIS HC A03/MF A01 CSCL 22A

COMBUSTION PHYSICS, CONFERENCES, DIAGNOSIS, REDUCED GRAVITY

31

ENGINEERING (GENERAL)

Includes vacuum technology; control engineering; display engineering; cryogenics; and fire prevention.

N87-22870*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

MODELING DIGITAL CONTROL SYSTEMS WITH MA-PREFILTERED MEASUREMENTS

MICHAEL E. POLITES Jun. 1987 23 p

(NASA-TP-2732; NAS 1.60:2732) Avail: NTIS HC A03/MF A01 CSCL 13H

CONTROL SYSTEMS DESIGN, DIGITAL FILTERS, DIGITAL SYSTEMS, STATE VECTORS, SYSTEMS ENGINEERING

N87-24585*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

A NEW APPROACH TO STATE ESTIMATION IN DETERMINISTIC DIGITAL CONTROL SYSTEMS

MICHAEL E. POLITES Jul. 1987 16 p

(NASA-TP-2745; NAS 1.60:2745) Avail: NTIS HC A03/MF A01 CSCL 09B

CONTROL SYSTEMS DESIGN, DIGITAL SYSTEMS, STATE ESTIMATION

N87-27067*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

EXACT STATE RECONSTRUCTION IN DETERMINISTIC DIGITAL CONTROL SYSTEMS

MICHAEL E. POLITES Aug. 1987 19 p

(NASA-TP-2757; NAS 1.60:2757) Avail: NTIS HC A03/MF A01 CSCL 13H

DIGITAL COMMAND SYSTEMS, STATE ESTIMATION, STATE VECTORS

N88-17869*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

A GENERALIZED METHOD FOR AUTOMATIC DOWNHAND AND WIREFEED CONTROL OF A WELDING ROBOT AND POSITIONER

KEN FERNANDEZ and GEORGE E. COOK (Vanderbilt Univ., Nashville, Tenn.) Feb. 1988 54 p

(NASA-TP-2807; NAS 1.60:2807) Avail: NTIS HC A04/MF A01 CSCL 13H

ARC WELDING, COMPUTER AIDED DESIGN, COMPUTER AIDED MANUFACTURING, PROGRAM VERIFICATION (COMPUTERS), ROBOT CONTROL, ROBOTICS, ROBOTS

N88-18751*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

FURTHER DEVELOPMENTS IN EXACT STATE RECONSTRUCTION IN DETERMINISTIC DIGITAL CONTROL SYSTEMS

MICHAEL E. POLITES Mar. 1988 19 p

(NASA-TP-2812; NAS 1.60:2812) Avail: NTIS HC A03/MF A01 CSCL 13B

CONTROL SYSTEMS DESIGN, DIGITAL SYSTEMS, EQUATIONS OF STATE, RECONSTRUCTION, STATE ESTIMATION

N88-28177*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

MORE ON EXACT STATE RECONSTRUCTION IN DETERMINISTIC DIGITAL CONTROL SYSTEMS

MICHAEL E. POLITES Sep. 1988 21 p
(NASA-TP-2847; NAS 1.60:2847) Avail: NTIS HC A03/MF A01 CSCL 13B

CONTROL SYSTEMS DESIGN, DIGITAL SYSTEMS, PLANT DESIGN, RECONSTRUCTION, STATE ESTIMATION

N89-24507*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

FURTHER DEVELOPMENTS IN MODELING DIGITAL CONTROL SYSTEMS WITH MA-PREFILTERED MEASUREMENTS

MICHAEL E. POLITES Washington Mar. 1989 20 p
(NASA-TP-2909; M-612; NAS 1.60:2909) Avail: NTIS HC A03/MF A01 CSCL 13B

ACCELEROMETERS, CONTROL SYSTEMS DESIGN, DIGITAL FILTERS, DIGITAL SYSTEMS, GYROSCOPES, STAR TRACKERS

N89-27039*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

A NEW STATE RECONSTRUCTOR FOR DIGITAL CONTROLS SYSTEMS USING WEIGHTED-AVERAGE MEASUREMENTS

MICHAEL E. POLITES Washington Aug. 1989 17 p
(NASA-TP-2936; M-615; NAS 1.60:2936) Avail: NTIS HC A03/MF A01 CSCL 09B

CONTROL SYSTEMS DESIGN, DIGITAL TECHNIQUES, RECONSTRUCTION, STATE ESTIMATION

N90-16968*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AN AUGER ELECTRON SPECTROSCOPY STUDY OF SURFACE-PREPARATION CONTAMINANTS

D. WU (Old Dominion Univ., Norfolk, VA.), R. M. STEPHENS, R. A. OUTLAW, and P. HOPSON Washington Feb. 1990 16 p
(NASA-TP-2972; L-16653; NAS 1.60:2972) Avail: NTIS HC A03/MF A01 CSCL 13B

AUGER SPECTROSCOPY, CLEANING, CONTAMINANTS, ELECTRON SPECTROSCOPY, ELECTROPOLISHING, SURFACE FINISHING

N90-21210*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

INFLUENCE OF THE DEPOSITION CONDITIONS ON RADIOFREQUENCY MAGNETRON SPUTTERED MOS₂ FILMS

PIERRE A. STEINMANN and TALIVALDIS SPALVINS Apr. 1990 11 p
(NASA-TP-2994; E-5181; NAS 1.60:2994) Avail: NTIS HC A03/MF A01 CSCL 13B

DEPOSITION, LUBRICANTS, MAGNETRON SPUTTERING, MORPHOLOGY, RADIO FREQUENCIES, STOICHIOMETRY, THIN FILMS

N90-21219*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

A GENERAL-PURPOSE BALLOON-BORNE POINTING SYSTEM FOR SOLAR SCIENTIFIC INSTRUMENTS

M. E. POLITES Washington May 1990 22 p
(NASA-TP-3013; NAS 1.60:3013) Avail: NTIS HC A03/MF A01 CSCL 13I

BALLOON-BORNE INSTRUMENTS, CONTROL SYSTEMS DESIGN, POINTING CONTROL SYSTEMS, SOLAR INSTRUMENTS, THREE AXIS STABILIZATION

N90-25255*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

ROTATING-UNBALANCED-MASS DEVICES FOR SCANNING BALLOON-BORNE EXPERIMENTS, FREE-FLYING SPACECRAFT, AND SPACE SHUTTLE/SPACE STATION EXPERIMENTS

MICHAEL E. POLITES Jun. 1990 17 p
(NASA-TP-3030; NAS 1.60:3030) Avail: NTIS HC A03/MF A01 CSCL 14B

POINTING CONTROL SYSTEMS, ROTATING BODIES, SPACE SHUTTLES, SPACE STATION PAYLOADS, SPACE STATIONS, SPACEBORNE EXPERIMENTS

N90-28754*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

DEVELOPMENT AND APPROACH TO LOW-FREQUENCY MICROGRAVITY ISOLATION SYSTEMS

CARLOS M. GRODSINSKY Washington Aug. 1990 24 p
(NASA-TP-2984; E-5287; NAS 1.60:2984) Avail: NTIS HC A03/MF A01 CSCL 22A

GRAVITATIONAL EFFECTS, PAYLOADS, REDUCED GRAVITY, SPACE SHUTTLES, SPACE STATIONS, SPACEBORNE EXPERIMENTS, VIBRATION ISOLATORS

32

COMMUNICATIONS AND RADAR

Includes radar; land and global communications; communications theory; and optical communications.

N87-11916*# National Aeronautics and Space Administration. Wallops Flight Center, Wallops Island, VA.

PULSE CODE MODULATION (PCM) ENCODER HANDBOOK FOR AYDIN VECTOR MMP-600 SERIES SYSTEM

S. F. CURRIER and W. R. POWELL Washington, D.C. Aug. 1986 139 p
(NASA-RP-1171; NAS 1.61:1171) Avail: NTIS HC A07/MF A01 CSCL 17B

The hardware and software characteristics of a time division multiplex system are described. The system is used to sample analog and digital data. The data is merged with synchronization information to produce a serial pulse coded modulation (PCM) bit stream. Information presented herein is required by users to design compatible interfaces and assure effective utilization of this encoder system. GSFC/Wallops Flight Facility has flown approximately 50 of these systems through 1984 on sounding rockets with no inflight failures. Aydin Vector manufactures all of the components for these systems. Author

N87-12718*# National Aeronautics and Space Administration. Wallops Flight Center, Wallops Island, VA.

PULSE CODE MODULATION (PCM) DATA STORAGE AND ANALYSIS USING A MICROCOMPUTER

D. E. MASSEY Aug. 1986 8 p
(NASA-TP-2629; REPT-822.3; NAS 1.60:2629) Avail: NTIS HC A02/MF A01 CSCL 17B

DATA PROCESSING, DATA REDUCTION, DATA STORAGE, MICROCOMPUTERS, PULSE CODE MODULATION

N87-17971*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

BIT-ERROR-RATE TESTING OF HIGH-POWER 30-GHZ TRAVELING WAVE TUBES FOR GROUND-TERMINAL APPLICATIONS

KURT A. SHALKHAUSER and GENE FUJIKAWA Oct. 1986 16 p
(NASA-TP-2635; E-2996; NAS 1.60:2635) Avail: NTIS HC A03/MF A01 CSCL 17B

BIT ERROR RATE, PERFORMANCE TESTS, TRANSMISSION EFFICIENCY, TRAVELING WAVE TUBES

N87-20448*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

UNIQUE BIT-ERROR-RATE MEASUREMENT SYSTEM FOR SATELLITE COMMUNICATION SYSTEMS

32 COMMUNICATIONS AND RADAR

MARY JO WINDMILLER Mar. 1987 13 p
(NASA-TP-2699; E-3322; NAS 1.60:2699) Avail: NTIS HC
A03/MF A01 CSCL 17B
BIT ERROR RATE, COMMUNICATION NETWORKS,
SATELLITE COMMUNICATION, SYSTEMS ANALYSIS

N87-24590*# National Aeronautics and Space Administration.
Wallops Flight Center, Wallops Island, VA.
**A SYNCHRONOUS DATA ANALYZER FOR THE MINIMUM
DELAY DATA FORMAT (MDDF) AND LAUNCH TRAJECTORY
ACQUISITION SYSTEM (LTAS)**
ANDREW J. GREEN Jul. 1987 10 p
(NASA-TP-2743; REPT-822.1; NAS 1.60:2743) Avail: NTIS HC
A02/MF A01 CSCL 17B
DATA REDUCTION, LAUNCHING, SAMPLING,
SYNCHRONISM, TRAJECTORY ANALYSIS

N88-14226*# Colorado Univ., Boulder. Dept. of Electrical
Engineering.
**PROPAGATION EFFECTS ON SATELLITE SYSTEMS AT
FREQUENCIES BELOW 10 GHZ: A HANDBOOK FOR
SATELLITE SYSTEMS DESIGN**
WARREN L. FLOCK Dec. 1987 501 p
(NAS7-100; JPL-956249)
(NASA-RP-1108/2; NAS 1.61:1108/2) Avail: NTIS HC A22/MF
A03 CSCL 22D

Frequencies below 10 GHz continue to be used for a large portion of satellite service, and new applications, including mobile satellite service and the global positioning system, use frequencies below 10 GHz. As frequency decreases below 10 GHz, attenuation due to precipitation and gases decreases and ionospheric effects increase. Thus the ionosphere, which can be largely neglected above 10 GHz, receives major attention. Although attenuation and depolarization due to rain are less severe below 10 GHz than above, they are nevertheless still important and constitute another major topic. The handbook emphasizes the propagation effects on satellite communications but material that is pertinent to radio navigation and positioning systems and deep-space telecommunications is included as well. Chapter 1 through 7 describe the various propagation impairments, and Chapter 9 is devoted to the estimation or calculation of the magnitudes of these effects for use in system design. Chapter 10 covers link power budget equations and the role of propagation effects in these equations. Chapter 8 deals with the complex subject of interference between space and terrestrial systems. Author

N89-17060*# Westinghouse Electric Corp., Baltimore, MD.
**PROPAGATION EFFECTS HANDBOOK FOR SATELLITE
SYSTEMS DESIGN. A SUMMARY OF PROPAGATION
IMPAIRMENTS ON 10 TO 100 GHZ SATELLITE LINKS WITH
TECHNIQUES FOR SYSTEM DESIGN**
LOUIS J. IPPOLITO Washington, DC Feb. 1989 531 p
(NAS7-100; JPL-958178)
(NASA-RP-1082(04); NAS 1.61:1082(04)) Avail: NTIS HC
A23/MF A03 CSCL 20N

The NASA Propagation Effects Handbook for Satellite Systems Design provides a systematic compilation of the major propagation effects experienced on space-Earth paths in the 10 to 100 GHz frequency band region. It provides both a detailed description of the propagation phenomenon and a summary of the impact of the effect on the communications system design and performance. Chapter 2 through 5 describe the propagation effects, prediction models, and available experimental data bases. In Chapter 6, design techniques and prediction methods available for evaluating propagation effects on space-Earth communication systems are presented. Chapter 7 addresses the system design process and how the effects of propagation on system design and performance should be considered and how that can be mitigated. Examples of operational and planned Ku, Ka, and EHF satellite communications systems are given. Author

N89-17767*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
**UNIVERSAL TEST FIXTURE FOR MONOLITHIC MM-WAVE
INTEGRATED CIRCUITS CALIBRATED WITH AN AUGMENTED
TRD ALGORITHM**

ROBERT R. ROMANOFSKY and KURT A. SHALKHAUSER Mar.
1989 42 p Presented at the 13th International Conference on
Infrared and mm-Waves, Honolulu, Hawaii, 5-9 Dec. 1988
(NASA-TP-2875; E-3983; NAS 1.60:2875) Avail: NTIS HC
A03/MF A01 CSCL 09C
ALGORITHMS, CALIBRATING, INTEGRATED CIRCUITS,
MICROWAVE CIRCUITS, MILLIMETER WAVES, SOLID STATE
DEVICES

N90-11915*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
**SATELLITE-MATRIX-SWITCHED,
TIME-DIVISION-MULTIPLE-ACCESS NETWORK SIMULATOR**
WILLIAM D. IVANCIC, MONTY ANDRO, LAWRENCE A. NAGY,
JAMES M. BUDINGER, and MARY JO SHALKHAUSER
Washington Oct. 1989 21 p Proposed for presentation at the
13th AIAA International Communication Satellite System
Conference, 11-15 Mar. 1990
(NASA-TP-2944; E-4813; NAS 1.60:2944) Avail: NTIS HC
A03/MF A01 CSCL 17B
COMMUNICATION NETWORKS, COMMUNICATION
SATELLITES, SIMULATORS, TIME DIVISION MULTIPLE
ACCESS

33

ELECTRONICS AND ELECTRICAL ENGINEERING

Includes test equipment and maintainability; components, e.g., tunnel diodes and transistors; microminiaturization; and integrated circuitry.

N87-11072*# National Aeronautics and Space Administration.
Goddard Space Flight Center, Greenbelt, MD.
**THE 1985 GODDARD SPACE FLIGHT CENTER BATTERY
WORKSHOP**
G. MORROW, ed. Sep. 1986 427 p Workshop held in
Greenbelt, Md., 19-21 Nov. 1985
(NASA-CP-2434; REPT-86B0366; NAS 1.55:2434) Avail: NTIS
HC A19/MF A03 CSCL 10C
CONFERENCES, ENERGY STORAGE, LITHIUM SULFUR
BATTERIES, NICKEL CADMIUM BATTERIES, NICKEL
HYDROGEN BATTERIES

N87-17990*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
**PERFORMANCE OF TEXTURED CARBON ON COPPER
ELECTRODE MULTISTAGE DEPRESSED COLLECTORS WITH
MEDIUM-POWER TRAVELING WAVE TUBES**
PETER RAMINS and ARTHUR N. CURREN Nov. 1986 12 p
(NASA-TP-2665; E-3143; NAS 1.60:2665) Avail: NTIS HC
A03/MF A01 CSCL 09A
ACCUMULATORS, CURRENT DENSITY, ELECTRODES,
ELECTRON EMISSION, TRAVELING WAVE TUBES

N87-17991*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
**CALCULATION OF SECONDARY ELECTRON TRAJECTORIES
IN MULTISTAGE DEPRESSED COLLECTORS FOR
MICROWAVE AMPLIFIERS**
DALE A. FORCE Nov. 1986 7 p
(NASA-TP-2664; E-3196; NAS 1.60:2664) Avail: NTIS HC
A02/MF A01 CSCL 09A
ACCUMULATORS, ELECTRON EMISSION, MICROWAVE

AMPLIFIERS, PARTICLE TRAJECTORIES, TRAVELING WAVE TUBES

N87-20474*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

DESIGN, FABRICATION AND PERFORMANCE OF SMALL, GRAPHITE ELECTRODE, MULTISTAGE DEPRESSED COLLECTORS WITH 200-W, CW, 8- TO 18-GHZ TRAVELING-WAVE TUBES

BEN T. EBIHARA and PETER RAMINS Feb. 1987 22 p (NASA-TP-2693; E-3099; NAS 1.60:2693) Avail: NTIS HC A03/MF A01 CSCL 09A

ACCUMULATORS, DESIGN ANALYSIS, ELECTRODES, FABRICATION, PYROLYTIC GRAPHITE, TRAVELING WAVE TUBES

N87-21239*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

TRAVELING-WAVE-TUBE EFFICIENCY IMPROVEMENT BY A LOW-COST TECHNIQUE FOR DEPOSITION OF CARBON ON MULTISTAGE DEPRESSED COLLECTOR

BEN T. EBIHARA, PETER RAMINS, and SHELLY PEET May 1987 14 p (NASA-TP-2719; E-3416; NAS 1.60:2719) Avail: NTIS HC A03/MF A01 CSCL 09A

CARBON, COPPER, DEPOSITION, ELECTRODES, THIN FILMS, TRAVELING WAVE TUBES

N87-22923*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

REVISED NASA AXIALLY SYMMETRIC RING MODEL FOR COUPLED-CAVITY TRAVELING-WAVE TUBES

JEFFREY D. WILSON Jan. 1987 17 p (NASA-TP-2675; E-3220; NAS 1.60:2675) Avail: NTIS HC A03/MF A01 CSCL 09A

AXISYMMETRIC BODIES, CAVITIES, COUPLED MODES, MODELS, RINGS, TRAVELING WAVE TUBES

N87-25532*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

ANALYTICAL AND EXPERIMENTAL PERFORMANCE OF A DUAL-MODE TRAVELING WAVE TUBE AND MULTISTAGE DEPRESSED COLLECTOR

PETER RAMINS, DALE A. FORCE, and HENRY G. KOSMAHL Aug. 1987 29 p (NASA-TP-2752; E-3470; NAS 1.60:2752) Avail: NTIS HC A03/MF A01 CSCL 09A

ACCUMULATORS, ELECTRON BEAMS, TRAVELING WAVE TUBES

N88-11021*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

THE 1986 GODDARD SPACE FLIGHT CENTER BATTERY WORKSHOP

GEORGE W. MORROW, ed. and THOMAS Y. YI, ed. Sep. 1987 374 p Workshop held in Greenbelt, Md., 18-19 Nov. 1986 (NASA-CP-2486; REPT-87B0408; NAS 1.55:2486) Avail: NTIS HC A16/MF A03 CSCL 10C

CONFERENCES, ELECTROCHEMISTRY, FAILURE ANALYSIS, FLIGHT TESTS, LITHIUM SULFUR BATTERIES, NICKEL CADMIUM BATTERIES, NICKEL HYDROGEN BATTERIES

N88-15146*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

PERFORMANCE OF A SMALL, GRAPHITE ELECTRODE, MULTISTAGE DEPRESSED COLLECTOR WITH A 500-W, CONTINUOUS WAVE, 4.8- TO 9.6-GHZ TRAVELING WAVE TUBE

PETER RAMINS, GARY G. LESNY, BEN T. EBIHARA, and SHELLY PEET Feb. 1988 15 p (NASA-TP-2788; E-3800; NAS 1.60:2788) Avail: NTIS HC A03/MF A01 CSCL 09A

ACCUMULATORS, CONTINUOUS RADIATION, ELECTRODES, GRAPHITE, TRAVELING WAVE TUBES

N89-15337*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

PERFORMANCE OF A MULTISTAGE DEPRESSED COLLECTOR WITH MACHINED TITANIUM ELECTRODES

PETER RAMINS and BEN T. EBIHARA Jan. 1989 10 p (NASA-TP-2891; E-4400; NAS 1.60:2891) Avail: NTIS HC A02/MF A01 CSCL 09A

ACCUMULATORS, ELECTRODES, MACHINING, PERFORMANCE TESTS, TITANIUM

N89-21169*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

ANALYTICAL AND EXPERIMENTAL PROCEDURES FOR DETERMINING PROPAGATION CHARACTERISTICS OF MILLIMETER-WAVE GALLIUM ARSENIDE MICROSTRIP LINES

ROBERT R. ROMANOFSKY Mar. 1989 21 p (NASA-TP-2899; E-4273; NAS 1.60:2899) Avail: NTIS HC A03/MF A01 CSCL 20N

ELECTROMAGNETIC RADIATION, MICROSTRIP TRANSMISSION LINES, MICROWAVE TRANSMISSION, REFLECTANCE

N89-21171*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

DESIGN, FABRICATION, AND PERFORMANCE OF BRAZED, GRAPHITE ELECTRODE, MULTISTAGE DEPRESSED COLLECTORS WITH 500-W, CONTINUOUS WAVE, 4.8- TO 9.6-GHZ TRAVELING-WAVE TUBES

PETER RAMINS and BEN EBIHARA Mar. 1989 18 p (NASA-TP-2904; E-4361; NAS 1.60:2904) Avail: NTIS HC A03/MF A01 CSCL 09A

BRAZING, CONTINUOUS RADIATION, ELECTRODE MATERIALS, ELECTRON EMISSION, SOLID ELECTRODES, TRAVELING WAVE TUBES

N90-27965*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

SPENT-BEAM REFOCUSING ANALYSIS AND MULTISTAGE DEPRESSED COLLECTOR DESIGN FOR A 75-W, 59- TO 64-GHZ COUPLED-CAVITY TRAVELING-WAVE TUBE

JEFFREY D. WILSON, PETER RAMINS, and DALE A. FORCE Aug. 1990 22 p (NASA-TP-3039; E-5455; NAS 1.60:3039) Avail: NTIS HC A03/MF A01 CSCL 09A

ACCUMULATORS, COMPUTER AIDED DESIGN, DESIGN ANALYSIS, TRAVELING WAVE TUBES

34

FLUID MECHANICS AND HEAT TRANSFER

Includes boundary layers; hydrodynamics; fluidics; mass transfer; and ablation cooling.

N87-11963*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ON THE MAXWELLIAN DISTRIBUTION, SYMMETRIC FORM, AND ENTROPY CONSERVATION FOR THE EULER EQUATIONS

S. M. DESHPANDE Nov. 1986 30 p (NASA-TP-2583; L-16036; NAS 1.60:2583) Avail: NTIS HC A03/MF A01 CSCL 20D

ENTROPY, EULER EQUATIONS OF MOTION, MAXWELL-BOLTZMANN DENSITY FUNCTION

N87-13664*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

PROTHERMAL TESTS OF SPHERICAL DOME PROTUBERANCES ON A FLAT PLATE AT A MACH NUMBER OF 6.5

34 FLUID MECHANICS AND HEAT TRANSFER

C. E. GLASS and L. R. HUNT Dec. 1986 61 p
(NASA-TP-2631; L-16160; NAS 1.60:2631) Avail: NTIS HC
A04/MF A01 CSCL 20D

**AEROTHERMODYNAMICS, HYPERSONIC VEHICLES,
LAMINAR BOUNDARY LAYER, PREDICTION ANALYSIS
TECHNIQUES, PROTUBERANCES, THERMAL PROTECTION,
TILES, TURBULENT BOUNDARY LAYER**

N87-17000*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.

**SPACE SHUTTLE MAIN ENGINE HIGH PRESSURE FUEL
PUMP AFT PLATFORM SEAL CAVITY FLOW ANALYSIS**
S. A. LOWRY and L. W. KEETON (CHAM of North America, Inc.,
Huntsville, Ala.) Jan. 1987 134 p
(NASA-TP-2685; NAS 1.60:2685) Avail: NTIS HC A07/MF A01
CSCL 20D

**CAVITIES, FUEL PUMPS, HIGH PRESSURE, SEALS
(STOPPERS), SPACE SHUTTLE MAIN ENGINE, TURBINE
PUMPS**

N87-18034*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

**JET MODEL FOR SLOT FILM COOLING WITH EFFECT OF
FREE-STREAM AND COOLANT TURBULENCE**

FREDERICK F. SIMON Oct. 1986 21 p
(NASA-TP-2655; E-2961; NAS 1.60:2655) Avail: NTIS HC
A03/MF A01 CSCL 20D

**FILM COOLING, FLOW VELOCITY, JET ENGINES,
NUMERICAL ANALYSIS, TURBULENCE EFFECTS, WALL JETS**

N87-18035*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

VELOCITY PROFILES IN LAMINAR DIFFUSION FLAMES
VALERIE J. LYONS and JANICE M. MARGLE (Pennsylvania State
Univ., Abington) May 1986 13 p Presented at the Combustion
Inst. Meeting, Cleveland, Ohio, 5-6 May 1986
(NASA-TP-2596; E-2879; NAS 1.60:2596) Avail: NTIS HC
A03/MF A01 CSCL 20D

**CYCLOHEXANE, DIFFUSION FLAMES, ETHYL ALCOHOL,
HEPTANES, LAMINAR FLOW, OCTANES, TEMPERATURE
PROFILES, VELOCITY MEASUREMENT**

N87-18782*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**AEROTHERMAL EVALUATION OF A SPHERICALLY BLUNTED
BODY WITH A TRAPEZOIDAL CROSS SECTION IN THE
LANGLEY 8-FOOT HIGH-TEMPERATURE TUNNEL**

CINDY W. ALBERTSON Apr. 1987 83 p
(NASA-TP-2641; L-16096; NAS 1.60:2641) Avail: NTIS HC
A05/MF A01 CSCL 20D

**BOUNDARY LAYERS, FLOW DISTRIBUTION, HEAT
TRANSFER, PREDICTIONS, PRESSURE MEASUREMENT,
THERMAL PROTECTION**

N87-18783*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**A SECOND-ORDER ACCURATE KINETIC-THEORY-BASED
METHOD FOR INVISCID COMPRESSIBLE FLOWS**

SURESH M. DESHPANDE Dec. 1986 42 p
(NASA-TP-2613; L-16050; NAS 1.60:2613) Avail: NTIS HC
A03/MF A01 CSCL 20D

**BOLTZMANN TRANSPORT EQUATION, EULER EQUATIONS
OF MOTION, KINETIC THEORY, NUMERICAL ANALYSIS, SHOCK
WAVE PROPAGATION**

N87-22103*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.

SPACELAB 3 MISSION SCIENCE REVIEW
GEORGE H. FICHTL, ed., JOHN S. THEON, ed. (National
Aeronautics and Space Administration, Washington, D.C.),
CHARLES K. HILL, ed., and OTHA H. VAUGHAN, ed. Feb.
1987 98 p Symposium held in Huntsville, Ala., 4 Dec. 1985
(NASA-CP-2429; M-547; NAS 1.55:2429) Avail: NTIS HC
A05/MF A01 CSCL 22A

**AEROSPACE ENVIRONMENTS, POSTFLIGHT ANALYSIS,
REDUCED GRAVITY, SPACE COMMERCIALIZATION, SPACE
SHUTTLES, SPACEBORNE EXPERIMENTS, SPACELAB**

N87-23921*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

**THREE-STEP LABYRINTH SEAL FOR HIGH-PERFORMANCE
TURBOMACHINES**

ROBERT C. HENDRICKS Jun. 1987 75 p
(NASA-TP-1848; E-3186; NAS 1.60:1848) Avail: NTIS HC
A04/MF A01 CSCL 20D

**FUEL PUMPS, LABYRINTH SEALS, SPACE SHUTTLE MAIN
ENGINE, STATIC TESTS, TURBOMACHINERY**

N87-23936*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

**STRAIGHT CYLINDRICAL SEAL FOR HIGH-PERFORMANCE
TURBOMACHINES**

ROBERT C. HENDRICKS Jun. 1987 76 p
(NASA-TP-1850; E-3184; NAS 1.60:1850) Avail: NTIS HC
A05/MF A01 CSCL 20D

**CYLINDRICAL BODIES, FUEL PUMPS, SEALS (STOPPERS),
SPACE SHUTTLE MAIN ENGINE, TURBINE PUMPS,
TURBOMACHINERY**

N87-24639*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

**THREE-STEP CYLINDRICAL SEAL FOR HIGH-PERFORMANCE
TURBOMACHINES**

ROBERT C. HENDRICKS Jun. 1987 79 p
(NASA-TP-1849; E-3185; NAS 1.60:1849) Avail: NTIS HC
A05/MF A01 CSCL 20D

**DYNAMIC STABILITY, FUEL PUMPS, LEAKAGE, PUMP
SEALS, SPACE SHUTTLE MAIN ENGINE, TURBINE PUMPS**

N87-24672*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**MULTISCALE TURBULENCE EFFECTS IN SUPERSONIC JETS
EXHAUSTING INTO STILL AIR**

KHALED S. ABDOL-HAMID (Analytical Services and Materials, Inc.,
Hampton, Va.) and RICHARD G. WILMOTH Jul. 1987 38 p
(NASA-TP-2707; L-16258; NAS 1.60:2707) Avail: NTIS HC
A03/MF A01 CSCL 20D

**JET EXHAUST, NAVIER-STOKES EQUATION, SUPERSONIC
AIRCRAFT, TURBULENCE**

N87-26309*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**SIMPLIFIED CURVE FITS FOR THE THERMODYNAMIC
PROPERTIES OF EQUILIBRIUM AIR**

S. SRINIVASAN, J. C. TANNEHILL (Iowa State Univ. of Science
and Technology, Ames.), and K. J. WEILMUNSTER Aug. 1987
48 p

(NAG1-313)
(NASA-RP-1181; L-16276; NAS 1.61:1181) Avail: NTIS HC
A03/MF A01 CSCL 20D

New, improved curve fits for the thermodynamic properties of
equilibrium air have been developed. The curve fits are for pressure,
speed of sound, temperature, entropy, enthalpy, density, and
internal energy. These curve fits can be readily incorporated into
new or existing computational fluid dynamics codes if real gas
effects are desired. The curve fits are constructed from Grabau-type
transition functions to model the thermodynamic surfaces in a
piecewise manner. The accuracies and continuity of these curve
fits are substantially improved over those of previous curve fits.
These improvements are due to the incorporation of a small number
of additional terms in the approximating polynomials and careful
choices of the transition functions. The ranges of validity of the
new curve fits are temperatures up to 25 000 K and densities
from 10 to the -7 to 10 to the 3d power amagats. Author

N87-27161*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

APPLICATION OF TURBULENCE MODELING TO PREDICT SURFACE HEAT TRANSFER IN STAGNATION FLOW REGION OF CIRCULAR CYLINDER

CHI R. WANG and FREDERICK C. YEH Sep. 1987 25 p
(NASA-TP-2758; E-3418; NAS 1.60:2758) Avail: NTIS HC A03/MF A01 CSCL 20D

CIRCULAR CYLINDERS, HEAT TRANSFER, MODELS, STAGNATION FLOW, SURFACE PROPERTIES, TURBULENCE

N87-29778*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DESCRIPTION AND CALIBRATION OF THE LANGLEY HYPERSONIC CF4 TUNNEL: A FACILITY FOR SIMULATING LOW GAMMA FLOW AS OCCURS FOR A REAL GAS

RAYMOND E. MIDDEN and CHARLES G. MILLER, III Mar. 1985 78 p
(NASA-TP-2384; L-15798; NAS 1.60:2384) Avail: NTIS HC A05/MF A01 CSCL 20D

CALIBRATING, CARBON TETRAFLUORIDE, HYPERSONIC WIND TUNNELS, MACH NUMBER, REAL GASES, TEST FACILITIES

N87-29795*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

FINITE-ELEMENT REENTRY HEAT-TRANSFER ANALYSIS OF SPACE SHUTTLE ORBITER

WILLIAM L. KO, ROBERT D. QUINN, and LESLIE GONG Dec. 1986 59 p
(NASA-TP-2657; H-1236; NAS 1.60:2657) Avail: NTIS HC A04/MF A01 CSCL 20D

AERODYNAMIC HEATING, FINITE ELEMENT METHOD, HEAT TRANSFER COEFFICIENTS, REENTRY SHIELDING, SPACE SHUTTLE ORBITERS, THERMAL ANALYSIS

N88-14299*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

FLIGHT AND WIND-TUNNEL MEASUREMENTS SHOWING BASE DRAG REDUCTION PROVIDED BY A TRAILING DISK FOR HIGH REYNOLDS NUMBER TURBULENT FLOW FOR SUBSONIC AND TRANSONIC MACH NUMBERS

SHERYLL GOECKE POWERS, JARRETT K. HUFFMAN, and CHARLES H. FOX, JR. (National Aeronautics and Space Administration. Langley Research Center, Hampton, Va.) Nov. 1986 143 p
(NASA-TP-2638; H-1281; NAS 1.60:2638) Avail: NTIS HC A07/MF A01 CSCL 20D

BASE PRESSURE, DRAG REDUCTION, FLIGHT TESTS, TRAILING EDGE FLAPS, TURBULENT FLOW, WIND TUNNEL TESTS

N88-15924*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

CRYOGENIC FLUID MANAGEMENT TECHNOLOGY WORKSHOP. VOLUME 1: PRESENTATION MATERIAL AND DISCUSSION

JOHN C. AYDELOTT, ed. and WILLIAM DEVOL, ed. (Sverdrup Technology, Inc., Middleburg Heights, Ohio.) Sep. 1987 386 p
Workshop held in Cleveland, Ohio, 28-30 Apr. 1987
(NASA-CP-10001; E-3732; NAS 1.55:10001) Avail: NTIS HC A17/MF A03 CSCL 20D

CONFERENCES, CRYOGENIC COOLING, CRYOGENIC FLUID STORAGE, CRYOGENIC FLUIDS, CRYOGENIC ROCKET PROPELLANTS, CRYOGENICS, REDUCED GRAVITY

N88-18881*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Center, Edwards, CA.

INFLUENCE OF BASE MODIFICATIONS ON IN-FLIGHT BASE DRAG IN THE PRESENCE OF JET EXHAUST FOR MACH NUMBERS FROM 0.7 TO 1.5

SHERYLL GOECKE POWERS Feb. 1988 20 p

(NASA-TP-2802; H-1408; NAS 1.60:2802) Avail: NTIS HC A03/MF A01 CSCL 20D

BASE FLOW, DRAG, FLIGHT TESTS, JET EXHAUST, MACH NUMBER, REVISIONS

N88-18884*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

GALILEO PROBE PARACHUTE TEST PROGRAM: WAKE PROPERTIES OF THE GALILEO PROBE AT MACH NUMBERS FROM 0.25 TO 0.95

THOMAS N. CANNING (Canning, T. N., Portola Valley, Calif) and THOMAS M. EDWARDS Apr. 1988 144 p
(NAS2-10000)

(NASA-RP-1130; A-9643; NAS 1.61:1130) Avail: NTIS HC A07/MF A01 CSCL 20D

The results of surveys of the near and far wake of the Galileo Probe are presented for Mach numbers from 0.25 to 0.95. The trends in the data resulting from changes in Mach number, radial and axial distance, angle of attack, and a small change in model shape are shown in crossplots based on the data. A rationale for selecting an operating volume suitable for parachute inflation based on low Mach number flight results is outlined. Author

N88-20599*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

CRYOGENIC FLUID MANAGEMENT TECHNOLOGY WORKSHOP. VOLUME 2: ROUNDTABLE DISCUSSION OF TECHNOLOGY REQUIREMENTS

Mar. 1988 84 p Workshop held in Cleveland, Ohio, 28-30 Apr. 1987

(NASA-CP-10009; E-3987; NAS 1.55:10009) Avail: NTIS HC A05/MF A01 CSCL 20D

CONFERENCES, CRYOGENIC FLUIDS, FLUID MANAGEMENT, TECHNOLOGY ASSESSMENT

N88-22325*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AEROTHERMAL TESTS OF QUILTED DOME MODELS ON A FLAT PLATE AT A MACH NUMBER OF 6.5

CHRISTOPHER E. GLASS and L. ROANE HUNT May 1988 72 p

(NASA-TP-2804; L-16346; NAS 1.60:2804) Avail: NTIS HC A04/MF A01 CSCL 20D

AEROTHERMODYNAMICS, HYPERSONIC AIRCRAFT, LAMINAR BOUNDARY LAYER, PRESSURE DISTRIBUTION, THERMAL PROTECTION, TURBULENT BOUNDARY LAYER

N89-11153*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

MIXING AND DEMIXING PROCESSES IN MULTIPHASE FLOWS WITH APPLICATION TO PROPULSION SYSTEMS

RAND DECKER, ed. and CHARLES F. SCHAFER, ed. Jul. 1988 191 p Workshop was held in Huntsville, Ala., 25-26 Feb. 1988; sponsored by NASA, Marshall Space Flight Center, Huntsville, Ala. and USRA, Huntsville, Ala. Sponsored by NASA, Washington, D.C.

(NASA-CP-3006; M-591; NAS 1.55:3006) Avail: NTIS HC A09/MF A02 CSCL 20D

COMBUSTION PHYSICS, CONFERENCES, FLUID DYNAMICS, FUEL COMBUSTION, LAMINAR FLOW, MIXING, MULTIPHASE FLOW, PROPULSION, TURBULENT FLOW

N89-12822*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AERODYNAMIC PRESSURES AND HEATING RATES ON SURFACES BETWEEN SPLIT ELEVONS AT MACH 6.6

L. ROANE HUNT Washington, D.C. Dec. 1988 85 p
(NASA-TP-2855; L-16460; NAS 1.60:2855) Avail: NTIS HC A05/MF A01 CSCL 20D

AERODYNAMIC HEATING, DYNAMIC PRESSURE, ELEVONS, HYPERSONIC FLIGHT, SPLIT FLAPS

34 FLUID MECHANICS AND HEAT TRANSFER

N89-16115*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

CONSERVATION EQUATIONS AND PHYSICAL MODELS FOR HYPERSONIC AIR FLOWS IN THERMAL AND CHEMICAL NONEQUILIBRIUM

PETER A. GNOFFO, ROOP N. GUPTA (Scientific Research and Technology, Inc., Hampton, VA.), and JUDY L. SHINN Washington, DC Feb. 1989 62 p

(NASA-TP-2867; L-16477; NAS 1.60:2867) Avail: NTIS HC A04/MF A01 CSCL 20D

AIR FLOW, CHEMICAL EQUILIBRIUM, CONSERVATION EQUATIONS, HYPERSONIC FLOW, MATHEMATICAL MODELS, NONEQUILIBRIUM FLOW, NONEQUILIBRIUM THERMODYNAMICS

N89-19499*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

CONTAMINATION OF LIQUID OXYGEN BY PRESSURIZED GASEOUS NITROGEN

ALLAN J. ZUCKERWAR, TRACY K. KING, and KIM CHI NGO (Old Dominion Univ., Norfolk, VA.) Apr. 1989 26 p

(NASA-TP-2894; L-16526; NAS 1.60:2894) Avail: NTIS HC A03/MF A01 CSCL 20D

FUEL CONTAMINATION, GAS-GAS INTERACTIONS, GASEOUS DIFFUSION, HYPERSONIC WIND TUNNELS, LIQUID NITROGEN, LIQUID OXYGEN, PRESSURE EFFECTS

N89-25409*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

DETERMINATION OF COMBUSTION GAS TEMPERATURES BY INFRARED RADIOMETRY IN SOOTING AND NONSOOTING FLAMES

VALERIE J. LYONS and CARMEN M. GRACIA-SALCEDO (Army Aviation Systems Command, Cleveland, OH.) Feb. 1989 13 p (DA PROJ. 1L1-61102-AH-45)

(NASA-TP-2900; E-4446; NAS 1.60:2900; AVSCOM-TR-88-C-008; AD-A205373) Avail: NTIS HC A03/MF A01 CSCL 21/2

COMBUSTION TEMPERATURE, FLAME TEMPERATURE, GAS TEMPERATURE, INFRARED RADIOMETERS, PREMIXED FLAMES, RADIATION PYROMETERS, SOOT, TEMPERATURE MEASUREMENT

N89-26184*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

WORKSHOP ON TWO-PHASE FLUID BEHAVIOR IN A SPACE ENVIRONMENT

THEODORE D. SWANSON, ed., AL JUHASZ, ed., W. RUSS LONG, ed. (National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, TX.), and LAURA OTTENSTEIN, ed. 1989 45 p Workshop held in Ocean City, MD, 13-14 Jun. 1988

(NASA-CP-3043; REPT-89B00114; NAS 1.55:3043) Avail: NTIS HC A03/MF A01 CSCL 20D

AEROSPACE ENVIRONMENTS, FLUID MANAGEMENT, HEAT TRANSFER, LIQUID-VAPOR INTERFACES, TWO PHASE FLOW

N89-27116*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

A REVIEW OF HIGH-SPEED, CONVECTIVE, HEAT-TRANSFER COMPUTATION METHODS

MICHAEL E. TAUBER Washington Jul. 1989 38 p (NASA-TP-2914; A-89042; NAS 1.60:2914) Avail: NTIS HC A03/MF A01 CSCL 20D

AERODYNAMIC HEATING, COMPUTATION, CONVECTIVE HEAT TRANSFER, LAMINAR BOUNDARY LAYER, SEPARATED FLOW, SHOCK HEATING, TURBULENT BOUNDARY LAYER

N90-10385*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

CONSTITUTIVE RELATIONSHIPS AND MODELS IN CONTINUUM THEORIES OF MULTIPHASE FLOWS

RAND DECKER, ed. Washington Sep. 1989 165 p Workshop held in Huntsville, AL, 5-7 Apr. 1989; sponsored by NASA,

Washington and USRA, Washington, DC (NASA-CP-3047; M-616; NAS 1.55:3047) Avail: NTIS HC A08/MF A01 CSCL 20D

CONSTITUTIVE EQUATIONS, CONTINUUM MECHANICS, MATHEMATICAL MODELS, MULTIPHASE FLOW

N90-11245*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

LASER ANEMOMETER MEASUREMENTS IN A TRANSONIC AXIAL-FLOW FAN ROTOR

ANTHONY J. STRAZISAR, JERRY R. WOOD, MICHAEL D. HATHAWAY, and KENNETH L. SUDER Washington Nov. 1989 216 p

(NASA-TP-2879; E-4480; NAS 1.60:2879) Avail: NTIS HC A10/MF A02 CSCL 20D

AXIAL FLOW, FAN BLADES, FLOW VELOCITY, LASER ANEMOMETERS, ROTOR BLADES (TURBOMACHINERY), SURVEYS, TRANSONIC FLOW, VELOCITY DISTRIBUTION

N90-14493*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SURFACE FLOW AND HEATING DISTRIBUTIONS ON A CYLINDER IN NEAR WAKE OF AEROASSIST FLIGHT EXPERIMENT (AFE) CONFIGURATION AT INCIDENCE IN MACH 10 AIR

WILLIAM L. WELLS Jan. 1990 58 p (NASA-TP-2954; L-16623; NAS 1.60:2954) Avail: NTIS HC A04/MF A01 CSCL 20D

COMPUTER PROGRAMS, CYLINDRICAL BODIES, FREE FLOW, HEAT TRANSFER, NAVIER-STOKES EQUATION, NEAR WAKES

N90-17042*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AN UPWIND-BIASED, POINT-IMPLICIT RELAXATION ALGORITHM FOR VISCOUS, COMPRESSIBLE PERFECT-GAS FLOWS

PETER A. GNOFFO Washington Feb. 1990 75 p (NASA-TP-2953; L-16588; NAS 1.60:2953) Avail: NTIS HC A04/MF A01 CSCL 20D

ALGORITHMS, COMPRESSIBLE FLOW, GAS FLOW, HYPERSONIC FLOW, RELAXATION METHOD (MATHEMATICS), THREE DIMENSIONAL FLOW, VISCOUS FLOW

N90-23670*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AERODYNAMIC PRESSURE AND HEATING-RATE DISTRIBUTIONS IN TILE GAPS AROUND CHINE REGIONS WITH PRESSURE GRADIENTS AT A MACH NUMBER OF 6.6

L. ROANE HUNT and KRISTOPHER K. NOTESTINE (PRC Kentron, Inc., Hampton, VA.) Washington Jun. 1990 70 p

(NASA-TP-2988; L-16649; NAS 1.60:2988) Avail: NTIS HC A04/MF A01 CSCL 20D

AERODYNAMIC LOADS, HEATING, HIGH PRESSURE, HYPERSONIC SPEED, THERMAL PROTECTION, TILES

N90-27064*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A REVIEW OF REACTION RATES AND THERMODYNAMIC AND TRANSPORT PROPERTIES FOR AN 11-SPECIES AIR MODEL FOR CHEMICAL AND THERMAL NONEQUILIBRIUM CALCULATIONS TO 30000 K

ROOP N. GUPTA, JERROLD M. YOS, RICHARD A. THOMPSON, and KAM-PUI LEE (Scientific Research and Technology, Inc., Hampton, VA.) Washington Aug. 1990 90 p

(NASA-RP-1232; L-16634; NAS 1.61:1232) Avail: NTIS HC A05/MF A01 CSCL 20D

Reaction rate coefficients and thermodynamic and transport properties are reviewed and supplemented for the 11-species air model which can be used for analyzing flows in chemical and thermal nonequilibrium up to temperatures of 3000 K. Such flows will likely occur around currently planned and future hypersonic vehicles. Guidelines for determining the state of the surrounding

environment are provided. Curve fits are given for the various species properties for their efficient computation in flowfield codes. Approximate and more exact formulas are provided for computing the properties of partially ionized air mixtures in a high energy environment. Limitations of the approximate mixing laws are discussed for a mixture of ionized species. An electron number-density correction for the transport properties of the charged species is obtained. This correction has been generally ignored in the literature. Author

N90-27066*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AN APPROXIMATE METHOD FOR CALCULATING THREE-DIMENSIONAL INVISCID HYPERSONIC FLOW FIELDS
CHRISTOPHER J. RILEY and FRED R. DEJARNETTE

Washington Aug. 1990 26 p
(NASA-TP-3018; L-16745; NAS 1.60:3018) Avail: NTIS HC
A03/MF A01 CSCL 20D

APPROXIMATION, EULER EQUATIONS OF MOTION, FLOW DISTRIBUTION, HYPERSONIC FLOW, INVISCID FLOW, THREE DIMENSIONAL FLOW

N90-28806*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

GAS-JET AND TANGENT-SLOT FILM COOLING TESTS OF A 12.5 DEG CONE AT MACH NUMBER OF 6.7

ROBERT J. NOWAK May 1988 85 p
(NASA-TP-2786; L-16148; NAS 1.60:2786) Avail: NTIS HC
A05/MF A01 CSCL 20D

FILM COOLING, GAS JETS, HEAT TRANSFER, MATHEMATICAL MODELS, PRESSURE MEASUREMENT, SHOCK LAYERS, SLOTS, TEMPERATURE MEASUREMENT

35

INSTRUMENTATION AND PHOTOGRAPHY

Includes remote sensors; measuring instruments and gages; detectors; cameras and photographic supplies; and holography.

N87-10263*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THIRTEENTH INTERNATIONAL LASER RADAR CONFERENCE
Aug. 1986 335 p Conference held in Toronto, Ontario, 11-15 Aug. 1986; sponsored by NASA, Washington, D.C., Atmospheric Environment Service, and York Univ.

(NASA-CP-2431; L-16201; NAS 1.55:2431) Avail: NTIS HC
A15/MF A03 CSCL 20E

CONFERENCES, LASER APPLICATIONS, LASERS, METEOROLOGICAL PARAMETERS, MIDDLE ATMOSPHERE, OPTICAL RADAR, RADAR EQUIPMENT

N87-13731*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

EVALUATION OF DIFFUSE-ILLUMINATION HOLOGRAPHIC CINEMATOGRAPHY IN A FLUTTER CASCADE

A. J. DECKER Jul. 1986 33 p
(NASA-TP-2593; E-2937; NAS 1.60:2593) Avail: NTIS HC
A03/MF A01 CSCL 14E

CINEMATOGRAPHY, FLOW VISUALIZATION, HOLOGRAPHIC INTERFEROMETRY, HOLOGRAPHY, LASER OUTPUTS, THREE DIMENSIONAL FLOW

N87-20514*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A SIMPLIFIED METHOD FOR DETERMINING HEAT OF COMBUSTION OF NATURAL GAS

JAG J. SINGH, HOSHANG CHEGINI (Old Dominion Univ., Norfolk, Va.), and GERALD H. MALL (Computer Sciences Corp., Hampton,

Va.) Apr. 1987 15 p
(NASA-TP-2682; L-16261; NAS 1.60:2682) Avail: NTIS HC
A03/MF A01 CSCL 14B

GAS DETECTORS, HEAT OF COMBUSTION, NATURAL GAS, OXYGEN SUPPLY EQUIPMENT

N88-28286*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

OPTICAL MEASUREMENT OF PROPELLER BLADE DEFLECTIONS

ANATOLE P. KURKOV Sep. 1988 31 p
(NASA-TP-2841; E-4131; NAS 1.60:2841) Avail: NTIS HC
A03/MF A01 CSCL 14B

DEFLECTION, DISPLACEMENT MEASUREMENT, OPTICAL MEASUREMENT, PROPELLER BLADES

N88-30099*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

MEASUREMENT OF LOCAL HIGH-LEVEL, TRANSIENT SURFACE HEAT FLUX

CURT H. LIEBERT Sep. 1988 9 p Sponsored by NASA, Washington, D.C.
(NASA-TP-2840; E-4200; NAS 1.60:2840) Avail: NTIS HC
A02/MF A01 CSCL 14B

HEAT FLUX, SURFACE TEMPERATURE, TEMPERATURE MEASUREMENT, TEMPERATURE MEASURING INSTRUMENTS, TRANSIENT HEATING

N89-13762*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SPATIAL VISION PROCESSES: FROM THE OPTICAL IMAGE TO THE SYMBOLIC STRUCTURES OF CONTOUR INFORMATION

DANIEL J. JOBSON Nov. 1988 31 p Original contains color illustrations
(NASA-TP-2838; L-16479; NAS 1.60:2838) Avail: NTIS HC
A03/MF A01 CSCL 14B

COMPUTER VISION, CONTOURS, EDGES, IMAGE PROCESSING, SPATIAL FILTERING, SYMBOLS, TEXTURES

N89-15380*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

TECHNIQUE FOR TEMPERATURE COMPENSATION OF EDDY-CURRENT PROXIMITY PROBES

ROBERT M. MASTERS Jan. 1989 10 p
(NASA-TP-2880; E-4316; NAS 1.60:2880) Avail: NTIS HC
A02/MF A01 CSCL 14B

EDDY CURRENTS, EVALUATION, PERFORMANCE TESTS, PROBES, PROXIMITY, TEMPERATURE COMPENSATION, TEMPERATURE MEASUREMENT, TURBOMACHINERY

N89-16139*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

RAMAN INTENSITY AS A PROBE OF CONCENTRATION NEAR A CRYSTAL GROWING IN SOLUTION

R. ALLEN WILKINSON Feb. 1989 12 p
(NASA-TP-2865; E-4397; NAS 1.60:2865) Avail: NTIS HC
A03/MF A01 CSCL 14B

CRYSTAL GROWTH, RAMAN SPECTRA, RAMAN SPECTROSCOPY, SOLUTIONS

N89-26209*# National Aeronautics and Space Administration. Wallops Flight Center, Wallops Island, VA.

MARA (MULTIMODE AIRBORNE RADAR ALTIMETER) SYSTEM DOCUMENTATION. VOLUME 1: MARA SYSTEM REQUIREMENTS DOCUMENT

C. L. PARSONS, ed. Jul. 1989 88 p
(NASA-RP-1226; REPT-89-143; NAS 1.61:1226) Avail: NTIS HC
A05/MF A01 CSCL 14B

The Multimode Airborne Radar Altimeter (MARA), a flexible airborne radar remote sensing facility developed by NASA's Goddard Space Flight Center, is discussed. This volume describes the scientific justification for the development of the instrument and the translation of these scientific requirements into instrument

design goals. Values for key instrument parameters are derived to accommodate these goals, and simulations and analytical models are used to estimate the developed system's performance.

Author

N90-10412*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

INTRODUCTION TO TOTAL- AND PARTIAL-PRESSURE MEASUREMENTS IN VACUUM SYSTEMS

R. A. OUTLAW and F. A. KERN Washington Nov. 1989 77 p

(NASA-RP-1219; L-16494; NAS 1.61:1219) Avail: NTIS HC A05/MF A01 CSCL 14B

An introduction to the fundamentals of total and partial pressure measurement in the vacuum regime (760 x 10 to the -16th power Torr) is presented. The instrument most often used in scientific fields requiring vacuum measurement are discussed with special emphasis on ionization type gauges and quadrupole mass spectrometers. Some attention is also given to potential errors in measurement as well as calibration techniques.

Author

N90-16204*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

VISUAL INFORMATION PROCESSING FOR TELEVISION AND TELEROBOTICS

FRIEDRICH O. HUCK, ed. and STEPHEN K. PARK, ed. (College of William and Mary, Williamsburg, VA.) Washington Nov. 1989 263 p Workshop held in Williamsburg, VA, 10-12 May 1989

(NASA-CP-3053; L-16665; NAS 1.55:3053) Avail: NTIS HC A12/MF A02 CSCL 14B

CODING, COMPUTER VISION, CONFERENCES, IMAGE RECONSTRUCTION, IMAGING TECHNIQUES, ROBOTICS, ROBOTS, TELEOPERATORS, TELEROBOTICS, TELEVISION SYSTEMS

N90-17085*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

NASA LASER LIGHT SCATTERING ADVANCED TECHNOLOGY DEVELOPMENT WORKSHOP, 1988

WILLIAM V. MEYER, ed. (Case Western Reserve Univ., Cleveland, OH.) Aug. 1989 306 p Workshop held in Cleveland, OH, 7-8 Sep. 1988

(NASA-CP-10033; E-4915; NAS 1.55:10033) Avail: NTIS HC A14/MF A02 CSCL 14B

FIBER OPTICS, LASER BEAMS, LIGHT SCATTERING, PHOTODIODES, REDUCED GRAVITY, SPECTROSCOPY

N90-21351*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

FOUNDATIONS OF MEASUREMENT AND INSTRUMENTATION

ISIDORE WARSHAWSKY Apr. 1990 232 p

(NASA-RP-1222; E-3786; NAS 1.61:1222) Avail: NTIS HC A11/MF A02 CSCL 14B

The user of instrumentation has provided an understanding of the factors that influence instrument performance, selection, and application, and of the methods of interpreting and presenting the results of measurements. Such understanding is prerequisite to the successful attainment of the best compromise among reliability, accuracy, speed, cost, and importance of the measurement operation in achieving the ultimate goal of a project. Some subjects covered are dimensions; units; sources of measurement error; methods of describing and estimating accuracy; deduction and presentation of results through empirical equations, including the method of least squares; experimental and analytical methods of determining the static and dynamic behavior of instrumentation systems, including the use of analogs.

Author

LASERS AND MASERS

Includes parametric amplifiers.

N87-20522*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

CLOSED-CYCLE, FREQUENCY-STABLE CO₂ LASER TECHNOLOGY

CARMEN E. BATTEN, ed., IRVIN M. MILLER, ed., GEORGE M. WOOD, JR., ed., and DAVID V. WILLETTS, ed. (Royal Signals and Radar Establishment, Malvern, England.) Apr. 1987 279 p Workshop held in Hampton, Va., 10-12 Jun. 1986

(NASA-CP-2456; L-16271; NAS 1.55:2456) Avail: NTIS HC A13/MF A02 CSCL 20E

CARBON DIOXIDE LASERS, CLOSED CYCLES, FREQUENCY STABILITY, RESEARCH MANAGEMENT

N87-27994*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

FREQUENCY DOMAIN LASER VELOCIMETER SIGNAL PROCESSOR: A NEW SIGNAL PROCESSING SCHEME

JAMES F. MEYERS and JAMES I. CLEMMONS, JR. Sep. 1987 38 p

(NASA-TP-2735; L-16209; NAS 1.60:2735) Avail: NTIS HC A03/MF A01 CSCL 20E

DOMAINS, FREQUENCIES, LASER DOPPLER VELOCIMETERS, SIGNAL PROCESSING

N89-17855*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ANALYSIS OF ND₃+ GLASS, SOLAR-PUMPED, HIGH-POWER LASER SYSTEMS

L. E. ZAPATA and M. D. WILLIAMS Feb. 1989 13 p

(NASA-TP-2905; L-16085; NAS 1.60:2905) Avail: NTIS HC A03/MF A01 CSCL 20E

GLASS LASERS, HIGH POWER LASERS, NEODYMIUM LASERS, SOLAR COLLECTORS

N90-24585*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DIODE LASER SATELLITE SYSTEMS FOR BEAMED POWER TRANSMISSION

M. D. WILLIAMS, J. H. KWON (Miami Univ., Oxford, OH.), G. H. WALKER, and D. H. HUMES Washington 1990 31 p

(NASA-TP-2992; L-16669; NAS 1.60:2992) Avail: NTIS HC A03/MF A01 CSCL 20E

ESTIMATING, LASER POWER BEAMING, OPERATING TEMPERATURE, SATELLITE TRANSMISSION, SEMICONDUCTOR LASERS, STRUCTURAL DESIGN CRITERIA

N90-24586*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

LOW-TEMPERATURE CO-OXIDATION CATALYSTS FOR LONG-LIFE CO₂ LASERS

DAVID R. SCHRYER, ed. and GAR B. HOFLUND, ed. (Florida Univ., Gainesville.) Washington Jun. 1990 404 p Conference held in Hampton, VA, 17-19 Oct. 1989; sponsored by NASA, Washington and the Royal Signals and Radar Establishment, Malvern, England

(NASA-CP-3076; L-16797; NAS 1.55:3076) Avail: NTIS HC A18/MF A03 CSCL 20E

CARBON DIOXIDE LASERS, CATALYSTS, CATALYTIC ACTIVITY, CONFERENCES, LOW TEMPERATURE, OXIDATION

MECHANICAL ENGINEERING

Includes auxiliary systems (nonpower); machine elements and processes; and mechanical equipment.

N87-10391*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

TESTING OF UH-60A HELICOPTER TRANSMISSION IN NASA LEWIS 2240-KW (3000-HP) FACILITY

A. M. MITCHELL, F. B. OSWALD, and H. H. COE Aug. 1986 30 p

(NASA-TP-2626; E-2941; NAS 1.60:2626) Avail: NTIS HC A03/MF A01 CSCL 13I

HELICOPTERS, TRANSMISSIONS (MACHINE ELEMENTS), VIBRATION MEASUREMENT

N87-18095*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

PREDICTED EFFECT OF DYNAMIC LOAD ON PITTING FATIGUE LIFE FOR LOW-CONTACT-RATIO SPUR GEARS

DAVID G. LEWICKI Jun. 1986 19 p

(NASA-TP-2610; E-2989; NAS 1.60:2610; AD-A170906; AVSCOM-TR-86-C-21) Avail: NTIS HC A03/MF A01 CSCL 13/9

APPLICATIONS PROGRAMS (COMPUTERS), DYNAMIC LOADS, FATIGUE (MATERIALS), GEARS, LIFE (DURABILITY), PITTING

N87-18821*# National Aeronautics and Space Administration, Washington, DC.

TETHER DYNAMICS SIMULATION

Feb. 1987 338 p Workshop held in Arlington, Va., 16 Sep. 1986

(NASA-CP-2458; NAS 1.55:2458) Avail: NTIS HC A15/MF A02 CSCL 22B

COMPUTERIZED SIMULATION, ELECTRODYNAMICS, TETHERED SATELLITES, TETHERLINES

N87-20555*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

VIBRATION CHARACTERISTICS OF OH-58A HELICOPTER MAIN ROTOR TRANSMISSION

DAVID G. LEWICKI and JOHN J. COY Apr. 1987 18 p

(NASA-TP-2705; E-3368; NAS 1.60:2705; AVSCOM-TR-86-C-42; AD-A180364) Avail: NTIS HC A03/MF A01 CSCL 01/3

HELICOPTERS, ROTOR AERODYNAMICS, TRANSMISSIONS (MACHINE ELEMENTS), VIBRATION MEASUREMENT

N87-22199*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

ROTORDYNAMIC INSTABILITY PROBLEMS IN HIGH-PERFORMANCE TURBOMACHINERY, 1986

Jan. 1987 548 p Workshop held in College Station, Tex., 2-4 Jun. 1986; sponsored in cooperation with Texas A&M Univ., Army Research Office, and Air Force Aero propulsion Lab.

(NASA-CP-2443; E-3136; NAS 1.55:2443) Avail: NTIS HC A23/MF A03 CSCL 13I

ROTOR AERODYNAMICS, STABILITY, TURBOCOMPRESSORS, TURBOMACHINERY

N87-22235*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

GEAR TOOTH STRESS MEASUREMENTS ON THE UH-60A HELICOPTER TRANSMISSION

FRED B. OSWALD Mar. 1987 17 p

(NASA-TP-2698; E-3357; NAS 1.60:2698) Avail: NTIS HC A03/MF A01 CSCL 13I

GEAR TEETH, STRESS MEASUREMENT, TRANSMISSIONS (MACHINE ELEMENTS), UH-60A HELICOPTER

N88-15224*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

EFFICIENCY TESTING OF A HELICOPTER TRANSMISSION PLANETARY REDUCTION STAGE

ROBERT F. HANDSCHUH and DOUGLAS A. ROHN Feb. 1988 18 p Prepared in cooperation with Army Aviation Research and Development Command, Cleveland, Ohio

(DA PROJ. 1L1-61102-AH-45)

(NASA-TP-2795; E-3770; NAS 1.60:2795; AVSCOM-TR-87-C-28; AD-A191884) Avail: NTIS HC A03/MF A01 CSCL 13/9

ENGINE TESTS, GEARS, HELICOPTER ENGINES, POWER EFFICIENCY, TRANSMISSIONS (MACHINE ELEMENTS)

N88-17045*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

DYNAMIC ANALYSIS OF MULTIMESH-GEAR HELICOPTER TRANSMISSIONS

FRED K. CHOY, DENNIS P. TOWNSEND, and FRED B. OSWALD Feb. 1988 22 p

(NASA-TP-2789; E-3191; NAS 1.60:2789) Avail: NTIS HC A03/MF A01 CSCL 13I

DYNAMIC CHARACTERISTICS, GEARS, HELICOPTER ENGINES, SYSTEMS ANALYSIS, TRANSMISSIONS (MACHINE ELEMENTS)

N88-18933*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

COMPUTER-AIDED DESIGN ANALYSIS OF 57-MM, ANGULAR-CONTACT, CRYOGENIC TURBOPUMP BEARINGS

ELIZABETH S. ARMSTRONG and HAROLD H. COE Mar. 1988 15 p

(NASA-TP-2816; E-3890; NAS 1.60:2816) Avail: NTIS HC A03/MF A01 CSCL 13K

BEARINGS, COMPUTER AIDED DESIGN, CRYOGENIC FLUIDS, RETROFITTING, REVISIONS, SERVICE LIFE, SPACE SHUTTLE MAIN ENGINE, TURBINE PUMPS

N88-21243*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

COMPARISON STUDY OF GEAR DYNAMIC COMPUTER PROGRAMS AT NASA LEWIS RESEARCH CENTER

JAMES J. ZAKRAJSEK Mar. 1989 31 p Prepared in cooperation with Army Aviation Research and Development Command, Cleveland, OH

(DA PROJ. 1L1-62209-AH-76)

(NASA-TP-2901; E-4144; NAS 1.60:2901; AVSCOM-TR-88-C-010) Avail: NTIS HC A03/MF A01 CSCL 13I

COMPUTER AIDED DESIGN, COMPUTER PROGRAMS, GEARS, MECHANICAL DRIVES

N89-22891*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

ROTORDYNAMIC INSTABILITY PROBLEMS IN HIGH-PERFORMANCE TURBOMACHINERY, 1988

Washington, DC Feb. 1989 454 p Workshop held in College Station, TX, 16-18 May 1988; sponsored by NASA, Lewis Research Center, Cleveland, OH, Texas A and M Univ., College Station, ARO, Durham, NC, and Aero propulsion Lab., Wright-Patterson AFB, OH

(NASA-CP-3026; E-4227; NAS 1.55:3026) Avail: NTIS HC A20/MF A03 CSCL 13I

BEARINGS, COMPRESSORS, CONFERENCES, DAMPERS, DYNAMIC STABILITY, IMPELLERS, MATHEMATICAL MODELS, ROTOR AERODYNAMICS, SEALS (STOPPERS), TURBOMACHINERY

N89-24607*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

COMPARISON OF PREDICTED AND MEASURED TEMPERATURES OF UH-60A HELICOPTER TRANSMISSION

HAROLD H. COE Washington Apr. 1989 15 p

(NASA-TP-2911; NAS 1.60:2911; E-4588; AVSCOM-TR-89-C-010; AD-A219173) Avail: NTIS HC A03/MF A01 CSCL 13/9

37 MECHANICAL ENGINEERING

COMPUTERIZED SIMULATION, HELICOPTER PROPELLER DRIVE, OPERATING TEMPERATURE, PERFORMANCE TESTS, ROLLER BEARINGS, THERMAL ANALYSIS, TRANSMISSIONS (MACHINE ELEMENTS), UH-60A HELICOPTER

N90-18740*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

FASTENER DESIGN MANUAL

RICHARD T. BARRETT Mar. 1990 99 p
(NASA-RP-1228; E-4911; NAS 1.61:1228) Avail: NTIS HC A05/MF A01 CSCL 13K

This manual was written for design engineers to enable them to choose appropriate fasteners for their designs. Subject matter includes fastener material selection, platings, lubricants, corrosion, locking methods, washers, inserts, thread types and classes, fatigue loading, and fastener torque. A section on design criteria covers the derivation of torque formulas, loads on a fastener group, combining simultaneous shear and tension loads, pullout load for tapped holes, grip length, head styles, and fastener strengths. The second half of this manual presents general guidelines and selection criteria for rivets and lockbolts. Author

N90-19593*# Illinois Univ., Chicago. Dept. of Mechanical Engineering.

THEORY OF GEARING

FAYDOR L. LITVIN 1989 479 p Prepared in cooperation with Army Aviation Systems Command, Cleveland, OH (NAG3-783; NAG3-655; DA PROJ. 1L1-62209-AH-76) (NASA-RP-1212; E-2641; NAS 1.61:1212; AVSCOM-TR-88-C-035; L-89-600204) Avail: NTIS HC A21/MF A03; Also Avail: SOD HC \$40.00 as 033-000-01068-1 CSCL 13I

Basic mathematical problems on the theory of gearing are covered in this book, such as the necessary and sufficient conditions of envelope existence, relations between principal curvatures and directions for surfaces of mating gears. Also included are singularities of surfaces accompanied by undercutting the process of generation, the phenomena of envelope of lines of contact, and the principles for generation of conjugate surfaces. Special attention is given to the algorithms for computer aided simulation of meshing and tooth contact. This edition was complemented with the results of research recently performed by the author and his doctoral students. The book contains sample problems and also problems for the reader to solve. K.C.D.

N90-19595*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

MODELING AND ANALYSIS OF THE SPACE SHUTTLE NOSE-GEAR TIRE WITH SEMIANALYTIC FINITE ELEMENTS

KYUN O. KIM, AHMED K. NOOR (Joint Inst. for Advancement of Flight Sciences, Hampton, VA.), and JOHN A. TANNER Washington Apr. 1990 36 p
(NASA-TP-2977; L-16639; NAS 1.60:2977) Avail: NTIS HC A03/MF A01 CSCL 22B

AIRCRAFT TIRES, ANISOTROPIC SHELLS, FINITE ELEMENT METHOD, LANDING GEAR, MATHEMATICAL MODELS, NOSE WHEELS, SHELL THEORY, SPACE SHUTTLE ORBITERS

N90-28063*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

LIQUID LUBRICATION IN SPACE

ERWIN V. ZARETSKY Jul. 1990 26 p
(NASA-RP-1240; E-5094; NAS 1.61:1240) Avail: NTIS HC A03/MF A01 CSCL 13I

The requirement for long-term, reliable operation of aerospace mechanisms has, with a few exceptions, pushed the state of the art in tribology. Space mission life requirements in the early 1960s were generally 6 months to a year. The proposed U.S. space station schedule to be launched in the 1990s must be continuously usable for 10 to 20 years. Liquid lubrication systems are generally used for mission life requirements longer than a year. Although most spacecraft or satellites have reached their required lifetimes without a lubrication-related failure, the application of liquid

lubricants in the space environment presents unique challenges. The state of the art of liquid lubrication in space as well as the problems and their solutions are reviewed. Author

N90-28066*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

MODIFICATION OF THE SHABERTH BEARING CODE TO INCORPORATE RP-1 AND A DISCUSSION OF THE TRACTION MODEL

CLAUDIA M. WOODS Sep. 1990 30 p
(NASA-TP-3017; E-5407; NAS 1.60:3017) Avail: NTIS HC A03/MF A01 CSCL 13I

COMPUTER PROGRAMS, MATHEMATICAL MODELS, ROLLER BEARINGS, RP-1 ROCKET PROPELLANTS, SPACECRAFT LUBRICATION

38

QUALITY ASSURANCE AND RELIABILITY

Includes product sampling procedures and techniques; and quality control.

N87-27204*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ELECTRONICS RELIABILITY AND MEASUREMENT TECHNOLOGY

JOSEPH S. HEYMAN, ed. Aug. 1987 143 p Conference held in Hampton, Va., 3-5 Jun. 1986; sponsored by NASA Langley Research Center, USAF, National Security Industrial Association, and the Aerospace Industry Association (NASA-CP-2472; L-16315; NAS 1.55:2472) Avail: NTIS HC A07/MF A01 CSCL 14D

COMPONENT RELIABILITY, INSPECTION, MICROELECTRONICS, NONDESTRUCTIVE TESTS, QUALITY CONTROL, RELIABILITY ENGINEERING

N87-28025*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A TECHNIQUE FOR EVALUATING THE APPLICATION OF THE PIN-LEVEL STUCK-AT FAULT MODEL TO VLSI CIRCUITS

DANIEL L. PALUMBO and GEORGE B. FINELLI Sep. 1987 45 p
(NASA-TP-2738; L-16269; NAS 1.60:2738) Avail: NTIS HC A03/MF A01 CSCL 14D

COMPUTERS, ERROR ANALYSIS, EVALUATION, FAULT TOLERANCE, INTEGRATED CIRCUITS, VERY LARGE SCALE INTEGRATION.

39

STRUCTURAL MECHANICS

Includes structural element design and weight analysis; fatigue; and thermal stress.

N81-71592* National Aeronautics and Space Administration, Washington, DC.

THE NASTRAN DEMONSTRATION PROBLEM MANUAL, LEVEL 17.5

Dec. 1978 185 p refs
(NASA-SP-224(05))

N81-71594* National Aeronautics and Space Administration, Washington, DC.

THE NASTRAN PROGRAMMERS MANUAL, LEVEL 17.5

Dec. 1978 845 p refs
(NASA-SP-223(05))

N87-11180*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

TURBINE ENGINE HOT SECTION TECHNOLOGY, 1984
Oct. 1984 400 p Conference held in Cleveland, Ohio, 23-24
Oct. 1984

(NASA-CP-2339; E-2267; NAS 1.55:2339) Avail: NTIS HC
A17/MF A03 CSCL 20K

AIRCRAFT ENGINES, AIRFOILS, CONFERENCES, LIFE
(DURABILITY), LININGS, MATHEMATICAL MODELS,
PREDICTION ANALYSIS TECHNIQUES, ROTOR BLADES
(TURBOMACHINERY), TURBINE ENGINES

N87-12921*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.

**EFFECTS OF VARIABLES UPON PYROTECHNICALLY
INDUCED SHOCK RESPONSE SPECTRA**

J. L. SMITH May 1986 61 p
(NASA-TP-2603; NAS 1.60:2603) Avail: NTIS HC A04/MF A01
CSCL 20K

PYROTECHNICS, SHOCK LOADS, SHOCK SPECTRA,
VARIABILITY

N87-13789*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**EFFECTS OF WINGLET ON TRANSONIC FLUTTER
CHARACTERISTICS OF A CANTILEVERED
TWIN-ENGINE-TRANSPORT WING MODEL**

C. L. RUHLIN, K. G. BHATIA (Boeing Commercial Airplane Co.,
Seattle, Wash.), and K. S. NAGARAJA Dec. 1986 77 p
(NASA-TP-2627; L-16095; NAS 1.60:2627) Avail: NTIS HC
A05/MF A01 CSCL 20K

AERODYNAMIC CONFIGURATIONS, FLUTTER, PREDICTION
ANALYSIS TECHNIQUES, TRANSONIC FLOW, WIND TUNNEL
TESTS, WINGLETS, WINGS

N87-16321*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

THE 20TH AEROSPACE MECHANISMS SYMPOSIUM

May 1986 316 p Symposium held in Cleveland, Ohio, 7-9 May
1986; sponsored by NASA, the California Inst. of Tech. and
LMSC

(NASA-CP-2423-REV; E-2904; NAS 1.55:2423-REV) Avail: NTIS
HC A14/MF A02 CSCL 20K

ACTUATORS, CONFERENCES, FLEXIBLE SPACECRAFT,
HYDRAULIC EQUIPMENT, JOINTS (JUNCTIONS),
MANIPULATORS, SPACE STATIONS, SPACECRAFT
INSTRUMENTS, SPUTTERING, TRIBOLOGY

N87-18855*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

SENSITIVITY ANALYSIS IN ENGINEERING

HOWARD M. ADELMAN, comp. and RAPHAEL T. HAFTKA, comp.
(Virginia Polytechnic Inst. and State Univ., Blacksburg) Feb.
1987 369 p Symposium held in Hampton, Va., 25-26 Sep.
1986

(NASA-CP-2457; L-16278; NAS 1.55:2457) Avail: NTIS HC
A16/MF A03 CSCL 20K

DYNAMIC STRUCTURAL ANALYSIS, EIGENVALUES, MODAL
RESPONSE, OPTIMIZATION, SENSITIVITY

N87-20566*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

**SHOT PEENING FOR Ti-6AL-4V ALLOY COMPRESSOR
BLADES**

GERALD A. CAREK Apr. 1987 9 p
(NASA-TP-2711; E-3430; NAS 1.60:2711) Avail: NTIS HC
A02/MF A01 CSCL 20K

ALUMINUM, COMPRESSOR BLADES, SHOT PEENING,
TITANIUM ALLOYS, VANADIUM

N87-20567*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.

**MODELING OF JOINTS FOR THE DYNAMIC ANALYSIS OF
TRUSS STRUCTURES**

W. KEITH BELVIN May 1987 43 p
(NASA-TP-2661; L-16163; NAS 1.60:2661) Avail: NTIS HC
A03/MF A01 CSCL 20K

DYNAMIC STRUCTURAL ANALYSIS, JOINTS (JUNCTIONS),
LARGE SPACE STRUCTURES, MODELS, TRUSSES

N87-20568*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.

**SPACE STATION STRUCTURES AND DYNAMICS TEST
PROGRAM**

CARLETON J. MOORE, JOHN S. TOWNSEND, and EDWARD W.
IVEY Mar. 1987 47 p

(NASA-TP-2710; NAS 1.60:2710) Avail: NTIS HC A03/MF A01
CSCL 20K

DYNAMIC STRUCTURAL ANALYSIS, DYNAMIC TESTS,
LARGE SPACE STRUCTURES, SPACE STATION STRUCTURES,
SPACE STATIONS, SYSTEMS ANALYSIS

N87-27231*# Computer Software Management and Information
Center, Athens, GA.

FIFTEENTH NASTRAN (R) USERS' COLLOQUIUM

Aug. 1987 312 p Colloquium held in Kansas City, Mo., 4-8
May 1987

(NASW-3247)

(NASA-CP-2481; NAS 1.55:2481; AD-A226753) Avail: NTIS HC
A14/MF A02; also available from COSMIC, Athens, Ga. 30602
CSCL 20/11

COMPUTER AIDED DESIGN, COMPUTER TECHNIQUES,
CONFERENCES, FINITE ELEMENT METHOD, NASTRAN,
STRUCTURAL ANALYSIS, STRUCTURAL VIBRATION

N87-29858*# National Aeronautics and Space Administration.
Lyndon B. Johnson Space Center, Houston, TX.

THE 21ST AEROSPACE MECHANISMS SYMPOSIUM

May 1987 356 p Symposium held in Houston, Tex., 29 Apr. -
1 May 1987; sponsored by NASA, California Inst. of Tech., and
LMSC

(NASA-CP-2470; S-560; NAS 1.55:2470) Avail: NTIS HC
A16/MF A02 CSCL 20K

ACTUATORS, DEPLOYMENT, LARGE SPACE STRUCTURES,
MANIPULATORS, ROBOTICS, SPACE ERECTABLE
STRUCTURES

N88-11140*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.

TURBINE ENGINE HOT SECTION TECHNOLOGY, 1985

Oct. 1985 443 p Conference held in Cleveland, Ohio, 22-23
Oct. 1985

(NASA-CP-2405; E-2727; NAS 1.55:2405) Avail: NTIS HC
A19/MF A03 CSCL 20K

COMBUSTION CHAMBERS, CONFERENCES, GAS TURBINE
ENGINES, LININGS, MATHEMATICAL MODELS, METAL
FATIGUE, STRUCTURAL ANALYSIS, TURBINE BLADES, VANES

N88-13609*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.

THE 58TH SHOCK AND VIBRATION SYMPOSIUM, VOLUME 1

WALTER D. PILKEY, comp. and BARBARA F. PILKEY, comp.
(Virginia Univ., Charlottesville.) Oct. 1987 476 p Symposium
held in Huntsville, Ala., 13-15 Oct. 1987; sponsored in part by
DOD

(NASA-CP-2488-VOL-1; M-571-VOL-1; NAS 1.55:2488-VOL-1)
Avail: NTIS HC A21/MF A03 CSCL 20K

CONFERENCES, DYNAMIC STRUCTURAL ANALYSIS,
MECHANICAL SHOCK, SHOCK TESTS, SPACE SHUTTLE MAIN
ENGINE, STRUCTURAL VIBRATION, VIBRATION DAMPING,
VIBRATION ISOLATORS

39 STRUCTURAL MECHANICS

N88-15263*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

LIFE PREDICTION OF THERMOMECHANICAL FATIGUE USING TOTAL STRAIN VERSION OF STRAINRANGE PARTITIONING (SRP): A PROPOSAL

JAMES F. SALTSMAN and GARY R. HALFORD Feb. 1988 25 p

(NASA-TP-2779; E-3795; NAS 1.60:2779) Avail: NTIS HC A03/MF A01 CSCL 20K

FATIGUE LIFE, LIFE (DURABILITY), METALS, PREDICTIONS

N88-17095*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

STRESS INTENSITY AND CRACK DISPLACEMENT FOR SMALL EDGE CRACKS

THOMAS W. ORANGE Feb. 1988 11 p

(NASA-TP-2801; E-3744; NAS 1.60:2801) Avail: NTIS HC A03/MF A01 CSCL 20K

CRACKS, DISPLACEMENT, EDGES, ELASTIC DEFORMATION, STRESS INTENSITY FACTORS

N88-18948*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

THE 58TH SHOCK AND VIBRATION SYMPOSIUM, VOLUME 2

WALTER D. PILKEY, comp. and BARBARA F. PILKEY, comp. (Virginia Univ., Charlottesville.) Feb. 1988 208 p Symposium held in Huntsville, Ala., 13-15 Oct. 1987; sponsored in part by DOD

(NASA-CP-2488-VOL-2; M-572-VOL-2; NAS 1.55:2488-VOL-2)

Avail: NTIS HC A10/MF A02 CSCL 20K

CONFERENCES, DYNAMIC STRUCTURAL ANALYSIS, FINITE ELEMENT METHOD, SPACECRAFT COMPONENTS, SPACECRAFT DESIGN, SPECTRUM ANALYSIS, STRUCTURAL VIBRATION

N88-20652*# Computer Software Management and Information Center, Athens, GA.

SIXTEENTH NASTRAN (R) USERS' COLLOQUIUM

Mar. 1988 196 p Colloquium held in Arlington, Va., 25-29 Apr. 1988

(NASA-CP-2505; NAS 1.55:2505; AD-A226754) Avail: NTIS HC A09/MF A02; also available from COSMIC, Athens, Ga. 30602 CSCL 20/11

CONFERENCES, NASTRAN, STRUCTURAL ANALYSIS

N88-21456*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ADVANCES IN CONTACT ALGORITHMS AND THEIR APPLICATION TO TIRES

AHMED K. NOOR and JOHN A. TANNER Apr. 1988 36 p Presented at the American Chemical Society Meeting, Montreal, Quebec, 26-29 May 1987 Original contains color illustrations

(NASA-TP-2781; L-16376; NAS 1.60:2781) Avail: NTIS HC A03/MF A01 CSCL 20K

ALGORITHMS, FRICTION, SURFACE PROPERTIES, TIRES

N88-21468*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THE 22ND AEROSPACE MECHANISMS SYMPOSIUM

May 1988 416 p Symposium held in Hampton, Va.; sponsored by NASA, Washington, California Inst. of Tech., Pasadena, and LMSC, Sunnyvale, Calif.

(NASA-CP-2506; L-16433; NAS 1.55:2506) Avail: NTIS HC A18/MF A03 CSCL 20K

ACTUATORS, BEARINGS, MAGNETIC SUSPENSION, MECHANICAL DRIVES, TELEOPERATORS, VIBRATION ISOLATORS

N88-21498*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

NONLINEAR CONSTITUTIVE RELATIONS FOR HIGH TEMPERATURE APPLICATIONS, 1986

Apr. 1988 482 p Symposium held in Akron, Ohio, 11-13 Jun. 1986; sponsored by NASA, Lewis Research Center, Cleveland,

Ohio and Akron Univ., Ohio

(NASA-CP-10010; E-3956; NAS 1.55:10010) Avail: NTIS HC A21/MF A03 CSCL 20K

CONSTITUTIVE EQUATIONS, MATHEMATICAL MODELS, REFRACTORY MATERIALS, STRESS ANALYSIS, STRUCTURAL ANALYSIS, VISCOPLASTICITY

N88-22382*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

LEWIS STRUCTURES TECHNOLOGY, 1988. VOLUME 2: STRUCTURAL MECHANICS

May 1988 307 p Symposium held in Cleveland, Ohio, 24-25 May 1988

(NASA-CP-3003-VOL-2; E-3970-VOL-2; NAS 1.55:3003-VOL-2)

Avail: NTIS HC A14/MF A02 CSCL 20K

AIRCRAFT ENGINES, DYNAMIC STRUCTURAL ANALYSIS, FATIGUE (MATERIALS), FRACTURE MECHANICS, STRESS ANALYSIS

N88-22408*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

LEWIS STRUCTURES TECHNOLOGY, 1988. VOLUME 3: STRUCTURAL INTEGRITY FATIGUE AND FRACTURE WIND TURBINES HOST

May 1988 366 p Symposium held in Cleveland, Ohio, 24-25 May 1988

(NASA-CP-3003-VOL-3; E-3970-VOL-3; NAS 1.55:3003-VOL-3)

Avail: NTIS HC A16/MF A03 CSCL 20K

CONFERENCES, DYNAMIC STRUCTURAL ANALYSIS, FRACTURE MECHANICS, METAL FATIGUE, NONDESTRUCTIVE TESTS, PARALLEL PROCESSING (COMPUTERS), WIND TURBINES

N88-23226*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

LEWIS STRUCTURES TECHNOLOGY, 1988. VOLUME 1: STRUCTURAL DYNAMICS

May 1988 463 p Symposium held in Cleveland, Ohio, 24-25 May 1988

(NASA-CP-3003-VOL-1; E-3970-VOL-1; NAS 1.55:3003-VOL-1)

Avail: NTIS HC A20/MF A03 CSCL 20K

AEROELASTICITY, COMPUTER TECHNIQUES, CONFERENCES, DYNAMIC STRUCTURAL ANALYSIS, NASTRAN, PARALLEL PROCESSING (COMPUTERS), SPACECRAFT STRUCTURES, STRUCTURAL VIBRATION, TURBINE BLADES, VIBRATION DAMPING, WIND TURBINES

N88-23988*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

DYNAMIC CHARACTERISTICS OF A VIBRATING BEAM WITH PERIODIC VARIATION IN BENDING STIFFNESS

JOHN S. TOWNSEND Feb. 1987 23 p Previously announced as N87-22726

(NASA-TP-2697; NAS 1.60:2697) Avail: NTIS HC A03/MF A01 CSCL 20K

BEAMS (SUPPORTS), BENDING, BENDING VIBRATION, DYNAMIC CHARACTERISTICS, MODAL RESPONSE, MODULATION, PERIODIC VARIATIONS, STIFFNESS

N88-25013*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

SRM PROPELLANT AND POLYMER MATERIALS STRUCTURAL TEST PROGRAM

CARLETON J. MOORE May 1988 16 p

(NASA-TP-2821; NAS 1.60:2821) Avail: NTIS HC A03/MF A01 CSCL 20K

DYNAMIC STRUCTURAL ANALYSIS, PERFORMANCE TESTS, SOLID PROPELLANT ROCKET ENGINES, SPACE SHUTTLE BOOSTERS

N88-26684*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THREE-DIMENSIONAL ANALYSIS OF A POSTBUCKLED EMBEDDED DELAMINATION

JOHN D. WHITCOMB Jul. 1988 26 p
(NASA-TP-2823; L-16453; NAS 1.60:2823) Avail: NTIS HC
A03/MF A01 CSCL 20K

BUCKLING, DELAMINATING, FINITE ELEMENT METHOD,
LAMINATES, STRAIN ENERGY RELEASE RATE

N88-28343*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.
**SRM (SOLID ROCKET MOTOR) PROPELLANT AND POLYMER
MATERIALS STRUCTURAL MODELING**
CARLETON J. MOORE Aug. 1988 42 p
(NASA-TP-2824; NAS 1.60:2824) Avail: NTIS HC A03/MF A01
CSCL 20K

POLYMERIC FILMS, PROPELLANTS, SOLID PROPELLANT
ROCKET ENGINES, STRUCTURAL ANALYSIS

N89-12876*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
TURBINE ENGINE HOT SECTION TECHNOLOGY 1986
Oct. 1986 488 p Workshop held in Cleveland, Ohio, 21-22
Oct. 1986

(NASA-CP-2444; E-3205; NAS 1.55:2444) Avail: NTIS HC
A21/MF A03 CSCL 20K

CONFERENCES, FATIGUE (MATERIALS), FRACTURE
MECHANICS, GAS TURBINE ENGINES, HEAT TRANSFER,
MEASURING INSTRUMENTS, PROPELLANT COMBUSTION,
STRUCTURAL ANALYSIS, THERMAL CONTROL COATINGS

N89-13814*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.
**EFFECTS OF VARIABLES UPON PYROTECHNICALLY
INDUCED SHOCK RESPONSE SPECTRA, PART 2**

JAMES LEE SMITH Nov. 1988 106 p
(NASA-TP-2872; NAS 1.60:2872) Avail: NTIS HC A06/MF A01
CSCL 20K

COMPONENT RELIABILITY, JOINTS (JUNCTIONS),
PYROTECHNICS, SHAPED CHARGES, SPACECRAFT
STRUCTURES

N89-16170*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.
**PARTITIONING STRATEGY FOR EFFICIENT NONLINEAR
FINITE ELEMENT DYNAMIC ANALYSIS ON
MULTIPROCESSOR COMPUTERS**

AHMED K. NOOR and JEANNE M. PETERS (Joint Inst. for
Advancement of Flight Sciences, Hampton, VA.) Washington,
DC Jan. 1989 38 p Original contains color illustrations
(NAG1-730; AF-AFOSR-0136-88)
(NASA-TP-2850; L-16476; NAS 1.60:2850) Avail: NTIS HC
A03/MF A01 CSCL 20K

DYNAMIC STRUCTURAL ANALYSIS, FINITE ELEMENT
METHOD, MULTIPROCESSING (COMPUTERS), PARALLEL
PROCESSING (COMPUTERS), PARTITIONS (MATHEMATICS)

N89-16183*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
**THERMOVISCOPLASTIC MODEL WITH APPLICATION TO
COPPER**

ALAN D. FREED Dec. 1988 18 p
(NASA-TP-2845; E-4280; NAS 1.60:2845) Avail: NTIS HC
A03/MF A01 CSCL 20K

COPPER, MODELS, THERMOVISCOELASTICITY, VISCO-
PLASTICITY

N89-16192*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, AL.
**CYCLIC LOADS TESTS OF CARBON INVOLUTE SOLID
ROCKET MOTOR OUTER BOOT RING SEGMENTS**

RAFIQ AHMED Dec. 1988 28 p
(NASA-TP-2884; M-605; NAS 1.60:2884) Avail: NTIS HC
A03/MF A01 CSCL 20K

CYCLIC LOADS, FIBER COMPOSITES, LOAD TESTS,
MODULUS OF ELASTICITY, PLASTIC PROPERTIES, RESIN

MATRIX COMPOSITES, SPACE SHUTTLE BOOSTERS,
STRESS-STRAIN RELATIONSHIPS

N89-16196*# National Aeronautics and Space Administration.
Hugh L. Dryden Flight Research Facility, Edwards, CA.
**CONTROL SURFACE SPANWISE PLACEMENT IN ACTIVE
FLUTTER SUPPRESSION SYSTEMS**

E. NISSIM and JOHN J. BURKEN Nov. 1988 19 p Prepared
in cooperation with Technion - Israel Inst. of Tech., Haifa
(NASA-TP-2873; H-1492; NAS 1.60:2873) Avail: NTIS HC
A03/MF A01 CSCL 20K
ACTIVE CONTROL, CONTROL SURFACES, FLUTTER
ANALYSIS

N89-17298*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, OH.
TURBINE ENGINE HOT SECTION TECHNOLOGY, 1987
Oct. 1987 464 p Workshop held in Cleveland, OH, 20-21 Oct.
1987

(NASA-CP-2493; E-3745; NAS 1.55:2493) Avail: NTIS HC
A20/MF A03 CSCL 20K

AIRCRAFT ENGINES, COMBUSTION, CONFERENCES, FINITE
ELEMENT METHOD, FRACTURE MECHANICS, GAS TURBINE
ENGINES, HEAT TRANSFER, STRUCTURAL ANALYSIS,
THERMAL CONTROL COATINGS, THERMAL FATIGUE, TURBINE
BLADES

N89-17892*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.
**MEASURED AND PREDICTED ROOT-MEAN-SQUARE ERRORS
IN SQUARE AND TRIANGULAR ANTENNA MESH FACETS**

W. B. FICHTER Washington, DC Mar. 1989 17 p
(NASA-TP-2896; L-16525; NAS 1.60:2896) Avail: NTIS HC
A03/MF A01 CSCL 20K

ANTENNA DESIGN, ANTENNA RADIATION PATTERNS,
FABRICS, REFLECTORS, ROOT-MEAN-SQUARE ERRORS,
STRUCTURAL ANALYSIS

N89-19579*# National Aeronautics and Space Administration,
Washington, DC.
**MIXED FINITE ELEMENT MODELS FOR FREE VIBRATIONS
OF THIN-WALLED BEAMS**

AHMED K. NOOR, JEANNE M. PETERS, and BYUNG-JIN MIN
Feb. 1989 28 p Prepared in cooperation with Joint Inst. for
Advancement of Flight Sciences, Hampton, VA
(NASA-TP-2868; L-16506; NAS 1.60:2868) Avail: NTIS HC
A03/MF A01 CSCL 20K

BEAMS (SUPPORTS), FINITE ELEMENT METHOD, FREE
VIBRATION, THIN WALLS

N89-19580*# National Aeronautics and Space Administration.
Langley Research Center, Hampton, VA.
**MIXED FORMULATION FOR FRICTIONLESS CONTACT
PROBLEMS**

AHMED K. NOOR and KYUN O. KIM 1989 26 p Prepared in
cooperation with George Washington Univ., Hampton, VA and Joint
Inst. for Advancement of Flight Sciences, Hampton, VA
(NASA-TP-2897; L-16513; NAS 1.60:2897) Avail: NTIS HC
A03/MF A01 CSCL 20K

CONTACT LOADS, CURVED BEAMS, DEFORMATION, FINITE
ELEMENT METHOD, FRICTION FACTOR, STRESS ANALYSIS

N89-22940*# Computer Software Management and Information
Center, Athens, GA.
SEVENTEENTH NASTRAN (R) USERS' COLLOQUIUM
Mar. 1989 400 p Colloquium held in San Antonio, TX, 24-28
Apr. 1989

(NASA-CP-3029; NAS 1.55:3029; AD-A226755) Avail: NTIS HC
A17/MF A03; also available from COSMIC, Athens, GA 30602
CSCL 20/11

CONFERENCES, FINITE ELEMENT METHOD, NASTRAN,
STRAIN ENERGY METHODS, STRUCTURAL ANALYSIS

39 STRUCTURAL MECHANICS

N89-23892*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

THE 23RD AEROSPACE MECHANISMS SYMPOSIUM

Washington Mar. 1989 342 p Symposium held in Huntsville, AL, 3-5 May 1989; sponsored by NASA, Washington, California Inst. of Tech., Pasadena, and LMSC, Sunnyvale, CA (NASA-CP-3032; M-611; NAS 1.55:3032) Avail: NTIS HC A15/MF A02 CSCL 20K

AEROSPACE SYSTEMS, CONFERENCES, DEPLOYMENT, LUBRICANTS, MANIPULATORS, SPACE STATIONS, SPACECRAFT DOCKING, TELEOPERATORS

N89-24626*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

RESEARCH IN STRUCTURES, STRUCTURAL DYNAMICS AND MATERIALS, 1989

WILLIAM F. HUNTER, comp. and AHMED K. NOOR, comp. (George Washington Univ., Hampton, VA.) Apr. 1989 88 p Proceedings of the AIAA/ASME/ASCE/AHS/ASC 30th Structures, Structural Dynamics and Materials Conference, Mobile, AL, 3-5 Apr. 1989

(NASA-CP-10024; NAS 1.55:10024) Avail: NTIS HC A05/MF A01 CSCL 20K

ACOUSTIC EMISSION, BUCKLING, COMPOSITE STRUCTURES, CONFERENCES, CONTROL SYSTEMS DESIGN, DISPLACEMENT, DYNAMIC STRUCTURAL ANALYSIS, MATHEMATICAL MODELS

N89-24638*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

COMPUTATIONAL METHODS FOR STRUCTURAL MECHANICS AND DYNAMICS, PART 1

W. JEFFERSON STROUD, ed., JERROLD M. HOUSNER, ed., JOHN A. TANNER, ed., and ROBERT J. HAYDUK, ed. Washington May 1989 329 p Workshop held in Hampton, VA, 19-21 Jun. 1985

(NASA-CP-3034-PT-1; L-16560-PT-1; NAS 1.55:3034-PT-1)

Avail: NTIS HC A15/MF A02 CSCL 20K

COMPUTATION, COMPUTERIZED SIMULATION, CONFERENCES, SHELLS (STRUCTURAL FORMS), STRESS ANALYSIS, STRUCTURAL ANALYSIS, TIRES

N89-24654*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

COMPUTATIONAL METHODS FOR STRUCTURAL MECHANICS AND DYNAMICS

W. JEFFERSON STROUD, ed., JERROLD M. HOUSNER, ed., JOHN A. TANNER, ed., and ROBERT J. HAYDUK, ed. Washington May 1989 256 p Workshop held in Hampton, VA, 19-21 Jun. 1985

(NASA-CP-3034-PT-2; L-16560-PT-2; NAS 1.55:3034-PT-2)

Avail: NTIS HC A12/MF A02 CSCL 20K

AIRCRAFT DESIGN, COMPUTERIZED SIMULATION, CONFERENCES, DYNAMIC STRUCTURAL ANALYSIS, MANY BODY PROBLEM, STRESS ANALYSIS

N89-26255*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DERIVATION OF A TAPERED P-VERSION BEAM FINITE ELEMENT

HOWARD E. HINNANT (Army Aviation Systems Command, Hampton, VA.) Aug. 1989 45 p

(DA PROJ. 1L1-62211-A-47-AB)

(NASA-TP-2931; L-16577; NAS 1.60:2931; AVSCOM-TR-B-002;

AD-A213443) Avail: NTIS HC A03/MF A01 CSCL 20/11

BEAMS, FINITE ELEMENT METHOD, MATHEMATICAL MODELS, TAPERING

N89-27214*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

WELD STRESSES BEYOND ELASTIC LIMIT: MATERIALS DISCONTINUITY

V. VERDERAIME Washington Aug. 1989 28 p (NASA-TP-2935; NAS 1.60:2935) Avail: NTIS HC A03/MF A01 CSCL 20L

ELASTIC PROPERTIES, STRAIN HARDENING, STRESS CONCENTRATION, STRESSES, WELDING

N89-28034*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

EVALUATION OF A STRAIN-GAGE LOAD CALIBRATION ON A LOW-ASPECT-RATIO WING STRUCTURE AT ELEVATED TEMPERATURE

LAWRENCE F. REARDON Jun. 1989 39 p

(NASA-TP-2921; H-1331; NAS 1.60:2921) Avail: NTIS HC

A03/MF A01 CSCL 20K

AIRCRAFT CONFIGURATIONS, AIRCRAFT STRUCTURES, CALIBRATING, HIGH TEMPERATURE ENVIRONMENTS, LOAD TESTS, LOW ASPECT RATIO WINGS, STRAIN GAGES, WING LOADING

N89-29773*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

NASA WORKSHOP ON COMPUTATIONAL STRUCTURAL MECHANICS 1987, PART 1

NANCY P. SYKES, ed. (Analytical Services and Materials, Inc., Hampton, VA.) Feb. 1989 383 p Workshop held in Hampton, VA, 18-20 Nov. 1987; sponsored by NASA, Langley Research Center, Hampton, VA, and NASA, Lewis Research Center, Cleveland, OH

(NASA-CP-10012-PT-1; NAS 1.55:10012-PT-1) Avail: NTIS HC

A17/MF A03 CSCL 20K

ARCHITECTURE (COMPUTERS), CONFERENCES, FINITE ELEMENT METHOD, MULTIPROCESSING (COMPUTERS), PARALLEL PROCESSING (COMPUTERS), SOFTWARE ENGINEERING, STRUCTURAL ANALYSIS

N89-29789*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

NASA WORKSHOP ON COMPUTATIONAL STRUCTURAL MECHANICS 1987, PART 2

NANCY P. SYKES, ed. (Analytical Services and Materials, Inc., Hampton, VA.) Feb. 1989 374 p Workshop held in Hampton, VA, 18-20 Nov. 1987; sponsored by NASA, Langley Research Center, Hampton, VA, and NASA, Lewis Research Center, Cleveland, OH

(NASA-CP-10012-PT-2; NAS 1.55:10012-PT-2) Avail: NTIS HC

A16/MF A02 CSCL 20K

ARCHITECTURE (COMPUTERS), COMPUTER AIDED DESIGN, COMPUTER SYSTEMS PROGRAMS, COMPUTERIZED SIMULATION, CONFERENCES, FINITE ELEMENT METHOD, STRUCTURAL ANALYSIS, STRUCTURAL ENGINEERING

N89-29799*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

NASA WORKSHOP ON COMPUTATIONAL STRUCTURAL MECHANICS 1987, PART 3

NANCY P. SYKES, ed. (Analytical Services and Materials, Inc., Hampton, VA.) Feb. 1989 419 p Workshop held in Hampton, VA, 18-20 Nov. 1987; sponsored by NASA, Langley Research Center, Hampton, VA, and NASA, Lewis Research Center, Cleveland, OH

(NASA-CP-10012-PT-3; NAS 1.55:10012-PT-3) Avail: NTIS HC

A18/MF A03 CSCL 20K

COMPUTER TECHNIQUES, CONFERENCES, FINITE ELEMENT METHOD, LARGE SPACE STRUCTURES, SOFTWARE ENGINEERING, STRUCTURAL ANALYSIS

N89-29811*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

APPLICATION OF NEWTON'S METHOD TO THE POSTBUCKLING OF RINGS UNDER PRESSURE LOADINGS

GAYLEN A. THURSTON Oct. 1989 26 p

(NASA-TP-2941; L-16578; NAS 1.60:2941) Avail: NTIS HC

A03/MF A01 CSCL 20K

BUCKLING, CYLINDRICAL SHELLS, DEFORMATION, LOADS (FORCES), NEWTON METHODS, RING STRUCTURES, STRUCTURAL FAILURE

N90-12042*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Facility, Edwards, CA.

EFFECT OF CONTROL SURFACE MASS UNBALANCE ON THE STABILITY OF A CLOSED-LOOP ACTIVE CONTROL SYSTEM
E. NISSIM (Technion - Israel Inst. of Tech., Haifa.) Oct. 1989 26 p

(NASA-TP-2952; H-1534; NAS 1.60:2952) Avail: NTIS HC A03/MF A01 CSCL 20K

ACTIVE CONTROL, AERODYNAMIC STABILITY, AERODYNAMICS, BALANCE, CONTROL SURFACES, FEEDBACK CONTROL, FLUTTER, INERTIA, MASS DISTRIBUTION

N90-18081*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

INTEGRATED FORCE METHOD VERSUS DISPLACEMENT METHOD FOR FINITE ELEMENT ANALYSIS

SURYA N. PATNAIK, LASZLO BERKE, and RICHARD H. GALLAGHER (Clarkson Univ., Potsdam, NY.) Washington Feb. 1990 33 p

(NASA-TP-2937; E-4604; NAS 1.60:2937) Avail: NTIS HC A03/MF A01 CSCL 20K

DISPLACEMENT, EQUILIBRIUM EQUATIONS, FINITE ELEMENT METHOD, LOADS (FORCES), STIFFNESS, STRUCTURAL ANALYSIS, STRUCTURAL STABILITY

N90-22079*# National Aeronautics and Space Administration. John F. Kennedy Space Center, Cocoa Beach, FL.

THE 24TH AEROSPACE MECHANISMS SYMPOSIUM

Washington Apr. 1990 370 p Symposium held at Kennedy Space Center, FL, 18-20 Apr. 1990; sponsored by NASA, Washington, California Inst. of Tech., Pasadena, and LMSC, Sunnyvale, CA

(NASA-CP-3062; NAS 1.55:3062) Avail: NTIS HC A16/MF A03 CSCL 20K

ACTUATORS, AEROSPACE ENGINEERING, CONFERENCES, GROUND SUPPORT EQUIPMENT, LARGE SPACE STRUCTURES, TRIBOLOGY

N90-24637*# Computer Software Management and Information Center, Athens, GA.

EIGHTEENTH NASTRAN (R) USERS' COLLOQUIUM

Washington NASA Apr. 1990 176 p Colloquium held in Portland, OR, 23-27 Apr. 1990 Sponsored by NASA, Washington

(NASA-CP-3069; NAS 1.55:3069; AD-A226756) Avail: NTIS HC A09/MF A01; also available from COSMIC, Athens, GA 30602 CSCL 20/11

CONFERENCES, FINITE ELEMENT METHOD, NASTRAN, STRUCTURAL ANALYSIS, STRUCTURAL VIBRATION

N90-25366*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

LOADS ANALYSIS AND TESTING OF FLIGHT CONFIGURATION SOLID ROCKET MOTOR OUTER BOOT RING SEGMENTS

RAFIQ AHMED Washington Jun. 1990 47 p
(NASA-TP-3028; NAS 1.60:3028) Avail: NTIS HC A03/MF A01 CSCL 20K

BEAMS (SUPPORTS), BENDING, COMPUTER PROGRAMS, FAILURE ANALYSIS, MATHEMATICAL MODELS, SOLID PROPELLANT ROCKET ENGINES, STIFFNESS

N90-27121*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

MODAL INTERACTION IN POSTBUCKLED PLATES. THEORY

GAYLEN A. THURSTON Washington Nov. 1989 21 p
(NASA-TP-2943; L-16573; NAS 1.60:2943) Avail: NTIS HC A03/MF A01 CSCL 20K

BUCKLING, FAILURE MODES, PLATES (STRUCTURAL MEMBERS), STRUCTURAL ANALYSIS, STRUCTURAL FAILURE

N90-28099*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

CERAMICS ANALYSIS AND RELIABILITY EVALUATION OF STRUCTURES (CARES). USERS AND PROGRAMMERS MANUAL

NOEL N. NEMETH (Aerospace Design and Fabrication, Inc., Brook Park, OH.), JANE M. MANDERSCHIED, and JOHN P. GYEKENYESI Washington Aug. 1990 232 p
(NASA-TP-2916; E-4722-1; NAS 1.60:2916) Avail: NTIS HC A11/MF A02 CSCL 11C

CERAMICS, COMPUTER PROGRAMS, FAILURE MODES, NASTRAN, PROBABILITY THEORY, RELIABILITY ANALYSIS, STRUCTURAL ANALYSIS

N90-28859*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

BUCKLING AND POSTBUCKLING BEHAVIOR OF COMPRESSION-LOADED ISOTROPIC PLATES WITH CUTOUTS

MICHAEL P. NEMETH Washington Sep. 1990 22 p Presented at the 31st AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference, Long Beach, CA, 2-4 Apr. 1990 Previously announced in IAA as A90-29311

(NASA-TP-3024; L-16789; NAS 1.60:3024) Avail: NTIS HC A03/MF A01 CSCL 20K

BUCKLING, METAL PLATES, OPENINGS, RECTANGULAR PLATES, STIFFNESS

GEOSCIENCES (GENERAL)

N87-18139*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

GEOMORPHOLOGY FROM SPACE: A GLOBAL OVERVIEW OF REGIONAL LANDFORMS

NICHOLAS M. SHORT, ed. and ROBERT W. BLAIR, JR., ed. (Fort Lewis A&M Coll., Durango, Colo.) 1986 737 p Original contains color illustrations

(NASA-SP-486; NAS 1.21:486; LC-86-17974) Avail: SOD HC \$41.00 as 033-000-00994-1; NTIS MF E03 CSCL 08E

This book, Geomorphology from Space: A Global Overview of Regional Landforms, was published by NASA STIF as a successor to the two earlier works on the same subject: Mission to Earth: LANDSAT views the Earth, and ERTS-1: A New Window on Our Planet. The purpose of the book is threefold: first, to serve as a stimulant in rekindling interest in descriptive geomorphology and landforms analysis at the regional scale; second, to introduce the community of geologists, geographers, and others who analyze the Earth's surficial forms to the practical value of space-acquired remotely sensed data in carrying out their research and applications; and third, to foster more scientific collaboration between geomorphologists who are studying the Earth's landforms and astrogeologists who analyze landforms on other planets and moons in the solar system, thereby strengthening the growing field of comparative planetology. F.M.R.

N88-13774*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

SCIENTIFIC AND OPERATIONAL REQUIREMENTS FOR TOMS DATA

ARLIN J. KRUEGER, ed. Dec. 1987 112 p Conference held in Greenbelt, Md., 10-11 Sep. 1986

(NASA-CP-2497; REPT-87B0206; NAS 1.55:2497) Avail: NTIS HC A06/MF A01 CSCL 04A

ATMOSPHERIC CHEMISTRY, CONFERENCES, MAPPING, OZONE DEPLETION, OZONOMETRY, PHOTOCHEMICAL

42 GEOSCIENCES (GENERAL)

REACTIONS, SATELLITE SOUNDING, TOTAL OZONE MAPPING SPECTROMETER, TROPOSPHERE

N88-17096*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

NIMBUS 7 SOLAR BACKSCATTER ULTRAVIOLET (SBUV) SPECTRAL SCAN SOLAR IRRADIANCE AND EARTH RADIANCE PRODUCT USER'S GUIDE

BARRY M. SCHLESINGER, RICHARD P. CEBULA (ST Systems Corp., Hyattsville, Md.), DONALD F. HEATH, and ALBERT J. FLEIG Feb. 1988 65 p

(NAS5-29386)

(NASA-RP-1199; NAS 1.61:1199; REPT-88-0004) Avail: NTIS HC A04/MF A01 CSCL 04A

The archived tape products from the spectral scan mode measurements of solar irradiance (SUNC tapes) and Earth radiance (EARTH tapes) by the Solar Backscatter UV (SBUV) instrument aboard Nimbus 7 are described. Incoming radiation from 160 to 400 nm is measured at intervals of 0.2 nm. The scan-to-scan repeatability of the solar irradiance measurements ranges from approximately 0.5 to 1 percent longward of 280 nm, to 2 percent around 210 nm and 4 percent near 175 nm. The repeatability of the Earth radiance values ranges from 2 to 3 percent at longer wavelengths and low zenith angles to 10 percent at shorter wavelengths and high zenith angles. The tape formats are described in detail, including file structure and contents of each type of record. Catalogs of the tapes and the time period covered are provided, along with lists of the days lacking solar irradiance measurements and the days dedicated to Earth radiance measurements. The method for production of the tapes is outlined and quality control measures are described. How radiances and irradiances are derived from the raw counts, the corrections for changes in instrument sensitivity, and related uncertainties are discussed. Author

N89-22152*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

NIMBUS-7 DATA PRODUCT SUMMARY

ARNOLD G. OAKES, DAESOO HAN, H. LEE KYLE, GENE CARL FELDMAN, ALBERT J. FLEIG, EDWARD J. HURLEY, and BARBARA A. KAUFMAN (General Sciences Corp., Laurel, MD.) Feb. 1989 103 p

(NAS5-29386)

(NASA-RP-1215; REPT-89B00074; NAS 1.61:1215) Avail: NTIS HC A06/MF A01 CSCL 04A

Data sets resulting from the first nine years of operations of the Nimbus-7 Satellite are briefly described. After a brief description of the Nimbus-7 Mission, each of the eight experiments on-board the satellite (Coastal Zone Color Scanner (CZCS), Earth Radiation Budget (ERB), Limb Infrared Monitor of the Stratosphere (MIMS), Stratospheric Aerosol Measurement II (SAM II), Stratospheric and Mesospheric Sounder (SAMS), Solar Backscatter Ultraviolet/Total Ozone Mapping Spectrometer (SBUV/TOMS), Scanning Multichannel Microwave Radiometer (SMMR) and the Temperature Humidity Infrared Radiometer (THIR) are introduced and their respective data products are described in terms of media, general format, and suggested applications. Extensive references are provided. Instructions for obtaining further information, and for ordering data products are given. Author

N89-26274*# National Aeronautics and Space Administration, Washington, DC.

PLANETARY GEOSCIENCES, 1988

MARIA T. ZUBER, ed., JEFF L. PLESCIA, ed., ODETTE B. JAMES, ed., and GLENN MACPHERSON, ed. (Smithsonian Institution, Washington, DC.) Aug. 1989 113 p Original contains color illustrations

(NASA-SP-498; NAS 1.21:498; LC-88-600456) Avail: NTIS HC A06/MF A01 CSCL 08G

Research topics within the NASA Planetary Geosciences Program are presented. Activity in the fields of planetary geology, geophysics, materials, and geochemistry is covered. The investigator's current research efforts, the importance of that work

in understanding a particular planetary geoscience problem, the context of that research, and the broader planetary geoscience effort is described. As an example, theoretical modelling of the stability of water ice within the Martian regolith, the applicability of that work to understanding Martian volatiles in general, and the geologic history of Mars is discussed. Author

N89-26275*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

POLAR MICROWAVE BRIGHTNESS TEMPERATURES FROM NIMBUS-7 SMMR: TIME SERIES OF DAILY AND MONTHLY MAPS FROM 1978 TO 1987

JOSEFINO C. COMISO and H. JAY ZWALLY Jul. 1989 89 p

(NAS5-29386)

(NASA-RP-1223; REPT-89B00167; NAS 1.61:1223) Avail: NTIS HC A05/MF A01 CSCL 04A

A time series of daily brightness temperature gridded maps (October 25, 1978 through August 15, 1987) were generated from all ten channels of the Nimbus-7 Scanning Multichannel Microwave Radiometer orbital data. This unique data set can be utilized in a wide range of applications including heat flux, ocean circulation, ice edge productivity, and climate studies. Two sets of data in polar stereographic format are created for the Arctic region: one with a grid size of about 30 km on a 293 by 293 array similar to that previously utilized for the Nimbus-5 Electrically Scanning Microwave Radiometer, while the other has a grid size of about 25 km on a 448 by 304 array identical to what is now being used for the DMSP Scanning Multichannel Microwave Imager. Data generated for the Antarctic region are mapped using the 293 by 293 grid only. The general technique for mapping, and a quality assessment of the data set are presented. Monthly and yearly averages are also generated from the daily data and sample geophysical ice images and products derived from the data are given. Contour plots of monthly ice concentrations derived from the data for October 1978 through August 1987 are presented to demonstrate spatial and temporal detail which this data set can offer, and to show potential research applications. Author

N90-22824*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

SEARISE: A MULTIDISCIPLINARY RESEARCH INITIATIVE TO PREDICT RAPID CHANGES IN GLOBAL SEA LEVEL CAUSED BY COLLAPSE OF MARINE ICE SHEETS

ROBERT A. BINDSCHADLER, ed. 1990 55 p Workshop held in College Park, MD, 23-25 Jan. 1990; sponsored by NASA and NSF

(NASA-CP-3075; REPT-90-077; NAS 1.55:3075) Avail: NTIS HC A04/MF A01 CSCL 08C

ANTARCTIC REGIONS, ATMOSPHERIC TEMPERATURE, CLIMATE CHANGE, ICE ENVIRONMENTS, POLAR REGIONS, PROJECT PLANNING, SEA ICE, SEA LEVEL

43

EARTH RESOURCES AND REMOTE SENSING

Includes remote sensing of earth resources by aircraft and spacecraft; photogrammetry; and aerial photography.

N87-22281*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SURFACE BIDIRECTIONAL REFLECTANCE PROPERTIES OF TWO SOUTHWESTERN ARIZONA DESERTS FOR WAVELENGTHS BETWEEN 0.4 AND 2.2 MICROMETERS

CHARLES H. WHITLOCK, G. CARLTON PURGOLD, and STUART R. LECROY (PRC Kentron, Inc., Hampton, Va.) May 1987 48 p

(NASA-TP-2643; L-16159; NAS 1.60:2643) Avail: NTIS HC A03/MF A01 CSCL 20F

ALBEDO, BIDIRECTIONAL REFLECTANCE, DESERTS, DIRECTIVITY, SOLAR POSITION, ZENITH

N87-27315* National Aeronautics and Space Administration, Washington, DC.

EARTH RESOURCES: A CONTINUING BIBLIOGRAPHY WITH INDEXES (ISSUE 54)

Aug. 1987 164 p
(NASA-SP-7041(54); NAS 1.21:7041(54)) Avail: NTIS HC A08 CSCL 05B

This bibliography lists 562 reports, articles, and other documents introduced into the NASA scientific and technical information system between April 1 and June 30, 1987. Emphasis is placed on the use of remote sensing and geophysical instrumentation in spacecraft and aircraft to survey and inventory natural resources and urban areas. Subject matter is grouped according to agriculture and forestry, environmental changes and cultural resources, geodesy and cartography, geology and mineral resources, hydrology and water management, data processing and distribution systems, instrumentation and sensors, and economic analysis.

Author

N87-28162*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

EFFECTS OF AEROSOLS AND SURFACE SHADOWING ON BIDIRECTIONAL REFLECTANCE MEASUREMENTS OF DESERTS

DAVID E. BOWKER and RICHARD E. DAVIS Sep. 1987 26 p
(NASA-TP-2756; L-16327; NAS 1.60:2756) Avail: NTIS HC A03/MF A01 CSCL 04A

AEROSOLS, BIDIRECTIONAL REFLECTANCE, DESERTS, DUST, REMOTE SENSING, SHADOWS, SURFACE PROPERTIES

N87-28955*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

ATLAS OF ABSORPTION LINES FROM 0 TO 17900 CM (SUP)-1

J. H. PARK, L. S. ROTHMAN, C. P. RINSLAND, H. M. PICKETT, D. J. RICHARDSON, and J. S. NAMKUNG (ST Systems Corp., Hampton, Va.) Sep. 1987 197 p
(NASA-RP-1188; L-16330; NAS 1.61:1188) Avail: NTIS HC A09/MF A02 CSCL 04A

Plots of logarithm (base 10) of absorption line strength versus wavenumber from 0 to 17900/cm(sup)-1 are shown for the 28 atmospheric gases (H₂O, CO₂, O₃, N₂O, CO, CH₄, O₂, NO, SO₂, NO₂, NH₃, HNO₃, OH, HF, HCl, HBr, HI, ClO, OCS, H₂CO, HOCl, N₂, HCN, CH₃Cl, H₂O₂, C₂H₂, C₂H₆, PH₃), which appear in the 1986 Air Force Geophysics Laboratory high-resolution transmission molecular absorption data base (HITRAN) compilation, and for O(P-3), O-18 isotopic ozone, and HO₂ from the 1984 JPL compilation in the 0- to 200/cm(sup)-1 region, and infrared solar CO lines at 4500 K. Also shown are plots of logarithm (base 10) of approximate infrared absorption cross sections of 11 heavy molecules versus wavenumber. The cross-section data cover 700 to 1800/cm(sup)-1 and are included as a separate data file in the 1986 HITRAN database.

Author

N88-20714*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

THE 1987 AIRBORNE ANTARCTIC OZONE EXPERIMENT: THE NIMBUS-7 TOMS DATA ATLAS

ARLIN J. KRUEGER, PHILIP E. ARDANUY, FRANK S. SECHRIST, LANNING M. PENN, DAVID E. LARKO, SCOTT D. DOIRON, and REGINALD N. GALIMORE (Science Applications Research, Lanham, Md.) Mar. 1988 246 p
(NASA-RP-1201; REPT-88B0107; NAS 1.61:1201) Avail: NTIS HC A11/MF A02 CSCL 04B

Total ozone data taken by the Nimbus-7 Total Ozone Mapping Spectrometer (TOMS) played a central role in the successful outcome of the 1987 Airborne Antarctic Ozone Experiment. The near-real-time TOMS total ozone observations were supplied within hours of real time to the operations center in Punta Arenas, Chile, over a telecommunications network designed specifically for this

purpose. The TOMS data preparation and method of transfer over the telecommunications links are reviewed. This atlas includes a complete set of the near-real-time TOMS orbital overpass data over regions around the Palmer Peninsula of Antarctica for the period of August 8 through September 29, 1987. Also provided are daily polar orthographic projections of TOMS total ozone measurements over the Southern Hemisphere from August through November 1987. In addition, a chronology of the salient points of the experiment, along with some latitudinal cross sections and time series at locations of interest of the TOMS total ozone observations are presented. The TOMS total ozone measurements are evaluated along the flight tracks of each of the ER-2 and DC-8 missions during the experiment. The ozone hole is shown here to develop in a monotonic progression throughout late August and September. The minimum total ozone amount was found on 5 October, when its all-time lowest value of 109 DU is recorded. The hole remains well defined, but fills gradually from mid-October through mid-November. The hole's dissolution is observed here to begin in mid-November, when it elongates and begins to rotate. By the end of November, the south pole is no longer located within the ozone hole.

Author

N88-23314* National Aeronautics and Space Administration, Washington, DC.

EARTH RESOURCES: A CONTINUING BIBLIOGRAPHY WITH INDEXES (ISSUE 57)

May 1988 129 p
(NASA-SP-7041(57); NAS 1.21:7041(57)) Avail: NTIS HC A07 CSCL 08B

This bibliography lists 451 reports, articles and other documents introduced into the NASA scientific and technical information system between January 1 and March 31, 1988. Emphasis is placed on the use of remote sensing and geophysical instrumentation in spacecraft and aircraft to survey and inventory natural resources and urban areas. Subject matter is grouped according to agriculture and forestry, environmental changes and cultural resources, geodesy and cartography, geology and mineral resources, hydrology and water management, data processing and distribution systems, instrumentation and sensors, and economic analysis.

Author

N89-10401*# National Aeronautics and Space Administration, Washington, DC.

SAPPING FEATURES OF THE COLORADO PLATEAU: A COMPARATIVE PLANETARY GEOLOGY FIELD GUIDE

ALAN D. HOWARD, ed., R. CRAIG KOCHER, ed., and HENRY E. HOLT, ed. (Geological Survey, Flagstaff, Ariz.) 1987 115 p
Original contains color illustrations
(NSG-7572)

(NASA-SP-491; NAS 1.21:491; LC-87-15305) Avail: NTIS HC A06/MF A01; also available SOD HC \$6.00 as 003-000-01027-3 CSCL 08H

This book is an attempt to determine geomorphic criteria to be used to distinguish between channels formed predominantly by sapping and seepage erosion and those formed principally by surface runoff processes. The geologic nature of the Colorado Plateau has resulted in geomorphic features that show similarities to some areas on Mars, especially certain valley networks within thick sandstone formations. Where spring sapping is an effective process, the valleys that develop are unique in terms of their morphology and network pattern.

Author

N89-12114*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

LANDSAT-4 AND LANDSAT-5 MULTISPECTRAL SCANNER COHERENT NOISE CHARACTERIZATION AND REMOVAL

JAMES C. TILTON and WILLIAM L. ALFORD (Defense Mapping Agency, Washington, D.C.) Feb. 1988 46 p
(NASA-TP-2595-REV; NAS 1.60:2595-REV; REPT-86B0040) Avail: NTIS HC A03/MF A01 CSCL 08B

COHERENT ELECTROMAGNETIC RADIATION, ELECTROMAGNETIC NOISE, LANDSAT 4, LANDSAT 5, MULTISPECTRAL BAND SCANNERS, NOISE REDUCTION

43 EARTH RESOURCES AND REMOTE SENSING

N89-29825* National Aeronautics and Space Administration, Washington, DC.

EARTH RESOURCES: A CONTINUING BIBLIOGRAPHY WITH INDEXES (ISSUE 62)

Nov. 1988 146 p
(NASA-SP-7041(62); NAS 1.21:7041(62)) Avail: NTIS HC A07; NTIS standing order as PB89-903800, \$15.50 domestic, \$31.00 foreign CSCL 08B

This bibliography lists 544 reports, articles, and other documents introduced into the NASA scientific and technical information system between April 1 and June 30, 1989. Emphasis is placed on the use of remote sensing and geophysical instrumentation in spacecraft and aircraft to survey and inventory natural resources and urban areas. Subject matter is grouped according to agriculture and forestry, environmental changes and cultural resources, geodesy and cartography, geology and mineral resources, hydrology and water management, data processing and distribution systems, instrumentation and sensors, and economic analysis.

Author

N90-12091* National Aeronautics and Space Administration, Washington, DC.

EARTH RESOURCES: A CONTINUING BIBLIOGRAPHY WITH INDEXES (ISSUE 63)

Oct. 1989 128 p
(NASA-SP-7041(63); NAS 1.21:7041(63)) Avail: NTIS HC A07; NTIS standing order as PB89-903800, \$15.50 domestic, \$31.00 foreign CSCL 08B

This bibliography lists 449 reports, articles, and other documents introduced into the NASA scientific and technical information system between July 1 and September 31, 1989. Emphasis is placed on the use of remote sensing and geophysical instrumentation in spacecraft and aircraft to survey and inventory natural resources and urban areas. Subject matter is grouped according to agriculture and forestry, environmental changes and cultural resources, geodesy and cartography, geology and mineral resources, oceanography and marine resources, hydrology and water management, data processing and distribution systems, and instrumentation and sensors.

Author

N90-23780*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

SENSOR PERFORMANCE ANALYSIS

H. E. MONTGOMERY, H. OSTROW, and G. M. RESSLER (Ressler Associates, Inc., Laurel, MD.) Washington Jul. 1990 90 p
(NASA-RP-1241; REPT-89B00057; NAS 1.61:1241) Avail: NTIS HC A05/MF A01 CSCL 14B

The theory is described and the equations required to design are developed and the performance of electro-optical sensor systems that operate from the visible through the thermal infrared spectral regions are analyzed. Methods to compute essential optical and detector parameters, signal-to-noise ratio, MTF, and figures of merit such as NE delta rho and NE delta T are developed. A set of atmospheric tables are provided to determine scene radiance in the visible spectral region. The Planck function is used to determine radiance in the infrared. The equations developed were incorporated in a spreadsheet so that a wide variety of sensor studies can be rapidly and efficiently conducted.

Author

N90-27140*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

EARTH SCIENCES REQUIREMENTS FOR THE INFORMATION SCIENCES EXPERIMENT SYSTEM

DAVID E. BOWKER, ed., STEVE J. KATZBERG, ed., and R. GALE WILSON, ed. Washington Jul. 1990 220 p Workshop held in Williamsburg, VA, 1-4 May 1989
(NASA-CP-3072; L-16773; NAS 1.55:3072) Avail: NTIS HC A10/MF A02 CSCL 05B

CONFERENCES, DATA PROCESSING EQUIPMENT, EARTH OBSERVING SYSTEM (EOS), EQUIPMENT SPECIFICATIONS, REAL TIME OPERATION, SUPPORT SYSTEMS

44

ENERGY PRODUCTION AND CONVERSION

Includes specific energy conversion systems, e.g., fuel cells; global sources of energy; geophysical conversion; and windpower.

N87-26413*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

SPACE PHOTOVOLTAIC RESEARCH AND TECHNOLOGY 1986. HIGH EFFICIENCY, SPACE ENVIRONMENT, AND ARRAY TECHNOLOGY

Jun. 1987 375 p Conference held in Cleveland, Ohio, 7-9 Oct. 1986

(NASA-CP-2475; E-3450; NAS 1.55:2475) Avail: NTIS HC A16/MF A03 CSCL 10B

CONFERENCES, ENERGY CONVERSION EFFICIENCY, PHOTOVOLTAIC CONVERSION, SOLAR CELLS, SPACECRAFT POWER SUPPLIES

N87-29914*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

SPACE ELECTROCHEMICAL RESEARCH AND TECHNOLOGY (SERT)

Sep. 1987 364 p Conference held in Cleveland, Ohio, 14-16 Apr. 1987

(NASA-CP-2484; E-3506; NAS 1.55:2484) Avail: NTIS HC A16/MF A03 CSCL 10C

ELECTRIC BATTERIES, ELECTROCATALYSTS, ELECTRO-CHEMISTRY, MATHEMATICAL MODELS, REGENERATIVE FUEL CELLS

N89-22982*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

SPACE ELECTROCHEMICAL RESEARCH AND TECHNOLOGY CONFERENCE: ABSTRACTS Abstracts Only

Washington 1989 49 p Conference held in Cleveland, OH, 11-13 Apr. 1989

(NASA-CP-10029; E-4708; NAS 1.55:10029) Avail: NTIS HC A03/MF A01 CSCL 10A

AEROSPACE SYSTEMS, CONFERENCES, ELECTRO-CATALYSTS, ELECTROCHEMISTRY, ELECTRODES, ENERGY STORAGE, HYDROGEN OXYGEN FUEL CELLS, STORAGE BATTERIES

N89-24704*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

SPACE PHOTOVOLTAIC RESEARCH AND TECHNOLOGY, 1988. HIGH EFFICIENCY, SPACE ENVIRONMENT, AND ARRAY TECHNOLOGY

Washington Apr. 1989 362 p Conference held in Cleveland, OH, 19-21 Apr. 1988

(NASA-CP-3030; E-4587; NAS 1.55:3030) Avail: NTIS HC A16/MF A03 CSCL 10A

CONFERENCES, PHOTOVOLTAIC EFFECT, SOLAR ARRAYS, SOLAR CELLS, SPACECRAFT POWER SUPPLIES

N90-20454*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.

SPACE ELECTROCHEMICAL RESEARCH AND TECHNOLOGY (SERT), 1989

RICHARD S. BALDWIN, ed. Washington Dec. 1989 351 p Conference held in Cleveland, OH, 11-13 Apr. 1989

(NASA-CP-3056; E-4708; NAS 1.55:3056) Avail: NTIS HC A16/MF A02 CSCL 10A

CONFERENCES, ELECTRIC BATTERIES, ELECTRIC ENERGY STORAGE, ELECTROCATALYSTS, ELECTROCHEMISTRY, ELECTRODE MATERIALS, HYDROGEN OXYGEN FUEL CELLS, NICKEL HYDROGEN BATTERIES, SPACECRAFT POWER SUPPLIES

45

ENVIRONMENT POLLUTION

Includes atmospheric, noise, thermal, and water pollution.

N89-14503*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

POLAR OZONE WORKSHOP. ABSTRACTS

ARTHUR C. AIKIN May 1988 306 p Workshop held in Snowmass, CO, 9-13 May 1988; sponsored by NASA, NOAA, NSF, Chemical Mfgs. Association, WMO, and the United Nations Environment Program Sponsored by NASA, Washington, DC (NASA-CP-10014; REPT-88B0234; NAS 1.55:10014) Avail: NTIS HC A14/MF A03 CSCL 13B

ANTARCTIC REGIONS, ATMOSPHERIC CHEMISTRY, ATMOSPHERIC COMPOSITION, CONFERENCES, EARTH OBSERVATIONS (FROM SPACE), OZONE, OZONE DEPLETION, OZONOMETRY, POLAR METEOROLOGY, STRATOSPHERE

46

GEOPHYSICS

Includes aeronomy; upper and lower atmosphere studies; ionospheric and magnetospheric physics; and geomagnetism.

N87-11358*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AIRBORNE LIDAR MEASUREMENTS OF EL CHICHON STRATOSPHERIC AEROSOLS, MAY 1983

M. P. MCCORMICK and M. T. OSBORN (SASC Technologies, Inc., Hampton, Va.) Oct. 1986 91 p (NASA-RP-1172; L-16176; NAS 1.61:1172) Avail: NTIS HC A05/MF A01

An experimental survey flight to determine the spatial distribution and aerosol characteristics of the El Chichon-produced stratospheric aerosol was conducted in May 1983. The mission included several different sensors flown aboard the NASA Convair 990 at latitudes between 72 deg. and 56 deg. S. This report presents the lidar data from that flight mission. Representative profiles of lidar backscatter ratio, plots of integrated backscattering function versus latitude, and contours of backscatter mixing ratio versus altitude and latitude are given. In addition, tables containing numerical values of the backscatter ratio and backscattering function versus altitude are supplied for each profile. By May 1983, material produced by the El Chichon eruptions of late March-early April 1982 had spread throughout the latitudes covered by this mission. However, the most massive portion of the material resided north of 33 deg. N and was concentrated below 21 km. In this latitude region (33 deg. N to 72 deg. N), peak backscatter ratios at a wavelength of 0.6943 microns varied between 3.5 and 4.5, and the peak integrated backscattering function was about 18 X 10 to the -4 power/sr, corresponding to a peak optical depth calculated to be approximately 0.08. This report presents the results of this mission in a ready-to-use format for atmospheric and climatic studies. Author

N87-13022*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DESCRIPTION OF DATA ON THE NIMBUS 7 LIMS MAP ARCHIVE TAPE: OZONE AND NITRIC ACID

E. E. REMSBERG, R. J. KURZEJA, K. V. HAGGARD, J. M. RUSSELL, III, and L. L. GORDLEY Dec. 1986 73 p (NASA-TP-2625; L-16136; NAS 1.60:2625) Avail: NTIS HC A04/MF A01 CSCL 04A

INFRARED DETECTORS, KALMAN FILTERS, NIMBUS 7 SATELLITE, NITRIC ACID, OZONE, STRATOSPHERE

N87-15528*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

FUTURE DIRECTIONS FOR H SUB X O SUB Y DETECTION

DAVID R. CROSLLEY, ed. (SRI International Corp., Menlo Park, Calif.) and JAMES M. HOELL, ed. Dec. 1986 67 p Workshop held in Menlo Park, Calif., 12-15 Aug. 1985 (NASA-CP-2448; L-16216; NAS 1.55:2448) Avail: NTIS HC A04/MF A01 CSCL 04A

ATMOSPHERIC COMPOSITION, HYDROGEN PEROXIDE, HYDROXYL RADICALS, TROPOSPHERE, WATER

N87-17417*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SAGE AEROSOL MEASUREMENTS. VOLUME 3: JANUARY 1, 1981 TO NOVEMBER 18, 1981

M. PATRICK MCCORMICK Feb. 1987 274 p (NASA-RP-1173; L-16177; NAS 1.61:1173) Avail: NTIS HC A12/MF A02 CSCL 04A

The Stratospheric Aerosol and Gas Experiment (SAGE) satellite system, launched February 18, 1979, obtained profiles of aerosol extinction at 1.00 micron and 0.45 micron ozone concentration, and nitrogen dioxide concentration. Data taken during sunset events are presented in the form of zonal and seasonal averages of aerosol extinction of 1.00 micron and 0.45 micron, ratios of aerosol extinction to molecular extinction at 1.00 micron and ratios of aerosol extinction at 0.45 micron to aerosol extinction at 1.00 micron. Averages for 1981 are shown in tables, and in profile and contour plots (as a function of altitude and latitude). In addition, temperature data provided by NOAA for the time and location of each SAGE measurement are averaged and shown in a similar format. The stratospheric aerosol distribution for 1981 shows effects of volcanically injected material from eruptions of Ulawun, Alaid, and Pagan. Peak values of aerosol extinction at 0.45 micron and 1.00 micron were 2 to 4 times higher than typical peak values observed during near background conditions. Stratospheric aerosol optical depth values at 1.00 microns increased by a factor of about 2 from near background levels in regions of volcanic activity. During the year, these values ranged from between 0.001 and 0.006. The largest were near the location of a recent eruption. The distribution of the ratio of aerosol to molecular extinction at 1.00 microns also showed that maximum values are found in the vicinity of an eruption. These maximums varied in altitude, but remained below a height of about 25 km. No attempt has been made to give detailed explanations or interpretations of these data. The intent is to provide, in a ready-to-use visual format, representative zonal and seasonal averages of aerosol extinction data for the third calendar year of the SAGE data set to facilitate atmospheric and climatic studies. Author

N87-18248*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SPACE OPPORTUNITIES FOR TROPOSPHERIC CHEMISTRY RESEARCH

JOEL S. LEVINE, ed. Feb. 1987 92 p Workshop held in New York, N.Y., 9-13 Sep. 1985 (NASA-CP-2450; L-16250; NAS 1.55:2450) Avail: NTIS HC A05/MF A01 CSCL 04A

AEROSOLS, AIR POLLUTION, ATMOSPHERIC CHEMISTRY, ATMOSPHERIC COMPOSITION, CONFERENCES, GASES, REMOTE SENSING, TROPOSPHERE

N87-20663*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AIRBORNE LIDAR MEASUREMENTS OF EL CHICHON STRATOSPHERIC AEROSOLS, JANUARY 1984

M. PATRICK MCCORMICK and M. T. OSBORN (ST Systems Corp., Hampton, Va.) Apr. 1987 49 p (NASA-RP-1175; L-16234; NAS 1.61:1175) Avail: NTIS HC A03/MF A01 CSCL 04A

A lidar-equipped NASA Electra aircraft was flown in January 1984 between the latitude of 38 and 90 deg N. One of the primary purposes of this mission was to determine the spatial distribution and aerosol characteristics of El Chichon produced stratospheric

material. Lidar data from that portion of the flight mission between 38 deg N and 77 deg N is presented. Representative profiles of lidar backscatter ratio, a plot of the integral backscattering function versus latitude, and contours of backscatter mixing ratio versus altitude and latitude are given. In addition, tables containing numerical values of the backscatter ratio and backscattering function versus altitude are applied for each profile. These data clearly show that material produced by the El Chichon eruptions of late March-early April 1982 had spread throughout the latitudes covered by this mission, and that the most massive portion of the material resided north of 55 deg N and was concentrated below 17 km in a layer that peaked at 13 to 15 km. In this latitude region, peak backscatter ratios at a wavelength of 0.6943 microns were approximately 3 and the peak integrated backscattering function was about 15×10^{-4} to the $-4/\text{sr}$ corresponding to a peak optical depth of approximately 0.07. This report presents the results of this mission in a ready-to-use format for atmospheric and climatic studies. Author

N87-20665*# National Aeronautics and Space Administration, Marshall Space Flight Center, Huntsville, AL.

UPPER AND MIDDLE ATMOSPHERIC DENSITY MODELING REQUIREMENTS FOR SPACECRAFT DESIGN AND OPERATIONS

M. H. DAVIS, ed. (Universities Space Research Association, Boulder, Colo.), R. E. SMITH, ed., and D. L. JOHNSON, ed. Feb. 1987 290 p Workshop held in Huntsville, Ala., 19-21 1985 (NAS8-36400) (NASA-CP-2460; M-548; NAS 1.55:2460) Avail: NTIS HC A13/MF A02 CSCL 04A

AEROSPACE ENVIRONMENTS, ATMOSPHERIC DENSITY, ATMOSPHERIC MODELS, SPACECRAFT DESIGN, THERMOSPHERE

N88-18084*# National Aeronautics and Space Administration, Washington, DC.

INTO THE THERMOSPHERE: THE ATMOSPHERE EXPLORERS ERIC BURGESS and DOUGLASS TORR 1987 172 p Original document contains color illustrations

(NASA-SP-490; NAS 1.21:490; LC-87-14156) Avail: SOD HC \$14.00 as 033-000-01013-3; NTIS MF A01 CSCL 04A

The need to study the lower thermosphere with the new instrument, data handling, and spacecraft technology available in the 1960s led to the formulation and establishment of the Atmospheric Explorer program. This book provides an overview of this program with particular emphasis on the AE3, AE4, and AE5 satellites, which represent early examples of problem-dedicated missions. Both the satellites and their instrumentation on the one hand and the experimental and scientific considerations in studying the thermosphere on the other are discussed. J.P.B.

N88-19037*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

CRUSTAL DYNAMICS PROJECT: CATALOGUE OF SITE INFORMATION

CAREY E. NOLL, ed. Mar. 1988 539 p (NASA-RP-1198; REPT-88B9999; NAS 1.61:1198) Avail: NTIS HC A23/MF A03 CSCL 08G

This document represents a catalog of site information for the Crustal Dynamics Project. It contains information on and descriptions of those sites used by the Project as observing stations for making the precise geodetic measurements necessary for studies of the Earth's crustal movements and deformation. Author

N88-25094*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

SAM 2 DATA USER'S GUIDE

W. P. CHU, M. T. OSBORN (ST Systems Corp., Hampton, Va.), and L. R. MCMMASTER Jul. 1988 29 p (NASA-RP-1200; L-16377; NAS 1.61:1200) Avail: NTIS HC A03/MF A01 CSCL 04A

This document is intended to serve as a guide to the use of

the data products from the Stratospheric Aerosol Measurement (SAM) 2 experiment for scientific investigations of polar stratospheric aerosols. Included is a detailed description of the Beta and Aerosol Number Density Archive Tape (BANAT), which is the SAM 2 data product containing the aerosol extinction data available for these investigations. Also included are brief descriptions of the instrument operation, data collection, processing and validation, and some of the scientific analyses conducted to date. Author

N88-29233*# National Aeronautics and Space Administration, Washington, DC.

PRESENT STATE OF KNOWLEDGE OF THE UPPER ATMOSPHERE 1988: AN ASSESSMENT REPORT

R. T. WATSON, M. J. PRATHER, and M. J. KURYLO Jun. 1988 203 p (NASA-RP-1208; NAS 1.61:1208) Avail: NTIS HC A10/MF A02 CSCL 04A

This document was issued in response to the Clean Air Act Amendments of 1977, Public Law 95-95, mandating that NASA and other key agencies submit biennial reports to Congress and EPA. NASA is to report on the state of our knowledge of the upper atmosphere, particularly the stratosphere. This is the sixth ozone assessment report submitted to Congress and the concerned regulatory agencies. Part 1 contains an outline of the NASA Upper Atmosphere Research Program and summaries of the research efforts supported during the last two years. An assessment is presented of the state of knowledge as of March 15, 1988 when the Ozone Trends Panel, organized by NASA and co-sponsored by the World Meteorological Organization, NOAA, FAA and the United Nations Environment Program released an executive summary of its findings from a critical in-depth study involving over 100 scientists from 12 countries. Chapter summaries of the International Ozone Trends Panel Report form the major part of this report. Two other sections are Model Predictions of Future Ozone Change and Chemical Kinetics and Photochemical Data for Use in Stratospheric Modeling. Each of these sections and the report in its entirety were peer reviewed. Author

N88-29234*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

FORTY-EIGHT-INCH LIDAR AEROSOL MEASUREMENTS TAKEN AT THE LANGLEY RESEARCH CENTER, MAY 1974 TO DECEMBER 1987

W. H. FULLER, JR., M. T. OSBORN, and W. H. HUNT (Wyle Labs., Inc., Hampton, Va.) Oct. 1988 102 p (NASA-RP-1209; L-16473; NAS 1.61:1209) Avail: NTIS HC A06/MF A01 CSCL 04A

A ground based lidar system located at NASA Langley Research Center in Hampton, Va., was used to obtain high resolution vertical profiles of the stratospheric and upper tropospheric aerosol since 1974. More than 200 measurements obtained at a wavelength of 0.6943 microns during 1974 to 1987 are summarized. Plots of peak backscatter mixing ratio and integrated backscatter vs time are presented for the entire measurement sequence. The plots highlight the influence of several major volcanic eruptions on the long term stratospheric aerosol layer. In particular, the eruptions of El Chichon in late Mar. to early Apr. 1982, produced a massive aerosol layer. Aerosol enhancement from El Chichon reached Hampton, Va. by May 1982, with a scattering ratio of approx. 50 detected on Jul. 1, 1982. In addition, scattering ratio profiles for June 1982 to December 1987, along with tables containing numerical values of the backscatter ratio and backscattering function versus altitude, are included to further describe the upper tropospheric and stratospheric aerosol layer. A 14 year summary is presented, in a ready to use format, of lidar observations at a fixed midlatitude location to be used for further study. Author

N89-10420*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

COMPILATION OF METHODS IN ORBITAL MECHANICS AND SOLAR GEOMETRY

JAMES J. BUGLIA Washington Oct. 1988 81 p
(NASA-RP-1204; L-16451; NAS 1.61:1204) Avail: NTIS HC
A05/MF A01 CSCL 04A

This paper contains a collection of computational algorithms for determining geocentric ephemerides of Earth satellites, useful for both mission planning and data reduction applications. Special emphasis is placed on the computation of sidereal time, and on the determination of the geocentric coordinate of the center of the Sun, all to the accuracy found in the Astronomical Almanac. The report is completely self-contained in that no requirement is placed on any external source of information, and hence, these methods are ideal for computer application. Author

N89-25540*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

COMPARISON OF SATELLITE-DERIVED DYNAMICAL QUANTITIES FOR THE STRATOSPHERE OF THE SOUTHERN HEMISPHERE

THOMAS MILES, ed. and ALAN ONEILL, ed. Washington Jul. 1989 39 p Presented at the Workshop on the Middle Atmosphere in the Southern Hemisphere, Williamsburg, VA, 14-17 Apr. 1986; sponsored by NASA, Washington, DC
(NASA-CP-3044; L-16593; NAS 1.55:3044) Avail: NTIS HC
A03/MF A01 CSCL 04A

ATMOSPHERIC CIRCULATION, GEOPOTENTIAL HEIGHT, SATELLITE OBSERVATION, STRATOSPHERE, ZONAL FLOW (METEOROLOGY)

N89-26304*# Oxford Univ. (England). Dept. of Atmospheric Physics.

NIMBUS-7 STRATOSPHERIC AND MESOSPHERIC SOUNDER (SAMS) EXPERIMENT DATA USER'S GUIDE

F. W. TAYLOR, C. D. RODGERS, S. T. NUTTER, and N. OSLIK (ST Systems Corp., Lanham, MD.) Washington May 1989 149 p
(NAS5-28063)
(NASA-RP-1221; NAS 1.61:1221; REPT-89B00074) Avail: NTIS
HC A07/MF A01 CSCL 08G

The Stratospheric and Mesospheric Sounder (SAMS) aboard Nimbus-7 observes infrared radiation from the atmospheric limb. Global upper atmosphere temperature profiles and vertical concentrations of H₂O, NO, N₂O, CH₄ and CO₂ are derived from these measurements. The status of all channels was carefully monitored. Temperature and composition were retrieved from the measurements by linearizing the direct equation about an a priori profile and using an optimum statistical estimator to find the most likely solution. The derived temperature and composition profiles are archived on two tape products whose file structure and record formats are described in detail. The gridded retrieved temperature tape (GRID-T) contains daily day and night average temperatures at 62 pressure levels in a 2.5 degree latitude by 10 degree longitude grid extending from 67.5 degrees N to 50 degrees S. The zonal mean methane and nitrous oxide composition tape (ZMT-G) contains zonal mean day and night average CH₄ and N₂O mixing ratios at 31 pressure levels for 2.5 degrees latitude zones extending from 67.5 degrees N to 50 degrees S. Author

N89-28969*# Jet Propulsion Lab., California Inst. of Tech., Pasadena.

A HIGH-RESOLUTION ATLAS OF THE INFRARED SPECTRUM OF THE SUN AND THE EARTH ATMOSPHERE FROM SPACE. A COMPILATION OF ATMOS SPECTRA OF THE REGION FROM 650 TO 4800 CM-1 (2.3 TO 16 MICRONS). VOLUME 2: STRATOSPHERE AND MESOSPHERE, 650 TO 3350 CM-1

CROFTON B. FARMER and ROBERT H. NORTON Washington 1989 688 p
(NAS7-918)

(NASA-RP-1224-VOL-2; JPL-400-370-VOL-2; NAS 1.61:1224-VOL-2; LC-89-600203) Avail: NTIS HC A99/MF A04
CSCL 04A

During the period April 29 to May 2, 1985, the Atmospheric Trace Molecule Spectroscopy (ATMOS) experiment was operated for the first time, as part of the Spacelab-3 payload of the shuttle

Challenger. The principal purpose of this experiment was to study the distributions of the atmosphere's minor and trace molecular constituents. The instrument, a modified Michelson interferometer covering the frequency range from 600 to 5000/cm-1 at a spectral resolution of 0.01/cm-1, recorded infrared absorption spectra of the sun and of the earth's atmosphere at times close to entry into and exit from occultation by the earth's limb. Spectra were obtained that are free from absorptions due to constituents of the atmosphere (i.e., they are pure solar spectra), as well as spectra of the atmosphere itself, covering line-of-sight tangent altitudes that span the range from the lower thermosphere to the bottom of the troposphere. This atlas presents a compilation of these spectra arranged in a hardcopy format suitable for quick-look reference purposes. Volume 2 covers the stratosphere and mesosphere (i.e., tangent altitudes from 20 to 80 km) for frequencies from 650 to 3350/cm-1. Author

N90-11405*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

TWO-DIMENSIONAL INTERCOMPARISON OF STRATOSPHERIC MODELS

CHARLES H. JACKMAN, ed., ROBERT K. SEALS, JR., ed., and MICHAEL J. PRATHER, ed. (National Aeronautics and Space Administration. Goddard Inst. for Space Studies, New York, NY.) Aug. 1989 606 p Workshop held in Virginia Beach, VA, 11-16 Sep. 1988; sponsored by NASA, Washington
(NASA-CP-3042; REPT-89B00192; NAS 1.55:3042) Avail: NTIS
HC A99/MF A04 CSCL 04A

ATMOSPHERIC MODELS, CONFERENCES, DATA BASES, PHOTOCHEMICAL REACTIONS, RADIATIVE TRANSFER, STRATOSPHERE, TWO DIMENSIONAL MODELS

N90-13893*# Jet Propulsion Lab., California Inst. of Tech., Pasadena.

A HIGH-RESOLUTION ATLAS OF THE INFRARED SPECTRUM OF THE SUN AND THE EARTH ATMOSPHERE FROM SPACE: A COMPILATION OF ATMOS SPECTRA OF THE REGION FROM 650 TO 4800 CM (2.3 TO 16 MICRON). VOLUME 1: THE SUN

CROFTON B. FARMER and ROBERT H. NORTON 1989 535 p
(NAS7-918)

(NASA-RP-1224-VOL-1; NAS 1.61:1224-VOL-1; JPL-400-370-VOL-1) Avail: NTIS HC A23/MF A03 CSCL 04A

During the period April 29 through May 2, 1985, the Atmospheric Trace Molecule Spectroscopy experiment was operated as part of the Spacelab-3 payload of the shuttle Challenger. The instrument, a modified Michelson Interferometer covering the frequency range from 600 to 5000/cm, at a spectral resolution of 0.01/cm, recorded infrared spectra of the Sun and of the Earth's atmosphere at times close to entry into and exit from occultation by the Earth's limb as seen from the shuttle orbit of 360 km. Spectra were obtained that are free from absorptions due to constituents of the atmosphere (i.e., solar pure spectra), as well as spectra of the atmosphere itself, covering line-of-sight tangent altitudes that span the range from the lower thermosphere to the bottom of the troposphere. This atlas, believed to be the first record of observations of the continuous high resolution infrared spectrum of the Sun and the Earth's atmosphere from space, provides a compilation of these spectra arranged in a hardcopy format suitable for quick-look reference purposes; the data are also available in digital form. Author

N90-17227*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

NIMBUS 7 SOLAR BACKSCATTER ULTRAVIOLET (SBUV) OZONE PRODUCTS USER'S GUIDE

ALBERT J. FLEIG, R. D. MCPETERS, P. K. BHARTIA, BARRY M. SCHLESINGER, RICHARD P. CEBULA, K. F. KLENK, STEVEN L. TAYLOR (ST Systems Corp., Lanham, MD.), and DONALD J. HEATH Jan. 1990 117 p
(NAS5-29386)

46 GEOPHYSICS

(NASA-RP-1234; REPT-636; NAS 1.61:1234) Avail: NTIS HC A06/MF A01 CSCL 04A

Three ozone tape products from the Solar Backscatter Ultraviolet (SBUV) experiment aboard Nimbus 7 were archived at the National Space Science Data Center. The experiment measures the fraction of incoming radiation backscattered by the Earth's atmosphere at 12 wavelengths. In-flight measurements were used to monitor changes in the instrument sensitivity. Total column ozone is derived by comparing the measurements with calculations of what would be measured for different total ozone amounts. The altitude distribution is retrieved using an optimum statistical technique for the inversion. The estimated initial error in the absolute scale for total ozone is 2 percent, with a 3 percent drift over 8 years. The profile error depends on latitude and height, smallest at 3 to 10 mbar; the drift increases with increasing altitude. Three tape products are described. The High Density SBUV (HDSBUV) tape contains the final derived products - the total ozone and the vertical ozone profile - as well as much detailed diagnostic information generated during the retrieval process. The Compressed Ozone (CPOZ) tape contains only that subset of HDSBUV information, including total ozone and ozone profiles, considered most useful for scientific studies. The Zonal Means Tape (ZMT) contains daily, weekly, monthly and quarterly averages of the derived quantities over 10 deg latitude zones. Author

N90-20562*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

SATELLITE RADAR ALTIMETRY OVER ICE. VOLUME 1: PROCESSING AND CORRECTIONS OF SEASAT DATA OVER GREENLAND

H. JAY ZWALLY, ANITA C. BRENNER, JUDITH A. MAJOR, THOMAS V. MARTIN (Van Martin Consulting, Inc., Rockville, MD.), and ROBERT A. BINDSCHADLER Jan. 1990 147 p (NASA-RP-1233-VOL-1; REPT-89B00239; NAS 1.61:1233-VOL-1) Avail: NTIS HC A07/MF A01 CSCL 08C

The data-processing methods and ice data products derived from Seasat radar altimeter measurements over the Greenland ice sheet and surrounding sea ice are documented. The corrections derived and applied to the Seasat radar altimeter data over ice are described in detail, including the editing and retracking algorithm to correct for height errors caused by lags in the automatic range tracking circuit. The methods for radial adjustment of the orbits and estimation of the slope-induced errors are given. Author

N90-20563*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

SATELLITE RADAR ALTIMETRY OVER ICE. VOLUME 2: USERS' GUIDE FOR GREENLAND ELEVATION DATA FROM SEASAT

H. JAY ZWALLY, JUDITH A. MAJOR, ANITA C. BRENNER, ROBERT A. BINDSCHADLER, and THOMAS V. MARTIN (Van Martin Consulting, Inc., Rockville, MD.) Jan. 1990 84 p (NASA-RP-1233-VOL-2; REPT-89B00240; NAS 1.61:1233-VOL-2) Avail: NTIS HC A05/MF A01 CSCL 08C

A gridded surface-elevation data set and a geo-referenced data base for the Seasat radar altimeter data over Antarctica are described. It is intended to be a user's guide to accompany the data provided to data centers and other users. The grid points are on a polar stereographic projection with a nominal spacing of 20 km. The gridded elevations are derived from the elevation data in the geo-referenced data base by a weighted fitting of a surface in the neighborhood of each grid point. The gridded elevations are useful for the creating smaller-scale contour maps, and examining individual elevation measurements in specific geographic areas. Tape formats are described, and a FORTRAN program for reading the data tape is listed and provided on the tape. Author

N90-20564*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

SATELLITE RADAR ALTIMETRY OVER ICE. VOLUME 4: USERS' GUIDE FOR ANTARCTICA ELEVATION DATA FROM SEASAT

H. JAY ZWALLY, JUDITH A. MAJOR, ANITA C. BRENNER, ROBERT A. BINDSCHADLER, and THOMAS V. MARTIN (Van Martin Consulting, Inc., Rockville, MD.) Jan. 1990 57 p (NASA-RP-1233-VOL-4; REPT-89B00241; NAS 1.61:1233-VOL-4) Avail: NTIS HC A04/MF A01 CSCL 08C

A gridded surface-elevation data set and a geo-referenced data base for the Seasat radar altimeter data over Greenland are described. This is a user guide to accompany the data provided to data centers and other users. The grid points are on a polar stereographic projection with a nominal spacing of 20 km. The gridded elevations are derived from the elevation data in the geo-referenced data base by a weighted fitting of a surface in the neighborhood of each grid point. The gridded elevations are useful for the creating of large-scale contour maps, and the geo-referenced data base is useful for regridding, creating smaller-scale contour maps, and examining individual elevation measurements in specific geographic areas. Tape formats are described, and a FORTRAN program for reading the data tape is listed and provided on the tape. Author

N90-22850*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

SURFACE TOPOGRAPHY OF THE GREENLAND ICE SHEET FROM SATELLITE RADAR ALTIMETRY

ROBERT A. BINDSCHADLER, H. JAY ZWALLY, JUDITH A. MAJOR, and ANITA C. BRENNER (ST Systems Corp., Greenbelt, MD.) 1989 127 p Original contains color illustrations (NASA-SP-503; REPT-89B00170; NAS 1.21:503; LC-89-600282) Avail: NTIS HC A16/MF A02; 3 functional color pages CSCL 08E

Surface elevation maps of the southern half of the Greenland subcontinent are produced from radar altimeter data acquired by the Seasat satellite. A summary of the processing procedure and examples of return waveform data are given. The elevation data are used to generate a regular grid which is then computer contoured to provide an elevation contour map. Ancillary maps show the statistical quality of the elevation data and various characteristics of the surface. The elevation map is used to define ice flow directions and delineate the major drainage basins. Regular maps of the Jakobshavns Glacier drainage basin and the ice divide in the vicinity of Crete Station are presented. Altimeter derived elevations are compared with elevations measured both by satellite geocimeters and optical surveying. Author

N90-28929*# National Aeronautics and Space Administration. Washington, DC.

PRESENT STATE OF KNOWLEDGE OF THE UPPER ATMOSPHERE 1990: AN ASSESSMENT REPORT Report to the Congress

R. T. WATSON, M. J. KURYLO, M. J. PRATHER, and F. M. ORMOND Sep. 1990 145 p (NASA-RP-1242; NAS 1.61:1242) Avail: NTIS HC A07/MF A01 CSCL 04A

NASA is charged with the responsibility to report on the state of the knowledge of the Earth's upper atmosphere, particularly the stratosphere. Part 1 of this report, issued earlier this year, summarized the objectives, status, and accomplishments of the research tasks supported under NASA's Upper Atmosphere Research Program during the last two years. New findings since the last report to Congress was issued in 1988 are presented. Several scientific assessments of the current understanding of the chemical composition and physical structure of the stratosphere are included, in particular how the abundance and distribution of ozone is predicted to change in the future. These reviews include: a summary of the most recent international assessment of stratospheric ozone; a study of future chlorine and bromine loading of the atmosphere; a review of the photochemical and chemical kinetics data that are used as input parameters for the atmospheric models; a new assessment of the impact of Space Shuttle launches on the stratosphere; a summary of the environmental issues and needed research to evaluate the impact of the newly re-proposed fleet of stratospheric supersonic civil aircraft; and a list of the

contributors to this report and the science assessments which have formed our present state of knowledge of the upper atmosphere and ozone depletion. Author

47

METEOROLOGY AND CLIMATOLOGY

Includes weather forecasting and modification.

N87-12086*# National Aeronautics and Space Administration. Wallops Flight Center, Wallops Island, VA.

PRELIMINARY ESTIMATES OF RADIOSONDE THERMISTOR ERRORS

F. J. SCHMIDLIN, J. K. LUERS (Dayton Univ., Ohio.), and P. D. HUFFMAN Washington, D.C. Sep. 1986 19 p (NASA-TP-2637; NAS 1.60:2637) Avail: NTIS HC A03/MF A01 CSCL 04B

ERROR ANALYSIS, RADIOSONDES, THERMISTORS

N87-13043*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

NASA/MSFC FY-85 ATMOSPHERIC PROCESSES RESEARCH REVIEW

W. W. VAUGHAN, comp. and F. PORTER, comp. Oct. 1985 143 p Review held in Huntsville, Ala. 7-9 May 1985 and in Columbia, Md., 8-12 Jul. 1985 (NASA-CP-2402; M-503; NAS 1.55:2402) Avail: NTIS HC A07/MF A02 CSCL 04B

ATMOSPHERIC ELECTRICITY, ATMOSPHERIC SOUNDING, DATA PROCESSING, DOPPLER RADAR, GEOPHYSICS, MESOSCALE PHENOMENA, OPTICAL RADAR, SATELLITE IMAGERY, THUNDERSTORMS, WIND (METEOROLOGY)

N87-20701*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

ON REQUIREMENTS FOR A SATELLITE MISSION TO MEASURE TROPICAL RAINFALL

OTTO W. THIELE, ed. Apr. 1987 67 p (NASA-RP-1183; NAS 1.61:1183) Avail: NTIS HC A04/MF A01 CSCL 04B

Tropical rainfall data are crucial in determining the role of tropical latent heating in driving the circulation of the global atmosphere. Also, the data are particularly important for testing the realism of climate models, and their ability to simulate and predict climate accurately on the seasonal time scale. Other scientific issues such as the effects of El Nino on climate could be addressed with a reliable, extended time series of tropical rainfall observations. A passive microwave sensor is planned to provide information on the integrated column precipitation content, its areal distribution, and its intensity. An active microwave sensor (radar) will define the layer depth of the precipitation and provide information about the intensity of rain reaching the surface, the key to determining the latent heat input to the atmosphere. A visible/infrared sensor will provide very high resolution information on cloud coverage, type, and top temperatures and also serve as the link between these data and the long and virtually continuous coverage by the geosynchronous meteorological satellites. The unique combination of sensor wavelengths, coverages, and resolving capabilities together with the low-altitude, non-Sun synchronous orbit provide a sampling capability that should yield monthly precipitation amounts to a reasonable accuracy over a 500- by 500-km grid.

Author

N87-22341*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ATMOSPHERIC TURBULENCE RELATIVE TO AVIATION, MISSILE, AND SPACE PROGRAMS

DENNIS W. CAMP, ed. and WALTER FROST, ed. (FWG Associates, Inc., Tullahoma, Tenn.) Apr. 1987 257 p Workshop

held in Hampton, Va., 2-4 Apr. 1986

(NASA-CP-2468; L-16296; NAS 1.55:2468) Avail: NTIS HC A12/MF A02 CSCL 04B

AIRCRAFT SAFETY, ATMOSPHERIC MODELS, ATMOSPHERIC TURBULENCE, CONFERENCES, MISSILES, SPACE PROGRAMS, WEATHER FORECASTING

N87-26489*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ATLAS OF WIDE-FIELD-OF-VIEW OUTGOING LONGWAVE RADIATION DERIVED FROM NIMBUS 6 EARTH RADIATION BUDGET DATA SET, JULY 1975 TO JUNE 1978

T. DALE BESS and G. LOUIS SMITH Aug. 1987 80 p (NASA-RP-1185; L-16325; NAS 1.61:1185) Avail: NTIS HC A05/MF A01 CSCL 04B

An atlas of monthly mean outgoing longwave radiation global contour maps and associated spherical harmonic coefficients is presented. The atlas contains 36 months of continuous data from July 1975 to June 1978. The data were derived from the first Earth radiation budget experiment, which was flown on the Nimbus-6 Sun-synchronous satellite in 1975. Only the wide-field-of-view longwave measurements are cataloged in this atlas. The contour maps along with the associated sets of spherical harmonic coefficients form a valuable data set for studying different aspects of our changing climate over monthly, annual, and interannual scales in the time domain, and over regional, zonal, and global scales in the spatial domain. Author

N87-26491*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

CALIBRATION OF THE SPIN-SCAN OZONE IMAGER ABOARD THE DYNAMICS EXPLORER 1 SATELLITE

WALTER E. BRESSETTE, GERALD M. KEATING, and DAVID F. YOUNG (ST Systems Corp., Hampton, Va.) Aug. 1987 44 p (NASA-TP-2723; L-16150; NAS 1.60:2723) Avail: NTIS HC A03/MF A01 CSCL 04B

ALGORITHMS, CALIBRATING, DYNAMICS EXPLORER 1 SATELLITE, OZONE, REGRESSION ANALYSIS, ULTRAVIOLET SPECTROMETERS

N87-29996*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

FIVE YEAR GLOBAL DATASET: NMC OPERATIONAL ANALYSES (1978 TO 1982)

DAVID STRAUS and JOSEPH ARDIZZONE Sep. 1987 50 p Prepared in cooperation with Sigma Data Services Corp., Rockville, Md.

(NASA-RP-1194; REPT-87B0273; NAS 1.61:1194) Avail: NTIS HC A03/MF A01 CSCL 04B

This document describes procedures used in assembling a five year dataset (1978 to 1982) using NMC Operational Analysis data. These procedures entailed replacing missing and unacceptable data in order to arrive at a complete dataset that is continuous in time. In addition, a subjective assessment on the integrity of all data (both preliminary and final) is presented. Documentation on tapes comprising the Five Year Global Dataset is also included. Author

N88-10451*# National Aeronautics and Space Administration, Washington, DC.

ATLAS OF WIDE-FIELD-OF-VIEW OUTGOING LONGWAVE RADIATION DERIVED FROM NIMBUS 7 EARTH RADIATION BUDGET DATA SET - NOVEMBER 1978 TO OCTOBER 1985

T. DALE BESS and G. LOUIS SMITH Aug. 1987 176 p (NASA-RP-1186; L-16326; NAS 1.61:1186) Avail: NTIS HC A09/MF A01 CSCL 04B

An atlas of monthly mean outgoing longwave radiation global contour maps and associated spherical harmonic coefficients is presented. The atlas contains 84 months of continuous data from November 1978 to October 1985. The data were derived from the second Earth radiation budget experiment, which was flown on the Nimbus 7 Sun-synchronous satellite in 1978. This data set is a companion set and extension to a similar report of the Nimbus

47 METEOROLOGY AND CLIMATOLOGY

6 satellite. Together these two reports give a data set covering a 10 year time period and will be very valuable in studying different aspects of our changing climate over monthly, annual, and interannual scales in the time domain and over regional, zonal, and global scales in the spatial domain. Author

N88-14572*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DESCRIPTION OF DATA ON THE NIMBUS 7 LIMBS MAP

ARCHIVE TAPE: WATER VAPOR AND NITROGEN DIOXIDE

KENNETH V. HAGGARD, B. T. MARSHALL (G and A Technical Software, Hampton, Va.), ROBERT J. KURZEJA (Du Pont de Nemours, E. I. and Co., Aiken, S.C.), ELLIS E. REMSBERG, and JAMES M. RUSSELL, III Feb. 1988 69 p (NASA-TP-2761; L-16313; NAS 1.60:2761) Avail: NTIS HC A04/MF A01 CSCL 04B

ATMOSPHERIC COMPOSITION, EARTH LIMB, INFRARED DETECTORS, MAPPING, NIMBUS 7 SATELLITE, STRATOSPHERE

N88-20772*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SUMMARY OF ALONG-TRACK DATA FROM THE EARTH RADIATION BUDGET SATELLITE FOR SEVERAL MAJOR DESERT REGIONS

DAVID R. BROOKS and MARTA A. FENN May 1988 147 p (NASA-RP-1197; L-16401; NAS 1.61:1197) Avail: NTIS HC A07/MF A01 CSCL 04B

For several days in January and August 1985, the Earth Radiation Budget Satellite, a component of the Earth Radiation Budget Experiment (ERBE), was operated in an along-track scanning mode. A survey of radiance measurements is given for four desert areas in Africa, the Arabian Peninsula, Australia, and the Sahel region of Africa. Each overflight provides radiance information for four scene categories: clear, partly cloudy, mostly cloudy, and overcast. The data presented include the variation of radiance in each scene classification as a function of viewing zenith angle during each overflight of the five target areas. Several features of interest in the development of anisotropic models are evident, including day-night differences in longwave limb darkening and the azimuthal dependence of short wave radiance. There is some evidence that surface features may introduce thermal or visible shadowing that is not incorporated in the usual descriptions of the anisotropic behavior of radiance as viewed from space. The data also demonstrate that the ERBE scene classification algorithms give results that, at least for desert surfaces, are a function of viewing geometry. Author

N88-25105*# Tennessee Univ. Space Inst., Tullahoma.

METEOROLOGICAL AND ENVIRONMENTAL INPUTS TO AVIATION SYSTEMS

DENNIS W. CAMP, ed. and WALTER FROST, ed. Jun. 1988 226 p Workshop held in Tullahoma, Tenn., 12-14 Mar. 1985; sponsored by NASA, Washington, NOAA, FAA, DOD, and Office of the Federal Coordinator for Meteorology (NASA-CP-2498; L-16338; NAS 1.55:2498) Avail: NTIS HC A11/MF A02 CSCL 04B

AVIATION METEOROLOGY, FLIGHT SAFETY, WEATHER

N88-27677*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ANGULAR RADIATION MODELS FOR EARTH-ATMOSPHERE SYSTEM. VOLUME 1: SHORTWAVE RADIATION

J. T. SUTTLES, R. N. GREEN, P. MINNIS, G. L. SMITH, W. F. STAYLOR, B. A. WIELICKI, I. J. WALKER, D. F. YOUNG, V. R. TAYLOR, and L. L. STOWE (National Oceanic and Atmospheric Administration, Washington, D. C.) Jul. 1988 148 p (NASA-RP-1184; L-16414; NAS 1.61:1184) Avail: NTIS HC A07/MF A01 CSCL 04B

Presented are shortwave angular radiation models which are required for analysis of satellite measurements of Earth radiation, such as those from the Earth Radiation Budget Experiment (ERBE). The models consist of both bidirectional and directional parameters.

The bidirectional parameters are anisotropic function, standard deviation of mean radiance, and shortwave-longwave radiance correlation coefficient. The directional parameters are mean albedo as a function of Sun zenith angle and mean albedo normalized to overhead Sun. Derivation of these models from the Nimbus 7 ERB (Earth Radiation Budget) and Geostationary Operational Environmental Satellite (GOES) data sets is described. Tabulated values and computer-generated plots are included for the bidirectional and directional modes. Author

N89-14634*# National Aeronautics and Space Administration, Washington, DC.

SUMMARY OF ALONG-TRACK DATA FROM THE EARTH RADIATION BUDGET SATELLITE FOR SEVERAL REPRESENTATIVE OCEAN REGIONS

DAVID R. BROOKS and MARTA A. FENN (Planning Research Corp., Hampton, Va.) Nov. 1988 216 p (NASA-RP-1206; L-16449; NAS 1.61:1206) Avail: NTIS HC A10/MF A02 CSCL 04B

For several days in January and August 1985, the Earth Radiation Budget Satellite, a component of the Earth Radiation Budget Experiment (ERBE), was operated in an along-track scanning mode. A survey of radiance measurements taken in this mode is given for five ocean regions: the north and south Atlantic, the Arabian Sea, the western Pacific north of the Equator, and part of the Intertropical Convergence Zone. Each overflight contains information about the clear scene and three cloud categories: partly cloudy, mostly cloudy, and overcast. The data presented include the variation of longwave and shortwave radiance in each scene classification as a function of viewing zenith angle during each overflight of one of the five target regions. Several features of interest in the development of anisotropic models are evident, including the azimuthal dependence of shortwave radiance that is an essential feature of shortwave bidirectional models. The data also demonstrate that the scene classification algorithm employed by the ERBE results in scene classifications that are a function of viewing geometry. Author

N89-14648*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

USER'S GUIDE FOR THE NIMBUS 7 SCANNING MULTICHANNEL MICROWAVE RADIOMETER (SMMR) CELL-ALL TAPE

C. C. CU, D. HAN, S. T. KIM (ST Systems Corp., Lanham, Md.), and P. GLOERSEN Oct. 1988 152 p (NAS5-29386) (NASA-RP-1210; REPT-88-181; NAS 1.61:1210) Avail: NTIS HC A08/MF A01 CSCL 04B

The SMMR instrument onboard the Nimbus-7 satellite has been in operation since October 1978. It provided global coverage of passive microwave observations at 6.6, 10.7, 18, 21, and 37 GHz. The observed brightness temperature can be used to retrieve geophysical parameters, principally sea surface temperature, atmospheric water vapor and liquid water content over oceans, sea ice concentration, and snow cover over land. The SMME CELL-ALL Tape contains earth-located calibrated brightness temperature data which have been appropriately binned into cells of various grid sizes, allowing intercomparisons of observations made at different frequencies (with corresponding different footprint sizes). This user's guide describes the operation of the instrument, the flow of the data processing the calibration procedure, and the characteristics of the calibrated brightness temperatures and how they are binned. Detailed tape specifications and lists of available data are also provided. Author

N89-17374*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

LIMB-DARKENING FUNCTIONS AS DERIVED FROM ALONG-TRACK OPERATION OF THE ERBE SCANNING RADIOMETER FOR JANUARY 1985

G. LOUIS SMITH, NATIVIDAD MANALO, JOHN T. SUTTLES, and IRA WALKER (Planning Research Corp., Hampton, VA.)

Washington, DC Mar. 1989 26 p
(NASA-RP-1214; L-16487; NAS 1.61:1214) Avail: NTIS HC
A03/MF A01 CSCL 04B

During January 1985, the scanning radiometer aboard the Earth Radiation Budget Satellite was operated to scan along-track. These data have been analyzed to produce limb-darkening functions for Earth emitted radiation, which relate the radiance in any given direction to the radiant exitance. Limb-darkening functions are presented in tabular form and shown as figures for 10 day cases and 12 night cases, corresponding to various scene types and latitude zones. The scene types were computed using measurements within 10 deg of zenith. The limb-darkening functions have values of 1.03 to 1.09 at zenith, with 1.06 being typical. It is found that latitude causes a variation on the order of 1 percent, except for zenith angles greater than 70 deg. These limb-darkening models are about 2 percent higher at zenith than the models derived from Nimbus 7 data. Author

N89-20587*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ANGULAR RADIATION MODELS FOR EARTH-ATMOSPHERE SYSTEM. VOLUME 2: LONGWAVE RADIATION

J. T. SUTTLES, R. N. GREEN, G. L. SMITH, B. A. WIELICKI, I. J. WALKER, V. R. TAYLOR, and L. L. STOWE (National Oceanic and Atmospheric Administration, Washington, DC.) Apr. 1989 88 p

(NASA-RP-1184-VOL-2; L-16503; NAS 1.61:1184-VOL-2) Avail: NTIS HC A05/MF A01 CSCL 04B

The longwave angular radiation models that are required for analysis of satellite measurements of Earth radiation, such as those from the Earth Radiation Budget Experiment (ERBE) are presented. The models contain limb-darkening characteristics and mean fluxes. Limb-darkening characteristics are the longwave anisotropic factor and the standard deviation of the longwave radiance. Derivation of these models from the Nimbus 7 ERB (Earth Radiation Budget) data set is described. Tabulated values and computer-generated plots are included for the limb-darkening and mean-flux models. Author

N89-20588*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

AN ASSESSMENT MODEL FOR ATMOSPHERIC COMPOSITION

MICHAEL J. PRATHER, ed. Jan. 1988 56 p Proceedings of a workshop held at NASA Goddard Inst. for Space Studies, New York, NY, 10-13 Jan. 1988

(NASA-CP-3023; REPT-89-31; NAS 1.55:3023) Avail: NTIS HC A04/MF A01 CSCL 04B

AIR QUALITY, ATMOSPHERIC COMPOSITION, EARTH ATMOSPHERE, ENVIRONMENTAL MONITORING, PHOTO-CHEMICAL OXIDANTS

N89-27302*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

THE 1989 AIRBORNE ARCTIC STRATOSPHERIC EXPEDITION NIMBUS-7 TOMS DATA ATLAS

ARLIN J. KRUEGER, LANNING M. PENN, DAVID E. LARKO, SCOTT D. DOIRON, and PATRICIA T. GUIMARAES (ST Systems Corp., Vienna, VA.) Washington Jul. 1989 154 p

(NAS5-29373)
(NASA-RP-1227; REPT-89B00188; NAS 1.61:1227) Avail: NTIS HC A08/MF A01 CSCL 04B

Over the past several years, world scientific attention was focused on the rapid and unanticipated decrease in the abundance of ozone over Antarctica during the Austral spring. A major aircraft campaign was conducted from December 1988 to February 1989 in response to the recently published Ozone Trends Panel Report which found that the largest decreases in Arctic ozone occurred during January to February at latitudes near the edge of the Arctic vortex. This atlas provides a complete set of TOMS ozone measurements over Europe and the North Atlantic for the duration of the experiment. These were the orbital TOMS measurements provided to the experimenters in near-real-time. In addition, a set

of Northern Hemisphere TOMS ozone measurements for the period December 26, 1988 to March 20, 1989 is presented. A comparison of January and February 1989 mean ozone values to prior years is also presented. Author

N89-28983*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

THE 1988 ANTARCTIC OZONE MONITORING NIMBUS-7 TOMS DATA ATLAS

ARLIN J. KRUEGER, LANNING M. PENN, DAVID E. LARKO, SCOTT D. DOIRON, and PATRICIA T. GUIMARAES (ST Systems Corp., Vienna, VA.) Aug. 1989 153 p

(NAS5-29375)
(NASA-RP-1225; REPT-89B00176; NAS 1.61:1225) Avail: NTIS HC A08/MF A01 CSCL 04B

Because of the great environmental significance of ozone and to support continuing research at McMurdo, Syowa, and other Southern Hemisphere stations, the development of the 1988 ozone hole was monitored using data from the Nimbus-7 Total Ozone Mapping Spectrometer (TOMS) instrument, produced in near-real-time. This Atlas provides a complete set of daily polar orthographic projections of the TOMS total ozone measurements over the Southern Hemisphere for the period August 1 through November 17, 1988. Although total ozone in mini-holes briefly dropped below 150 DU in late August, the main ozone hole is seen to be much less pronounced than in 1987. Minimum values, observed in late September and early October 1988, were seldom less than 175 DU. Compared with the same period in 1987, when a pronounced ozone hole whose minimum value of 109 Dobson Units (DU) was the lowest total ozone ever observed, the 1988 ozone hole is displaced from the South Pole, opposing a persistent maximum with values consistently above 500 DU. Daily ozone values above selected Southern Hemisphere stations are presented, along with comparisons of the 1988 ozone distribution to that of other years. Author

N90-14741*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ATLAS OF ALBEDO AND ABSORBED SOLAR RADIATION DERIVED FROM NIMBUS 6 EARTH RADIATION BUDGET DATA SET, JULY 1975 TO MAY 1978

G. LOUIS SMITH, T. DALE BESS, and DAVID RUTAN (PRC Kentron, Inc., Hampton, VA.) 1989 88 p

(NASA-RP-1230; L-16601; NAS 1.61:1230) Avail: NTIS HC A05/MF A01 CSCL 04B

An atlas of monthly mean global contour maps of albedo and absorbed solar radiation is presented. The atlas is based on 35 months of continuous measurements from July 1975 through May 1978. The data were retrieved from measurements made by the shortwave wide field-of-view radiometer of the first Earth Radiation Budget (ERB) instrument, which flew on the Nimbus 6 spacecraft in 1975. Profiles of zonal mean albedos and absorbed solar radiation are tabulated. These geographical distributions are provided as a resource for studying the radiation budget of the earth. This atlas of albedo and absorbed solar radiation complements the atlases of outgoing longwave radiation by Bess and Smith in NASA-RP-1185 and RP-1186, also based on the Nimbus 6 and 7 ERB data. Author

N90-17233*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ATLAS OF ALBEDO AND ABSORBED SOLAR RADIATION DERIVED FROM NIMBUS 7 EARTH RADIATION BUDGET DATA SET, NOVEMBER 1978 TO OCTOBER 1985

G. LOUIS SMITH, DAVID RUTAN (PRC Kentron, Inc., Hampton, VA.), and T. DALE BESS Washington Jan. 1990 213 p

(NASA-RP-1231; L-16591; NAS 1.61:1231) Avail: NTIS HC A10/MF A02 CSCL 04B

An atlas of monthly mean global contour maps of albedo and absorbed solar radiation is presented. This atlas contains 7 years of continuous data from November 1978 through October 1985. The data were retrieved from measurements made by the second Earth Radiation Budget (ERB) wide field-of-view instrument, which

47 METEOROLOGY AND CLIMATOLOGY

flew on the Nimbus 7 spacecraft in 1978. The deconvolution method used to produce these data is briefly discussed here so that the user may understand their generation and limitations. These geographical distributions of albedo and absorbed solar radiation are provided as a resource for researchers studying the radiation budget of the Earth. This atlas of albedo and absorbed solar radiation complements the atlases of outgoing longwave radiation by Bess and Smith, also based on the Nimbus 6 and 7 ERB data. Author

N90-19718*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
SPANWISE MEASUREMENTS OF VERTICAL COMPONENTS OF ATMOSPHERIC TURBULENCE
ROBERT K. SLEEPER Washington Apr. 1990 67 p
(NASA-TP-2963; L-16550; NAS 1.60:2963) Avail: NTIS HC A04/MF A01 CSCL 04B
AUTOCORRELATION, CROSS CORRELATION, FLOW DISTRIBUTION, GUSTS, VERTICAL AIR CURRENTS, WIND VELOCITY

N90-23837*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.
NIMBUS-7 TOMS ANTARCTIC OZONE ATLAS: AUGUST THROUGH NOVEMBER, 1989
ARLIN J. KRUEGER, LANNING M. PENN, DAVID E. LARKO, SCOTT D. DOIRON, and PATRICIA T. GUIMARAES (ST Systems Corp., Vienna, VA.) Jul. 1990 176 p
(NAS5-29373)
(NASA-RP-1237; NAS 1.61:1237; REPT-90B00114) Avail: NTIS HC A09/MF A01 CSCL 04B

Because of the great environmental significance of ozone and to support continuing research at the Antarctic and other Southern Hemisphere stations, the development of the 1989 ozone hole was monitored using data from the Nimbus-7 Total Ozone Mapping Spectrometer (TOMS) instrument, produced in near-real-time. This Atlas provides a complete set of daily polar orthographic projections of the TOMS total ozone measurements over the Southern Hemisphere for the period August 1 through November 30, 1989. The 1989 ozone hole developed in a manner similar to that of 1987, reaching a comparable depth in early October. This was in sharp contrast to the much weaker hole of 1988. The 1989 ozone hole remained at polar latitudes as it filled in November, in contrast to other recent years when the hole drifted to mid-latitudes before disappearing. Daily ozone values above selected Southern Hemisphere stations are presented, along with comparisons of the 1989 ozone distribution to that of other years. Author

N90-28224*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
FIRE SCIENCE RESULTS 1989
DAVID S. MCDUGAL, ed. Washington Jul. 1990 434 p
Meeting held in Monterey, CA, 10-14 Jul. 1989; sponsored in cooperation with NASA, NSF, ONR, DOE, AFGL, and NOAA
(NASA-CP-3079; L-16792; NAS 1.55:3079) Avail: NTIS HC A19/MF A03 CSCL 04B

CIRRUS CLOUDS, CLIMATOLOGY, CLOUDS (METEOROLOGY), CONFERENCES, MARINE METEOROLOGY, OPTICAL PROPERTIES, REMOTE SENSING, STRATOCUMULUS CLOUDS, THERMODYNAMIC PROPERTIES

48

OCEANOGRAPHY

Includes biological, dynamic, and physical oceanography; and marine resources.

N87-24870* National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.
ARCTIC SEA ICE, 1973-1976: SATELLITE PASSIVE-MICROWAVE OBSERVATIONS
CLAIRE L. PARKINSON, JOSEFINO C. COMISO, H. JAY ZWALLY, DONALD J. CAVALIERI, PER GLOERSEN, and WILLIAM J. CAMPBELL (Puget Sound Univ., Tacoma, Wash.) Jan. 1987 301 p Original contains color illustrations
(NASA-SP-489; NAS 1.21:489; LC-86-23876) Avail: NTIS HC A14 CSCL 08L

The Arctic region plays a key role in the climate of the earth. The sea ice cover affects the radiative balance of the earth and radically changes the fluxes of heat between the atmosphere and the ocean. The observations of the Arctic made by the Electrically Scanning Microwave Radiometer (ESMR) on board the Nimbus 5 research satellite are summarized for the period 1973 through 1976. B.G.

51

LIFE SCIENCES (GENERAL)

N87-20727*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.
LIQUID DROP STABILITY FOR PROTEIN CRYSTAL GROWTH IN MICROGRAVITY
ROBERT B. OWEN, BETH H. BROOM, ROBERT S. SNYDER, and RON DANIEL Apr. 1987 17 p
(NASA-TP-2724; NAS 1.60:2724) Avail: NTIS HC A03/MF A01 CSCL 06B
DROPS (LIQUIDS), MICROGRAVITY APPLICATIONS, PROTEIN CRYSTAL GROWTH, PROTEIN SYNTHESIS, STABILITY

N88-15354*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.
MICROGRAVITY PARTICLE RESEARCH ON THE SPACE STATION
STEVEN W. SQUYRES, ed., CHRISTOPHER P. MCKAY, ed., and DEBORAH E. SCHWARTZ, ed. Dec. 1987 48 p Workshop held in Moffett Field, Calif., 22-24 Aug. 1985
(NASA-CP-2496; A-87361; NAS 1.55:2496) Avail: NTIS HC A03/MF A01 CSCL 06B
PARTICLES, REDUCED GRAVITY, SPACE STATION PAYLOADS, SPACEBORNE EXPERIMENTS

N88-17168*# National Aeronautics and Space Administration. Lyndon B. Johnson Space Center, Houston, TX.
SPACE BIOREACTOR SCIENCE WORKSHOP
DENNIS R. MORRISON, ed. Dec. 1987 183 p Workshop held in Houston, Tex., 22-23 Aug. 1985
(NASA-CP-2485; S-564; NAS 1.55:2485) Avail: NTIS HC A09/MF A02 CSCL 06B
BIOPROCESSING, BIOREACTORS, BIOTECHNOLOGY, CELLS (BIOLOGY), CONFERENCES, CULTURE TECHNIQUES, REDUCED GRAVITY, SPACE PROCESSING, TISSUES (BIOLOGY)

N88-19883*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

SPACE STATION HUMAN FACTORS RESEARCH REVIEW. VOLUME 3: SPACE STATION HABITABILITY AND FUNCTION: ARCHITECTURAL RESEARCH

MARC M. COHEN, ed., ALICE EICHOLD, ed., and SUSAN HEERS, ed. Oct. 1987 211 p Workshop held at Moffett Field, Calif., 3-6 Dec. 1985

(NASA-CP-2426-VOL-3; A-86263-VOL-3; NAS 1.55:2426-VOL-3)

Avail: NTIS HC A10/MF A02 CSCL 05H

ARCHITECTURE, HUMAN FACTORS ENGINEERING, SPACE STATIONS, SPACECRAFT DESIGN

N88-24145*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

SPACE STATION HUMAN FACTORS RESEARCH REVIEW. VOLUME 1: EVA RESEARCH AND DEVELOPMENT

MARC M. COHEN, ed. and H. C. VYKUKAL, ed. Apr. 1988 136 p Workshop held at Moffett Field, Calif., 3-6 Dec. 1985

(NASA-CP-2426-VOL-1; A-87163-VOL-1; NAS 1.55:2426-VOL-1)

Avail: NTIS HC A07/MF A01 CSCL 06B

CONFERENCES, EXTRAVEHICULAR ACTIVITY, HUMAN FACTORS ENGINEERING, SPACE STATIONS

N88-24148*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

SPACE STATION HUMAN FACTORS RESEARCH REVIEW. VOLUME 4: INHOUSE ADVANCED DEVELOPMENT AND RESEARCH

TRIEVE TANNER, ed., YVONNE A. CLEARWATER, ed., and MARC M. COHEN, ed. May 1988 135 p Workshop held at Moffett Field, Calif., 3-6 Dec. 1985

(NASA-CP-2426-VOL-4; A-87247-VOL-4; NAS 1.55:2426-VOL-4)

Avail: NTIS HC A07/MF A01 CSCL 06B

HUMAN FACTORS ENGINEERING, SPACE STATIONS, SPACECRAFT DESIGN

N89-17997*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

PROCEEDINGS OF A CONFERENCE ON CARDIOVASCULAR BIOINSTRUMENTATION

RODNEY W. BALLARD, CHARLES A. FULLER, RICHARD MAINS, and HERBERT J. FINGER Dec. 1988 71 p Conference held at Moffett Field, CA, 21-22 Jul. 1987

(NASA-CP-10022; A-88120; NAS 1.55:10022) Avail: NTIS HC

A04/MF A01 CSCL 06C

BIOINSTRUMENTATION, CARDIOVASCULAR SYSTEM, CONFERENCES, GROUND SUPPORT SYSTEMS, MANNED SPACE FLIGHT

N89-24022*# General Electric Co., Moffett Field, CA.

GAS-GRAIN SIMULATION FACILITY: FUNDAMENTAL STUDIES OF PARTICLE FORMATION AND INTERACTIONS. VOLUME 1: EXECUTIVE SUMMARY AND OVERVIEW

GUY FOGLEMAN, ed., JUDITH L. HUNTINGTON, ed. (Search for Extraterrestrial Intelligence Inst., Los Altos, CA.), DEBORAH E. SCHWARTZ, ed., and MARK L. FONDA, ed. Mar. 1989 38 p

Presented at the Gas-Grain Simulation Facility Experiments Workshop, Sunnyvale, CA, 31 Aug. - 1 Sep. 1987; sponsored by the Exobiology Flight Program

(NASA-CP-10026-VOL-1; A-88256-VOL-1; NAS

1.55:10026-VOL-1) Avail: NTIS HC A03/MF A01 CSCL 06C

AEROSOLS, CLOUDS, COSMIC DUST, GRAINS, GRAVITATIONAL EFFECTS, NUCLEATION, PARTICLE INTERACTIONS, PARTICLES, PARTICULATES, REDUCED GRAVITY, SPACE LABORATORIES, SPACE STATION PAYLOADS, SPACEBORNE EXPERIMENTS

N89-24023*# General Electric Co., Moffett Field, CA.

GAS-GRAIN SIMULATION FACILITY: FUNDAMENTAL STUDIES OF PARTICLE FORMATION AND INTERACTIONS. VOLUME 2: ABSTRACTS, CANDIDATE EXPERIMENTS AND FEASIBILITY STUDY

GUY FOGLEMAN, ed., JUDITH L. HUNTINGTON, ed. (Search for Extraterrestrial Intelligence Inst., Los Altos, CA.), DEBORAH E. SCHWARTZ, ed., and MARK L. FONDA, ed. Mar. 1989 199 p Presented at the Gas-Grain Simulation Facility Experiments Workshop, Sunnyvale, CA, 31 Aug. - 1 Sep. 1987; sponsored by the Exobiology Flight Program

(NASA-CP-10026-VOL-2; A-88256-VOL-2; NAS

1.55:10026-VOL-2) Avail: NTIS HC A09/MF A02 CSCL 06C

AEROSOLS, CLOUDS, COSMIC DUST, GRAINS, PARTICLE INTERACTIONS, PARTICLES, PARTICULATES, REDUCED GRAVITY, SPACEBORNE EXPERIMENTS

N89-26334*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

EXO BIOLOGY AND FUTURE MARS MISSIONS

CHRISTOPHER P. MCKAY, ed. and WANDA DAVIS, L., ed. Washington Mar. 1989 73 p Workshop held in Sunnyvale, CA, Mar. 1988

(NASA-CP-10027; A-89098; NAS 1.55:10027) Avail: NTIS HC

A04/MF A01 CSCL 03B

BIOLOGICAL EVOLUTION, CHEMICAL EVOLUTION, CONFERENCES, ECOLOGY, EXO BIOLOGY, FOSSILS, MARS SAMPLE RETURN MISSIONS, SOILS

52

AEROSPACE MEDICINE

Includes physiological factors; biological effects of radiation; and effects of weightlessness on man and animals.

N87-18976* National Aeronautics and Space Administration, Washington, DC.

AEROSPACE MEDICINE AND BIOLOGY: A CUMULATIVE INDEX TO THE 1986 ISSUES (SUPPLEMENT 293)

Jan. 1987 251 p

(NASA-SP-7011(293); NAS 1.21:7011(293)) Avail: NTIS HC A12

CSCL 06E

This publication is a cumulative index to the abstracts contained in the Supplements 281 through 292 of Aerospace Medicine and Biology: A Continuing Bibliography. It includes seven indexes - subject, personal author, corporate source, foreign technology, contract number, report number, and accession number. Author

N87-30041* National Aeronautics and Space Administration, Washington, DC.

AEROSPACE MEDICINE AND BIOLOGY: A CONTINUING BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 302)

Oct. 1987 55 p

(NASA-SP-7011(302); NAS 1.21:7011(302)) Avail: HC A04

CSCL 06E

This bibliography lists 131 reports, articles, and other documents introduced into the NASA scientific and technical information system in September, 1987. Author

N88-14623*# National Aeronautics and Space Administration. Lyndon B. Johnson Space Center, Houston, TX.

AIRBORNE PARTICULATE MATTER IN SPACECRAFT

Feb. 1988 15 p Presented at a Panel Discussion held in Houston, Tex., 23-24 Jul. 1987

(NAS9-17200)

(NASA-CP-2499; S-570; NAS 1.55:2499) Avail: NTIS HC

A03/MF A01 CSCL 06K

AEROSOLS, AEROSPACE ENVIRONMENTS, AIR PURIFICATION, AIR QUALITY, SPACECRAFT DESIGN

52 AEROSPACE MEDICINE

N88-18180* National Aeronautics and Space Administration, Washington, DC.

AEROSPACE MEDICINE AND BIOLOGY: A CUMULATIVE INDEX TO A CONTINUING BIBLIOGRAPHY (SUPPLEMENT 306)

Jan. 1988 210 p
(NASA-SP-7011(306); NAS 1.21:7011(306)) Avail: NTIS HC A10 CSCL 06E

This publication is a cumulative index to the abstracts contained in the Supplements 294 through 305 of Aerospace Medicine and Biology: A Continuing Bibliography. It includes seven indexes - subject, personal author, corporate source, foreign technology, contract number, report number, and accession number. Author

N88-30281* National Aeronautics and Space Administration, Washington, DC.

AEROSPACE MEDICINE AND BIOLOGY: A CONTINUING BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 315)

Oct. 1988 71 p
(NASA-SP-7011(315); NAS 1.21:7011(315)) Avail: NTIS HC A04; NTIS standing order as PB88-912300. \$9.00 domestic, \$18.00 foreign CSCL 06E

This bibliography lists 211 reports, articles and other documents introduced into the NASA scientific and technical information system in September, 1988. Author

N89-29951* National Aeronautics and Space Administration, Washington, DC.

AEROSPACE MEDICINE AND BIOLOGY: A CONTINUING BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 327)

Feb. 1989 53 p
(NASA-SP-7011(327); NAS 1.21:7011(327)) Avail: NTIS HC A04; NTIS standing order as PB89-912300, \$10.50 domestic, \$21.00 foreign CSCL 06E

This bibliography lists 127 reports, articles and other documents introduced into the NASA Scientific and Technical Information System during August, 1989. Subject coverage includes: aerospace medicine and psychology, life support systems and controlled environments, safety equipment, exobiology and extraterrestrial life, and flight crew behavior and performance. Author

N90-28963* National Aeronautics and Space Administration, Washington, DC.

AEROSPACE MEDICINE AND BIOLOGY: A CONTINUING BIBLIOGRAPHY WITH INDEXES (SUPPLEMENT 340)

Feb. 1989 64 p
(NASA-SP-7011(340); NAS 1.21:7011(340)) Avail: NTIS HC A03; NTIS standing order as PB90-912300, \$11.50 domestic, \$23.00 foreign CSCL 06E

This bibliography lists 157 reports, articles and other documents introduced into the NASA Scientific and Technical Information System during August 1990. Subject coverage includes: aerospace medicine and psychology, life support systems and controlled environments, safety equipment, exobiology and extraterrestrial life, and flight crew behavior and performance. Author

N90-28965*# National Aeronautics and Space Administration, Ames Research Center, Moffett Field, CA.

JOINT US/USSR STUDY: COMPARISON OF EFFECTS OF HORIZONTAL AND HEAD-DOWN BED REST

HAROLD SANDLER and ANATOLI I. GRIGORIEV (Institute of Biomedical Problems, Moscow, USSR) Washington Aug. 1990 102 p
(NASA-TP-3037; A-85177; NAS 1.60:3037) Avail: NTIS HC A06/MF A01 CSCL 06S

BED REST, BIOCHEMISTRY, HEAD DOWN TILT, HYPOKINESIA, LOWER BODY NEGATIVE PRESSURE, PHYSICAL EXERCISE, PHYSIOLOGY, SPACE FLIGHT

53

BEHAVIORAL SCIENCES

Includes psychological factors; individual and group behavior; crew training and evaluation; and psychiatric research.

N88-23370*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

MENTAL-STATE ESTIMATION, 1987

J. RAYMOND COMSTOCK, JR., comp. May 1988 393 p
Workshop held in Williamsburg, Va., 3-4 Jun. 1987; sponsored by NASA, Langley Research Center, Hampton, Va. and Old Dominion Univ., Norfolk, Va. Sponsored by NASA, Washington (NASA-CP-2504; L-16420; NAS 1.55:2504) Avail: NTIS HC A17/MF A03 CSCL 05J

BIOMETRICS, ESTIMATING, HUMAN PERFORMANCE, MENTAL PERFORMANCE, OPERATOR PERFORMANCE, PSYCHOMOTOR PERFORMANCE, STRESS (PSYCHOLOGY), WORKLOADS (PSYCHOPHYSIOLOGY), WORKSTATIONS

54

MAN/SYSTEM TECHNOLOGY AND LIFE SUPPORT

Includes human engineering; biotechnology; and space suits and protective clothing.

N88-12251*# National Aeronautics and Space Administration, Ames Research Center, Moffett Field, CA.

CONTROLLED ECOLOGICAL LIFE SUPPORT SYSTEM: REGENERATIVE LIFE SUPPORT SYSTEMS IN SPACE

ROBERT D. MACELROY and DAVID T. SMERNOFF (New Hampshire Univ., Durham.) Sep. 1987 153 p The 26th COSPAR Meeting held in Toulouse, France, Jul. 1986 (NCC2-231)

(NASA-CP-2480; A-87256; NAS 1.55:2480) Avail: NTIS HC A08/MF A01 CSCL 06K

ALGAE, CLOSED ECOLOGICAL SYSTEMS, GAS EXCHANGE, VEGETATION GROWTH

N88-13852*# National Aeronautics and Space Administration, Ames Research Center, Moffett Field, CA.

CONTROLLED ECOLOGICAL LIFE SUPPORT SYSTEM. DESIGN, DEVELOPMENT, AND USE OF A GROUND-BASED PLANT GROWTH MODULE

ROBERT D. MACELROY, DAVID T. SMERNOFF (New Hampshire Univ., Durham.), and JOHN D. RUMMEL Sep. 1987 83 p Meeting held at Moffett Field, Calif., Sep. 1984, in Cocoa Beach, Fla., Apr. 1985 and in Carmel, Calif., 23-25 Apr. 1986 (NCC2-27)

(NASA-CP-2479; A-87255; NAS 1.55:2479) Avail: NTIS HC A05/MF A01 CSCL 06K

CLOSED ECOLOGICAL SYSTEMS, CROP GROWTH, EXPERIMENT DESIGN, FOOD, LABORATORY EQUIPMENT, PLANTS (BOTANY)

N89-13898*# National Aeronautics and Space Administration, Ames Research Center, Moffett Field, CA.

REPORT OF THE 1ST PLANNING WORKSHOP FOR CELSS FLIGHT EXPERIMENTATION

JOHN W. TREMOR and ROBERT D. MACELROY 1988 28 p Workshop held at Moffett Field, Calif., 23-24 Mar. 1987 (NASA-CP-10020; A-88265; NAS 1.55:10020) Avail: NTIS HC A03/MF A01 CSCL 05H

BIOASTRONAUTICS, CLOSED ECOLOGICAL SYSTEMS,

CONFERENCES, PLANTS (BOTANY), SPACECRAFT ENVIRONMENTS

59

MATHEMATICAL AND COMPUTER SCIENCES (GENERAL)

N89-18039*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

INTERACTIVE ORBITAL PROXIMITY OPERATIONS PLANNING SYSTEM

ARTHUR J. GRUNWALD and STEPHEN R. ELLIS Nov. 1988 48 p
(NASA-TP-2839; A-88091; NAS 1.60:2839) Avail: NTIS HC A03/MF A01 CSCL 05H

COMPUTER GRAPHICS, ORBITAL MANEUVERS, PROXIMITY, SPACE STATIONS, SPACECRAFT TRAJECTORIES

N90-22918*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

SPATIAL DISPLAYS AND SPATIAL INSTRUMENTS

STEPHEN R. ELLIS, ed., MARY K. KAISER, ed., and ARTHUR J. GRUNWALD, ed. (Technion - Israel Inst. of Tech., Haifa.) Jul. 1989 623 p Conference held in Pacific Grove, CA, 31 Aug. - 3 Sep. 1987; sponsored by NASA, Ames Research Center, Moffett Field, CA and California Univ., Berkeley
(NASA-CP-10032; A-88090; NAS 1.55:10032) Avail: NTIS HC A99/MF A04 CSCL 05H

COMPUTER GRAPHICS, CONFERENCES, DISPLAY DEVICES, IMAGE ANALYSIS, SPATIAL RESOLUTION, VISUAL PERCEPTION

N90-22965*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DETERMINATION OF DEPTH-VIEWING VOLUMES FOR STEREO THREE-DIMENSIONAL GRAPHIC DISPLAYS

RUSSELL V. PARRISH and STEVEN P. WILLIAMS (Army Aviation Systems Command, Saint Louis, MO.) Washington Jun. 1990 21 p

(DA PROJ. 1L1-61102-AH-45)
(NASA-TP-2999; L-16655; NAS 1.60:2999; AVSCOM-TM-90-B-016) Avail: NTIS HC A03/MF A01 CSCL 05H

COMPUTER GRAPHICS, DEPTH, SPACE PERCEPTION, STEREOSCOPIC VISION, VISUAL SIGNALS

55

SPACE BIOLOGY

Includes exobiology; planetary biology; and extraterrestrial life.

N90-13939*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

CELLS IN SPACE

JEAN D. SIBONGA, ed., RICHARD C. MAINS, ed., THOMAS N. FAST, ed. (Santa Clara Univ., CA.), PAUL X. CALLAHAN, ed., and CHARLES M. WINGET, ed. Aug. 1989 310 p Conference held in San Juan Bautista, CA, 31 Oct. - 4 Nov. 1988
(NASA-CP-10034; A-89131; NAS 1.55:10034) Avail: NTIS HC A14/MF A02 CSCL 06C

CELLS (BIOLOGY), CONFERENCES, EXPERIMENT DESIGN, GRAVITATIONAL EFFECTS, GRAVITATIONAL PHYSIOLOGY, MANNED SPACE FLIGHT, SPACEBORNE EXPERIMENTS

N88-14629*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

A GENERAL SOLUTION TO THE SILHOUETTE PROBLEM

DAVID R. HEDGLEY, JR. Feb. 1987 9 p
(NASA-TP-2695; H-1348; NAS 1.60:2695) Avail: NTIS HC A02/MF A01 CSCL 12A

COMPUTER GRAPHICS, DISPLAY DEVICES, IMAGE ENHANCEMENT, IMAGE PROCESSING

N88-17206*# National Aeronautics and Space Administration. Lyndon B. Johnson Space Center, Houston, TX.

FIRST ANNUAL WORKSHOP ON SPACE OPERATIONS

AUTOMATION AND ROBOTICS (SOAR 87)

SANDY GRIFFIN, ed. Oct. 1987 530 p Workshop held in Houston, Tex., 5-7 Aug. 1987; sponsored by NASA, Johnson Space Flight Center and the US Air Force
(NASA-CP-2491; S-567; NAS 1.55:2491) Avail: NTIS HC A23/MF A04 CSCL 12B

ARCHITECTURE (COMPUTERS), AUTOMATIC CONTROL, COMPUTER AIDED DESIGN, CONFERENCES, DISTRIBUTED PROCESSING, EXPERT SYSTEMS, LOGISTICS, MAN MACHINE SYSTEMS, NEURAL NETS, PARALLEL PROCESSING (COMPUTERS), ROBOTICS

N88-21646*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

CARE 3 USER'S WORKSHOP

Apr. 1988 160 p Workshop held in Hampton, Va., 6-7 Oct. 1987; sponsored by NASA, Washington
(NASA-CP-10011; NAS 1.55:10011) Avail: NTIS HC A08/MF A01 CSCL 12A

COMPUTER PROGRAMS, CONFERENCES, FAULT TOLERANCE, RELIABILITY ANALYSIS

N89-19817*# National Aeronautics and Space Administration. Lyndon B. Johnson Space Center, Houston, TX.

SECOND ANNUAL WORKSHOP ON SPACE OPERATIONS

AUTOMATION AND ROBOTICS (SOAR 1988)

SANDY GRIFFIN, ed./comp. Washington, DC Nov. 1988 517 p Workshop held in Dayton, OH, 20-23 Jul. 1988; sponsored by NASA, Johnson Space Flight Center, USAF, Washington, DC, and Wright State Univ., Dayton, OH
(NASA-CP-3019; S-585; NAS 1.55:3019) Avail: NTIS HC A22/MF A04 CSCL 12A

COMPUTER ASSISTED INSTRUCTION, COMPUTER TECHNIQUES, EXPERT SYSTEMS, HUMAN FACTORS ENGINEERING, INFORMATION SYSTEMS, KNOWLEDGE BASES (ARTIFICIAL INTELLIGENCE), ROBOTICS, SYSTEMS INTEGRATION, TELEOPERATORS

N90-21524*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A TIME-ACCURATE ADAPTIVE GRID METHOD AND THE NUMERICAL SIMULATION OF A SHOCK-VORTEX INTERACTION

MICHAEL J. BOCKELIE and PETER R. EISEMAN (Columbia Univ., New York, NY.) Washington Jun. 1990 20 p
(NAG1-427; AF-AFOSR-0307-86)

(NASA-TP-2998; L-16727; NAS 1.60:2998) Avail: NTIS HC A03/MF A01 CSCL 12A

COMPUTATIONAL GRIDS, COMPUTERIZED SIMULATION, GRID GENERATION (MATHEMATICS), SHOCK WAVE INTERACTION, VORTICES

59 MATHEMATICAL AND COMPUTER SCIENCES (GENERAL)

N90-25503*# National Aeronautics and Space Administration. Lyndon B. Johnson Space Center, Houston, TX.

THIRD ANNUAL WORKSHOP ON SPACE OPERATIONS AUTOMATION AND ROBOTICS (SOAR 1989)

SANDY GRIFFIN, ed. Washington Mar. 1990 651 p Workshop held in Houston, TX, 25-27 Jul. 1989; sponsored by NASA, Washington, the AF, and Houston-Clear Lake Univ.

(NASA-CP-3059; S-599; NAS 1.55:3059) Avail: NTIS HC A99/MF A04 CSCL 12A

AEROSPACE ENVIRONMENTS, AUTOMATIC CONTROL, CONFERENCES, END EFFECTORS, EXPERT SYSTEMS, HUMAN FACTORS ENGINEERING, KNOWLEDGE BASES (ARTIFICIAL INTELLIGENCE), MANIPULATORS, ROBOTICS, ROBOTS, SPACE STATIONS, SPACECRAFT CONTAMINATION, TELEOPERATORS

60

COMPUTER OPERATIONS AND HARDWARE

Includes hardware for computer graphics, firmware, and data processing.

N78-74659* National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

THE MSFC/UAH DATA MANAGEMENT SYMPOSIUM

A. CASTELLI, ed. 16 Feb. 1978 423 p refs Symp. held at Huntsville, Ala., 18-19 Oct. 1977

(NASA-CP-2040)

ALABAMA, CONFERENCES, DATA MANAGEMENT, NASA PROGRAMS, UNIVERSITIES

N88-20833*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DIGITAL ENHANCEMENT OF FLOW FIELD IMAGES

ROBERT A. KUDLINSKI and STEPHEN K. PARK Mar. 1988 25 p Original contains color illustrations

(NASA-TP-2770; L-16318; NAS 1.60:2770) Avail: NTIS HC A03/MF A01 CSCL 09B

DIGITAL TECHNIQUES, FLOW VISUALIZATION, IMAGE ENHANCEMENT, IMAGE PROCESSING, PHOTOGRAPHIC PROCESSING

N90-20651*# National Aeronautics and Space Administration. Lyndon B. Johnson Space Center, Houston, TX.

GRAPHICS TECHNOLOGY IN SPACE APPLICATIONS (GTSA 1989)

SANDY GRIFFIN, ed. Aug. 1989 247 p Workshop held in Houston, TX, 12-14 Apr. 1989; sponsored by NASA, Washington and Houston Univ., Clear Lake

(NASA-CP-3045; S-594; NAS 1.55:3045) Avail: NTIS HC A11/MF A02 CSCL 09B

COMPUTER ANIMATION, COMPUTER GRAPHICS, CONFERENCES, DISPLAY DEVICES, MAN MACHINE SYSTEMS, SPACE SHUTTLES, SPACE STATIONS, SYSTEMS SIMULATION, TELEOPERATORS, TRAINING SIMULATORS

61

COMPUTER PROGRAMMING AND SOFTWARE

Includes computer programs, routines, and algorithms, and specific applications, e.g., CAD/CAM.

N87-10720*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

PROCEEDINGS OF THE 5TH ANNUAL USERS' CONFERENCE

M. SZCZUR, ed. and E. HARRIS, ed. 1985 400 p Conference held at Greenbelt, Md., 4-6 Jun. 1985

(NASA-CP-2399; NAS 1.55:2399) Avail: NTIS HC A17/MF A03 CSCL 09B

ACCESS CONTROL, COMPUTER NETWORKS, FORMAT, IMAGE PROCESSING, SOFTWARE ENGINEERING, SOFTWARE TOOLS, SPACE STATIONS

N87-19931*# National Aeronautics and Space Administration, Washington, DC.

COMPUTER SCIENCES AND DATA SYSTEMS, VOLUME 1

Mar. 1987 356 p Proceedings of a Symposium held in Williamsburg, Va., 18-20 Nov. 1986

(NASA-CP-2459-VOL-1; NAS 1.55:2459-VOL-1) Avail: NTIS HC A16/MF A02 CSCL 09B

ARCHITECTURE (COMPUTERS), CONCURRENT PROCESSING, CONFERENCES, DATA MANAGEMENT, DISTRIBUTED PROCESSING, EXPERT SYSTEMS, SOFTWARE ENGINEERING

N87-19932*# National Aeronautics and Space Administration, Washington, DC.

COMPUTER SCIENCES AND DATA SYSTEMS, VOLUME 2

Mar. 1987 339 p Proceedings of a Symposium held in Williamsburg, Va., 18-20 Nov. 1986

(NASA-CP-2459-VOL-2; NAS 1.55:2459-VOL-2) Avail: NTIS HC A15/MF A02 CSCL 09B

CONFERENCES, DATA STORAGE, DISTRIBUTED PROCESSING, FIBER OPTICS, MASSIVELY PARALLEL PROCESSORS, OPTICAL DATA PROCESSING, PARALLEL PROCESSING (COMPUTERS), VHSIC (CIRCUITS)

N87-23156*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

SIXTH ANNUAL USERS' CONFERENCE

MARTHA SZCZUR, ed. and ELFRIEDA HARRIS, ed. (Science Applications Research, Lanham, Md.) Oct. 1986 228 p

Conference held in Pasadena, Calif., 8-10 Oct. 1986; sponsored by JPL and NASA. Goddard Space Flight Center

(NASA-CP-2463; REPT-87B0176; NAS 1.55:2463) Avail: NTIS HC A11/MF A02 CSCL 09B

APPLICATIONS PROGRAMS (COMPUTERS), COMPUTER SYSTEMS PROGRAMS, CONFERENCES, IMAGE PROCESSING, INFORMATION SYSTEMS, MAN-COMPUTER INTERFACE, OPERATING SYSTEMS (COMPUTERS)

N87-26531*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

FRONTIERS OF MASSIVELY PARALLEL SCIENTIFIC COMPUTATION

JAMES R. FISCHER, ed. Jul. 1987 293 p Symposium held in Greenbelt, Md., 24-25 Sep. 1986; sponsored by NASA Goddard Space Flight Center and Goodyear Aerospace Corp.

(NASA-CP-2478; REPT-87B9876; NAS 1.55:2478) Avail: NTIS HC A13/MF A02 CSCL 09B

ALGORITHMS, COMPUTER GRAPHICS, COMPUTER SYSTEMS PERFORMANCE, COMPUTERIZED SIMULATION, MASSIVELY PARALLEL PROCESSORS, PARALLEL PROCESSING (COMPUTERS)

N88-16360*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

THIRD CONFERENCE ON ARTIFICIAL INTELLIGENCE FOR SPACE APPLICATIONS, PART 1

JUDITH S. DENTON, comp., MICHAEL S. FREEMAN, comp., and MARY VEREEN, comp. Nov. 1987 421 p Conference held in Huntsville, Ala., 2-3 Nov. 1987; sponsored by NASA, Marshall Space Flight Center, Huntsville, Ala. and Alabama Univ., Huntsville

(NASA-CP-2492-Pt-1; M-575-PT-1; NAS 1.55:2492-Pt-1) Avail: NTIS HC A18/MF A03 CSCL 09B

COMPUTER PROGRAMS, CONFERENCES, DATA BASE

61 COMPUTER PROGRAMMING AND SOFTWARE

MANAGEMENT SYSTEMS, EXPERT SYSTEMS, KNOWLEDGE, MAN MACHINE SYSTEMS, ROBOTICS, SCHEDULING, SPACE SHUTTLES, SPACE STATIONS, SPACECRAFT CONTROL

N88-24188*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

THIRD CONFERENCE ON ARTIFICIAL INTELLIGENCE FOR SPACE APPLICATIONS, PART 2

JUDITH S. DENTON, comp., MICHAEL S. FREEMAN, comp., and MARY VEREEN, comp. Jun. 1988 66 p Conference held in Huntsville, Ala., 2-3 Nov. 1987; sponsored by NASA, Marshall Space Flight Center, Huntsville, Ala. and Alabama Univ., Huntsville Sponsored by NASA, Washington (NASA-CP-2492-PT-2; M-576-PT-2; NAS 1.55:2492-PT-2) Avail: NTIS HC A04/MF A01 CSCL 09B

COMPUTER PROGRAMS, CONFERENCES, EXPERT SYSTEMS, SOFTWARE TOOLS, SPACE STATIONS

N88-29351*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

SECOND CONFERENCE ON ARTIFICIAL INTELLIGENCE FOR SPACE APPLICATIONS

THOMAS DOLLMAN, comp. Aug. 1988 709 p Conference held in Huntsville, Ala., 13-14 Nov. 1986; sponsored by NASA, Marshall Space Flight Center, Huntsville, Ala. and Alabama Univ., Huntsville Sponsored by NASA, Washington, D.C. (NASA-CP-3007; M-577; NAS 1.55:3007) Avail: NTIS HC A99/MF A04 CSCL 09B

AUTOMATIC CONTROL, COMPUTER AIDED DESIGN, COMPUTER VISION, EXPERT SYSTEMS, ROBOTICS, SPACE STATIONS

N89-11407*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

OEXP ANALYSIS TOOLS WORKSHOP

L. BERNARD GARRETT, ROBERT L. WRIGHT, DEBORAH BADI, and JOHN T. FINDLAY (Flight Mechanics and Control, Inc., Hampton, Va.) Aug. 1988 146 p Workshop held in Hampton, Va., 21-22 Jun. 1988 Sponsored by NASA, Washington, D.C. (NASA-CP-10013; NAS 1.55:10013) Avail: NTIS HC A07/MF A01 CSCL 09B

COMPUTER PROGRAMS, LUNAR EXPLORATION, MARS LANDING, MISSION PLANNING, SOFTWARE TOOLS

N89-12237*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ANALYSIS OF POSITRON LIFETIME SPECTRA IN POLYMERS

JAG J. SINGH, GERALD H. MALL (Computer Sciences Corp., Hampton, Va.), and DANNY R. SPRINKLE Dec. 1988 61 p (NASA-TP-2853; L-16468; NAS 1.60:2853) Avail: NTIS HC A04/MF A01 CSCL 09B

COMPUTER PROGRAMS, EPOXY COMPOUNDS, HALF LIFE, POSITRONS, RADIATION SPECTRA

N89-13994*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

THE ESTIMATION ERROR COVARIANCE MATRIX FOR THE IDEAL STATE RECONSTRUCTOR WITH MEASUREMENT NOISE

MICHAEL E. POLITES Dec. 1988 19 p (NASA-TP-2881; NAS 1.60:2881) Avail: NTIS HC A03/MF A01 CSCL 09B

COVARIANCE, ERROR ANALYSIS, MATRICES (MATHEMATICS), RECONSTRUCTION, STATE ESTIMATION

N89-15549*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

FOURTH CONFERENCE ON ARTIFICIAL INTELLIGENCE FOR SPACE APPLICATIONS

STEPHEN L. ODELL, comp., JUDITH S. DENTON, comp., and MARY VEREEN, comp. Oct. 1988 485 p Conference held in Huntsville, AL, 15-16 Nov. 1988; sponsored by NASA and Alabama Univ., Huntsville

(NASA-CP-3013; M-599; NAS 1.55:3013) Avail: NTIS HC A21/MF A03 CSCL 09B

AEROSPACE SCIENCES, ARTIFICIAL INTELLIGENCE, EXPERT SYSTEMS, ROBOTICS

N89-22332*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

PROCEEDINGS OF THE SCIENTIFIC DATA COMPRESSION WORKSHOP

H. K. RAMAPRIYAN, ed. Washington, DC Feb. 1989 448 p Workshop held in Snowbird, UT, 3-5 May 1988; sponsored by NASA, Washington (NASA-CP-3025; REPT-89B0038; NAS 1.55:3025) Avail: NTIS HC A19/MF A03 CSCL 09B

CONFERENCES, DATA COMPRESSION, DATA MANAGEMENT, DATA TRANSMISSION, IMAGE PROCESSING, IMAGING TECHNIQUES, SIGNAL PROCESSING, TELEMETRY, VECTORS (MATHEMATICS)

N89-23181*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

A KNOWLEDGE-BASED TOOL FOR MULTILEVEL DECOMPOSITION OF A COMPLEX DESIGN PROBLEM

JAMES L. ROGERS Washington May 1989 23 p (NASA-TP-2903; L-16557; NAS 1.60:2903) Avail: NTIS HC A03/MF A01 CSCL 09B

COMPUTER AIDED DESIGN, KNOWLEDGE BASES (ARTIFICIAL INTELLIGENCE), SCHEDULING, SOFTWARE TOOLS, SYSTEMS ENGINEERING

N90-11454*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

APPLICATIONS OF THE HYBRID AUTOMATED RELIABILITY PREDICTOR: REVISED EDITION

SALVATORE J. BAVUSO, JOANNE BECHTA DUGAN, KISHOR TRIVEDI, BETH ROTHMANN, and MARK BOYD (Duke Univ., Durham, NC.) Dec. 1988 30 p (NASA-TP-2760-REV; L-16304; NAS 1.60:2760-REV) Avail: NTIS HC A03/MF A01 CSCL 09B

APPLICATIONS PROGRAMS (COMPUTERS), COMPUTER TECHNIQUES, FAULT TOLERANCE, PREDICTIONS, RELIABILITY

N90-14789*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SOFTWARE REUSE ISSUES

SUSAN J. VOIGT, ed. and KATHRYN A. SMITH, ed. Washington Dec. 1989 168 p Workshop held in Melbourne, FL, 17-18 Nov. 1988 (NASA-CP-3057; L-16667; NAS 1.55:3057) Avail: NTIS HC A08/MF A01 CSCL 09B

COMPUTER PROGRAMS, CONFERENCES, SOFTWARE ENGINEERING, SOFTWARE TOOLS, SPACE STATIONS

N90-18882*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

LOW-ENERGY GAMMA RAY ATTENUATION CHARACTERISTICS OF AVIATION FUELS

JAG J. SINGH, CHIH-PING SHEN (Old Dominion Univ., Norfolk, VA.), and DANNY R. SPRINKLE Washington Mar. 1990 40 p (NASA-TP-2974; L-16719; NAS 1.60:2974) Avail: NTIS HC A03/MF A01 CSCL 09B

AIRCRAFT FUELS, AIRPORTS, ENERGY ABSORPTION, FUEL SYSTEMS, GAMMA RAY ABSORPTION, GAMMA RAYS

N90-27275*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

FIFTH CONFERENCE ON ARTIFICIAL INTELLIGENCE FOR SPACE APPLICATIONS

STEVE L. ODELL, comp. Washington May 1990 587 p Conference held in Huntsville, AL, 22-23 May 1990; sponsored in cooperation with Alabama Univ., Huntsville, IEEE, and AIAA

62 COMPUTER SYSTEMS

(NASA-CP-3073; M-627; NAS 1.55:3073) Avail: NTIS HC A25/MF A04 CSCL 09B

ARTIFICIAL INTELLIGENCE, AUTOMATIC CONTROL, CONFERENCES, KNOWLEDGE BASES (ARTIFICIAL INTELLIGENCE), ROBOTICS

62

COMPUTER SYSTEMS

Includes computer networks and special application computer systems.

N87-23202*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

APPLICATIONS AND REQUIREMENTS FOR REAL-TIME SIMULATORS IN GROUND-TEST FACILITIES

DALE J. ARPASI and RICHARD A. BLECH Dec. 1986 26 p (NASA-TP-2672; E-3189; NAS 1.60:2672) Avail: NTIS HC A03/MF A01 CSCL 09B

GROUND TESTS, REAL TIME OPERATION, SIMULATORS, TEST FACILITIES

N89-17422*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

PARALLEL GAUSSIAN ELIMINATION OF A BLOCK TRIDIAGONAL MATRIX USING MULTIPLE MICROCOMPUTERS

RICHARD A. BLECH Washington, DC Feb. 1989 35 p (NASA-TP-2892; E-4199; NAS 1.60:2892) Avail: NTIS HC A03/MF A01 CSCL 09B

GAUSSIAN ELIMINATION, MATRICES (MATHEMATICS), MICROCOMPUTERS, MULTIPROCESSING (COMPUTERS), PARALLEL PROGRAMMING

N89-24815*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THE FAULT TREE COMPILER (FTC): PROGRAM AND MATHEMATICS

RICKY W. BUTLER and ANNA L. MARTENSEN (PRC Kentron, Inc., Hampton, VA.) Washington Jul. 1989 40 p (NASA-TP-2915; L-16529; NAS 1.60:2915) Avail: NTIS HC A03/MF A01 CSCL 09B

COMPUTER PROGRAMS, COMPUTER TECHNIQUES, FAULT TOLERANCE, FAULT TREES, PROBABILITY THEORY, RELIABILITY ANALYSIS

63

CYBERNETICS

Includes feedback and control theory, artificial intelligence, robotics and expert systems.

N88-30330*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

THE 1988 GODDARD CONFERENCE ON SPACE APPLICATIONS OF ARTIFICIAL INTELLIGENCE

JAMES RASH, ed. and PETER HUGHES, ed. Aug. 1988 437 p Conference held in Greenbelt, Md., 24 May 1988 Sponsored by NASA, Washington, D.C. (NASA-CP-3009; REPT-88B0212; NAS 1.55:3009) Avail: NTIS HC A19/MF A03 CSCL 09B

AEROSPACE ENGINEERING, ARTIFICIAL INTELLIGENCE, COMPUTERIZED SIMULATION, CONFERENCES, EXPERT SYSTEMS, IMAGE PROCESSING, MISSION PLANNING

N89-26578*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

THE 1989 GODDARD CONFERENCE ON SPACE APPLICATIONS OF ARTIFICIAL INTELLIGENCE

JAMES RASH, ed. Washington Apr. 1989 385 p Conference held in Greenbelt, MD, 16-17 May 1989 (NASA-CP-3033; REPT-89B00099; NAS 1.55:3033) Avail: NTIS HC A17/MF A03 CSCL 09B

ARTIFICIAL INTELLIGENCE, COMPUTER VISION, COMPUTERIZED SIMULATION, CONFERENCES, DATA MANAGEMENT, EXPERT SYSTEMS, FAILURE ANALYSIS, IMAGE PROCESSING, MISSION PLANNING

N90-10618*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

OPTIMIZED RESOLVED RATE CONTROL OF SEVEN-DEGREE-OF-FREEDOM LABORATORY TELEROBOTIC MANIPULATOR (LTM) WITH APPLICATION TO THREE-DIMENSIONAL GRAPHICS SIMULATION

L. KEITH BARKER and WILLIAM S. MCKINNEY, JR. Washington Oct. 1989 80 p (NASA-TP-2938; L-16562; NAS 1.60:2938) Avail: NTIS HC A05/MF A01 CSCL 09B

DEGREES OF FREEDOM, MANIPULATORS, OPTIMAL CONTROL, REAL TIME OPERATION, ROBOT CONTROL, ROBOTICS, TELEROBOTICS

N90-22294*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

THE 1990 GODDARD CONFERENCE ON SPACE APPLICATIONS OF ARTIFICIAL INTELLIGENCE

JAMES L. RASH, ed. May 1990 342 p Conference held in Greenbelt, MD, 1-2 May 1990 (NASA-CP-3068; REPT-90B00078; NAS 1.55:3068) Avail: NTIS HC A15/MF A02 CSCL 09B

ARCHITECTURE (COMPUTERS), ARTIFICIAL INTELLIGENCE, CONFERENCES, FAULT TOLERANCE, PLANNING, SCHEDULING

64

NUMERICAL ANALYSIS

Includes iteration, difference equations, and numerical approximation.

N87-14054*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SOME PATH-FOLLOWING TECHNIQUES FOR SOLUTION OF NONLINEAR EQUATIONS AND COMPARISON WITH PARAMETRIC DIFFERENTIATION

R. L. BARGER and R. W. WALTERS (Virginia Polytechnic Inst. and State Univ., Blacksburg.) 1986 16 p (NASA-TP-2654; L-16199; NAS 1.60:2654) Avail: NTIS HC A03/MF A01 CSCL 12A

COMPUTER PROGRAMMING, CRITICAL PATH METHOD, DIFFERENTIAL EQUATIONS, NONLINEAR EQUATIONS, PARAMETER IDENTIFICATION

N87-14918*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

SOLUTION OF ELLIPTIC PARTIAL DIFFERENTIAL EQUATIONS BY FAST POISSON SOLVERS USING A LOCAL RELAXATION FACTOR. 2: TWO-STEP METHOD

S. C. CHANG May 1986 17 p (NASA-TP-2530; E-2528-1; NAS 1.60:2530) Avail: NTIS HC A03/MF A01 CSCL 12A

ELLIPTIC DIFFERENTIAL EQUATIONS, ELLIPTIC FUNCTIONS, PARTIAL DIFFERENTIAL EQUATIONS, PROBLEM SOLVING

N87-22441*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

QUANTITATIVE ANALYSIS OF THE RECONSTRUCTION PERFORMANCE OF INTERPOLANTS

DONALD L. LANSING and STEPHEN K. PARK (College of William and Mary, Williamsburg, Va.) May 1987 35 p
(NASA-TP-2688; L-16164; NAS 1.60:2688) Avail: NTIS HC A03/MF A01 CSCL 12A

INTERPOLATION, QUANTITATIVE ANALYSIS, RECONSTRUCTION

N87-22447*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AN ALGORITHM FOR SURFACE SMOOTHING WITH RATIONAL SPLINES

JAMES R. SCHIESS Jun. 1987 17 p
(NASA-TP-2708; L-16272; NAS 1.60:2708) Avail: NTIS HC A03/MF A01 CSCL 12A

ALGORITHMS, RATIONAL FUNCTIONS, SMOOTHING, SPLINE FUNCTIONS, SURFACE ROUGHNESS

N87-28367*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EXPERIMENTS IN ENCODING MULTILEVEL IMAGES AS QUADTREES

DONALD L. LANSING Sep. 1987 60 p
(NASA-TP-2722; L-16292; NAS 1.60:2722) Avail: NTIS HC A04/MF A01 CSCL 12A

CODING, DATA COMPRESSION, DATA STORAGE, GRAY SCALE, IMAGE PROCESSING

N89-12316*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THREE-DIMENSIONAL MULTIGRID ALGORITHMS FOR THE FLUX-SPLIT EULER EQUATIONS

W. KYLE ANDERSON, JAMES L. THOMAS, and DAVID L. WHITFIELD (Mississippi State Univ., Mississippi State.) Nov. 1988 41 p
(NASA-TP-2829; L-16416; NAS 1.60:2829) Avail: NTIS HC A03/MF A01 CSCL 12A

APPROXIMATION, COMPUTATIONAL FLUID DYNAMICS, EULER EQUATIONS OF MOTION, FLUX VECTOR SPLITTING, THREE DIMENSIONAL FLOW

N89-16415*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EFFECT OF EPHEMERIS ERRORS ON THE ACCURACY OF THE COMPUTATION OF THE TANGENT POINT ALTITUDE OF A SOLAR SCANNING RAY AS MEASURED BY THE SAGE 1 AND 2 INSTRUMENTS

JAMES J. BUGLIA Washington, DC Feb. 1989 29 p
(NASA-TP-2866; L-16485; NAS 1.60:2866) Avail: NTIS HC A03/MF A01 CSCL 12A

ALTITUDE, APPROXIMATION, EPHEMERIDES, POSITION ERRORS, SAGE SATELLITE, SCANNING, SPACECRAFT ORBITS, SUN, TANGENTS

65

STATISTICS AND PROBABILITY

Includes data sampling and smoothing; Monte Carlo method; and stochastic processes.

N87-23244*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DEVELOPMENT OF CONFIDENCE LIMITS BY PIVOTAL FUNCTIONS FOR ESTIMATING SOFTWARE RELIABILITY

KELLY J. DOTSON Jun. 1987 12 p

(NASA-TP-2709; L-16264; NAS 1.60:2709) Avail: NTIS HC A03/MF A01 CSCL 12A

CONFIDENCE LIMITS, FAILURE ANALYSIS, PREDICTIONS, RELIABILITY ANALYSIS, SOFTWARE ENGINEERING

N87-27474*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

PROBABILISTIC RISK ANALYSIS OF FLYING THE SPACE SHUTTLE WITH AND WITHOUT FUEL TURBINE DISCHARGE TEMPERATURE REDLINE PROTECTION

LEONARD HOWELL Aug. 1987 22 p
(NASA-TP-2759; NAS 1.60:2759) Avail: NTIS HC A03/MF A01 CSCL 12A

ENGINE FAILURE, MATHEMATICAL MODELS, SPACE SHUTTLE MAIN ENGINE, SPACECRAFT RELIABILITY, STOCHASTIC PROCESSES, TEMPERATURE SENSORS

N88-17380*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SURE RELIABILITY ANALYSIS: PROGRAM AND MATHEMATICS

RICKY W. BUTLER and ALLAN L. WHITE Mar. 1988 77 p
(NASA-TP-2764; L-16263; NAS 1.60:2764) Avail: NTIS HC A05/MF A01 CSCL 12A

APPLICATIONS PROGRAMS (COMPUTERS), FAULT TOLERANCE, MARKOV PROCESSES, MATHEMATICAL MODELS, RELIABILITY ANALYSIS

N88-22653*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ANALYSIS AND TESTING OF THE SURE PROGRAM

KELLY J. DOTSON 1988 1 p
(NASA-TP-2817; L-16413; NAS 1.60:2817) PREVIEW CSCL 12A

COMPUTER PROGRAMS, ERROR ANALYSIS, FAULT TOLERANCE, MARKOV PROCESSES, MATHEMATICAL MODELS, RELIABILITY ANALYSIS

66

SYSTEMS ANALYSIS

Includes mathematical modeling; network analysis; and operations research.

N88-21740*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Center, Edwards, CA.

USER'S MANUAL FOR LINEAR, A FORTRAN PROGRAM TO DERIVE LINEAR AIRCRAFT MODELS

EUGENE L. DUKE, BRIAN P. PATTERSON, and ROBERT F. ANTONIEWICZ Dec. 1987 109 p
(NASA-TP-2768; H-1259; NAS 1.60:2768) Avail: NTIS HC A06/MF A01 CSCL 12B

AIRCRAFT MODELS, COMPUTER PROGRAMS, FORTRAN, LINEARIZATION

N89-16437*# National Aeronautics and Space Administration. Hugh L. Dryden Flight Research Facility, Edwards, CA.

USER'S MANUAL FOR INTERACTIVE LINEAR: A FORTRAN PROGRAM TO DERIVE LINEAR AIRCRAFT MODELS

ROBERT F. ANTONIEWICZ, EUGENE L. DUKE, and BRIAN P. PATTERSON Sep. 1988 126 p
(NASA-TP-2835; H-1443; NAS 1.60:2835) Avail: NTIS HC A07/MF A01 CSCL 12B

AIRCRAFT DESIGN, FORTRAN, INTERACTIVE CONTROL, LINEAR SYSTEMS, USER MANUALS (COMPUTER PROGRAMS)

67 THEORETICAL MATHEMATICS

67

THEORETICAL MATHEMATICS

Includes topology and number theory.

N89-14052*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.
AN ECONOMICAL SEMI-ANALYTICAL ORBIT THEORY FOR MICRO-COMPUTER APPLICATIONS
R. A. GORDON Washington, D.C. Mar. 1988 46 p
(NASA-TP-2811; REPT-86B0451; NAS 1.60:2811) Avail: NTIS HC A03/MF A01 CSCL 12A
AERODYNAMIC DRAG, COMPUTER TECHNIQUES, ORBIT CALCULATION, ORBIT PERTURBATION, ZONAL HARMONICS

70

PHYSICS (GENERAL)

N89-14053*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
A GENERAL FORMALISM FOR PHASE SPACE CALCULATIONS
JOHN W. NORBURY, PHILIP A. DEUTCHMAN, LAWRENCE W. TOWNSEND, and FRANCIS A. CUCINOTTA (Old Dominion Univ., Norfolk, Va.) Nov. 1988 23 p
(NSF PHY-84-11009)
(NASA-TP-2843; L-16463; NAS 1.60:2843) Avail: NTIS HC A03/MF A01 CSCL 20C
GALACTIC COSMIC RAYS, NORMALITY, PHASE-SPACE INTEGRAL

N90-12282*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.
PARAMETRIC STUDY OF POWER ABSORPTION FROM ELECTROMAGNETIC WAVES BY SMALL FERRITE SPHERES
GERALD W. ENGLERT Nov. 1989 22 p
(NASA-TP-2949; E-4601; NAS 1.60:2949) Avail: NTIS HC A03/MF A01 CSCL 20C
EDDY CURRENTS, ELECTROMAGNETIC RADIATION, FERRITES, HYSTERESIS, RADIATION ABSORPTION, SPHERES

N90-18957*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.
ANNIHILATION IN GASES AND GALAXIES
RICHARD J. DRACHMAN, ed. Washington Jan. 1990 271 p
Workshop held in Greenbelt, MD, 19-21 Jul. 1989
(NASA-CP-3058; REPT-90B00019; NAS 1.55:3058) Avail: NTIS HC A12/MF A02 CSCL 20H
ANNIHILATION REACTIONS, ANTIMATTER, POSITRONIUM, POSITRONS, SCATTERING CROSS SECTIONS

71

ACOUSTICS

Includes sound generation, transmission, and attenuation.

N87-14120*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
EFFECTS OF BACKGROUND NOISE ON TOTAL NOISE ANNOYANCE

K. F. WILLSHIRE Jan. 1987 59 p
(NASA-TP-2630; L-16153; NAS 1.60:2630) Avail: NTIS HC A04/MF A01 CSCL 46A
BACKGROUND NOISE, EFFECTIVE PERCEIVED NOISE LEVELS, NOISE INTENSITY, NOISE POLLUTION, NOISE TOLERANCE

N87-17479*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
POWER CEPSTRUM TECHNIQUE WITH APPLICATION TO MODEL HELICOPTER ACOUSTIC DATA
R. M. MARTIN and C. L. BURLEY Washington Jun. 1986 68 p
(NASA-TP-2586; L-16070; NAS 1.60:2586) Avail: NTIS HC A04/MF A01 CSCL 20A
ACOUSTIC MEASUREMENT, CEPSTRAL ANALYSIS, HELICOPTERS, MODELS, SIGNAL REFLECTION

N87-18399*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
CORRELATION OF HELICOPTER IMPULSIVE NOISE FROM BLADE-VORTEX INTERACTION WITH ROTOR MEAN INFLOW
ANDREW B. CONNOR and R. M. MARTIN Mar. 1987 23 p
(NASA-TP-2650; L-16145; NAS 1.60:2650) Avail: NTIS HC A03/MF A01 CSCL 20A
BLADE SLAP NOISE, BLADE-VORTEX INTERACTION, ROTOR BLADES (TURBOMACHINERY), VORTICES, WIND TUNNEL TESTS

N87-20798*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
EXPERIMENTAL VALIDATION OF A TWO-DIMENSIONAL SHEAR-FLOW MODEL FOR DETERMINING ACOUSTIC IMPEDANCE
TONY L. PARROTT, WILLIE R. WATSON, and MICHAEL G. JONES (PRC Kentron, Inc., Hampton, Va.) May 1987 50 p
(NASA-TP-2679; L-16203; NAS 1.60:2679) Avail: NTIS HC A03/MF A01 CSCL 20A
ACOUSTIC IMPEDANCE, MODELS, SHEAR FLOW, TWO DIMENSIONAL FLOW, TWO DIMENSIONAL MODELS

N87-24161*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
ANNOYANCE RESPONSE TO SIMULATED ADVANCED TURBOPROP AIRCRAFT INTERIOR NOISE CONTAINING TONAL BEATS
JACK D. LEATHERWOOD Jul. 1987 28 p
(NASA-TP-2689; L-16184; NAS 1.60:2689) Avail: NTIS HC A03/MF A01 CSCL 20A
AIRCRAFT COMPARTMENTS, AIRCRAFT NOISE, HUMAN TOLERANCES, PSYCHOLOGICAL EFFECTS, RESPONSES

N88-11450*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
EVALUATION OF A SCALE-MODEL EXPERIMENT TO INVESTIGATE LONG-RANGE ACOUSTIC PROPAGATION
TONY L. PARROTT, GERRY L. MCANINCH, and INGRID A. CARLBERG Nov. 1987 55 p
(NASA-TP-2748; L-16300; NAS 1.60:2748) Avail: NTIS HC A04/MF A01 CSCL 20A
ACOUSTICS, FEASIBILITY ANALYSIS, MATHEMATICAL MODELS, SCALE MODELS, TERRAIN, WAVE PROPAGATION

N88-13002*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.
MEASUREMENT OF VELOCITY AND VORTICITY FIELDS IN THE WAKE OF AN AIRFOIL IN PERIODIC PITCHING MOTION
EARL R. BOOTH, JR. Dec. 1987 31 p
(NASA-TP-2780; L-16339; NAS 1.60:2780) Avail: NTIS HC A03/MF A01 CSCL 20A
AIRFOILS, PITCH (INCLINATION), VORTICES, VORTICITY, WAKES

N88-16510*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SHOCK STRUCTURE AND NOISE OF SUPERSONIC JETS IN SIMULATED FLIGHT TO MACH 0.4

THOMAS D. NORUM and JOHN G. SHEARIN Feb. 1988 187 p

(NASA-TP-2785; L-16341; NAS 1.60:2785) Avail: NTIS HC A09/MF A01 CSCL 20A

JET AIRCRAFT NOISE, MACH NUMBER, SHOCK WAVES, SUPERSONIC AIRCRAFT

N88-17440*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

MEASURED AND CALCULATED ACOUSTIC ATTENUATION RATES OF TUNED RESONATOR ARRAYS FOR TWO SURFACE IMPEDANCE DISTRIBUTION MODELS WITH FLOW

TONY L. PARROTT, A. LOUIS ABRAHAMSON, and MICHAEL G. JONES (PRC Kentron, Inc., Hampton, Va.) Jan. 1988 51 p

(NASA-TP-2766; L-16352; NAS 1.60:2766) Avail: NTIS HC A04/MF A01 CSCL 20A

ACOUSTIC ATTENUATION, ACOUSTIC IMPEDANCE, CAVITY RESONATORS, ENGINE NOISE, FINITE ELEMENT METHOD, GRAZING FLOW, NOISE REDUCTION

N88-17441*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ANNOYANCE CAUSED BY ADVANCED TURBOPROP AIRCRAFT FLYOVER NOISE: SINGLE-ROTATING PROPELLER CONFIGURATION

DAVID A. MCCURDY Mar. 1988 43 p

(NASA-TP-2782; L-16301; NAS 1.60:2782) Avail: NTIS HC A03/MF A01 CSCL 20A

ENGINE NOISE, JET AIRCRAFT NOISE, NOISE INTENSITY, NOISE TOLERANCE, PROPELLER FANS, TOLERANCES (PHYSIOLOGY)

N88-22710*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ADVANCING-SIDE DIRECTIVITY AND RETREATING-SIDE INTERACTIONS OF MODEL ROTOR BLADE-VORTEX INTERACTION NOISE

R. M. MARTIN, W. R. SPLETTSTOESSER, J. W. ELLIOTT, and K.-J. SCHULTZ (Deutsche Forschungs- und Versuchsanstalt fuer Luft- und Raumfahrt, Brunswick, West Germany) May 1988 43 p

(NASA-TP-2784; L-16354; NAS 1.60:2784; AVSCOM-TR-87-B-3) Avail: NTIS HC A03/MF A01 CSCL 20A

BLADE-VORTEX INTERACTION, ROTOR AERODYNAMICS

N88-26907*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

HELICOPTER MAIN-ROTOR NOISE: DETERMINATION OF SOURCE CONTRIBUTIONS USING SCALED MODEL DATA

THOMAS F. BROOKS, J. RALPH JOLLY, JR. (Planning Research Corp., Hampton, Va.), and MICHAEL A. MARCOLINI Aug. 1988 66 p

(NASA-TP-2825; L-16399; NAS 1.60:2825) Avail: NTIS HC A04/MF A01 CSCL 20A

AIRCRAFT NOISE, BLADE SLAP NOISE, BO-105 HELICOPTER, ROTARY WINGS, WIND TUNNEL TESTS

N89-25673*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AIRFOIL SELF-NOISE AND PREDICTION

THOMAS F. BROOKS, D. STUART POPE (PRC Kentron, Inc., Hampton, Va.), and MICHAEL A. MARCOLINI Jul. 1989 145 p

(NASA-RP-1218; L-16528; NAS 1.61:1218) Avail: NTIS HC A07/MF A01 CSCL 20A

A prediction method is developed for the self-generated noise of an airfoil blade encountering smooth flow. The prediction methods for the individual self-noise mechanisms are semiempirical and are based on previous theoretical studies and data obtained from tests of two- and three-dimensional airfoil blade sections.

The self-noise mechanisms are due to specific boundary-layer phenomena, that is, the boundary-layer turbulence passing the trailing edge, separated-boundary-layer and stalled flow over an airfoil, vortex shedding due to laminar boundary layer instabilities, vortex shedding from blunt trailing edges, and the turbulent vortex flow existing near the tip of lifting blades. The predictions are compared successfully with published data from three self-noise studies of different airfoil shapes. An application of the prediction method is reported for a large scale-model helicopter rotor, and the predictions compared well with experimental broadband noise measurements. A computer code of the method is given. Author

N90-10680*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

FLUCTUATING PRESSURES MEASURED BENEATH A HIGH-TEMPERATURE, TURBULENT BOUNDARY LAYER ON A FLAT PLATE AT MACH NUMBER OF 5

TONY L. PARROTT, MICHAEL G. JONES (Planning Research Corp., Hampton, Va.), and CINDY W. ALBERTSON Washington Nov. 1989 39 p

(NASA-TP-2947; L-16596; NAS 1.60:2947) Avail: NTIS HC A03/MF A01 CSCL 20A

HIGH TEMPERATURE, MACH NUMBER, PIEZORESISTIVE TRANSDUCERS, PRESSURE MEASUREMENT, SIGNAL PROCESSING, TURBULENT BOUNDARY LAYER

N90-24853*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

FAA/NASA EN ROUTE NOISE SYMPOSIUM

CLEMANS A. POWELL, comp. Washington Apr. 1990 301 p Symposium held in Hampton, VA, 12-13 Sep. 1989

(NASA-CP-3067; L-16763; NAS 1.55:3067) Avail: NTIS HC A14/MF A02 CSCL 20A

AIRCRAFT NOISE, AIRPORTS, CONFERENCES, NASA PROGRAMS, NOISE POLLUTION, NOISE TOLERANCE, PROPELLERS, ROUTES

N90-29166* National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ANNOYANCE CAUSED BY ADVANCED TURBOPROP AIRCRAFT FLYOVER NOISE:

COUNTER-ROTATING-PROPELLER CONFIGURATION

DAVID A. MCCURDY Washington Sep. 1990 88 p

(NASA-TP-3027; L-16780; NAS 1.60:3027) Avail: NTIS HC A05/MF A01 CSCL 20A

HUMAN TOLERANCES, NOISE INTENSITY, NOISE TOLERANCE, PROPELLER NOISE, PSYCHOACOUSTICS, SOUND PRESSURE

72

ATOMIC AND MOLECULAR PHYSICS

Includes atomic structure, electron properties, and molecular spectra.

N89-30022*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

AUGER ELECTRON INTENSITY VARIATIONS IN OXYGEN-EXPOSED LARGE GRAIN POLYCRYSTALLINE SILVER

W. S. LEE, R. A. OUTLAW, G. B. HOF LUND, and M. R. DAVIDSON (Florida Univ., Gainesville.) 1989 18 p

(NASA-TP-2930; L-16579; NAS 1.60:2930) Avail: NTIS HC A03/MF A01 CSCL 20H

AUGER SPECTROSCOPY, CRYSTALLOGRAPHY, ELECTRON FLUX DENSITY, OXYGEN RECOMBINATION, POLYCRYSTALS, SILVER

73 NUCLEAR AND HIGH-ENERGY PHYSICS

73

NUCLEAR AND HIGH-ENERGY PHYSICS

Includes elementary and nuclear particles; and reactor theory.

N87-17487*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

DOUBLY DIFFERENTIAL CROSS SECTIONS FOR GALACTIC HEAVY-ION FRAGMENTATION

FRANCIS A. CUCINOTTA (Old Dominion Univ., Norfolk, Va.), JOHN W. NORBURY, GOVIND S. KHANDELWAL, and LAWRENCE W. TOWNSEND Feb. 1987 23 p

(NASA-TP-2659; L-16187; NAS 1.60:2659) Avail: NTIS HC A03/MF A01 CSCL 20H

COLLISION PARAMETERS, GALAXIES, HEAVY IONS, PARTICLE COLLISIONS, SCATTERING CROSS SECTIONS

N87-24977*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

POSSIBLE COMPLEMENTARY COSMIC-RAY SYSTEMS: NUCLEI AND ANTINUCLEI

WARREN W. BUCK, JOHN W. WILSON, LAWRENCE W. TOWNSEND, and JOHN W. NORBURY (Idaho Univ., Moscow.) Jul. 1987 47 p

(NASA-TP-2741; L-16275; NAS 1.60:2741) Avail: NTIS HC A03/MF A01 CSCL 20H

ANTIMATTER, ANTIPARTICLES, GALACTIC COSMIC RAYS, HEAVY IONS, NUCLEI (NUCLEAR PHYSICS)

N88-13015*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

NUCLEAR TECHNIQUES IN STUDIES OF CONDENSED MATTER

JAG J. SINGH Aug. 1987 22 p

(NASA-RP-1195; L-16361; NAS 1.61:1195) Avail: NTIS HC A03/MF A01 CSCL 20H

Nuclear techniques have played an important role in the studies of materials over the past several decades. For example, X-ray diffraction, neutron diffraction, neutron activation, and particle- or photon-induced X-ray emission techniques have been used extensively for the elucidation of structural and compositional details of materials. Several new techniques have been developed recently. Four such techniques are briefly reviewed which have great potential in the study and development of new materials. Of these four, Mossbauer spectroscopy, muon spin rotation, and positron annihilation spectroscopy techniques exploit their great sensitivity to the local atomic environments in the test materials. Interest in synchrotron radiation, on the other hand, stems from its special properties, such as high intensity, high degree of polarization, and high monochromaticity. It is hoped that this brief review will stimulate interest in the exploitation of these newer techniques for the development of improved materials. Author

N88-30402*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

EIKONAL SOLUTIONS TO OPTICAL MODEL COUPLED-CHANNEL EQUATIONS

FRANCIS A. CUCINOTTA, GOVIND S. KHANDELWAL, KHIN M. MAUNG (Old Dominion Univ., Norfolk, Va.), LAWRENCE W. TOWNSEND, and JOHN W. WILSON Nov. 1988 30 p

(NASA-TP-2830; L-16462; NAS 1.60:2830) Avail: NTIS HC A03/MF A01 CSCL 20H

EIKONAL EQUATION, ELASTIC SCATTERING, HEAVY IONS, INELASTIC SCATTERING, IONIC COLLISIONS, NUCLEAR SCATTERING, SCATTERING AMPLITUDE

N90-14890*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

CALCULATION OF TWO-NEUTRON MULTIPLICITY IN PHOTONUCLEAR REACTIONS

JOHN W. NORBURY (Rider Coll., Lawrenceville, NJ.) and

LAWRENCE W. TOWNSEND Jan. 1990 11 p
(NASA-TP-2968; L-16610; NAS 1.60:2968) Avail: NTIS HC A03/MF A01 CSCL 20H

EJECTION, EXCITATION, PARTICLE COLLISIONS, PARTICLE EMISSION, PHOTONUCLEAR REACTIONS

74

OPTICS

Includes light phenomena; and optical devices.

N87-13264*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

THEORY FOR COMPUTING THE FIELD SCATTERED FROM A SMOOTH INFLECTED SURFACE

R. L. BARGER and A. K. DOMINEK 1986 23 p

(NASA-TP-2632; L-16157; NAS 1.60:2632) Avail: NTIS HC A03/MF A01 CSCL 20F

BODIES OF REVOLUTION, ELECTROMAGNETIC RADIATION, MICROWAVES, REFLECTANCE, SURFACE PROPERTIES, WAVE SCATTERING

N90-25673*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

MODE-MEDIUM INSTABILITY AND ITS CORRECTION WITH A GAUSSIAN REFLECTIVITY MIRROR

K. L. WEBSTER and C. C. SUNG (Alabama Univ., Huntsville.) Washington Jun. 1990 26 p

(NASA-TP-3023; NAS 1.60:3023) Avail: NTIS HC A03/MF A01 CSCL 20F

CARBON DIOXIDE LASERS, HIGH POWER LASERS, LASER BEAMS, LASER STABILITY, LASING, MIRRORS, REFLECTANCE

75

PLASMA PHYSICS

Includes magnetohydrodynamics and plasma fusion.

N87-10764*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

LASER-POWERED MHD GENERATORS FOR SPACE APPLICATION

N. W. JALUFKA Oct. 1986 15 p

(NASA-TP-2621; NAS 1.60:2621) Avail: NTIS HC A03/MF A01 CSCL 20I

ENERGY CONVERSION EFFICIENCY, LASER PLASMA INTERACTIONS, MAGNETOHYDRODYNAMIC GENERATORS

N87-14998*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, OH.

ASYMPTOTIC ANALYSIS OF CORONA DISCHARGE FROM THIN ELECTRODES

P. A. DURBIN Sep. 1986 7 p

(NASA-TP-2645; E-3151; NAS 1.60:2645) Avail: NTIS HC A02/MF A01 CSCL 20I

ASYMPTOTIC METHODS, ELECTRIC CORONA, ELECTRIC DISCHARGES, ELECTRODES

N88-18443*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

LASER PRODUCTION AND HEATING OF PLASMA FOR MHD APPLICATION

N. W. JALUFKA Mar. 1988 11 p

(NASA-TP-2798; L-16373; NAS 1.60:2798) Avail: NTIS HC A03/MF A01 CSCL 201
ELECTRIC GENERATORS, ENERGY CONVERSION EFFICIENCY, MAGNETOHYDRODYNAMIC GENERATORS, PLASMA HEATING

N89-14842*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.
LUNAR HELIUM-3 AND FUSION POWER
Washington, DC Sep. 1988 234 p Workshop held in Cleveland, Ohio, 25-26 Apr. 1988
(NASA-CP-10018; E-4254; NAS 1.55:10018) Avail: NTIS HC A11/MF A02 CSCL 201
HELIUM ISOTOPES, LUNAR SOIL, MINING, NUCLEAR FUSION, REGOLITH

76

SOLID-STATE PHYSICS

Includes superconductivity.

N90-12348*# National Aeronautics and Space Administration, Lewis Research Center, Cleveland, OH.
FORTRAN PROGRAM FOR X RAY PHOTOELECTRON SPECTROSCOPY DATA REFORMATTING
PHILLIP B. ABEL Nov. 1989 10 p
(NASA-TP-2957; E-4867; NAS 1.60:2957) Avail: NTIS HC A02/MF A01 CSCL 20L
BINARY DATA, COMPUTER PROGRAMS, ELECTRON SPECTROSCOPY, FORMAT, FORTRAN, X RAY SPECTROSCOPY

81

ADMINISTRATION AND MANAGEMENT

Includes management planning and research.

N87-20833* National Aeronautics and Space Administration, Washington, DC.
MANAGEMENT: A BIBLIOGRAPHY FOR NASA MANAGERS (SUPPLEMENT 21)
Apr. 1987 70 p
(NASA-SP-7500(21); NAS 1.21:7500(21)) Avail: NTIS HC A04 CSCL 05A

This bibliography lists 664 reports, articles and other documents introduced into the NASA scientific and technical information system in 1986. Items are selected and grouped according to their usefulness to the manager as manager. Citations are grouped into ten subject categories: human factors and personnel issues; management theory and techniques; industrial management and manufacturing; robotics and expert systems; computers and information management; research and development; economics, costs, and markets; logistics and operations management; reliability and quality control; and legality, legislation, and policy. Author

N88-21867* National Aeronautics and Space Administration, Washington, DC.
MANAGEMENT: A BIBLIOGRAPHY FOR NASA MANAGERS
Apr. 1988 158 p
(NASA-SP-7500(22); NAS 1.21:7500(22)) Avail: NTIS HC A08 CSCL 05A

This bibliography lists 653 reports, articles and other documents introduced into the NASA scientific and technical information system in 1987. Items are selected and grouped according to their usefulness to the manager as manager. Citations are grouped

into ten subject categories; human factors and personnel issues; management theory and techniques; industrial management and manufacturing; robotics and expert systems; computers and information management; research and development; economics, costs and markets; logistics and operations management, reliability and quality control; and legality, legislation, and policy. Author

N89-12479*# National Aeronautics and Space Administration, Washington, DC.
ISSUES IN NASA PROGRAM AND PROJECT MANAGEMENT
FRANCIS T. HOBAN, ed. Oct. 1988 51 p
(NASA-SP-6101; NAS 1.21:6101) Avail: NTIS HC A04/MF A01 CSCL 05A

This collection of papers and resources on aerospace management issues is inspired by a desire to benefit from the lessons learned from past projects and programs. Inherent in the NASA culture is a respect for divergent viewpoints and innovative ways of doing things. This publication presents a wide variety of views and opinions. Good management is enhanced when program and project managers examine the methods of veteran managers, considering the lessons they have learned and reflected on their own guiding principles. Author

N89-26766* National Aeronautics and Space Administration, Washington, DC.
MANAGEMENT: A BIBLIOGRAPHY FOR NASA MANAGERS
Apr. 1989 198 p
(NASA-SP-7500(23); NAS 1.21:7500(23)) Avail: NTIS HC A09 CSCL 05A

This bibliography lists 822 reports, articles and other documents introduced into the NASA Scientific and Technical Information System in 1988. Items are selected and grouped according to their usefulness to the manager as manager. Citations are grouped into ten subject categories: human factors and personnel issues; management theory and techniques; industrial management and manufacturing; robotics and expert systems; computers and information management; research and development; economics, costs and markets; logistics and operations management; reliability and quality control; and legality, legislation, and policy. Author

N90-12385*# National Aeronautics and Space Administration, Washington, DC.
WORKING WITH PEOPLE TO IMPROVE PRODUCTIVITY AND QUALITY: A BIBLIOGRAPHY WITH INDEXES, 1984-1988
Oct. 1989 72 p
(NASA-SP-7078; NAS 1.21:7078) Avail: NTIS HC A04 CSCL 05A

This bibliography contains 253 annotated references to reports and journal articles entered into the NASA scientific and technical information database 1984 to 1988. Author

N90-13277*# National Aeronautics and Space Administration, Washington, DC.
ISSUES IN NASA PROGRAM AND PROJECT MANAGEMENT
FRANCIS T. HOBAN, ed. 1989 57 p
(NASA-SP-6101(02); NAS 1.21:6101(02)) Avail: NTIS HC A04/MF A01; SOD HC \$15.00 as 033-000-010-64-8 CSCL 05A

This new collection of papers on aerospace management issues contains a history of NASA program and project management, some lessons learned in the areas of management and budget from the Space Shuttle Program, an analysis of tools needed to keep large multilayer programs organized and on track, and an update of resources for NASA managers. A wide variety of opinions and techniques are presented. Author

N90-24174* National Aeronautics and Space Administration, Washington, DC.
MANAGEMENT: A BIBLIOGRAPHY FOR NASA MANAGERS
Mar. 1990 190 p
(NASA-SP-7500(24); NAS 1.21:7500(24)) Avail: NTIS HC A09 CSCL 05A

This bibliography lists 755 reports, articles and other documents introduced into the NASA Scientific and Technical Information

System in 1989. Items are selected and grouped according to their usefulness to the manager as manager. Citations are grouped into ten subject categories: human factors and personnel issues; management theory and techniques; industrial management and manufacturing; robotics and expert systems; computers and information management; research and development; economics, costs and markets; logistics and operations management; reliability and quality control; and legality, legislation, and policy. Author

82

DOCUMENTATION AND INFORMATION SCIENCE

Includes information management; information storage and retrieval technology; technical writing; graphic arts; and micrography.

N87-25023* National Aeronautics and Space Administration, Washington, DC.

NASA PATENT ABSTRACTS BIBLIOGRAPHY: A CONTINUING BIBLIOGRAPHY. SECTION 1: ABSTRACTS (SUPPLEMENT 31)

Jul. 1987 45 p
(NASA-SP-7039(31)-Sect-1; NAS 1.21:7039(31)-Sect-1) Avail: NTIS HC A03; NTIS standing order as PB86-911100, \$11.50 domestic, \$23.00 foreign CSCL 05B

Abstracts are provided for 85 patents and patent applications entered into the NASA scientific and technical information system during the period January 1987 through June 1987. Each entry consists of a citation, an abstract, and in most cases, a key illustration selected from the patent or patent application. Author

N87-26689* National Aeronautics and Space Administration, Washington, DC.

NASA PATENT ABSTRACTS BIBLIOGRAPHY: A CONTINUING BIBLIOGRAPHY. SECTION 2: INDEXES (SUPPLEMENT 31)

Jul. 1987 493 p
(NASA-SP-7039(31)-SECT-2; NAS 1.21:7039(31)-SECT-2) Avail: NTIS HC A21 CSCL 05B

A subject index is provided for over 4600 patents and patent applications for the period May 1969 through June 1987. Additional indexes list personal authors, corporate authors, contract numbers, NASA case numbers, U.S. patent class numbers, and NASA accession numbers. Author

N87-27557* National Aeronautics and Space Administration, Washington, DC.

NASA THESAURUS SUPPLEMENT: A FOUR PART CUMULATIVE SUPPLEMENT TO THE 1985 EDITION OF THE NASA THESAURUS (SUPPLEMENT 3)

Jul. 1987 325 p
(NASA-SP-7053-SUPPL-3; NAS 1.21:7053-SUPPL-3) Avail: NTIS HC A14 CSCL 05B

The four part cumulative NASA Thesaurus Supplement to the 1985 edition of the NASA Thesaurus includes Part 1, Hierarchical Listing, Part 2, Access Vocabulary, Part 3, NASA Thesaurus Definitions, and Part 4, Changes. The semiannual supplement gives complete hierarchies for new terms. Author

N87-30218*# National Aeronautics and Space Administration, Washington, DC.

NASA SCIENTIFIC AND TECHNICAL PUBLICATIONS: A CATALOG OF SPECIAL PUBLICATIONS, REFERENCE PUBLICATIONS, CONFERENCE PUBLICATIONS, AND TECHNICAL PAPERS, 1977-1986

Sep. 1987 390 p
(NASA-SP-7063(01); NAS 1.21:7063(01)) Avail: NTIS HC free as PR-655B; NASA Scientific and Technical Information Facility, P.O. Box 8757, BWI Airport, Md. 21240 HC free CSCL 05B

This catalog lists 2311 citations of all NASA Special Publications, NASA Reference Publications, NASA Conference Publications, and NASA Technical Papers that were entered into the NASA scientific

and technical database during the decade 1977 through 1986. The entries are grouped by subject category. Indexes of subject terms, personal authors, and NASA report numbers are provided.

Author

N88-15732* National Aeronautics and Space Administration, Washington, DC.

NASA PATENT ABSTRACTS BIBLIOGRAPHY: A CONTINUING BIBLIOGRAPHY. SECTION 1: ABSTRACTS (SUPPLEMENT 32)

Jan. 1988 61 p
(NASA-SP-7039(32)-SECT-1; NAS 1.21:7039(32)-SECT-1) Avail: NTIS HC A04; NTIS standing order as PB 88-911100, \$12.50 domestic, \$25.00 foreign CSCL 05B

Abstracts are provided for 136 patents and patent applications entered into the NASA scientific and technical information system during the period July through December 1987. Each entry consists of a citation, an abstract, and in most cases, a key illustration selected from the patent or patent application. Author

N88-18511* National Aeronautics and Space Administration, Washington, DC.

NASA PATENT ABSTRACTS BIBLIOGRAPHY: A CONTINUING BIBLIOGRAPHY. SECTION 2: INDEXES (SUPPLEMENT 32)

Jan. 1988 499 p
(NASA-SP-7039(32)-SECT-2; NAS 1.21:7039(32)-SECT-2) Avail: NTIS HC A21; NTIS standing order as PB88-911100, \$26.50 domestic, \$53.00 foreign CSCL 05B

A subject index is provided for over 4700 patents and patent applications for the period May 1969 through December 1987. Additional indexes list personal authors, corporate authors, contract numbers, NASA case numbers, U.S. patent class numbers, U.S. patent numbers, and NASA accession numbers. Author

N88-22830*# National Aeronautics and Space Administration, Washington, DC.

NASA SCIENTIFIC AND TECHNICAL PUBLICATIONS: A CATALOG OF SPECIAL PUBLICATIONS, REFERENCE PUBLICATIONS, CONFERENCE PUBLICATIONS, AND TECHNICAL PAPERS, 1987

Mar. 1988 69 p
(NASA-SP-7063(02); NAS 1.21:7063(02)) Avail: NTIS HC free as PR-828; NASA Scientific and Technical Information Facility, P.O. Box 8757, BWI Airport, Md. 21240 HC free CSCL 05B

This catalog lists 239 citations of all NASA Special Publications, NASA Reference Publications, NASA Conference Publications, and NASA Technical Papers that were entered in the NASA scientific and technical information database during accession year 1987. The entries are grouped by subject category. Indexes of subject terms, personal authors, and NASA report numbers are provided. Author

N89-13301*# National Aeronautics and Space Administration, Washington, DC.

NASA THESAURUS. VOLUME 3: DEFINITIONS

Jul. 1988 148 p
(NASA-SP-7064-VOL-3; NAS 1.21:7064-VOL-3) Avail: NTIS HC A07 CSCL 05B

Publication of NASA Thesaurus definitions began with Supplement 1 to the 1985 NASA Thesaurus. The definitions given here represent the complete file of over 3,200 definitions, complimented by nearly 1,000 use references. Definitions of more common or general scientific terms are given a NASA slant if one exists. Certain terms are not defined as a matter of policy: common names, chemical elements, specific models of computers, and nontechnical terms. The NASA Thesaurus predates by a number of years the systematic effort to define terms, therefore not all Thesaurus terms have been defined. Nevertheless, definitions of older terms are continually being added. The following data are provided for each entry: term in uppercase/lowercase form, definition, source, and year the term (not the definition) was added to the NASA Thesaurus. The NASA History Office is the authority for capitalization in satellite and spacecraft names. Definitions with no source given were constructed by lexicographers at the NASA

Scientific and Technical Information (STI) Facility who rely on the following sources for their information: experts in the field, literature searches from the NASA STI database, and specialized references. Author

N89-15779*# National Aeronautics and Space Administration, Washington, DC.

THE NASA SCIENTIFIC AND TECHNICAL INFORMATION SYSTEM: ITS SCOPE AND COVERAGE

Dec. 1988 216 p
(NASA-SP-7065; NAS 1.21:7065) Avail: NTIS HC A10/MF A02 CSCL 05B

A general description of the subject areas covered in the NASA scientific and technical information system is presented. In addition, it establishes subject-based selection criteria for guiding decisions related to the addition of new documents to the NASA collection. Author

N89-25775* National Aeronautics and Space Administration, Washington, DC.

NASA PATENT ABSTRACTS BIBLIOGRAPHY: A CONTINUING BIBLIOGRAPHY. SECTION 1: ABSTRACTS (SUPPLEMENT 35)

Jun. 1989 38 p
(NASA-SP-7039(35)-SECT-1; NAS 1.21:7039(35)-SECT-1) Avail: NTIS HC A03; NTIS standing order as PB89-911100, \$13.75 domestic, \$27.50 foreign CSCL 05B

Abstracts are provided for 58 patents and patent applications entered into the NASA scientific and technical information systems during the period January 1989 through June 1989. Each entry consists of a citation, an abstract, and in most cases, a key illustration selected from the patent or patent application. Author

N89-29264* National Aeronautics and Space Administration, Washington, DC.

NASA PATENT ABSTRACTS BIBLIOGRAPHY: A CONTINUING BIBLIOGRAPHY. SECTION 2: INDEXES (SUPPLEMENT 35)

Jan. 1989 512 p
(NASA-SP-7039(35)-SECT-2; NAS 1.21:7039(35)-SECT-2) Avail: NTIS HC A22; NTIS standing order as PB89-911100, \$29.00 domestic, \$58.00 foreign CSCL 05B

A subject index is provided for over 4600 patents and patent applications for the period May 1969 through June 1989. Additional indexes list personal authors, corporate authors, contract numbers, NASA case numbers, U.S. patent class numbers, U.S. patent numbers, and NASA accession numbers. Author

N90-10782*# National Aeronautics and Space Administration, Washington, DC.

NASA SCIENTIFIC AND TECHNICAL PUBLICATIONS: A CATALOG OF SPECIAL PUBLICATIONS, REFERENCE PUBLICATIONS, CONFERENCE PUBLICATIONS, AND TECHNICAL PAPERS, 1988

Feb. 1989 57 p
(NASA-SP-7063(03); NAS 1.21:7063(03)) Avail: NTIS HC free as PR-849; NASA Scientific and Technical Information Facility, BWI Airport, MD free CSCL 05B

This catalog lists 179 citations of all NASA Special Publications, NASA Reference Publications, NASA Conference Publications, and NASA Technical Papers that were entered into the NASA scientific and technical information database during accession year 1988. The entries are grouped by subject category. Indexes of subject terms, personal authors, and NASA report numbers are provided. Author

N90-22438*# National Aeronautics and Space Administration, Washington, DC.

NASA THESAURUS SUPPLEMENT: A FOUR PART CUMULATIVE SUPPLEMENT TO THE 1988 EDITION OF THE NASA THESAURUS (SUPPLEMENT 3) Semiannual Report

Mar. 1989 33 p
(NASA-SP-7064-SUPPL-3; NAS 1.21:7064-SUPPL-3) Avail: NTIS HC A03/MF A01 CSCL 05B

The four-part cumulative supplement to the 1988 edition of

the NASA Thesaurus includes the Hierarchical Listing (Part 1), Access Vocabulary (Part 2), Definitions (Part 3), and Changes (Part 4). The semiannual supplement gives complete hierarchies and accepted upper/lowercase forms for new terms. Author

N90-25698* National Aeronautics and Space Administration, Washington, DC.

NASA PATENT ABSTRACTS BIBLIOGRAPHY: A CONTINUING BIBLIOGRAPHY. SECTION 1: ABSTRACTS (SUPPLEMENT 37)

Jan. 1989 43 p
(NASA-SP-7039(37)-SECT-1; NAS 1.21:7039(37)-SECT-1) Avail: NTIS HC A04; NTIS standing order as PB89-911100, \$15.00 domestic, \$30.00 foreign CSCL 05B

Abstracts are provided for 76 patents and patent applications entered into the NASA scientific and technical information systems during the period January 1990 through June 1990. Each entry consists of a citation, an abstract, and in most cases, a key illustration selected from the patent or patent application. Author

N90-26700* National Aeronautics and Space Administration, Washington, DC.

NASA PATENT ABSTRACTS BIBLIOGRAPHY: A CONTINUING BIBLIOGRAPHY. SECTION 2: INDEXES (SUPPLEMENT 37)

Jan. 1989 507 p
(NASA-SP-7039(37)-SECT-2; NAS 1.21:7039(37)-SECT-2) Avail: NTIS HC A22; NTIS standing order as PB90-911100, \$32.00 domestic, \$64.00 foreign CSCL 05B

A subject index is provided for over 4600 patents and patent applications for the period May 1969 through June 1990. Additional indexes list personal authors, corporate authors, contract numbers, NASA case numbers, U.S. patent class numbers, U.S. patent numbers, and NASA accession numbers. Author

N90-26710*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

GRAMMAR, PUNCTUATION, AND CAPITALIZATION: A HANDBOOK FOR TECHNICAL WRITERS AND EDITORS

MARY K. MCCASKILL Washington 1990 112 p
(NASA-SP-7084; L-16617; NAS 1.21:7084) Avail: NTIS HC A06/MF A01 CSCL 05B

Writing problems are addressed which are often encountered in technical documents and preferences are indicated (Langley's) when authorities do not agree. It is directed toward professional writers, editors, and proofreaders. Those whose profession lies in other areas (for example, research or management), but who have occasion to write or review others' writing will also find this information useful. A functional attitude toward grammar and punctuation is presented. Chapter 1 on grammar presents grammatical problems related to each part of speech. Chapter 2 on sentence structure concerns syntax, that is, effective arrangement of words, with emphasis on methods of revision to improve writing effectiveness. Chapter 3 addresses punctuation marks, presenting their function, situations when they are required or incorrect, and situations when they are appropriate but optional. Chapter 4 presents capitalization, which is mostly a matter of editorial style and preference rather than a matter of generally accepted rules. An index and glossary are included. Author

N90-27548*# National Aeronautics and Space Administration, Washington, DC.

INFORMATION RESOURCES MANAGEMENT, 1984-1989: A BIBLIOGRAPHY WITH INDEXES

May 1990 202 p
(NASA-SP-7079; NAS 1.21:7079) Avail: NTIS HC A10 CSCL 05B

This bibliography contains 768 annotated references to reports and journal articles entered into the NASA scientific and technical information database 1984 to 1989. Author

LAW, POLITICAL SCIENCE AND SPACE POLICY

Includes NASA appropriation hearings; aviation law; space law and policy; international law; international cooperation; and patent policy.

N88-19375*# National Aeronautics and Space Administration, Washington, DC.

SPACELAB: AN INTERNATIONAL SUCCESS STORY

DOUGLAS R. LORD (Science Applications International Corp., Washington, D.C.) 1987 565 p Original contains color illustrations

(NASW-4092)

(NASA-SP-487; NAS 1.21:487; LC-86-17979) Avail: NTIS HC A24/MF A03 CSCL 05D

Spacelab is a European-developed and U.S.-operated space laboratory carried in the cargo bay of the Space Shuttle Orbiter. This story of the Spacelab Development Program traces the program from the origin of the Spacelab concept, describing negotiations and agreements for European participation and the role of Europe and the United States in system development, operational capability development, and utilization planning. It also considers the joint management structure, coordination, and experience in solving management and technical interface problems. The book is not an exhaustive historical treatise, but an informative and readable story of the evolution and technical accomplishments of this unique program in manned space flight and of some of the unusual political and human interest aspects of the program from the viewpoint of one of the key participants.

Author

URBAN TECHNOLOGY AND TRANSPORTATION

Includes applications of space technology to urban problems; technology transfer; technology assessment; and surface and mass transportation.

N87-70425* National Aeronautics and Space Administration, Washington, DC.

SIGNIFICANT NASA INVENTIONS. AVAILABLE FOR LICENSING IN FOREIGN COUNTRIES

1977 103 p

(NASA-SP-7038(04); NAS 1.21:7038(04)) Avail: SOD HC \$5.00 as 003-000-00986-1; NTIS MF A01

SPACE SCIENCES (GENERAL)

N87-23313*# National Aeronautics and Space Administration, Marshall Space Flight Center, Huntsville, AL.

DOUBLE LAYERS IN ASTROPHYSICS

ALTON C. WILLIAMS, ed. and TAUNA W. MOOREHEAD, ed. May 1987 321 p Workshop held in Huntsville, Ala., 17-19 Mar. 1986; sponsored by NASA, Washington and USRA

(NASA-CP-2469; M-560; NAS 1.55:2469) Avail: NTIS HC

A14/MF A02 CSCL 03B

CONFERENCES, ELECTRIC FIELDS, ENERGY TRANSFER,

MATHEMATICAL MODELS, PLASMA LAYERS, PLASMA PHYSICS, SPACE PLASMAS

N87-24247*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

ESSAYS IN SPACE SCIENCE

REUVEN RAMATY, ed., THOMAS L. CLINE, ed., and JONATHAN F. ORMES, ed. Jun. 1987 424 p Symposium held in Greenbelt, Md., 23 Apr. 1985

(NASA-CP-2464; REPT-87B0055; NAS 1.55:2464) Avail: NTIS HC A18/MF A03 CSCL 03B

ASTROPHYSICS, CONFERENCES, COSMIC RAYS, GAMMA RAY ASTRONOMY, INFRARED ASTRONOMY, X RAY ASTRONOMY

N87-28471*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

CALCULATION AND ACCURACY OF ERBE SCANNER MEASUREMENT LOCATIONS

LAWRENCE H. HOFFMAN, WILLIAM L. WEAVER, and JAMES F. KIBLER Sep. 1987 34 p

(NASA-TP-2670; L-16218; NAS 1.60:2670) Avail: NTIS HC A03/MF A01 CSCL 03B

COMPUTATION, EARTH ATMOSPHERE, EARTH RADIATION BUDGET EXPERIMENT, POSITION (LOCATION), REMOTE SENSING, SCANNING

N88-25390*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

A STUDY OF SPACE STATION CONTAMINATION EFFECTS

M. R. TORR, ed., J. F. SPANN, ed., and T. W. MOOREHEAD, ed. May 1988 141 p Workshop held in Hilton Head Island, S.C., 29-30 Oct. 1987 Sponsored by NASA, Washington

(NASA-CP-3002; M-586; NAS 1.55:3002) Avail: NTIS HC A07/MF A01 CSCL 22B

CONFERENCES, CONTAMINANTS, EARTH ORBITAL ENVIRONMENTS, SPACE STATIONS, SPACECRAFT CONTAMINATION

N89-14188*# National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, TX.

REPORT OF THE IN SITU RESOURCES UTILIZATION WORKSHOP

KYLE FAIRCHILD, ed. and WENDELL W. MENDELL, ed. Nov. 1988 85 p Workshop held in Lake Buena Vista, Fla., 28-30 Jan. 1987; sponsored by NASA, DOE, Large Scale Programs Inst., United Technologies Corp., Kraft Foods and Disney Imagineering

(NASA-CP-3017; S-581; NAS 1.55:3017) Avail: NTIS HC A05/MF A01 CSCL 03B

LUNAR EXPLORATION, SPACE COMMERCIALIZATION, SPACE HABITATS, TECHNOLOGY ASSESSMENT

N89-14189*# National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, TX.

REMOTE SENSING IN POLARIZED LIGHT

VICTOR S. WHITEHEAD and KINSELL L. COULSON (California Univ., Davis.) Oct. 1988 40 p Proceedings of Workshop held in Houston, Tex., 3-5 Nov. 1987

(NASA-CP-3014; S-577; NAS 1.55:3014) Avail: NTIS HC A03/MF A01 CSCL 05B

CAMERAS, EARTH OBSERVATIONS (FROM SPACE), IMAGING TECHNIQUES, POLARIZATION (WAVES), RADIATIVE TRANSFER, SPACE SHUTTLE PAYLOADS

N89-14998*# National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, TX.

EXPERIMENTS IN PLANETARY AND RELATED SCIENCES AND THE SPACE STATION

RONALD GREELEY, ed. (Arizona State Univ., Tempe.) and RICHARD J. WILLIAMS, ed. Washington, DC Nov. 1987 188 p Workshop held in Tempe, AZ, 15-16 Sep. 1986

(NCC9-14; NAS9-17023)

(NASA-CP-2494; S-566; NAS 1.55:2494) Avail: NTIS HC

A09/MF A02 CSCL 03B

ASTROPHYSICS, CONFERENCES, INTERSTELLAR CHEMISTRY, PARTICLE INTERACTIONS, ROBOTICS, SPACE STATION PAYLOADS, SPACEBORNE EXPERIMENTS

N89-15790*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

SPACE STATION INDUCED MONITORING

JAMES F. SPANN, ed. and MARSHA R. TORR, ed. Washington, DC Nov. 1988 85 p Conference held in Huntsville, AL, 10-11 May 1988 Sponsored by NASA, Washington (NASA-CP-3021; M-602; NAS 1.55:3021) Avail: NTIS HC A05/MF A01 CSCL 22B

AEROSPACE ENVIRONMENTS, ENVIRONMENTAL MONITORING, SPACE STATIONS, SPACECRAFT CHARGING

N90-18329*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

SOLAR-TERRESTRIAL SCIENCE STRATEGY WORKSHOP

PETER M. BANKS, ed., WILLIAM T. ROBERTS, ed., and JACK KROPP, ed. (TRW, Inc., Redondo Beach, CA.) Washington Sep. 1989 73 p Workshop held in Stanford, CA, 12-16 Sep. 1988 Original contains color illustrations

(NASA-CP-3048; M-617; NAS 1.55:3048) Avail: NTIS HC A04/MF A01; 4 functional color pages CSCL 03B

CONFERENCES, MISSION PLANNING, NASA PROGRAMS, SOLAR TERRESTRIAL INTERACTIONS, SPACEBORNE EXPERIMENTS, STRATEGY, TECHNOLOGY ASSESSMENT

N90-27562*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

CARBON IN THE GALAXY: STUDIES FROM EARTH AND SPACE

JILL C. TARTER, ed., SHERWOOD CHANG, ed., and DOUG J. DEFREES, ed. (Molecular Research Inst., Palo Alto, CA.) Washington Apr. 1990 350 p Meeting held at Moffett Field, CA, 5-6 Nov. 1987

(NASA-CP-3061; A-90031; NAS 1.55:3061) Avail: NTIS HC A15/MF A02 CSCL 03B

CARBON, COMETS, CONFERENCES, INTERPLANETARY DUST, INTERSTELLAR CHEMISTRY, METEORITIC DIAMONDS, MILKY WAY GALAXY

89

ASTRONOMY

Includes radio, gamma-ray, and infrared astronomy; and astrometry.

N87-14219*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

TEN YEAR PLANETARY EPHEMERIS: 1986-1995

F. ESPENAK Nov. 1986 249 p (NASA-RP-1176; NAS 1.61:1176; REPT-86B0471) Avail: NTIS HC A11/MF A02 CSCL 03A

Accurate geocentric positions are tabulated at five day intervals for the Sun, Mercury, Venus, Mars, Jupiter, Saturn, Uranus and Neptune during the ten year period 1986 through 1995. The apparent angular diameters, radial velocities, declinations and mean times of meridian transit of the seven planets and the Sun are graphically depicted for each year in the interval. Appendices are included which discuss the theory of planetary orbits and a FORTRAN program for calculating planetary ephemerides.

Author

N87-22573*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

INFRARED SOURCE CROSS-INDEX, FIRST EDITION

MARION SCHMITZ (Computer Sciences Corp., Beltsville, Md.),

JAYLEE M. MEAD, and DANIEL Y. GEZARI Apr. 1987 323 p (NASA-RP-1182; REPT-87B0058; NAS 1.61:1182) Avail: NTIS HC A14/MF A02 CSCL 03A

The Infrared Source Cross-Index is a listing of correlated infrared source names (and positions) for astronomical objects observed at 1-1000 microns. The source names have been obtained from the database of the first edition of the Catalog of Infrared Observations (CIO: NASA RP 1118), covering observations published through 1982. Additional identifications were located by correlating these names with identifications contained in other machine-readable astronomical catalogs in the NASA National Space Science Data Center (NSSDC). There are some 80,000 different source names in the Cross-Index, corresponding to over 27,000 unique infrared sources.

Author

N87-24266*# National Aeronautics and Space Administration, Washington, DC.

STAR FORMATION IN GALAXIES

May 1987 755 p Conference held in Pasadena, Calif., 16-19 Jun. 1986

(NASA-CP-2466; NAS 1.55:2466) Avail: NTIS HC A99/MF E06 CSCL 03A

CONFERENCES, GALACTIC STRUCTURE, GALAXIES, INFRARED ASTRONOMY, MOLECULAR CLOUDS, RADIO ASTRONOMY, STAR FORMATION, STELLAR LUMINOSITY

N87-25906*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

FIFTY YEAR CANON OF SOLAR ECLIPSES: 1986 - 2035

FRED ESPENAK Jul. 1987 272 p (NASA-RP-1178-REV; REPT-87B0252; NAS 1.61:1178-REV) Avail: NTIS HC A12/MF A02 CSCL 03A

A complete catalog is presented, listing the general characteristics of every solar eclipse from 1901 through 2100. To complement this catalog, a detailed set of cylindrical projection world maps shows the umbral paths of every solar eclipse over the 200 year interval. Focusing in on the next 50 years, accurate geodetic path coordinates and local circumstances for the 71 central eclipses from 1987 through 2035 are tabulated. Finally, the geodetic paths of the umbral and penumbral shadows of all 109 solar eclipses in this period are plotted on orthographic projection maps of the Earth. Appendices are included which discuss eclipse geometry, eclipse frequency and occurrence, modern eclipse prediction and time determination. Finally, code for a simple Fortran program is given to predict the occurrence and characteristics of solar eclipses.

Author

N88-15738*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

CATALOG OF INFRARED OBSERVATIONS. PART 1: DATA Second Edition

DANIEL Y. GEZARI, MARION SCHMITZ (Computer Sciences Corp., Beltsville, Md.), and JAYLEE M. MEAD Dec. 1987 625 p (NASA-RP-1196-PT-1-ED-2; NAS 1.61:1196-PT-1-ED-2) Avail: NTIS HC A99/MF A04 CSCL 03A

The Catalog of Infrared Observations (CIO) is a compilation of infrared astronomical observational data obtained from an extensive literature search of astronomical journals and major astronomical catalogs and surveys. The literature searches are complete for 1965 through 1986 in this Second Edition. The Catalog is published in two parts, with the observational data (roughly 200,000 observations of 20,000 individual sources) listed in Part I, and supporting appendices in Part II. The expanded Second Edition contains a new feature: complete IRAS 4-band data for all CIO sources detected, listed with the main Catalog observations, as well as in complete detail in the Appendix. The appendices include an atlas of infrared source positions, two bibliographies of infrared literature upon which the search was based, and, keyed to the main Catalog listings (organized alphabetically by author and then chronologically), an atlas of infrared spectral ranges, and IRAS data from the CIO sources. The complete CIO database is available to qualified users in printed microfiche and magnetic tape formats.

Author

N88-16615*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

CATALOG OF INFRARED OBSERVATIONS. PART 2: APPENDIXES Second Edition

DANIEL Y. GEZARI, MARION SCHMITZ, and JAYLEE M. MEAD
Dec. 1987 343 p
(NASA-RP-1196-PT-2-ED-2; NAS 1.61:1196-PT-2-ED-2) Avail:
NTIS HC A15/MF A02 CSCL 03A

The Catalog of Infrared Observations (CIO) is a compilation of infrared astronomical observational data obtained from an extensive literature search of astronomical journals and major astronomical catalogs and surveys. The literature searches are complete for years 1965 to 1986. Supporting appendixes are published in this part. The appendixes include an atlas of infrared source positions, two bibliographies of infrared literature upon which the search was based, and, keyed to the main Catalog listings (organized alphabetically by first author, and by date), an atlas of infrared spectral ranges, and IRAS data for the CIO sources. The complete CIO database is available to qualified users in printed microfiche and magnetic tape formats.

Author

N88-24553*# National Aeronautics and Space Administration, Washington, DC.

NASA THESAURUS: ASTRONOMY VOCABULARY

1988 112 p Presented at the International Astronomical Union Conference, Baltimore, Md., 27-31 Jul. 1988
(NASA-SP-7069; NAS 1.21:7069) Avail: NTIS HC A06 CSCL 03A

A terminology of descriptors used by the NASA Scientific and Technical information effort to index documents in the area of astronomy is presented. The terms are listed in hierarchical format derived from the 1988 edition of the NASA Thesaurus Volume 1 -- Hierarchical Listing. Over 1600 terms are included. In addition to astronomy, space sciences covered include astrophysics, cosmology, lunar flight and exploration, meteors and meteorites, celestial mechanics, planetary flight and exploration, and planetary science.

Author

N88-30545*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

FAR INFRARED SUPPLEMENT: CATALOG OF INFRARED OBSERVATIONS, SECOND EDITION

DANIEL Y. GEZARI, MARION SCHMITZ (Computer Sciences Corp., Beltsville, Md.), and JAYLEE M. MEAD Aug. 1988 233 p
(NASA-RP-1205; REPT-88B-121; NAS 1.61:1205) Avail: NTIS HC A11/MF A02 CSCL 03A

The Far Infrared Supplement: Catalog of Infrared Observations summarizes all infrared astronomical observations at far infrared wavelengths (5 to 1000 microns) published in the scientific literature from 1965 through 1986. The Supplement list contain 25 percent of the observations in the full Catalog of Infrared Observations (CIO), and essentially eliminates most visible stars from the listings. The Supplement is thus more compact than the main catalog, and is intended for easy reference during astronomical observations. The Far Infrared Supplement (2nd Edition) includes the Index of Infrared Source Positions and the Bibliography of Infrared Astronomy for the subset of far infrared observations listed.

Author

N89-11657*# National Aeronautics and Space Administration, Washington, DC.

O STARS AND WOLF-RAYET STARS

PETER S. CONTI, ANNE B. UNDERHILL, STUART JORDAN, ed., and RICHARD THOMAS, ed. 1988 508 p Prepared in cooperation with Centre National de la Recherche Scientifique, Paris (France)
(NASA-SP-497; NAS 1.21:497) Avail: SOD HC \$24.00 as 033-000-01021-4; NTIS A01 CSCL 03A

Basic information is given about O and Wolf-Rayet stars indicating how these stars are defined and what their chief observable properties are. Part 2 of the volume discussed four related themes pertaining to the hottest and most luminous stars. Presented are: an observational overview of the spectroscopic

classification and extrinsic properties of O and Wolf-Rayet stars; the intrinsic parameters of luminosity, effective temperature, mass, and composition of the stars, and a discussion of their viability; stellar wind properties; and the related issues concerning the effects of stellar radiation and wind on the immediate interstellar environment are presented. B.G.

N89-12513*# National Aeronautics and Space Administration, Washington, DC.

ATLAS OF GALAXIES USEFUL FOR MEASURING THE COSMOLOGICAL DISTANCE SCALE

ALLAN SANDAGE and JOHN BEDKE (Space Telescope Science Inst., Baltimore, Md.) 1988 462 p Prepared for Computer Sciences Corp., Baltimore, Md. Prepared in cooperation with Johns Hopkins Univ., Baltimore, Md.

(NASA-SP-496; NAS 1.21:496; LC-88-600056) Avail: NTIS HC A20; also available SOD HC \$80.00 as 033-000-01020-6 CSCL 03A

A critical first step in determining distances to galaxies is to measure some property of primary objects such as stars of specific types, H II regions, and supernovae remnants that are resolved out of the general galactic star content. With the completion of the Mount Wilson/Palomar/Las Campanas survey of bright galaxies in 1985, excellent large-scale photographs of the complete Shapley-Ames sample were on hand. Most of the galaxies useful for distance scale calibration are in this collection. This atlas contains photographs of 322 galaxies including the majority of all Shapley-Ames bright galaxies, plus cluster members in the Virgo Cluster core that might be usefully resolved by the Hubble Space Telescope (HST). Because of crowding and high background-disk surface brightness, the choice of field position is crucial for programs involving resolution of particular galaxies into stars. The purpose of this atlas is to facilitate this choice. Enough information is given herein (coordinates of the galaxy centers and the scale of the photography) to allow optimum placement of the HST wide-field planetary camera format of approximately 150 arc-seconds on a side.

Author

N89-13310*# National Aeronautics and Space Administration, Ames Research Center, Moffett Field, CA.

SECOND WORKSHOP ON IMPROVEMENTS TO PHOTOMETRY

WILLIAM J. BORUCKI, ed. Sep. 1988 314 p Workshop held in Gaithersburg, Md., 5-6 Oct. 1987; sponsored by NASA, Ames Research Center, Moffett Field, Calif. and NBS, Gaithersburg, Md. (NASA-CP-10015; A-88125; NAS 1.55:10015) Avail: NTIS HC A14/MF A02 CSCL 03A

ASTRONOMICAL PHOTOMETRY, CONFERENCES, FIBER OPTICS, PHOTOMETERS

N89-13330*# National Aeronautics and Space Administration, Washington, DC.

INFRARED OBSERVATIONS OF COMETS HALLEY AND WILSON AND PROPERTIES OF THE GRAINS

MARTHA S. HANNER, ed. (Jet Propulsion Lab., California Inst. of Tech., Pasadena.) Sep. 1988 200 p Workshop held at Ithaca, N.Y., 10-12 Aug. 1987

(NASA-CP-3004; NAS 1.55:3004) Avail: NTIS HC A09/MF A02 CSCL 03A

COMETARY ATMOSPHERES, COSMIC DUST, HALLEY'S COMET, INFRARED SPECTRA

N89-15810*# National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, TX.

FUTURE ASTRONOMICAL OBSERVATORIES ON THE MOON

JACK O. BURNS, ed. (New Mexico Univ., Albuquerque.) and WENDELL W. MENDELL, ed. Washington, DC Mar. 1988 129 p Workshop held in Houston, TX, 10 Jan. 1986; sponsored by NASA, Johnson Space Flight Center, Houston, TX and American Astronomical Society, Washington, DC
(NASA-CP-2489; S-569; NAS 1.55:2489) Avail: NTIS HC A07/MF A01 CSCL 03A

ASTRONOMICAL OBSERVATORIES, LUNAR BASES, LUNAR OBSERVATORIES, RADIO ASTRONOMY, RADIO TELESCOPES

N90-10805*# New Mexico Univ., Albuquerque. Inst. for Astrophysics.

A LUNAR FAR-SIDE VERY LOW FREQUENCY ARRAY

JACK O. BURNS, ed., NEBOJSA DURIC, ed., STEWART JOHNSON, ed. (BDM Corp., Albuquerque, NM.), and G. JEFFREY TAYLOR, ed. Nov. 1989 75 p Workshop held in Albuquerque, NM, 18-19 Feb. 1988; sponsored by NASA, Washington, New Mexico Univ., Albuquerque, and BDM Corp., Albuquerque, NM Sponsored by NASA, Washington (NASA-CP-3039; NAS 1.55:3039) Avail: NTIS HC A04/MF A01 CSCL 03A

ARRAYS, CONFERENCES, LIBRATION, LUNAR BASES, MOON, RADIO ASTRONOMY, STRUCTURAL DESIGN, VERY LOW FREQUENCIES

N90-10807*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

AUTOMATIC CLASSIFICATION OF SPECTRA FROM THE INFRARED ASTRONOMICAL SATELLITE (IRAS)

PETER CHEESEMAN, JOHN STUTZ, MATTHEW SELF, WILLIAM TAYLOR (Sterling Federal Systems, Inc., Palo Alto, CA.), JOHN GOEBEL, KEVIN VOLK, and HELEN WALKER Mar. 1989 595 p (NASA-RP-1217; NAS 1.61:1217) Avail: NTIS HC A25/MF A04 CSCL 03A

A new classification of Infrared spectra collected by the Infrared Astronomical Satellite (IRAS) is presented. The spectral classes were discovered automatically by a program called Auto Class 2. This program is a method for discovering (inducing) classes from a data base, utilizing a Bayesian probability approach. These classes can be used to give insight into the patterns that occur in the particular domain, in this case, infrared astronomical spectroscopy. The classified spectra are the entire Low Resolution Spectra (LRS) Atlas of 5,425 sources. There are seventy-seven classes in this classification and these in turn were meta-classified to produce nine meta-classes. The classification is presented as spectral plots, IRAS color-color plots, galactic distribution plots and class commentaries. Cross-reference tables, listing the sources by IRAS name and by Auto Class class, are also given. These classes show some of the well known classes, such as the black-body class, and silicate emission classes, but many other classes were unsuspected, while others show important subtle differences within the well known classes. Author

N90-18342*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

FIFTY YEAR CANON OF LUNAR ECLIPSES: 1986-2035

FRED ESPENAK Mar. 1989 221 p (NASA-RP-1216; REPT-89B00056; NAS 1.61:1216) Avail: NTIS HC A10/MF A02 CSCL 03A

A complete catalog is presented, listing the general circumstances of every lunar eclipse from 1901 through 2100. To compliment this catalog, a set of figures illustrate the basic Moon-shadow geometry and global visibility for every lunar eclipse over the 200 year interval. Focusing in on the next fifty years, 114 detailed diagrams show the Moon's path through Earth's shadow during every eclipse, including contact times at each phase. The accompanying cylindrical projection maps of Earth show regions of hemispheric visibility for all phases. The appendices discuss eclipse geometry, eclipse frequency and recurrence, enlargement of Earth's shadow, crater timings, eclipse brightness and time determination. Finally, a simple FORTRAN program is provided which can be used to predict the occurrence and general characteristics of lunar eclipses. This work is a companion volume to NASA Reference Publication 1178: Fifty Year Canon of Solar Eclipses: 1986-2035. Author

N90-28470*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

SPATIAL INTERFEROMETRY IN OPTICAL ASTRONOMY

DANIEL Y. GEZARI, FRANCOIS RODDIER, and CLAUDE RODDIER (Hawaii Univ., Honolulu.) Washington Sep. 1990

249 p

(NASA-RP-1245; REPT-90-069; NAS 1.61:1245) Avail: NTIS HC A11/MF A02 CSCL 03A

A bibliographic guide is presented to publications of spatial interferometry techniques applied to optical astronomy. Listings appear in alphabetical order, by first author, as well as in specific subject categories listed in chronological order, including imaging theory and speckle interferometry, experimental techniques, and observational results of astronomical studies of stars, the Sun, and the solar system. Author

90

ASTROPHYSICS

Includes cosmology; celestial mechanics; space plasmas; and interstellar and interplanetary gases and dust.

N87-30235*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

ATLAS OF COMET HALLEY 1910 II

BERTRAM DONN, JUERGEN RAHE, and JOHN C. BRANDT 1986 597 p (NASA-SP-488; NAS 1.21:488; LC-86-16341) Avail: SOD HC \$48.00 as 033-000-00991-7; NTIS MF A01 CSCL 03B

With the impending return of Halley's Comet in 1986, a major effort began to collect the material obtained at its last appearance in 1910. This material displays the evolving coma and tail phenomena, and is useful for comparison with the present quantitative studies of spectroscopic and structural phenomena. Images in the atlas are arranged in chronological order by day. Days that have multiple images with varying scale are arranged in two sequences. Photographs showing tail phenomena are first, followed by photographs obtained with longer focus instruments showing the head or near-nuclear region. Drawings of Comet Halley, made from visual observations in 1835 and 1910, also are included. B.G.

N88-11592*# National Aeronautics and Space Administration. Washington, DC.

THE M-TYPE STARS

HOLLIS RALPH JOHNSON, FRANCOIS R. QUERCI, STUART JORDAN, ed., RICHARD THOMAS, ed., LEO GOLDBERG (Kitt Peak National Observatory, Tucson, Ariz.), and JEAN-CLAUDE PECKER 1987 576 p Prepared in cooperation with CNRS, Paris, France Its Monograph Series on Nonthermal Phenomena in Stellar Atmospheres, Volume 5

(NASA-SP-492; NAS 1.21:492; LC-87-11340) Avail: SOD HC \$26.00 as 033-000-01007-9; NTIS MF A01 CSCL 03B

The papers in this volume cover the following topics: (1) basic properties and photometric variability of M and related stars; (2) spectroscopy and nonthermal processes; (3) circumstellar radio molecular lines; (4) circumstellar shells, the formation of grains, and radiation transfer; (5) mass loss; (6) circumstellar chemistry; (7) thermal atmospheric models; (8) quasi-thermal models; (9) observations on the atmospheres of M dwarfs; and (1) theoretical work on M dwarfs. For individual titles, see N88-11593 through N88-11602.

N88-20235*# National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.

WORKSHOP ON TECHNOLOGY DEVELOPMENT ISSUES FOR THE LARGE DEPLOYABLE REFLECTOR (LDR)

KENJI NISHIOKA, ed. Feb. 1986 118 p Workshop held in Asilomar, Calif., 17-22 Mar. 1985 (NASA-CP-2407; A-85394; NAS 1.55:2407) Avail: NTIS HC A06/MF A01 CSCL 03B

CRYOGENIC COOLING, DEPLOYMENT, INFRARED ASTRONOMY, INFRARED TELESCOPES, LARGE DEPLOYABLE

90 ASTROPHYSICS

REFLECTOR, LARGE SPACE STRUCTURES, REFLECTORS, TECHNOLOGY ASSESSMENT

N88-28843* National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

INTERNATIONAL ULTRAVIOLET EXPLORER SPECTRAL ATLAS OF PLANETARY NEBULAE, CENTRAL STARS, AND RELATED OBJECTS

WALTER A. FEIBELMAN, NANCY A. OLIVERSEN, JOY NICHOLSBOHLIN, and MATTHEW P. GARHART (Computer Sciences Corp., Beltsville, Md.) Jun. 1988 380 p (NAS5-28749) (NASA-RP-1203; NAS 1.61:1203) Avail: NTIS HC A17 C SCL 03B

The International Ultraviolet Explorer (IUE) archives contain a wealth of information on high quality ultraviolet spectra of approximately 180 planetary nebulae, their central stars, and related objects. Selected are representative low-dispersion IUE spectra in the range 1200 to 3200 Å for 177 objects arranged by Right Ascension (RA) for this atlas. For most entries, the combined short wavelength (SWP) (1200 to 1900) and long wavelength (LWR) (or LWP, 1900 to 3200 Å) regions are shown on 30 cm by 10 cm Calcomp plots on a uniform scale to facilitate intercomparison of the spectra. Each calibrated spectrum is also shown on an expanded vertical scale to bring out some of the weaker features.

Author

N88-29652*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

CATALOG OF OPEN CLUSTERS AND ASSOCIATED INTERSTELLAR MATTER

DAVID LEISAWITZ Jun. 1988 294 p (NASA-RP-1202; REPT-88B0152; NAS 1.61:1202) Avail: NTIS HC A13/MF A02 C SCL 03B

The Catalog of Open Clusters and Associated Interstellar Matter summarizes observations of 128 open clusters and their associated ionized, atomic, and molecular interstellar matter. Cluster sizes, distances, radial velocities, ages, and masses, and the radial velocities and masses of associated interstellar medium components, are given. The database contains information from approximately 400 references published in the scientific literature before 1988.

Author

N89-14194*# Jet Propulsion Lab., California Inst. of Tech., Pasadena.

INFRARED ASTRONOMICAL SATELLITE (IRAS) CATALOGS AND ATLASES. VOLUME 1: EXPLANATORY SUPPLEMENT

C. A. BEICHMAN, ed., G. NEUGEBAUER, ed., H. J. HABING, ed., P. E. CLEGG, ed., and THOMAS J. CHESTER, ed. (California Inst. of Tech., Pasadena.) Washington, D.C. 1988 455 p Prepared in cooperation with Netherlands Agency for Aerospace Programs, Delft, and Science Research Council, London, United Kingdom Sponsored by NASA, Washington (NASA-RP-1190-VOL-1; NAS 1.61:1190-VOL-1) Avail: NTIS HC A20/MF A03; also available SOD C SCL 03B

The Infrared Astronomical Satellite (IRAS) was launched on January 26, 1983. During its 300-day mission, IRAS surveyed over 96 pct of the celestial sphere at four infrared wavelengths, centered approximately at 12, 25, 60, and 100 microns. Volume 1 describes the instrument, the mission, and data reduction.

Author

N89-14195*# Jet Propulsion Lab., California Inst. of Tech., Pasadena.

INFRARED ASTRONOMICAL SATELLITE (IRAS) CATALOGS AND ATLASES. VOLUME 5: THE POINT SOURCE CATALOG DECLINATION RANGE -30 DEG GREATER THAN DELTA GREATER THAN -50 DEG

Washington, D.C. 1988 410 p Prepared in cooperation with Netherlands Agency for Aerospace Programs, Delft, and Science Research Council, London, United Kingdom Sponsored by NASA, Washington (NASA-RP-1190-VOL-5; NAS 1.61:1190-VOL-5) Avail: NTIS HC A18/MF A03; also available SOD C SCL 03B

The Infrared Astronomical Satellite (IRAS) was launched January 26, 1983. During its 300-day mission, IRAS surveyed over 96 pct of the celestial sphere at four infrared wavelengths, centered approximately at 12, 25, 60, and 100 microns. This is Volume 5, The Point Source Catalog Declination Range -30 deg greater than delta greater than -50 deg.

Author

N89-14196*# Jet Propulsion Lab., California Inst. of Tech., Pasadena.

INFRARED ASTRONOMICAL SATELLITE (IRAS) CATALOGS AND ATLASES. VOLUME 4: THE POINT SOURCE CATALOG DECLINATION RANGE 0 DEG GREATER THAN DELTA GREATER THAN -30 DEG

Washington, D.C. 1988 596 p Prepared in cooperation with Netherlands Agency for Aerospace Programs, Delft, and Science Research Council, London, United Kingdom Sponsored by NASA, Washington (NASA-RP-1190-VOL-4; NAS 1.61:1190-VOL-4) Avail: NTIS HC A25/MF A04; also available SOD C SCL 03B

The Infrared Astronomical Satellite (IRAS) was launched 26 January 1983. During its 300-day mission, it surveyed over 96 pct of the celestial sphere at four infrared wavelengths, centered approximately at 12, 25, 60, and 100 microns. This is Volume 4, The Point Source Catalog Declination Range 0 deg greater than delta greater than -30 deg.

Author

N89-14197*# Jet Propulsion Lab., California Inst. of Tech., Pasadena.

INFRARED ASTRONOMICAL SATELLITE (IRAS) CATALOGS AND ATLASES. VOLUME 2: THE POINT SOURCE CATALOG DECLINATION RANGE 90 DEG GREATER THAN DELTA GREATER THAN 30 DEG

Washington, D.C. 1988 555 p Prepared in cooperation with Netherlands Agency for Aerospace Programs, Delft, and Science Research Council, London, United Kingdom Sponsored by NASA, Washington (NASA-RP-1190-VOL-2; NAS 1.61:1190-VOL-2) Avail: NTIS HC A24/MF A03; also available SOD C SCL 03B

The Infrared Astronomical Satellite (IRAS) was launched January 26, 1983. During its 300-day mission, IRAS surveyed 96 pct of the celestial sphere at four infrared wavelengths, centered approximately at 12, 25, 60, and 100 microns. This is Volume 2, The Point Source Catalog Declination Range 90 deg greater than delta greater than 30 deg.

Author

N89-14198*# Jet Propulsion Lab., California Inst. of Tech., Pasadena.

INFRARED ASTRONOMICAL SATELLITE (IRAS) CATALOGS AND ATLASES. VOLUME 6: THE POINT SOURCE CATALOG DECLINATION RANGE -50 DEG GREATER THAN DELTA GREATER THAN -90 DEG

Washington, D.C. 1988 473 p Prepared in cooperation with Netherlands Agency for Aerospace Programs, Delft, and Science Research Council, London, United Kingdom Sponsored by NASA, Washington (NASA-RP-1190-VOL-6; NAS 1.61:1190-VOL-6) Avail: NTIS HC A20/MF A03; also available SOD C SCL 03B

The Infrared Astronomical Satellite (IRAS) was launched January 26, 1983. During its 300-day mission, it surveyed over 96 pct of the celestial sphere at four infrared wavelengths, centered approximately at 12, 25, 60, and 100 microns. This is Volume 6, The Point Source Catalog Declination Range -50 deg greater than delta greater than -90 deg.

Author

N89-14199*# Jet Propulsion Lab., California Inst. of Tech., Pasadena.

INFRARED ASTRONOMICAL SATELLITE (IRAS) CATALOGS AND ATLASES. VOLUME 7: THE SMALL SCALE STRUCTURE CATALOG

GEORGE HELOU, ed. and D. W. WALKER, ed. Washington, D.C. 1988 348 p Prepared in cooperation with Netherlands Agency for Aerospace Programs, Delft, and Science Research Council, London, United Kingdom Sponsored by NASA,

91 LUNAR AND PLANETARY EXPLORATION

Washington

(NASA-RP-1190-VOL-7; NAS 1.61:1190-VOL-7) Avail: NTIS HC A15/MF A02; also available SOD CSCL 03B

The Infrared Astronomical Satellite (IRAS) was launched January 26, 1983. During its 300-day mission, it surveyed over 96 pct of the celestial sphere at four infrared wavelengths, centered approximately at 12, 25, 60, and 100 microns. Volume 1 describes the instrument, the mission, and the data reduction process. Volumes 2 through 6 present the observations of the approximately 245,000 individual point sources detected by IRAS; each volume gives sources within a specified range of declination. Volume 7 gives the observations of the approximately 16,000 sources spatially resolved by IRAS and smaller than 8'. This is Volume 7, The Small Scale Structure Catalog. Author

N89-14201*# Jet Propulsion Lab., California Inst. of Tech., Pasadena.

INFRARED ASTRONOMICAL SATELLITE (IRAS) CATALOGS AND ATLASES. VOLUME 3: THE POINT SOURCE CATALOG DECLINATION RANGE 30 DEG GREATER THAN DELTA GREATER THAN 0 DEG

Washington, D.C. 1988 493 p Prepared in cooperation with Netherlands Agency for Aerospace Programs, Delft, and Science Research Council, London, United Kingdom Sponsored by NASA, Washington

(NASA-RP-1190-VOL-3; NAS 1.61:1190-VOL-3) Avail: NTIS HC A21/MF A03; also available SOD CSCL 03B

The Infrared Astronomical Satellite (IRAS) was launched January 26, 1983. During its 300-day mission, IRAS surveyed over 96 pct of the celestial sphere at four infrared wavelengths, centered approximately at 12, 25, 60, and 100 microns. This is Volume 3, The Point Source Catalog Declination Range 30 deg greater than delta greater than 0 deg. Author

N89-27612*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

COMMENTARY ON INTERSTELLAR MATTER ASSOCIATED WITH 18 OPEN CLUSTERS

DAVID LEISAWITZ Washington Sep. 1989 20 p Sponsored by National Research Council

(R033-87; NSF AST-81-6403; NSF AST-83-12332) (NASA-RP-1229; REPT-89B00238; NAS 1.61:1229) Avail: NTIS HC A03/MF A01 CSCL 03B

Information supplementary to that contained in Section 4 of an article entitled, A CO Survey of Regions Around 34 Open Clusters, (Leisawitz, Bash, and Thaddeus) published in the Astrophysical Journal Supplement Series, Volume 70, Number 4, August 1989 is summarized. The information presented here, which describes the interstellar environments of young clusters and some cluster physical characteristics, comes from observations published in the astronomical literature and the author's carbon monoxide (CO) emission line survey, and may help clarify our understanding of the interaction of massive stars with the interstellar medium. Author

N90-18344*# National Aeronautics and Space Administration, Washington, DC.

FGK STARS AND T TAURI STARS: MONOGRAPH SERIES ON NONTHERMAL PHENOMENA IN STELLAR ATMOSPHERES

LAWRENCE E. CRAM, ed. and LEONARD V. KUHI, ed. (California Univ., Berkeley.) 1989 353 p Prepared in cooperation with Centre National de la Recherche Scientifique, Paris, France (NASA-SP-502; NAS 1.21:502; LC-89-600317) Avail: NTIS HC A16/MF A02; also available SOD HC \$18.00 as 033-000-01073-7 CSCL 03B

The purpose of this book, FGK Stars and T Tauri Stars, like all other volumes of this series, is to exhibit and describe the best space data and ground based data currently available, and also to describe and critically evaluate the status of current theoretical models and physical mechanisms that have been proposed to interpret these data. The method for obtaining this book was to collect manuscripts from competent volunteer authors, and then to collate and edit these contributions to form a well

structured book, which will be distributed to an international community of research astronomers by NASA and by the French CNRS. Author

N90-19940*# National Aeronautics and Space Administration, Washington, DC.

RELATIVISTIC GRAVITATIONAL EXPERIMENTS IN SPACE

RONALD W. HELINGS, ed. Aug. 1989 242 p Workshop held in Annapolis, MD, 28-30 Jun. 1988

(NASA-CP-3046; NAS 1.55:3046) Avail: NTIS HC A11/MF A02 CSCL 03B

BLACK HOLES (ASTRONOMY), GRAVITATIONAL WAVES, RELATIVITY, SPACEBORNE EXPERIMENTS

N90-23294*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

THE ENERGETIC GAMMA-RAY EXPERIMENT TELESCOPE (EGRET) SCIENCE SYMPOSIUM

CARL E. FICHTEL, ed., STANLEY D. HUNTER, ed., PARAMESWARAN SREEKUMAR, ed., and FLOYD W. STECKER, ed. May 1990 327 p Symposium held in Greenbelt, MD, 15-16 Nov. 1989 Original contains color illustrations

(NASA-CP-3071; NAS 1.55:3071) Avail: NTIS HC A15/MF A02; 1 functional color page CSCL 03B

CONFERENCES, GALACTIC COSMIC RAYS, GALACTIC RADIATION, GALACTIC STRUCTURE, GAMMA RAY ASTRONOMY, GAMMA RAY OBSERVATORY, GAMMA RAY TELESCOPES

91

LUNAR AND PLANETARY EXPLORATION

Includes planetology; and manned and unmanned flights.

N87-17598*# National Aeronautics and Space Administration, Goddard Inst. for Space Studies, New York, NY.

THE JOVIAN ATMOSPHERES

MICHAEL ALLISON, ed. and LARRY D. TRAVIS, ed. Oct. 1986 129 p Conference held in New York, N.Y., 6-8 May 1985 Submitted for publication

(NASA-CP-2441; NAS 1.55:2441) Copyright Avail: NTIS HC A07/MF A01 CSCL 84B

ATMOSPHERIC CHEMISTRY, CLOUDS (METEOROLOGY), GAS DYNAMICS, GAS GIANT PLANETS, HYDROGEN, JUPITER ATMOSPHERE, NEPTUNE ATMOSPHERE, SATURN ATMOSPHERE, SPACE EXPLORATION, SYNOPTIC METEOROLOGY, THERMODYNAMICS, URANUS ATMOSPHERE

N87-19322*# National Aeronautics and Space Administration, Washington, DC.

STATUS AND FUTURE OF LUNAR GEOSCIENCE

1986 63 p (NASA-SP-484; NAS 1.21:484) Avail: SOD HC \$4.25 as 033-000-00997-6; NTIS MF A01 CSCL 03B

The Moon is of special interest among the many and diverse bodies of the solar system because it serves as a scientific baseline for understanding the terrestrial planets, its origin is closely tied to the early history of the Earth, and its proximity permits a variety of space applications such as mining and establishment of bases and colonies. Data acquisition and analysis have enabled advances to be made and the remaining questions in many fields of lunar geoscience to be identified. The status and unresolved problems of lunar science are discussed. Immediate needs, new unmanned missions, and a return to the Moon (a lunar base) are examined. B.G.

91 LUNAR AND PLANETARY EXPLORATION

N88-24564*# National Aeronautics and Space Administration, Washington, DC.

REFLECTANCE SPECTROSCOPY IN PLANETARY SCIENCE: REVIEW AND STRATEGY FOR THE FUTURE

THOMAS B. MCCORD, ed. (Hawaii Univ., Honolulu.) Jun. 1987 43 p

(NASA-SP-493; NAS 1.21:493; LC-87-28154) Avail: NTIS HC A03/MF A01 CSCL 03B

Reflectance spectroscopy is a remote sensing technique used to study the surfaces and atmospheres of solar system bodies. It provides first-order information on the presence and amounts of certain ions, molecules, and minerals on a surface or in an atmosphere. Reflectance spectroscopy has become one of the most important investigations conducted on most current and planned NASA Solar System Exploration Program space missions. This book reviews the field of reflectance spectroscopy, including information on the scientific technique, contributions, present conditions, and future directions and needs. Author

N88-26279*# National Aeronautics and Space Administration, Washington, DC.

PLANETARY GEOLOGY: GOALS, FUTURE DIRECTIONS, AND RECOMMENDATIONS Final Report

Aug. 1988 23 p Workshop held in Tempe, Ariz., Jan. 1987

(NASA-CP-3005; NAS 1.55:3005) Avail: NTIS HC A03/MF A01 CSCL 03B

PLANETARY GEOLOGY, PLANETOLOGY, SPACE EXPLORATION

N89-16709*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

THE CASSINI MISSION: INFRARED AND MICROWAVE SPECTROSCOPIC MEASUREMENTS

V. G. KUNDE Jan. 1989 127 p

(NASA-RP-1213; NAS 1.61:1213; REPT-89B0006) Avail: NTIS HC A07/MF A01 CSCL 03B

The Cassini Orbiter and Titan Probe model payloads include a number of infrared and microwave instruments. This document describes: (1) the fundamental scientific objectives for Saturn and Titan which can be addressed by infrared and microwave instrumentation, (2) the instrument requirements and the accompanying instruments, and (3) the synergism resulting from the comprehensive coverage of the total infrared and microwave spectrum by the complement of individual instruments. The baseline consists of four instruments on the orbiter and two on the Titan probe. The orbiter infrared instruments are: (1) a microwave spectrometer and radiometer; (2) a far to mid-infrared spectrometer; (3) a pressure modulation gas correlation spectrometer, and (4) a near-infrared grating spectrometer. The two Titan probe infrared instruments are: (1) a near-infrared instrument, and (2) a tunable diode laser infrared absorption spectrometer and nephelometer. Author

N89-18373*# National Aeronautics and Space Administration, Ames Research Center, Moffett Field, CA.

PROCEEDINGS OF THE POLAR PROCESSES ON MARS WORKSHOP

ROBERT M. HABERLE Dec. 1988 59 p Workshop held in Sunnyvale, CA, 12-13 May 1988

(NASA-CP-10021; A-89001; NAS 1.55:10021) Avail: NTIS HC A04/MF A01 CSCL 03B

CONFERENCES, MARS (PLANET), MARS ATMOSPHERE, POLAR REGIONS

N89-28474*# National Aeronautics and Space Administration, Washington, DC.

TIME-VARIABLE PHENOMENA IN THE JOVIAN SYSTEM

MICHAEL J. S. BELTON, ed., ROBERT A. WEST, ed. (Jet Propulsion Lab., California Inst. of Tech., Pasadena.), JURGEN RAHE, ed., and MARGARITA PEREYDA 1989 406 p Workshop held in Flagstaff, AZ, 25-27 Aug. 1987 Original contains color illustrations

(NASA-SP-494; NAS 1.21:494; LC-88-25450) Avail: NTIS HC A18/MF A03 CSCL 03B

The current state of knowledge of dynamic processes in the Jovian system is assessed and summaries are provided of both theoretical and observational foundations upon which future research might be based. There are three sections: satellite phenomena and rings; magnetospheric phenomena, Io's torus, and aurorae; and atmospheric phenomena. Each chapter discusses time dependent theoretical framework for understanding and interpreting what is observed; others describe the evidence and nature of observed changes or their absence. A few chapters provide historical perspective and attempt to present a comprehensive synthesis of the current state of knowledge. Author

N90-10814*# National Aeronautics and Space Administration, Langley Research Center, Hampton, VA.

CONCEPTUAL DESIGN OF A SYNCHRONOUS MARS TELECOMMUNICATIONS SATELLITE

DEBORAH M. BADI, JEFFREY T. FARMER, PAUL A. GARN, and GARY L. MARTIN (George Washington Univ., Hampton, VA.) Washington Nov. 1989 18 p

(NASA-TP-2942; L-16580; NAS 1.60:2942) Avail: NTIS HC A03/MF A01 CSCL 03B

COMMAND AND CONTROL, COMMUNICATION SATELLITES, STRUCTURAL DESIGN

N90-25030*# National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, TX.

GEOSCIENCE AND A LUNAR BASE: A COMPREHENSIVE PLAN FOR LUNAR EXPLORATION

G. JEFFREY TAYLOR, ed. and PAUL D. SPUDIS, ed. (Geological Survey, Flagstaff, AZ.) Washington Apr. 1990 76 p Workshop held in Houston, TX, 25-26 Aug. 1988

(NASA-CP-3070; S-603; NAS 1.55:3070) Avail: NTIS HC A05/MF A01 CSCL 03B

CONFERENCES, GEOLOGY, GEOPHYSICS, LUNAR BASES, LUNAR EXPLORATION, RESOURCES MANAGEMENT

N90-26744*# National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.

FIRST INTERNATIONAL CONFERENCE ON LABORATORY RESEARCH FOR PLANETARY ATMOSPHERES

KENNETH FOX, ed., JOHN E. ALLEN, JR., ed., LOUIS J. STIEF, ed., and DIANA T. QUILLEN, ed. (Bowie State Univ., MD.) May 1990 481 p Conference held in Bowie, MD, 25-27 Oct. 1989

(NASA-CP-3077; REPT-90B00106; NAS 1.55:3077) Avail: NTIS HC A21/MF A03 CSCL 03B

CHARGED PARTICLES, CONFERENCES, PARTICLE INTERACTIONS, PHOTONS, PLANETARY ATMOSPHERES, REACTION KINETICS, SPECTROSCOPY, THERMODYNAMICS

N90-27607*# Arizona State Univ., Tempe. Dept. of Geology.

MARS LANDING SITE CATALOG

RONALD GREELEY, ed. Washington NASA Aug. 1990 202 p

(NAGW-1306)

(NASA-RP-1238; NAS 1.61:1238) Avail: NTIS HC A10/MF A02 CSCL 03B

The catalog was compiled from material provided by the planetary community for areas on Mars that are of potential interest for future exploration. The catalog has been edited for consistency insofar as practical; however, the proposed scientific objectives and characteristics have not been reviewed. This is a working catalog that is being revised, updated, and expanded continually. Author

SOLAR PHYSICS

Includes solar activity, solar flares, solar radiation and sunspots.

N87-19328*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

ENERGETIC PHENOMENA ON THE SUN: THE SOLAR MAXIMUM MISSION FLARE WORKSHOP. PROCEEDINGS
MUKUL KUNDU, ed. (Maryland Univ., College Park) and BRUCE WOODGATE, ed. Dec. 1986 423 p Workshop held in Greenbelt, Md., 24-28 Jan. 1983, 9-14 Jun. 1983, and 13-17 Feb. 1984 (NASA-CP-2439; NAS 1.55:2439) Avail: NTIS HC A18/MF A03 CSCL 03B

CONFERENCES, MAGNETOHYDRODYNAMIC STABILITY, SOLAR CORONA, SOLAR FLARES, SOLAR MAGNETIC FIELD, SOLAR MAXIMUM MISSION, SOLAR PHYSICS, SOLAR PROMINENCES, SUN, SUNSPOTS

N87-20871*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

CORONAL AND PROMINENCE PLASMAS
ARTHUR I. POLAND, ed. Dec. 1986 435 p Workshop held in Greenbelt, Md., 9-11 Apr. 1985 and 8-10 Apr. 1986 (NASA-CP-2442; REPT-86B0536; NAS 1.55:2442; AD-A188629) Avail: NTIS HC A19/MF A03 CSCL 03/2

CONFERENCES, MAGNETIC FIELD CONFIGURATIONS, MAGNETOHYDRODYNAMIC STABILITY, MAGNETOSTATICS, PLASMAS (PHYSICS), RADIO ASTRONOMY, SOLAR ATMOSPHERE, SOLAR CORONA, SOLAR MAGNETIC FIELD, SOLAR PHYSICS, SOLAR PROMINENCES, SUN

N87-20947*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

STATISTICAL ASPECTS OF SOLAR FLARES
ROBERT M. WILSON Apr. 1987 41 p (NASA-TP-2714; NAS 1.60:2714) Avail: NTIS HC A03/MF A01 CSCL 03B

SOLAR FLARES, SOLAR PROMINENCES, STATISTICAL ANALYSIS

N87-21785*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

RAPID FLUCTUATIONS IN SOLAR FLARES
BRIAN R. DENNIS, ed., LARRY E. ORWIG, ed., and ALAN L. KIPLINGER, ed. (Systems Applied Sciences Corp.-Technologies, Landover, Md.) 1986 491 p Workshop held in Lanham, Md., 30 Sep. - 4 Oct. 1985 (NASA-CP-2449; NAS 1.55:2449) Avail: NTIS HC A21/MF A03 CSCL 03B

CONFERENCES, MICROWAVES, OSCILLATIONS, PLASMA PHYSICS, RADIO WAVES, SOLAR FLARES, X RAYS

N88-11609*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

THEORETICAL PROBLEMS IN HIGH RESOLUTION SOLAR PHYSICS, 2
G. ATHAY, ed. (National Center for Atmospheric Research, Boulder, Colo.) and D. S. SPICER, ed. Sep. 1987 141 p Workshop held in Boulder, Colo., 15-17 Sep. 1986 (NASA-CP-2483; REPT-87B0401; NAS 1.55:2483) Avail: NTIS HC A07/MF A01 CSCL 03B

HIGH RESOLUTION, MAGNETIC FLUX, SOLAR MAGNETIC FIELD, SOLAR OBSERVATORIES, SOLAR PHYSICS

N89-30151*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

NIMBUS-7 ERB SOLAR ANALYSIS TAPE (ESAT) USER'S GUIDE
EUGENE MAJOR, JOHN R. HICKEY, H. LEE KYLE, BRADLEY M. ALTON, and BRENDA J. VALLETTE (Research and Data

Systems, Inc., Lanham, MD.) Nov. 1988 92 p (NASA-RP-1211; REPT-88-204; NAS 1.61:1211) Avail: NTIS HC A05/MF A01 CSCL 03B

Seven years and five months of Nimbus-7 Earth Radiation Budget (ERB) solar data are available on a single ERB Solar Analysis Tape (ESAT). The period covered is November 16, 1978 through March 31, 1986. The Nimbus-7 satellite performs approximately 14 orbits per day and the ERB solar telescope observes the sun once per orbit as the satellite crosses the southern terminator. The solar data were carefully calibrated and screened. Orbital and daily mean values are given for the total solar irradiance plus other spectral intervals (10 solar channels in all). In addition, selected solar activity indicators are included on the ESAT. The ESAT User's Guide is an update of the previous ESAT User's Guide (NASA TM 86143) and includes more detailed information on the solar data calibration, screening procedures, updated solar data plots, and applications to solar variability. Details of the tape format, including source code to access ESAT, are included.

Author

N90-12456*# National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, AL.

ON THE STATISTICS OF EL NINO OCCURRENCES AND THE RELATIONSHIP OF EL NINO TO VOLCANIC AND SOLAR/GEOMAGNETIC ACTIVITY
ROBERT M. WILSON Washington Sep. 1989 62 p (NASA-TP-2948; NAS 1.60:2948) Avail: NTIS HC A04/MF A01 CSCL 03B

AIR WATER INTERACTIONS, EL NINO, GEOMAGNETISM, SOLAR TERRESTRIAL INTERACTIONS, VOLCANOES

SPACE RADIATION

Includes cosmic radiation; and inner and outer earth's radiation belts.

N87-25984*# National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, MD.

COSMIC RAY HEAVY ION LET MAPPING FOR ALUMINUM, SILICON, AND TISSUE TARGETS
E. G. STASSINOPOULOS, J. M. BARTH, and T. M. JORDAN (EMP Consultants, Northridge, Calif.) Apr. 1987 264 p (NASA-RP-1180; REPT-87B0034; NAS 1.61:1180) Avail: NTIS HC A12/MF A02 CSCL 03B

Linear energy transfer (LET) values in aluminum, silicon, and tissue targets have been calculated for 31 galactic cosmic ray ion species in eight different units. The values are described for single event upset (SEU) effect assessments or radiobiological evaluations. The data are presented in graphical and tabular form.

Author

N89-14210*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

SOLAR-FLARE SHIELDING WITH REGOLITH AT A LUNAR-BASE SITE
JOHN E. NEALY, JOHN W. WILSON, and LAWRENCE W. TOWNSEND Dec. 1988 21 p (NASA-TP-2869; L-16488; NAS 1.60:2869) Avail: NTIS HC A03/MF A01 CSCL 03B

LUNAR BASES, LUNAR SURFACE, RADIATION DOSAGE, RADIATION SHIELDING, SOLAR FLARES

N89-16714*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

BENCHMARK SOLUTIONS FOR THE GALACTIC ION TRANSPORT EQUATIONS: ENERGY AND SPATIALLY DEPENDENT PROBLEMS
BARRY D. GANAPOL (Arizona Univ., Tucson.), LAWRENCE W.

93 SPACE RADIATION

TOWNSEND, and JOHN W. WILSON Washington, DC Mar. 1989 31 p
(NASA-TP-2878; L-16519; NAS 1.60:2878) Avail: NTIS HC
A03/MF A01 CSCL 03B

EQUATIONS OF MOTION, GALACTIC RADIATION, HEAVY IONS, ION BEAMS, IONIC MOBILITY, RADIATION HAZARDS, TRANSPORT THEORY

N89-17562*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

BRYNTRN: A BARYON TRANSPORT MODEL

JOHN W. WILSON, LAWRENCE W. TOWNSEND, JOHN E. NEALY, SANG Y. CHUN, B. S. HONG, WARREN W. BUCK, S. L. LAMKIN, BARRY D. GANAPOL, FERDOUS KHAN, and FRANCIS A. CUCINOTTA (Old Dominion Univ., Norfolk, VA.) Washington, DC Mar. 1989 84 p

(NASA-TP-2887; L-16512; NAS 1.60:2887) Avail: NTIS HC
A05/MF A01 CSCL 03B

BARYONS, COMPUTER PROGRAMS, DATA BASES, ENERGY TRANSFER, TRANSPORT PROPERTIES

N89-25103*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

KAON-NUCLEUS SCATTERING

BYUNGSIK HONG, KHIN MAUNG MAUNG, JOHN W. WILSON, and WARREN W. BUCK (Hampton Inst., VA.) 1989 30 p
(NASA-TP-2920; L-16583; NAS 1.60:2920) Avail: NTIS HC
A03/MF A01 CSCL 03A

ABSORPTION CROSS SECTIONS, EIKONAL EQUATION, KAONS, MESON-NUCLEON INTERACTIONS, NUCLEAR SCATTERING, NUCLEONS, PARTICLE COLLISIONS, PARTICLE INTERACTIONS, PROTON SCATTERING, SCATTERING CROSS SECTIONS, SCHROEDINGER EQUATION

N90-18357*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

RADIATION EXPOSURE FOR MANNED MARS SURFACE MISSIONS

LISA C. SIMONSEN, JOHN E. NEALY, LAWRENCE W. TOWNSEND, and JOHN W. WILSON Washington Mar. 1990 25 p

(NASA-TP-2979; L-16708; NAS 1.60:2979) Avail: NTIS HC
A03/MF A01 CSCL 03B

GALACTIC COSMIC RAYS, MANNED MARS MISSIONS, MARS ATMOSPHERE, MARS SURFACE, RADIATION DOSAGE, SOLAR FLARES

N90-25031*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

IMPROVED MODEL FOR SOLAR COSMIC RAY EXPOSURE IN MANNED EARTH ORBITAL FLIGHTS

JOHN W. WILSON, JOHN E. NEALY, WILLIAM ATWELL, FRANCIS A. CUCINOTTA (Rockwell International Corp., Houston, TX.), JUDY L. SHINN, and LAWRENCE W. TOWNSEND Washington Jun. 1990 14 p

(NASA-TP-2987; L-16759; NAS 1.60:2987) Avail: NTIS HC
A03/MF A01 CSCL 03B

ASTRONAUTS, EXPOSURE, FLUENCE, MATHEMATICAL MODELS, ORGANS, RADIATION DOSAGE, RADIATION SHIELDING, SOLAR COSMIC RAYS

N90-29290*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

COMPARISON OF DOSE ESTIMATES USING THE BUILDUP-FACTOR METHOD AND A BARYON TRANSPORT CODE (BRYNTRN) WITH MONTE CARLO RESULTS

JUDY L. SHINN, JOHN W. WILSON, JOHN E. NEALY, and FRANCIS A. CUCINOTTA (Rockwell International Corp., Houston, TX.) Washington Oct. 1990 29 p

(NASA-TP-3021; L-16806; NAS 1.60:3021) Avail: NTIS HC
A03/MF A01 CSCL 03B

COMPUTER PROGRAMS, EXTRATERRESTRIAL RADIATION,

MONTE CARLO METHOD, RADIATION DOSAGE, RADIATION SHIELDING, RADIATION TRANSPORT

99

GENERAL

N87-24390*# National Aeronautics and Space Administration. Langley Research Center, Hampton, VA.

ENGINEER IN CHARGE: A HISTORY OF THE LANGLEY AERONAUTICAL LABORATORY, 1917-1958

JAMES R. HANSEN (Maine Univ., Orono.) Washington, D.C. 1986 643 p NASA History Series
(NASW-3502)

(NASA-SP-4305; NAS 1.21:4305) Avail: SOD HC \$30.00 as
033-000-00999-2; NTIS MF A01 CSCL 05B

A history is presented by using the most technologically significant research programs associated with the Langley Aeronautical Laboratory from 1917 to 1958 and those programs that, after preliminary research, seemed best to illustrate how the laboratory was organized, how it works, and how it cooperated with industry and the military. B.G.

N88-14062*# National Aeronautics and Space Administration, Washington, DC.

ASTRONAUTICS AND AERONAUTICS, 1978: A CHRONOLOGY

BETTE R. JANSON (Creative Resources and Planning, Fairfax, Va.) 1986 394 p *Its* NASA History Series
(NASA ORDER W-73289)

(NASA-SP-4023; NAS 1.21:4023) Avail: SOD HC \$13.00 as

033-000-01010-9; NTIS MF A01 CSCL 05D

This is the 18th in a series of annual chronologies of significant events in the fields of astronautics and aeronautics. Events covered are international as well as national and political as well as scientific and technical. This series is a reference work for historians, NASA personnel, government agencies, congressional staffs, and the media. Author

N88-25428*# National Aeronautics and Space Administration, Washington, DC.

NASA HISTORICAL DATA BOOK. VOLUME 1: NASA RESOURCE 1958-1968

JANE VANNIMMEN, LEONARD C. BRUNO, and ROBERT L. ROSHOLT 1988 639 p
(NASW-3597)

(NASA-SP-4012-VOL-1; NAS 1.21:4012-VOL-1; LC-74-600126)

Avail: NTIS MF A04; SOD HC \$57.00 in set of 3 as

033-000-01017-6 CSCL 05D

This is Volume 1, NASA Resources 1958-1968, of a three-volume series providing a 20-year compilation of summary statistical and other data descriptive of NASA's programs in aeronautics and manned and unmanned spaceflight. This series is an important component of NASA published historical reference works, used by NASA personnel, managers, external researchers, and other government agencies. Author

N88-25429*# National Aeronautics and Space Administration, Washington, DC.

NASA HISTORICAL DATA BOOK. VOLUME 2: PROGRAMS AND PROJECTS 1958-1968

LINDA NEUMAN EZELL 1988 652 p

(NASW-3597)

(NASA-SP-4012-VOL-2; NAS 1.21:4012-VOL-2; LC-74-600126)

Avail: NTIS MF A04; SOD HC \$57.00 in set of 3 as

033-000-01017-6 CSCL 05D

This is Volume 2, Programs and Projects 1958-1968, of a three-volume series providing a 20-year compilation of summary statistical and other data descriptive of NASA's programs in

aeronautics and manned and unmanned spaceflight. This series is an important component of NASA published historical reference works, used by NASA personnel, managers, external researchers, and other government agencies. Author

N88-25430*# National Aeronautics and Space Administration, Washington, DC.

NASA HISTORICAL DATA BOOK. VOLUME 3: PROGRAMS AND PROJECTS 1969-1978

LINDA NEUMAN EZELL 1988 492 p (NASW-3597)

(NASA-SP-4012-VOL-3; NAS 1.21:4012-VOL-3; LC-74-600126) Avail: NTIS MF A03; SOD HC \$57.00 in set of 3 as 033-000-01017-6 CSCL 05D

This is Volume 3, Programs and Projects 1969-1978, of a three-volume series providing a 20-year compilation of summary statistical and other data descriptive of NASA's programs in aeronautics and manned and unmanned spaceflight. This series is an important component of NASA published historical reference works, used by NASA personnel, managers, external researchers, and other government agencies. Author

N89-25946*# National Aeronautics and Space Administration, Washington, DC.

WHERE NO MAN HAS GONE BEFORE: A HISTORY OF APOLLO LUNAR EXPLORATION MISSIONS

WILLIAM DAVID COMPTON 1988 420 p Original contains color illustrations

(NASA-SP-4214; NAS 1.21:4214) Avail: NTIS HC A18/MF A03 CSCL 05D

This book is a narrative account of the development of the science program for the Apollo lunar landing missions. It focuses on the interaction between scientific interests and operational considerations in such matters as landing site selection and training of crews, quarantine and back contamination control, and presentation of results from scientific investigations. Scientific exploration of the moon on later flights, Apollo 12 through Apollo 17 is emphasized. Author

N89-26803*# National Aeronautics and Space Administration, Washington, DC.

ASTRONAUTICS AND AERONAUTICS, 1985: A CHRONOLOGY

BETTE R. JANSON Mar. 1988 545 p

(NASA-SP-4025; NAS 1.21:4025; LC-65-60308) Avail: NTIS HC A23/MF A03; also available SOD HC \$22.00 as 033-000-01022-2 CSCL 05B

This book is part of a series of annual chronologies of significant events in the fields of astronautics and aeronautics. Events covered are international as well as national, in political as well as scientific and technical areas. This series is an important reference work used by historians, NASA personnel, government agencies, and congressional staffs, as well as the media. Author

N89-26805*# National Aeronautics and Space Administration, Washington, DC.

ORDERS OF MAGNITUDE: A HISTORY OF THE NACA AND NASA, 1915-1990

ROGER E. BILSTEIN Jul. 1989 171 p ERRATUM: Coauthored by Frank W. Anderson, Jr.

(NASA-SP-4406; NAS 1.21:4406) Avail: NTIS HC A08/MF A01 CSCL 05D

This edition brings up to date the history of U.S. agencies for space exploration, the NACA and NASA, from 1915 through 1990. Early aviation and aeronautics research are described, with particular emphasis on the impact of the two world wars on aeronautics development and the postwar exploitation of those technologies. The reorganization and expansion of the NACA into NASA is described in detail as well as NASA's relationship with industry, the university system, and international space agencies such as the ESA. The dramatic space race of the 1950 and 1960s is recounted through a detailed history of the Gemini and Apollo programs and followed by a discussion of the many valuable social/scientific application of aeronautics technologies, many of

which were realized through the launching of successful satellite projects. The further solar system explorations of the Voyager missions are described, as is the Challenger tragedy and the 1988 return to space of the Shuttle program. Future plans are outlined for a cooperatively funded international space station to foster the ongoing study of space science. Author

N90-25928*# National Aeronautics and Space Administration, Washington, DC.

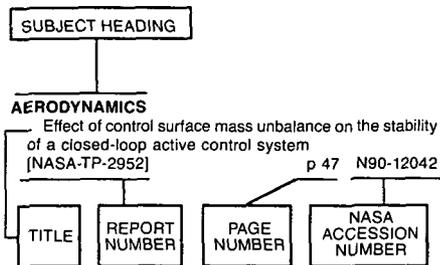
ASTRONAUTICS AND AERONAUTICS, 1979-1984: A CHRONOLOGY

BETTE R. JANSON and ELEANOR H. RITCHIE Nov. 1989 736 p

(NASA-SP-4024; NAS 1.21:4024) Avail: NTIS HC A99/MF A04; also available SOD HC \$24.00 as 033-000-01080-0 CSCL 05D

This volume of the Astronautics and Aeronautics series covers 1979 through 1984. The series provides a chronological presentation of all significant events and developments in space exploration and the administration of the space program during the period covered. Author

Typical Subject Index Listing



The subject heading is a key to the subject content of the document. The title is used to provide a description of the subject matter. When the title is insufficiently descriptive of document content, a title extension is added, separated from the title by three hyphens. The (NASA or AIAA) accession number and the page number are included in each entry to assist the user in locating the abstract in the abstract section. If applicable, a report number is also included as an aid in identifying the document. Under any one subject heading, the accession numbers are arranged in sequence with the AIAA accession numbers appearing first.

A

A STARS

O stars and Wolf-Rayet stars
[NASA-SP-497] p 74 N89-11657

ABORTED MISSIONS

Simulator evaluation of a display for a Takeoff Performance Monitoring System
[NASA-TP-2908] p 20 N89-23469

ABSORPTION CROSS SECTIONS

Atlas of absorption lines from 0 to 17900 cm (sup)-1
[NASA-RP-1188] p 49 N87-28955
Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103

ABSORPTION SPECTRA

Atlas of absorption lines from 0 to 17900 cm (sup)-1
[NASA-RP-1188] p 49 N87-28955

ACCELEROMETERS

Further developments in modeling digital control systems with MA-prefiltered measurements
[NASA-TP-2909] p 33 N89-24507

ACCESS CONTROL

Proceedings of the 5th Annual Users' Conference
[NASA-CP-2399] p 62 N87-10720

ACCUMULATORS

Performance of textured carbon on copper electrode multistage depressed collectors with medium-power traveling wave tubes
[NASA-TP-2665] p 34 N87-17990
Calculation of secondary electron trajectories in multistage depressed collectors for microwave amplifiers
[NASA-TP-2664] p 34 N87-17991
Design, fabrication and performance of small, graphite electrode, multistage depressed collectors with 200-W, CW, 8- to 18-GHz traveling-wave tubes
[NASA-TP-2693] p 35 N87-20474
Analytical and experimental performance of a dual-mode traveling wave tube and multistage depressed collector
[NASA-TP-2752] p 35 N87-25532

Performance of a small, graphite electrode, multistage depressed collector with a 500-W, continuous wave, 4.8- to 9.6-GHz traveling wave tube
[NASA-TP-2788] p 35 N88-15146

Performance of a multistage depressed collector with machined titanium electrodes
[NASA-TP-2891] p 35 N89-15337
Spent-beam refocusing analysis and multistage depressed collector design for a 75-W, 59- to 64-GHz coupled-cavity traveling-wave tube
[NASA-TP-3039] p 35 N90-27965

ACCURACY

Foundations of measurement and instrumentation
[NASA-RP-1222] p 40 N90-21351

ACEE PROGRAM

The ACEE program and basic composites research at Langley Research Center (1975 to 1986): Summary and bibliography
[NASA-RP-1177] p 28 N87-29612

ACOUSTIC ATTENUATION

Measured and calculated acoustic attenuation rates of tuned resonator arrays for two surface impedance distribution models with flow
[NASA-TP-2766] p 67 N88-17440

Comparison between design and installed acoustic characteristics of NASA Lewis 9- by 15-foot low-speed wind tunnel acoustic treatment
[NASA-TP-2996] p 22 N90-19242

ACOUSTIC EMISSION

Research in structures, structural dynamics and materials, 1989
[NASA-CP-10024] p 46 N89-24626

ACOUSTIC IMPEDANCE

Experimental validation of a two-dimensional shear-flow model for determining acoustic impedance
[NASA-TP-2679] p 66 N87-20798

Measured and calculated acoustic attenuation rates of tuned resonator arrays for two surface impedance distribution models with flow
[NASA-TP-2766] p 67 N88-17440

ACOUSTIC MEASUREMENT

Power cepstrum technique with application to model helicopter acoustic data
[NASA-TP-2586] p 66 N87-17479

Tip aerodynamics and acoustics test: A report and data survey
[NASA-RP-1179] p 9 N89-17579

Comparison between design and installed acoustic characteristics of NASA Lewis 9- by 15-foot low-speed wind tunnel acoustic treatment
[NASA-TP-2996] p 22 N90-19242

ACOUSTICS

Helicopter blade-vortex interaction locations: Scale-model acoustics and free-wake analysis results
[NASA-TP-2658] p 4 N87-18537

Evaluation of a scale-model experiment to investigate long-range acoustic propagation
[NASA-TP-2748] p 66 N88-11450

ACTIVE CONTROL

Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987

Control surface spanwise placement in active flutter suppression systems
[NASA-TP-2873] p 45 N89-16196

Effect of control surface mass unbalance on the stability of a closed-loop active control system
[NASA-TP-2952] p 47 N90-12042

ACTUATORS

The 20th Aerospace Mechanics Symposium
[NASA-CP-2423-REV] p 43 N87-16321

The 21st Aerospace Mechanics Symposium
[NASA-CP-2470] p 43 N87-29858

The 22nd Aerospace Mechanics Symposium
[NASA-CP-2506] p 44 N88-21468

Integrated tools for control-system analysis
[NASA-TP-2885] p 20 N89-19309

The 24th Aerospace Mechanics Symposium
[NASA-CP-3062] p 47 N90-22079

AEROACOUSTICS

NASA/Army Rotorcraft Technology. Volume 2: Materials and Structures, Propulsion and Drive Systems, Flight Dynamics and Control, and Acoustics

[NASA-CP-2495-VOL-2] p 1 N88-16632

Airfoil self-noise and prediction
[NASA-RP-1218] p 67 N89-25673

AEROASSIST

Technology for Future NASA Missions: Civil Space Technology Initiative (CSTI) and Pathfinder
[NASA-CP-3016] p 22 N89-11760

Measured and predicted aerodynamic coefficients and shock shapes for Aeroassist Flight Experiment (AFE) configuration
[NASA-TP-2956] p 11 N90-14185

AEROBRAKING

The effect of interplanetary trajectory options on a manned Mars aerobrake configuration
[NASA-TP-3019] p 24 N90-26036

AERODYNAMIC BALANCE

Piloted simulation study of the effects of an automated trim system on flight characteristics of a light twin-engine airplane with one engine inoperative
[NASA-TP-2633] p 3 N87-10843

Drag measurements on a laminar-flow body of revolution in the 13-inch magnetic suspension and balance system
[NASA-TP-2895] p 9 N89-19232

A closed-form trim solution yielding minimum trim drag for airplanes with multiple longitudinal-control effectors
[NASA-TP-2907] p 20 N89-23468

AERODYNAMIC CHARACTERISTICS

Effects of empennage surface location on aerodynamic characteristics of a twin-engine afterbody model with nonaxisymmetric nozzles
[NASA-TP-2392] p 14 N87-17693

Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462

Planform effects on the supersonic aerodynamics of multibody configurations
[NASA-TP-2762] p 6 N88-12454

Aerodynamic characteristics of wings designed with a combined-theory method to cruise at a Mach number of 4.5
[NASA-TP-2799] p 7 N88-19420

Influence of wind shear on the aerodynamic characteristics of airplanes
[NASA-TP-2827] p 12 N88-26344

Steady-state and transitional aerodynamic characteristics of a wing in simulated heavy rain
[NASA-TP-2932] p 10 N89-25951

A procedure for computing surface wave trajectories on an inhomogeneous surface
[NASA-TP-2929] p 10 N89-26811

Low-speed, high-lift aerodynamic characteristics of slender, hypersonic accelerator-type configurations
[NASA-TP-2945] p 10 N90-10830

Measured and predicted aerodynamic coefficients and shock shapes for Aeroassist Flight Experiment (AFE) configuration
[NASA-TP-2956] p 11 N90-14185

NASA supercritical airfoils: A matrix of family-related airfoils
[NASA-TP-2969] p 11 N90-16710

CAST-10-2/DOA 2 Airfoil Studies Workshop Results
[NASA-CP-3052] p 22 N90-17647

Low-speed wind-tunnel investigation of the flight dynamic characteristics of an advanced turboprop business/computer aircraft configuration
[NASA-TP-2982] p 20 N90-19239

Experimental and theoretical aerodynamic characteristics of a high-lift semispan wing model
[NASA-TP-2940] p 11 N90-20046

Dynamic ground-effect measurements on the F-15 STOL and Maneuver Technology Demonstrator (S/MTD) configuration
[NASA-TP-3000] p 11 N90-22531

Aerodynamic characteristics of two rotorcraft airfoils designed for application to the inboard region of a main rotor blade
[NASA-TP-3009] p 11 N90-24239

SUBJECT

- Effect of tail size reductions on longitudinal aerodynamic characteristics of a three surface F-15 model with nonaxisymmetric nozzles
[NASA-TP-3036] p 11 N90-25938
- AERODYNAMIC COEFFICIENTS**
Flight-determined aerodynamic derivatives of the AD-1 oblique-wing research airplane
[NASA-TP-2222] p 19 N87-10871
Combined aerodynamic and structural dynamic problem emulating routines (CASPER): Theory and implementation
[NASA-TP-2418] p 4 N87-17669
Powered-lift aircraft technology
[NASA-SP-501] p 15 N90-12589
Measured and predicted aerodynamic coefficients and shock shapes for Aeroassist Flight Experiment (AFE) configuration
[NASA-TP-2956] p 11 N90-14185
Aerodynamic characteristics of two rotorcraft airfoils designed for application to the inboard region of a main rotor blade
[NASA-TP-3009] p 11 N90-24239
- AERODYNAMIC CONFIGURATIONS**
Forward-swept wing configuration designed for high maneuverability by use of a transonic computational method
[NASA-TP-2628] p 3 N87-11702
Effects of winglet on transonic flutter characteristics of a cantilevered twin-engine-transport wing model
[NASA-TP-2627] p 43 N87-13789
Flight investigation of the effect of tail configuration on stall, spin, and recovery characteristics of a low-wing general aviation research airplane
[NASA-TP-2644] p 13 N87-16815
Flight characteristics of the AD-1 oblique-wing research aircraft
[NASA-TP-2223] p 19 N87-18570
On minimizing the number of calculations in design-by-analysis codes
[NASA-TP-2706] p 5 N87-23586
Effect of Reynolds number variation on aerodynamics of a hydrogen-fueled transport concept at Mach 6
[NASA-TP-2728] p 5 N87-26031
Subsonic longitudinal and lateral-directional characteristics of a forward-swept-wing fighter configuration at angles of attack up to 47 deg
[NASA-TP-2727] p 6 N87-26874
Langley Symposium on Aerodynamics, volume 1
[NASA-CP-2397] p 1 N88-14926
A performance index approach to aerodynamic design with the use of analysis codes only
[NASA-TP-2805] p 7 N88-18552
A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel
[NASA-TP-2796] p 7 N88-20264
Analysis of flight data from a High-Incidence Research Model by system identification methods
[NASA-TP-2940] p 20 N90-10074
Measured and predicted aerodynamic coefficients and shock shapes for Aeroassist Flight Experiment (AFE) configuration
[NASA-TP-2956] p 11 N90-14185
Experimental and theoretical aerodynamic characteristics of a high-lift semispan wing model
[NASA-TP-2990] p 11 N90-20046
- AERODYNAMIC DRAG**
Effects of tail span and empennage arrangement on drag of a typical single-engine fighter aft end
[NASA-TP-2352] p 3 N87-10838
Effects of empennage surface location on aerodynamic characteristics of a twin-engine afterbody model with nonaxisymmetric nozzles
[NASA-TP-2392] p 14 N87-17693
Drag measurements of blunt stores tangentially mounted on a flat plate at supersonic speeds
[NASA-TP-2742] p 6 N87-27626
Planform effects on the supersonic aerodynamics of multibody configurations
[NASA-TP-2762] p 6 N88-12454
An economical semi-analytical orbit theory for micro-computer applications
[NASA-TP-2811] p 66 N89-14052
Exhaust nozzles for propulsion systems with emphasis on supersonic cruise aircraft
[NASA-RP-1235] p 18 N90-21037
- AERODYNAMIC FORCES**
Steady and unsteady aerodynamic forces from the SOUSSA surface-panel method for a fighter wing with tip missile and comparison with experiment and PANAIR
[NASA-TP-2736] p 5 N87-26032
Nonlinear programming extensions to rational function approximation methods for unsteady aerodynamic forces
[NASA-TP-2776] p 15 N88-24623
- AERODYNAMIC HEATING**
Finite-element reentry heat-transfer analysis of space shuttle Orbiter
[NASA-TP-2657] p 37 N87-29795
Trajectory characteristics and heating of hypervelocity projectiles having large ballistic coefficients
[NASA-TP-2614] p 7 N88-19412
Aerodynamic pressures and heating rates on surfaces between split elevons at Mach 6.6
[NASA-TP-2855] p 37 N89-12822
A review of high-speed, convective, heat-transfer computation methods
[NASA-TP-2914] p 38 N89-27116
- AERODYNAMIC INTERFERENCE**
Interference effects of thrust reversing on horizontal tail effectiveness of twin-engine fighter aircraft at Mach numbers from 0.15 to 0.90
[NASA-TP-2350] p 19 N87-10870
CAST-10-2/DOA 2 Airfoil Studies Workshop Results
[NASA-CP-3052] p 22 N90-17647
- AERODYNAMIC LOADS**
Cornering characteristics of the main-gear tire of the space shuttle orbiter
[NASA-TP-2790] p 14 N88-18583
Aerodynamic pressure and heating-rate distributions in tile gaps around chine regions with pressure gradients at a Mach number of 6.6
[NASA-TP-2988] p 38 N90-23670
- AERODYNAMIC NOISE**
Airfoil self-noise and prediction
[NASA-RP-1218] p 67 N89-25673
- AERODYNAMIC STABILITY**
Transonic flow analysis for rotors. Part 2: Three-dimensional, unsteady, full-potential calculation
[NASA-TP-2375-PT-2] p 3 N87-10841
Effects of the installation and operation of jet-exhaust yaw vanes on the longitudinal and lateral-directional characteristics of the F-14 airplane
[NASA-TP-2769] p 6 N88-12455
Integrated Technology Rotor Methodology Assessment Workshop
[NASA-CP-10007] p 2 N88-27148
Analysis of flight data from a High-Incidence Research Model by system identification methods
[NASA-TP-2940] p 20 N90-10074
Effect of control surface mass unbalance on the stability of a closed-loop active control system
[NASA-TP-2952] p 47 N90-12042
- AERODYNAMIC STALLING**
Flight investigation of the effect of tail configuration on stall, spin, and recovery characteristics of a low-wing general aviation research airplane
[NASA-TP-2644] p 13 N87-16815
Flight investigation of the effects of an outboard wing-leading-edge modification on stall/spin characteristics of a low-wing, single-engine, T-tail light airplane
[NASA-TP-2691] p 14 N87-23614
Steady-state and transitional aerodynamic characteristics of a wing in simulated heavy rain
[NASA-TP-2932] p 10 N89-25951
- AERODYNAMICS**
An experimental investigation of an advanced turboprop installation on a swept wing at subsonic and transonic speeds
[NASA-TP-2729] p 6 N87-26883
Aeronautical engineering: A continuing bibliography with indexes (supplement 217)
[NASA-SP-7037(217)] p 1 N87-27613
Supersonic aerodynamics of delta wings
[NASA-TP-2771] p 7 N88-17615
Aeronautical engineering: A cumulative index to a continuing bibliography
[NASA-SP-7037(222)] p 7 N88-19416
Joint University Program for Air Transportation Research, 1986
[NASA-CP-2502] p 2 N88-23715
Nonlinear programming extensions to rational function approximation methods for unsteady aerodynamic forces
[NASA-TP-2776] p 15 N88-24623
Aeronautical engineering: A continuing bibliography with indexes
[NASA-SP-7037(229)] p 2 N88-27163
Validation of a pair of computer codes for estimation and optimization of subsonic aerodynamic performance of simple hinged-flap systems for thin swept wings
[NASA-TP-2828] p 8 N89-10024
Aeronautical engineering: A continuing bibliography with indexes (supplement 242)
[NASA-SP-7037(242)] p 2 N89-29304
Effect of control surface mass unbalance on the stability of a closed-loop active control system
[NASA-TP-2952] p 47 N90-12042
Aeronautical engineering: A continuing bibliography with indexes (supplement 255)
[NASA-SP-7037(255)] p 2 N90-27648
- AEROELASTIC RESEARCH WINGS**
In-flight total forces, moments and static aeroelastic characteristics of an oblique-wing research airplane
[NASA-TP-2224] p 19 N87-10103
- AEROELASTICITY**
NASA/Army Rotorcraft Technology. Volume 1: Aerodynamics, and Dynamics and Aeroelasticity
[NASA-CP-2495-VOL-1] p 1 N88-16625
An experimental investigation of the flap-lag-torsion aeroelastic stability of a small-scale hingeless helicopter rotor in hover
[NASA-TP-2546] p 7 N88-20257
Shape sensitivity analysis of wing static aeroelastic characteristics
[NASA-TP-2808] p 15 N88-22031
Lewis Structures Technology, 1988. Volume 1: Structural Dynamics
[NASA-CP-3003-VOL-1] p 44 N88-23226
Integrated Technology Rotor Methodology Assessment Workshop
[NASA-CP-10007] p 2 N88-27148
Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 1
[NASA-CP-3022-PT-1] p 9 N89-19234
Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 2
[NASA-CP-3022-PT-2] p 9 N89-19247
Method for experimental determination of flutter speed by parameter identification
[NASA-TP-2923] p 15 N89-26844
- AERONAUTICAL ENGINEERING**
Engineer in charge: A history of the Langley Aeronautical Laboratory, 1917-1958
[NASA-SP-4305] p 80 N87-24390
Aeronautical engineering: A continuing bibliography with indexes (supplement 217)
[NASA-SP-7037(217)] p 1 N87-27613
Astronautics and aeronautics, 1978: A chronology
[NASA-SP-4023] p 80 N88-14062
Aeronautical engineering: A cumulative index to a continuing bibliography
[NASA-SP-7037(222)] p 7 N88-19416
NASA historical data book. Volume 1: NASA resources 1958-1968
[NASA-SP-4012-VOL-1] p 80 N88-25428
Aeronautical engineering: A continuing bibliography with indexes
[NASA-SP-7037(229)] p 2 N88-27163
Aeronautical engineering: A continuing bibliography with indexes (supplement 242)
[NASA-SP-7037(242)] p 2 N89-29304
Astronautics and Aeronautics, 1979-1984: A chronology
[NASA-SP-4024] p 81 N90-25928
Aeronautical engineering: A continuing bibliography with indexes (supplement 255)
[NASA-SP-7037(255)] p 2 N90-27648
- AERONAUTICS**
NASA historical data book. Volume 2: Programs and projects 1958-1968
[NASA-SP-4012-VOL-2] p 80 N88-25429
NASA historical data book. Volume 3: Programs and projects 1969-1978
[NASA-SP-4012-VOL-3] p 81 N88-25430
Astronautics and aeronautics, 1985: A chronology
[NASA-SP-4025] p 81 N89-26803
- AEROSOLS**
Airborne lidar measurements of El Chichon stratospheric aerosols, May 1983
[NASA-RP-1172] p 51 N87-11358
SAGE aerosol measurements. Volume 3: January 1, 1981 to November 18, 1981
[NASA-RP-1173] p 51 N87-17417
Space Opportunities for Tropospheric Chemistry Research
[NASA-CP-2450] p 51 N87-18248
Airborne lidar measurements of El Chichon stratospheric aerosols, January 1984
[NASA-RP-1175] p 51 N87-20663
Effects of aerosols and surface shadowing on bidirectional reflectance measurements of deserts
[NASA-TP-2756] p 49 N87-28162
Airborne particulate matter in spacecraft
[NASA-CP-2499] p 59 N88-14623
SAM 2 data user's guide
[NASA-RP-1200] p 52 N88-25094
Forty-eight-inch lidar aerosol measurements taken at the Langley Research Center, May 1974 to December 1987
[NASA-RP-1209] p 52 N88-29234
Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022

- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study [NASA-CP-10026-VOL-2] p 59 N89-24023
- AEROSPACE ENGINEERING**
- Astronautics and aeronautics, 1978: A chronology [NASA-SP-4023] p 80 N88-14062
- The 1988 Goddard Conference on Space Applications of Artificial Intelligence [NASA-CP-3009] p 64 N88-30330
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 35) [NASA-SP-7039(35)-SECT-1] p 71 N89-25775
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 35) [NASA-SP-7039(35)-SECT-2] p 71 N89-29264
- The 24th Aerospace Mechanisms Symposium [NASA-CP-3062] p 47 N90-22079
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 37) [NASA-SP-7039(37)-SECT-1] p 71 N90-25698
- Astronautics and Aeronautics, 1979-1984: A chronology [NASA-SP-4024] p 81 N90-25928
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 37) [NASA-SP-7039(37)-SECT-2] p 71 N90-26700
- AEROSPACE ENVIRONMENTS**
- Upper and Middle Atmospheric Density Modeling Requirements for Spacecraft Design and Operations [NASA-CP-2460] p 52 N87-20665
- Microgravity Fluid Management Symposium [NASA-CP-2465] p 32 N87-21141
- Spacelab 3 Mission Science Review [NASA-CP-2429] p 36 N87-22103
- Airborne particulate matter in spacecraft [NASA-CP-2499] p 59 N88-14623
- Space Station Induced Monitoring [NASA-CP-3021] p 73 N89-15790
- Workshop on Two-Phase Fluid Behavior in a Space Environment [NASA-CP-3043] p 38 N89-26184
- Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989) [NASA-CP-3059] p 62 N90-25503
- AEROSPACE INDUSTRY**
- Material characterization of superplastically formed titanium (Ti-6Al-2Sn-4Zr-2Mo) sheet [NASA-TP-2674] p 30 N87-20407
- Wind shear detection. Forward-looking sensor technology [NASA-CP-10004] p 12 N88-14970
- Issues in NASA program and project management [NASA-SP-6101(02)] p 69 N90-13277
- AEROSPACE MEDICINE**
- Aerospace medicine and biology: A cumulative index to the 1986 issues (supplement 293) [NASA-SP-7011(293)] p 59 N87-18976
- Aerospace medicine and biology: A continuing bibliography with indexes (supplement 302) [NASA-SP-7011(302)] p 59 N87-30041
- Aerospace medicine and biology: A cumulative index to a continuing bibliography (supplement 306) [NASA-SP-7011(306)] p 60 N88-18180
- Aerospace medicine and biology: A continuing bibliography with indexes (supplement 315) [NASA-SP-7011(315)] p 60 N88-30281
- Aerospace medicine and biology: A continuing bibliography with indexes (supplement 327) [NASA-SP-7011(327)] p 60 N89-29951
- Aerospace medicine and biology: A continuing bibliography with indexes (supplement 340) [NASA-SP-7011(340)] p 60 N90-28963
- AEROSPACE PLANES**
- Low-speed, high-lift aerodynamic characteristics of slender, hypersonic accelerator-type configurations [NASA-TP-2945] p 10 N90-10830
- AEROSPACE SCIENCES**
- NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1977-1986 [NASA-SP-7063(01)] p 70 N87-30218
- NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1987 [NASA-SP-7063(02)] p 70 N88-22830
- Fourth Conference on Artificial Intelligence for Space Applications [NASA-CP-3013] p 63 N89-15549
- NASA scientific and technical publications: A catalog of special publications, reference publications, conference publications, and technical papers, 1988 [NASA-SP-7063(03)] p 71 N90-10782
- NASA Thesaurus supplement: A four part cumulative supplement to the 1988 edition of the NASA Thesaurus (supplement 3) [NASA-SP-7064-SUPPL-3] p 71 N90-22438
- AEROSPACE SYSTEMS**
- Space Electrochemical Research and Technology Conference: Abstracts [NASA-CP-10029] p 50 N89-22982
- The 23rd Aerospace Mechanisms Symposium [NASA-CP-3032] p 46 N89-23892
- AEROTHERMODYNAMICS**
- Aerothermal tests of spherical dome protuberances on a flat plate at a Mach number of 6.5 [NASA-TP-2631] p 35 N87-13664
- Structural Integrity and Durability of Reusable Space Propulsion Systems [NASA-CP-2471] p 26 N87-22766
- Aerothermal tests of quilted dome models on a flat plate at a Mach number of 6.5 [NASA-TP-2804] p 37 N88-22325
- AFTERBODIES**
- Effects of empennage surface location on aerodynamic characteristics of a twin-engine afterbody model with nonaxisymmetric nozzles [NASA-TP-2392] p 14 N87-17693
- Effects of afterbody boattail design and empennage arrangement on aeropropulsive characteristics of a twin-engine fighter model at transonic speeds [NASA-TP-2704] p 4 N87-21873
- Comparison of wind tunnel and flight test afterbody and nozzle pressures for a twin-jet fighter aircraft at transonic speeds [NASA-TP-2588] p 6 N88-10765
- Effect of empennage arrangement on single-engine nozzle/afterbody static pressures at transonic speeds [NASA-TP-2753] p 6 N88-10771
- AGING (METALLURGY)**
- Stress corrosion study of PH13-8Mo stainless steel using the Slow Strain Rate Technique [NASA-TP-2934] p 30 N89-26976
- Heat treatment study of the SiC/Ti-15-3 composite system [NASA-TP-2970] p 29 N90-19302
- AGRICULTURE**
- Earth resources: A continuing bibliography with indexes (issue 57) [NASA-SP-7041(57)] p 49 N88-23314
- AIR**
- Simplified curve fits for the thermodynamic properties of equilibrium air [NASA-RP-1181] p 36 N87-26309
- A rapid method for the computation of equilibrium chemical composition of air to 15000 K [NASA-TP-2792] p 30 N88-16830
- A review of reaction rates and thermodynamic and transport properties for an 11-species air model for chemical and thermal nonequilibrium calculations to 30000 K [NASA-RP-1232] p 38 N90-27064
- AIR DATA SYSTEMS**
- Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack [NASA-TP-2716] p 14 N87-29497
- AIR FLOW**
- Conservation equations and physical models for hypersonic air flows in thermal and chemical nonequilibrium [NASA-TP-2867] p 38 N89-16115
- AIR NAVIGATION**
- Joint University Program for Air Transportation Research, 1983 [NASA-CP-2451] p 1 N87-18520
- Joint University Program for Air Transportation Research, 1988-1989 [NASA-CP-3063] p 2 N90-20921
- AIR POLLUTION**
- SAGE aerosol measurements. Volume 3: January 1, 1981 to November 18, 1981 [NASA-RP-1173] p 51 N87-17417
- Space Opportunities for Tropospheric Chemistry Research [NASA-CP-2450] p 51 N87-18248
- Airborne lidar measurements of El Chichon stratospheric aerosols, January 1984 [NASA-RP-1175] p 51 N87-20663
- Atlas of absorption lines from 0 to 17900 cm (sup)-1 [NASA-RP-1188] p 49 N87-28955
- AIR PURIFICATION**
- Airborne particulate matter in spacecraft [NASA-CP-2499] p 59 N88-14623
- AIR QUALITY**
- Airborne particulate matter in spacecraft [NASA-CP-2499] p 59 N88-14623
- An assessment model for atmospheric composition [NASA-CP-3023] p 57 N89-20588
- AIR SEA ICE INTERACTIONS**
- Arctic Sea ice, 1973-1976: Satellite passive-microwave observations [NASA-SP-489] p 58 N87-24870
- AIR TRAFFIC CONTROL**
- Ground-based time-guidance algorithm for control of airplanes in a time-metered air traffic control environment: A piloted simulation study [NASA-TP-2616] p 16 N87-10864
- Joint University Program for Air Transportation Research, 1985 [NASA-CP-2453] p 1 N87-27596
- Jet transport flight operations using cockpit display of traffic information during instrument meteorological conditions: Simulation evaluation [NASA-TP-2567] p 12 N87-29469
- A piloted simulation study of data link ATC message exchange [NASA-TP-2859] p 13 N89-15900
- Simulation evaluation of TIMER, a time-based, terminal air traffic, flow-management concept [NASA-TP-2870] p 13 N89-15901
- Flight deck automation: Promises and realities [NASA-CP-10036] p 17 N90-13384
- Delivery performance of conventional aircraft by terminal-area, time-based air traffic control: A real-time simulation evaluation [NASA-TP-2978] p 13 N90-18378
- Joint University Program for Air Transportation Research, 1988-1989 [NASA-CP-3063] p 2 N90-20921
- AIR TRAFFIC CONTROLLERS (PERSONNEL)**
- Delivery performance of conventional aircraft by terminal-area, time-based air traffic control: A real-time simulation evaluation [NASA-TP-2978] p 13 N90-18378
- AIR TRANSPORTATION**
- Joint University Program for Air Transportation Research, 1983 [NASA-CP-2451] p 1 N87-18520
- Joint University Program for Air Transportation Research, 1984 [NASA-CP-2452] p 1 N87-22604
- Joint University Program for Air Transportation Research, 1985 [NASA-CP-2453] p 1 N87-27596
- Flight deck automation: Promises and realities [NASA-CP-10036] p 17 N90-13384
- Joint University Program for Air Transportation Research, 1988-1989 [NASA-CP-3063] p 2 N90-20921
- AIR WATER INTERACTIONS**
- Nimbus-7 data product summary [NASA-RP-1215] p 48 N89-22152
- On the statistics of El Nino occurrences and the relationship of El Nino to volcanic and solar/geomagnetic activity [NASA-TP-2948] p 79 N90-12456
- AIRBORNE EQUIPMENT**
- Airborne lidar measurements of El Chichon stratospheric aerosols, May 1983 [NASA-RP-1172] p 51 N87-11358
- Airborne lidar measurements of El Chichon stratospheric aerosols, January 1984 [NASA-RP-1175] p 51 N87-20663
- Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference [NASA-CP-10006] p 12 N88-17616
- MARA (Multimode Airborne Radar Altimeter) system documentation. Volume 1: MARA system requirements document [NASA-RP-1226] p 39 N89-26209
- AIRCRAFT COMPARTMENTS**
- Annoyance response to simulated advanced turboprop aircraft interior noise containing tonal beats [NASA-TP-2689] p 66 N87-24161
- Evaluation of the ride quality of a light twin engine airplane using a ride quality meter [NASA-TP-2913] p 2 N89-22568
- AIRCRAFT CONFIGURATIONS**
- Effects of tail span and empennage arrangement on drag of a typical single-engine fighter aft end [NASA-TP-2352] p 3 N87-10838
- Planform effects on the supersonic aerodynamics of multibody configurations [NASA-TP-2762] p 6 N88-12454
- Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 1 [NASA-CP-3022-PT-1] p 9 N89-19234
- Evaluation of a strain-gage load calibration on a low-aspect-ratio wing structure at elevated temperature [NASA-TP-2921] p 46 N89-28034
- Fuselage design for a specified Mach-sliced area distribution [NASA-TP-2975] p 16 N90-18385

Dynamic ground-effect measurements on the F-15 STOL and Maneuver Technology Demonstrator (S/MTD) configuration
 [NASA-TP-3000] p 11 N90-22531

AIRCRAFT CONSTRUCTION MATERIALS
 Evaluation of energy absorption of new concepts of aircraft composite subfloor intersections
 [NASA-TP-2951] p 16 N90-26823

AIRCRAFT CONTROL
 Joint University Program for Air Transportation Research, 1984
 [NASA-CP-2452] p 1 N87-22604
 Application of parameter estimation to aircraft stability and control: The output-error approach
 [NASA-RP-1168] p 14 N87-29499
 Effects of the installation and operation of jet-exhaust yaw vanes on the longitudinal and lateral-directional characteristics of the F-14 airplane
 [NASA-TP-2769] p 6 N88-12455
 Proceedings of the Circulation-Control Workshop, 1986
 [NASA-CP-2432] p 7 N88-17586
 Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference
 [NASA-CP-10006] p 12 N88-17616
 Rotorcraft flight-propulsion control integration: An eclectic design concept
 [NASA-TP-2815] p 19 N88-19475
 Joint University Program for Air Transportation Research, 1986
 [NASA-CP-2502] p 2 N88-23715
 Influence of wind shear on the aerodynamic characteristics of airplanes
 [NASA-TP-2827] p 12 N88-26344
 Joint University Program for Air Transportation Research, 1988-1989
 [NASA-CP-3063] p 2 N90-20921

AIRCRAFT DESIGN
 In-flight total forces, moments and static aeroelastic characteristics of an oblique-wing research airplane
 [NASA-TP-2224] p 19 N87-10103
 Recent Experiences in Multidisciplinary Analysis and Optimization, part 1
 [NASA-CP-2327-PT-1] p 13 N87-11717
 Recent Experiences in Multidisciplinary Analysis and Optimization, part 2
 [NASA-CP-2327-PT-2] p 13 N87-11750
 Engineer in charge: A history of the Langley Aeronautical Laboratory, 1917-1958
 [NASA-SP-4305] p 80 N87-24390
 Langley Symposium on Aerodynamics, volume 1
 [NASA-CP-2397] p 1 N88-14926
 NASA/Army Rotorcraft Technology. Volume 2: Materials and Structures, Propulsion and Drive Systems, Flight Dynamics and Control, and Acoustics
 [NASA-CP-2495-VOL-2] p 1 N88-16632
 NASA/Army Rotorcraft Technology. Volume 3: Systems Integration, Research Aircraft, and Industry
 [NASA-CP-2495-VOL-3] p 1 N88-16650
 Aerodynamic characteristics of wings designed with a combined-theory method to cruise at a Mach number of 4.5
 [NASA-TP-2799] p 7 N88-19420
 Laminar Flow Aircraft Certification
 [NASA-CP-2413] p 8 N88-23737
 User's manual for interactive LINEAR: A FORTRAN program to derive linear aircraft models
 [NASA-TP-2835] p 65 N89-16437
 Transonic Symposium: Theory, Application, and Experiment, Volume 1, Part 1
 [NASA-CP-3020-VOL-1-PT-1] p 9 N89-20925
 A closed-form trim solution yielding minimum trim drag for airplanes with multiple longitudinal-control effectors
 [NASA-TP-2907] p 20 N89-23468
 Computational Methods for Structural Mechanics and Dynamics
 [NASA-CP-3034-PT-2] p 46 N89-24654
 Recent Advances in Multidisciplinary Analysis and Optimization, part 1
 [NASA-CP-3031-PT-1] p 15 N89-25146
 Recent Advances in Multidisciplinary Analysis and Optimization, part 2
 [NASA-CP-3031-PT-2] p 15 N89-25173
 Recent Advances in Multidisciplinary Analysis and Optimization, part 3
 [NASA-CP-3031-PT-3] p 15 N89-25201
 Low-speed, high-lift aerodynamic characteristics of slender, hypersonic accelerator-type configurations
 [NASA-TP-2945] p 10 N90-10830
 Research in Natural Laminar Flow and Laminar-Flow Control, part 2
 [NASA-CP-2487-PT-2] p 10 N90-12519
 Research in Natural Laminar Flow and Laminar-Flow Control, part 3
 [NASA-CP-2487-PT-3] p 10 N90-12539

NASA supercritical airfoils: A matrix of family-related airfoils
 [NASA-TP-2969] p 11 N90-16710
 Fuselage design for a specified Mach-sliced area distribution
 [NASA-TP-2975] p 16 N90-18385

AIRCRAFT ENGINES
 Turbine Engine Hot Section Technology, 1984
 [NASA-CP-2339] p 43 N87-11180
 Investigation of the misfueling of reciprocating piston aircraft engines
 [NASA-TP-2803] p 12 N88-21144
 Lewis Structures Technology, 1988. Volume 2: Structural Mechanics
 [NASA-CP-3003-VOL-2] p 44 N88-22382
 Turbine Engine Hot Section Technology, 1987
 [NASA-CP-2493] p 45 N89-17298

AIRCRAFT FUELS
 Low-energy gamma ray attenuation characteristics of aviation fuels
 [NASA-TP-2974] p 63 N90-18882

AIRCRAFT GUIDANCE
 Joint University Program for Air Transportation Research, 1983
 [NASA-CP-2451] p 1 N87-18520
 Joint University Program for Air Transportation Research, 1984
 [NASA-CP-2452] p 1 N87-22604
 Joint University Program for Air Transportation Research, 1986
 [NASA-CP-2502] p 2 N88-23715

AIRCRAFT HAZARDS
 Doppler Radar Detection of Wind Shear
 [NASA-CP-2435] p 12 N87-10054

AIRCRAFT INSTRUMENTS
 A simulation evaluation of the engine monitoring and control system display
 [NASA-TP-2960] p 17 N90-18393

AIRCRAFT LANDING
 Langley Aircraft Landing Dynamics Facility
 [NASA-RP-1189] p 21 N87-29544
 Dynamic ground-effect measurements on the F-15 STOL and Maneuver Technology Demonstrator (S/MTD) configuration
 [NASA-TP-3000] p 11 N90-22531

AIRCRAFT MANEUVERS
 Langley Symposium on Aerodynamics, volume 1
 [NASA-CP-2397] p 1 N88-14926

AIRCRAFT MODELS
 User's manual for LINEAR, a FORTRAN program to derive linear aircraft models
 [NASA-TP-2768] p 65 N88-21740
 Derivation and definition of a linear aircraft model
 [NASA-RP-1207] p 19 N89-15123
 Measurements of pressures on the tail and aft fuselage of an airplane model during rotary motions at spin attitudes
 [NASA-TP-2939] p 10 N90-10829

AIRCRAFT NOISE
 Annoyance response to simulated advanced turboprop aircraft interior noise containing tonal beats
 [NASA-TP-2689] p 66 N87-24161
 Helicopter main-rotor noise: Determination of source contributions using scaled model data
 [NASA-TP-2825] p 67 N88-26907
 Evaluation of the ride quality of a light twin engine airplane using a ride quality meter
 [NASA-TP-2913] p 2 N89-22568
 Comparison between design and installed acoustic characteristics of NASA Lewis 9- by 15-foot low-speed wind tunnel acoustic treatment
 [NASA-TP-2996] p 22 N90-19242
 FAA/NASA En Route Noise Symposium
 [NASA-CP-3067] p 67 N90-24853

AIRCRAFT PERFORMANCE
 Wind Shear/Turbulence Inputs to Flight Simulation and Systems Certification
 [NASA-CP-2474] p 1 N87-25267
 Development and flight test experiences with a flight-critical digital control system
 [NASA-TP-2857] p 20 N89-24327
 Longitudinal stability and control characteristics of the Quiet Short-Haul Research Aircraft (QSRA)
 [NASA-TP-2965] p 20 N90-17639

AIRCRAFT SAFETY
 Atmospheric Turbulence Relative to Aviation, Missile, and Space Programs
 [NASA-CP-2468] p 55 N87-22341

AIRCRAFT SPIN
 Flight investigation of the effect of tail configuration on stall, spin, and recovery characteristics of a low-wing general aviation research airplane
 [NASA-TP-2644] p 13 N87-16815

AIRCRAFT STABILITY
 Application of parameter estimation to aircraft stability and control: The output-error approach
 [NASA-RP-1168] p 14 N87-29499
 Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 2
 [NASA-CP-3022-PT-2] p 9 N89-19247

AIRCRAFT STRUCTURES
 The ACEE program and basic composites research at Langley Research Center (1975 to 1986): Summary and bibliography
 [NASA-RP-1177] p 28 N87-29612
 Evaluation of a strain-gage load calibration on a low-aspect-ratio wing structure at elevated temperature
 [NASA-TP-2921] p 46 N89-28034
 A Protection And Detection Surface (PADS) for damage tolerance
 [NASA-TP-3011] p 29 N90-27788

AIRCRAFT TIRES
 Measurements of flow rate and trajectory of aircraft tire-generated water spray
 [NASA-TP-2718] p 14 N87-24458
 Static mechanical properties of 30 x 11.5 - 14.5, type 8 aircraft tires of bias-ply and radial-belted design
 [NASA-TP-2810] p 15 N88-21157
 Evaluation of two transport aircraft and several ground test vehicle friction measurements obtained for various runway surface types and conditions. A summary of test results from joint FAA/NASA Runway Friction Program
 [NASA-TP-2917] p 16 N90-15902
 Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
 [NASA-TP-2977] p 42 N90-19595

AIRFOIL PROFILES
 Effect of advanced rotorcraft airfoil sections on the hover performance of a small-scale rotor model
 [NASA-TP-2832] p 10 N89-24264
 Airfoil self-noise and prediction
 [NASA-RP-1218] p 67 N89-25673
 CAST-10-2/DOA 2 Airfoil Studies Workshop Results
 [NASA-CP-3052] p 22 N90-17647
 Experimental and theoretical aerodynamic characteristics of a high-lift semispan wing model
 [NASA-TP-2990] p 11 N90-20046

AIRFOILS
 Turbine Engine Hot Section Technology, 1984
 [NASA-CP-2339] p 43 N87-11180
 Lewis inverse design code (LINDES): Users manual
 [NASA-TP-2676] p 4 N87-20238
 Calculation of viscous effects on transonic flow for oscillating airfoils and comparisons with experiment
 [NASA-TP-2731] p 6 N87-27622
 Measurement of velocity and vorticity fields in the wake of an airfoil in periodic pitching motion
 [NASA-TP-2780] p 66 N88-13002
 Airfoil self-noise and prediction
 [NASA-RP-1218] p 67 N89-25673
 Steady-state and transitional aerodynamic characteristics of a wing in simulated heavy rain
 [NASA-TP-2932] p 10 N89-25951
 CAST-10-2/DOA 2 Airfoil Studies Workshop Results
 [NASA-CP-3052] p 22 N90-17647

AIRPORTS
 Low-energy gamma ray attenuation characteristics of aviation fuels
 [NASA-TP-2974] p 63 N90-18882
 FAA/NASA En Route Noise Symposium
 [NASA-CP-3067] p 67 N90-24853

ALABAMA
 The MSFC/UAH Data Management Symposium
 [NASA-CP-2040] p 62 N78-74659

ALBEDO
 Surface bidirectional reflectance properties of two southwestern Arizona deserts for wavelengths between 0.4 and 2.2 micrometers
 [NASA-TP-2643] p 48 N87-22281
 Atlas of albedo and absorbed solar radiation derived from Nimbus 6 earth radiation budget data set, July 1975 to May 1978
 [NASA-RP-1230] p 57 N90-14741

ALGAE
 Controlled Ecological Life Support System: Regenerative Life Support Systems in Space
 [NASA-CP-2480] p 60 N88-12251

ALGORITHMS
 An algorithm for surface smoothing with rational splines
 [NASA-TP-2708] p 65 N87-22447
 Calibration of the spin-scan ozone imager aboard the dynamics Explorer 1 satellite
 [NASA-TP-2723] p 55 N87-26491
 Frontiers of Massively Parallel Scientific Computation
 [NASA-CP-2478] p 62 N87-26531
 Advances in contact algorithms and their application to tires
 [NASA-TP-2781] p 44 N88-21456

- Universal test fixture for monolithic mm-wave integrated circuits calibrated with an augmented TRD algorithm
[NASA-TP-2875] p 34 N89-17767
- Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
[NASA-RP-1211] p 79 N89-30151
- Advanced detection, isolation, and accommodation of sensor failures in turbofan engines: Real-time microcomputer implementation
[NASA-TP-2925] p 20 N90-15112
- An upwind-biased, point-implicit relaxation algorithm for viscous, compressible perfect-gas flows
[NASA-TP-2953] p 38 N90-17042
- ALIGNMENT**
Development and evaluation of an airplane electronic display format aligned with the inertial velocity vector
[NASA-TP-2648] p 16 N87-13438
- ALKYL COMPOUNDS**
Surface catalytic degradation study of two linear perfluoropolyalkylethers at 345 C
[NASA-TP-2774] p 27 N88-12543
- Reaction of perfluoroalkylpolyethers (PFPE) with 440C steel in vacuum under sliding conditions at room temperature
[NASA-TP-2883] p 31 N89-26091
- ALL SKY PHOTOGRAPHY**
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 1: Explanatory supplement
[NASA-RP-1190-VOL-1] p 76 N89-14194
- Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 5: The point source catalog declination range -30 deg greater than delta greater than -50 deg
[NASA-RP-1190-VOL-5] p 76 N89-14195
- Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 4: The point source catalog declination range 0 deg greater than delta greater than -30 deg
[NASA-RP-1190-VOL-4] p 76 N89-14196
- Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 2: The point source catalog declination range 90 deg greater than delta greater than 30 deg
[NASA-RP-1190-VOL-2] p 76 N89-14197
- Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 6: The point source catalog declination range -50 deg greater than delta greater than -90 deg
[NASA-RP-1190-VOL-6] p 76 N89-14198
- Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 7: The small scale structure catalog
[NASA-RP-1190-VOL-7] p 76 N89-14199
- Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 3: The point source catalog declination range 30 deg greater than delta greater than 0 deg
[NASA-RP-1190-VOL-3] p 77 N89-14201
- ALTERNATING CURRENT**
An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods
[NASA-TP-2820] p 30 N89-19406
- ALTITUDE**
Effect of ephemeris errors on the accuracy of the computation of the tangent point altitude of a solar scanning ray as measured by the SAGE 1 and 2 instruments
[NASA-TP-2866] p 65 N89-16415
- ALTITUDE SIMULATION**
Detailed flow surveys of turning vanes designed for a 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2680] p 21 N87-20295
- Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2681] p 21 N88-17686
- ALUMINUM**
Shot peening for Ti-6Al-4V alloy compressor blades
[NASA-TP-2711] p 43 N87-20566
- Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets
[NASA-RP-1180] p 79 N87-25984
- An examination of impact damage in glass-phenolic and aluminum honeycomb core composite panels
[NASA-TP-3042] p 29 N90-27876
- Effects of continuous and cyclic thermal exposures on boron- and boron-reinforced 6061 aluminum composites
[NASA-TP-1063] p 28 N88-70029
- ALUMINUM ALLOYS**
Ester oxidation on an aluminum surface using chemiluminescence
[NASA-TP-2611] p 31 N87-18666
- The corrosion mechanisms for primer coated 2219-T87 aluminum
[NASA-TP-2715] p 30 N87-21076
- Emission, catalysis, and dynamic oxidation of Ti-14Al-21Nb
[NASA-TP-2955] p 31 N90-10248
- ALUMINUM GRAPHITE COMPOSITES**
Effects of thermal cycling on graphite-fiber-reinforced 6061 aluminum
[NASA-TP-2612] p 28 N87-10184
- ALUMINUM OXIDES**
Oxidation characteristics of Ti-14Al-21Nb ingot alloy
[NASA-TP-3012] p 31 N90-25206
- ANALOG DATA**
Analog signal conditioning for flight-test instrumentation
[NASA-RP-1159] p 17 N87-29533
- ANGLE OF ATTACK**
Mach 6 experimental and theoretical stability and performance of a cruciform missile at angles of attack up to 65 degrees
[NASA-TP-2733] p 5 N87-23592
- Subsonic longitudinal and lateral-directional characteristics of a forward-swept-wing fighter configuration at angles of attack up to 47 deg
[NASA-TP-2727] p 6 N87-26874
- Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack
[NASA-TP-2716] p 14 N87-29497
- Analysis of flight data from a High-Incidence Research Model by system identification methods
[NASA-TP-2940] p 20 N90-10074
- ANGULAR DISTRIBUTION**
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677
- ANISOTROPIC SHELLS**
Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
[NASA-TP-2977] p 42 N90-19595
- ANNIHILATION REACTIONS**
Annihilation in Gases and Galaxies
[NASA-CP-3058] p 66 N90-18957
- ANNUAL VARIATIONS**
Arctic Sea ice, 1973-1976: Satellite passive-microwave observations
[NASA-SP-489] p 58 N87-24870
- Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 7 Earth radiation budget data set - November 1978 to October 1985
[NASA-RP-1186] p 55 N88-10451
- ANNULAR FLOW**
Three component laser anemometer measurements in an annular cascade of core turbine vanes with contoured end wall
[NASA-TP-2846] p 8 N89-10844
- ANTARCTIC REGIONS**
The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-RP-1201] p 49 N88-20714
- Polar Ozone Workshop. Abstracts
[NASA-CP-10014] p 51 N89-14503
- The 1988 Antarctic ozone monitoring Nimbus-7 TOMS data atlas
[NASA-RP-1225] p 57 N89-28983
- Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-RP-1233-VOL-1] p 54 N90-20562
- Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
[NASA-RP-1233-VOL-4] p 54 N90-20564
- SeaRISE: A Multidisciplinary Research Initiative to Predict Rapid Changes in Global Sea Level Caused by Collapse of Marine Ice Sheets
[NASA-CP-3075] p 48 N90-22824
- Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989
[NASA-RP-1237] p 58 N90-23837
- ANTENNA DESIGN**
A simplified approach to axisymmetric dual-reflector antenna design
[NASA-TP-2797] p 7 N88-16662
- Measured and predicted root-mean-square errors in square and triangular antenna mesh facets
[NASA-TP-2896] p 45 N89-17892
- Earth Science Geostationary Platform Technology
[NASA-CP-3040] p 24 N90-19249
- Thermal-distortion analysis of an antenna strongback for geostationary high-frequency microwave applications
[NASA-TP-3016] p 26 N90-27738
- ANTENNA RADIATION PATTERNS**
A simplified approach to axisymmetric dual-reflector antenna design
[NASA-TP-2797] p 7 N88-16662
- Measured and predicted root-mean-square errors in square and triangular antenna mesh facets
[NASA-TP-2896] p 45 N89-17892
- ANTENNAS**
NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-1] p 24 N87-16014
- Technology for large space systems: A bibliography with indexes (supplement 17)
[NASA-SP-7046(17)] p 22 N87-29576
- ANTIMATTER**
Possible complementary cosmic-ray systems: Nuclei and antinuclei
[NASA-TP-2741] p 68 N87-24977
- Annihilation in Gases and Galaxies
[NASA-CP-3058] p 66 N90-18957
- ANTIPARTICLES**
Possible complementary cosmic-ray systems: Nuclei and antinuclei
[NASA-TP-2741] p 68 N87-24977
- APOLLO FLIGHTS**
Where no man has gone before: A history of Apollo lunar exploration missions
[NASA-SP-4214] p 81 N89-25946
- APOLLO PROJECT**
Where no man has gone before: A history of Apollo lunar exploration missions
[NASA-SP-4214] p 81 N89-25946
- APOLLO SPACECRAFT**
Where no man has gone before: A history of Apollo lunar exploration missions
[NASA-SP-4214] p 81 N89-25946
- APPLICATIONS PROGRAMS (COMPUTERS)**
Predicted effect of dynamic load on pitting fatigue life for low-contact-ratio spur gears
[NASA-TP-2610] p 41 N87-18095
- Sixth Annual Users' Conference --- Transportable Applications Executive (TAE)
[NASA-CP-2463] p 62 N87-23156
- SURE reliability analysis: Program and mathematics
[NASA-TP-2764] p 65 N88-17380
- Numerical simulation of scramjet inlet flow fields
[NASA-TP-2517] p 8 N88-23735
- Applications of the hybrid automated reliability predictor: Revised edition
[NASA-TP-2760-REV] p 63 N90-11454
- Fifty year canon of lunar eclipses: 1986-2035
[NASA-RP-1216] p 75 N90-18342
- Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
[NASA-RP-1233-VOL-2] p 54 N90-20563
- APPROACH**
Effect of motion cues during complex curved approach and landing tasks: A piloted simulation study
[NASA-TP-2773] p 14 N88-12480
- APPROACH CONTROL**
A simulation evaluation of a pilot interface with an automatic terminal approach system
[NASA-TP-2669] p 16 N87-19393
- APPROXIMATION**
On minimizing the number of calculations in design-by-analysis codes
[NASA-TP-2706] p 5 N87-23586
- Nonlinear programming extensions to rational function approximation methods for unsteady aerodynamic forces
[NASA-TP-2776] p 15 N88-24623
- Three-dimensional multigrad algorithms for the flux-split Euler equations
[NASA-TP-2829] p 65 N89-12316
- Effect of ephemeris errors on the accuracy of the computation of the tangent point altitude of a solar scanning ray as measured by the SAGE 1 and 2 instruments
[NASA-TP-2866] p 65 N89-16415
- An approximate method for calculating three-dimensional inviscid hypersonic flow fields
[NASA-TP-3018] p 39 N90-27066
- ARC WELDING**
A generalized method for automatic downhand and wirefeed control of a welding robot and positioner
[NASA-TP-2807] p 32 N88-17869
- ARCHITECTURE**
Space Station Human Factors Research Review. Volume 3: Space Station Habitability and Function: Architectural Research
[NASA-CP-2426-VOL-3] p 59 N88-19883
- ARCHITECTURE (COMPUTERS)**
Computer Sciences and Data Systems, volume 1
[NASA-CP-2459-VOL-1] p 62 N87-19931
- First Annual Workshop on Space Operations Automation and Robotics (SOAR 87)
[NASA-CP-2491] p 61 N88-17206
- NASA Workshop on Computational Structural Mechanics 1987, part 1
[NASA-CP-10012-PT-1] p 46 N89-29773
- NASA Workshop on Computational Structural Mechanics 1987, part 2
[NASA-CP-10012-PT-2] p 46 N89-29789
- The 1990 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3068] p 64 N90-22294

ARCTIC REGIONS

- Arctic Sea ice, 1973-1976: Satellite passive-microwave observations
[NASA-SP-489] p 58 N87-24870
The 1989 Airborne Arctic Stratospheric Expedition
Nimbus-7 TOMS data atlas
[NASA-RP-1227] p 57 N89-27302

AREA

- Experimental thrust performance of a high-area-ratio rocket nozzle
[NASA-TP-2720] p 26 N87-20381

ARRAYS

- A lunar far-side very low frequency array
[NASA-CP-3039] p 75 N90-10805

ARTIFICIAL INTELLIGENCE

- The 1988 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3009] p 64 N88-30330
Fourth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3013] p 63 N89-15549
Recent Advances in Multidisciplinary Analysis and Optimization, part 2
[NASA-CP-3031-PT-2] p 15 N89-25173
The 1989 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3033] p 64 N89-26578
The 1990 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3068] p 64 N90-22294
Fifth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3073] p 63 N90-27275

ARTIFICIAL SATELLITES

- Compilation of methods in orbital mechanics and solar geometry
[NASA-RP-1204] p 52 N89-10420

ASCENT TRAJECTORIES

- A study to evaluate STS heads-up ascent trajectory performance employing a minimum-Hamiltonian optimization strategy
[NASA-TP-2793] p 23 N88-15820

ASPHALT

- Evaluation of two transport aircraft and several ground test vehicle friction measurements obtained for various runway surface types and conditions. A summary of test results from joint FAA/NASA Runway Friction Program
[NASA-TP-2917] p 16 N90-15902

ASTROMETRY

- Atlas of galaxies useful for measuring the cosmological distance scale
[NASA-SP-496] p 74 N89-12513

ASTRONAUTICS

- Astronautics and aeronautics, 1985: A chronology
[NASA-SP-4025] p 81 N89-26803

ASTRONAUTS

- Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031

ASTRONOMICAL CATALOGS

- Infrared source cross-index, first edition
[NASA-RP-1182] p 73 N87-22573
Fifty year canon of solar eclipses: 1986 - 2035
[NASA-RP-1178-REV] p 73 N87-25906
Catalog of infrared observations. Part 1: Data
[NASA-RP-1196-PT-1-ED-2] p 73 N88-15738
Catalog of infrared observations. Part 2: Appendixes
[NASA-RP-1196-PT-2-ED-2] p 74 N88-16615
Far infrared supplement: Catalog of infrared observations, second edition
[NASA-RP-1205] p 74 N88-30545
Fifty year canon of lunar eclipses: 1986-2035
[NASA-RP-1216] p 75 N90-18342

ASTRONOMICAL OBSERVATORIES

- Future Astronomical Observatories on the Moon
[NASA-CP-2489] p 74 N89-15810

ASTRONOMICAL PHOTOGRAPHY

- Atlas of galaxies useful for measuring the cosmological distance scale
[NASA-SP-496] p 74 N89-12513

ASTRONOMICAL PHOTOMETRY

- Second Workshop on Improvements to Photometry
[NASA-CP-10015] p 74 N89-13310

ASTRONOMY

- Atlas of Comet Halley 1910 II
[NASA-SP-488] p 75 N87-30235
NASA thesaurus: Astronomy vocabulary
[NASA-SP-7069] p 74 N88-24553
Catalog of open clusters and associated interstellar matter
[NASA-RP-1202] p 76 N88-29652
Spatial interferometry in optical astronomy
[NASA-RP-1245] p 75 N90-28470

ASTROPHYSICS

- Essays in Space Science
[NASA-CP-2464] p 72 N87-24247

- Experiments in Planetary and Related Sciences and the Space Station
[NASA-CP-2494] p 72 N89-14998

ASYMPTOTIC METHODS

- Asymptotic analysis of corona discharge from thin electrodes
[NASA-TP-2645] p 68 N87-14998

ATMOSPHERIC CHEMISTRY

- The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598
Space Opportunities for Tropospheric Chemistry Research
[NASA-CP-2450] p 51 N87-18248
Scientific and Operational Requirements for TOMS Data
[NASA-CP-2497] p 47 N88-13774
Polar Ozone Workshop. Abstracts
[NASA-CP-10014] p 51 N89-14503
Global stratospheric change: Requirements for a Very-High-Altitude Aircraft for Atmospheric Research
[NASA-CP-10041] p 16 N90-14220

ATMOSPHERIC CIRCULATION

- Comparison of satellite-derived dynamical quantities for the stratosphere of the Southern Hemisphere
[NASA-CP-3044] p 53 N89-25540

ATMOSPHERIC COMPOSITION

- Future directions for H sub x O sub y detection
[NASA-CP-2448] p 51 N87-15528
SAGE aerosol measurements. Volume 3: January 1, 1981 to November 18, 1981
[NASA-RP-1173] p 51 N87-17417
Space Opportunities for Tropospheric Chemistry Research
[NASA-CP-2450] p 51 N87-18248
System study of the carbon dioxide observational platform system (CO-OPS): Project overview
[NASA-TP-2696] p 23 N87-18588
Spacecraft Fire Safety
[NASA-CP-2476] p 24 N88-12520
Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide
[NASA-TP-2761] p 56 N88-14572

- A rapid method for the computation of equilibrium chemical composition of air to 15000 K
[NASA-TP-2792] p 30 N88-16830
Forty-eight-inch lidar aerosol measurements taken at the Langley Research Center, May 1974 to December 1987
[NASA-RP-1209] p 52 N88-29234
Polar Ozone Workshop. Abstracts
[NASA-CP-10014] p 51 N89-14503

- An assessment model for atmospheric composition
[NASA-CP-3023] p 57 N89-20588
Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152
A high-resolution atlas of the infrared spectrum of the sun and the earth atmosphere from space. A compilation of ATMOS spectra of the region from 650 to 4800 cm-1 (2.3 to 16 microns). Volume 2: Stratosphere and mesosphere, 650 to 3350 cm-1
[NASA-RP-1224-VOL-2] p 53 N89-28969

- A high-resolution atlas of the infrared spectrum of the Sun and the Earth atmosphere from space: A compilation of ATMOS spectra of the region from 650 to 4800 cm (2.3 to 16 micron). Volume 1: The Sun
[NASA-RP-1224-VOL-1] p 53 N90-13893
Present state of knowledge of the upper atmosphere 1990: An assessment report
[NASA-RP-1242] p 54 N90-28929

- ATMOSPHERIC DENSITY**
Upper and Middle Atmospheric Density Modeling Requirements for Spacecraft Design and Operations
[NASA-CP-2460] p 52 N87-20665

- ATMOSPHERIC ELECTRICITY**
NASA/MSFC FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043
- ATMOSPHERIC ENTRY SIMULATION**
The effect of interplanetary trajectory options on a manned Mars aerobrake configuration
[NASA-TP-3019] p 24 N90-26036

- ATMOSPHERIC MODELS**
Upper and Middle Atmospheric Density Modeling Requirements for Spacecraft Design and Operations
[NASA-CP-2460] p 52 N87-20665
Atmospheric Turbulence Relative to Aviation, Missile, and Space Programs
[NASA-CP-2468] p 55 N87-22341
Two-Dimensional Intercomparison of Stratospheric Models
[NASA-CP-3042] p 53 N90-11405
Present state of knowledge of the upper atmosphere 1990: An assessment report
[NASA-RP-1242] p 54 N90-28929

- ATMOSPHERIC ELECTRICITY**
NASA/MSFC FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043

- ATMOSPHERIC ENTRY SIMULATION**
The effect of interplanetary trajectory options on a manned Mars aerobrake configuration
[NASA-TP-3019] p 24 N90-26036

- ATMOSPHERIC MODELS**
Upper and Middle Atmospheric Density Modeling Requirements for Spacecraft Design and Operations
[NASA-CP-2460] p 52 N87-20665
Atmospheric Turbulence Relative to Aviation, Missile, and Space Programs
[NASA-CP-2468] p 55 N87-22341
Two-Dimensional Intercomparison of Stratospheric Models
[NASA-CP-3042] p 53 N90-11405
Present state of knowledge of the upper atmosphere 1990: An assessment report
[NASA-RP-1242] p 54 N90-28929

ATMOSPHERIC SOUNDING

- NASA/MSFC FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043
Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152

ATMOSPHERIC TEMPERATURE

- SeaRISE: A Multidisciplinary Research Initiative to Predict Rapid Changes in Global Sea Level Caused by Collapse of Marine Ice Sheets
[NASA-CP-3075] p 48 N90-22824

ATMOSPHERIC TURBULENCE

- Atmospheric Turbulence Relative to Aviation, Missile, and Space Programs
[NASA-CP-2468] p 55 N87-22341

ATOMIC BEAMS

- Electron stimulated desorption of atomic oxygen from silver
[NASA-TP-2668] p 29 N87-18629

ATOMIC STRUCTURE

- Nuclear techniques in studies of condensed matter
[NASA-RP-1195] p 68 N88-13015

ATTENUATION

- Propagation effects handbook for satellite systems design. A summary of propagation impairments on 10 to 100 GHz satellite links with techniques for system design
[NASA-RP-1082(04)] p 34 N89-17060

AUGER SPECTROSCOPY

- Auger electron intensity variations in oxygen-exposed large grain polycrystalline silver
[NASA-TP-2930] p 67 N89-30022
An Auger electron spectroscopy study of surface-preparation contaminants
[NASA-TP-2972] p 33 N90-16968

AUTOCORRELATION

- Spanwise measurements of vertical components of atmospheric turbulence
[NASA-TP-2963] p 58 N90-19718

AUTOMATIC CONTROL

- A simulation evaluation of a pilot interface with an automatic terminal approach system
[NASA-TP-2669] p 16 N87-19393
First Annual Workshop on Space Operations Automation and Robotics (SOAR 87)
[NASA-CP-2491] p 61 N88-17206
Development and flight test of an experimental maneuver autopilot for a highly maneuverable aircraft
[NASA-TP-2618] p 15 N88-21153
Second Conference on Artificial Intelligence for Space Applications
[NASA-CP-3007] p 63 N88-29351
Simulation evaluation of TIMER, a time-based, terminal air traffic, flow-management concept
[NASA-TP-2870] p 13 N89-15901
Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807
Flight deck automation: Promises and realities
[NASA-CP-10036] p 17 N90-13384
Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
Fifth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3073] p 63 N90-27275

AUTOMATIC FLIGHT CONTROL

- Piloted simulation study of the effects of an automated trim system on flight characteristics of a light twin-engine airplane with one engine inoperative
[NASA-TP-2633] p 3 N87-10843

AUTOMATIC PILOTS

- A simulation evaluation of a pilot interface with an automatic terminal approach system
[NASA-TP-2669] p 16 N87-19393
Development and flight test of an experimental maneuver autopilot for a highly maneuverable aircraft
[NASA-TP-2618] p 15 N88-21153

AVIATION METEOROLOGY

- Doppler Radar Detection of Wind Shear
[NASA-CP-2435] p 12 N87-10054
Meteorological and Environmental Inputs to Aviation Systems
[NASA-CP-2498] p 56 N88-25105

AVIONICS

- Joint University Program for Air Transportation Research, 1983
[NASA-CP-2451] p 1 N87-18520
Joint University Program for Air Transportation Research, 1984
[NASA-CP-2452] p 1 N87-22604
Wind Shear/Turbulence Inputs to Flight Simulation and Systems Certification
[NASA-CP-2474] p 1 N87-25267

- Joint University Program for Air Transportation Research, 1986
[NASA-CP-2502] p 2 N88-23715
- Joint University Program for Air Transportation Research, 1987
[NASA-CP-3028] p 2 N89-19230
- Joint University Program for Air Transportation Research, 1988-1989
[NASA-CP-3063] p 2 N90-20921
- Space shuttle avionics system
[NASA-SP-504] p 24 N90-25160
- Space Transportation Avionics Technology Symposium. Volume 1: Executive summary
[NASA-CP-3081-VOL-1] p 17 N90-25980
- AXIAL FLOW**
- Laser anemometer measurements in a transonic axial-flow fan rotor
[NASA-TP-2879] p 38 N90-11245
- AXISYMMETRIC BODIES**
- Static internal performance of single-expansion-ramp nozzles with thrust-vectoring capability up to 60 deg
[NASA-TP-2364] p 3 N87-10839
- Effects of empennage surface location on aerodynamic characteristics of a twin-engine afterbody model with nonaxisymmetric nozzles
[NASA-TP-2392] p 14 N87-17693
- Revised NASA axially symmetric ring model for coupled-cavity traveling-wave tubes
[NASA-TP-2675] p 35 N87-22923
- Effect of a trade between boattail angle and wedge size on the performance of a nonaxisymmetric wedge nozzle
[NASA-TP-2717] p 5 N87-23593
- Static performance of an axisymmetric nozzle with post-exit vanes for multiaxis thrust vectoring
[NASA-TP-2800] p 8 N88-20280
- AXISYMMETRIC FLOW**
- Effects of afterbody boattail design and empennage arrangement on aerodynamic characteristics of a twin-engine fighter model at transonic speeds
[NASA-TP-2704] p 4 N87-21873
- Effect of empennage arrangement on single-engine nozzle/afterbody static pressures at transonic speeds
[NASA-TP-2753] p 6 N88-10771
- B**
- BACKGROUND NOISE**
- Effects of background noise on total noise annoyance
[NASA-TP-2630] p 66 N87-14120
- BACKSCATTERING**
- Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227
- BALANCE**
- Effect of control surface mass unbalance on the stability of a closed-loop active control system
[NASA-TP-2952] p 47 N90-12042
- BALLISTIC TRAJECTORIES**
- Trajectory characteristics and heating of hypervelocity projectiles having large ballistic coefficients
[NASA-TP-2614] p 7 N88-19412
- BALLOON-BORNE INSTRUMENTS**
- A general-purpose balloon-borne pointing system for solar scientific instruments
[NASA-TP-3013] p 33 N90-21219
- BARRIER LAYERS**
- Thermal Barrier Coatings. Abstracts and figures
[NASA-CP-10019] p 31 N89-13642
- BARYONS**
- BRYNTRN: A baryon transport model
[NASA-TP-2887] p 80 N89-17562
- BASE FLOW**
- Influence of base modifications on in-flight base drag in the presence of jet exhaust for Mach numbers from 0.7 to 1.5
[NASA-TP-2802] p 37 N88-18881
- BASE PRESSURE**
- Flight and wind-tunnel measurements showing base drag reduction provided by a trailing disk for high Reynolds number turbulent flow for subsonic and transonic Mach numbers
[NASA-TP-2638] p 37 N88-14299
- BEACON EXPLORER A**
- Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
[NASA-RP-1233-VOL-4] p 54 N90-20564
- BEAMS**
- Derivation of a tapered p-version beam finite element
[NASA-TP-2931] p 46 N89-26255
- BEAMS (SUPPORTS)**
- Dynamic characteristics of a vibrating beam with periodic variation in bending stiffness
[NASA-TP-2697] p 44 N88-23988
- Mixed finite element models for free vibrations of thin-walled beams
[NASA-TP-2868] p 45 N89-19579
- Loads analysis and testing of flight configuration solid rocket motor outer boot ring segments
[NASA-TP-3028] p 47 N90-25366
- BEARINGS**
- Computer-aided design analysis of 57-mm. angular-contact, cryogenic turbopump bearings
[NASA-TP-2816] p 41 N88-18933
- The 22nd Aerospace Mechanisms Symposium
[NASA-CP-2506] p 44 N88-21468
- Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626
- Rotordynamic Instability Problems in High-Performance Turbomachinery, 1988
[NASA-CP-3026] p 41 N89-22891
- BED REST**
- Joint US/USSR study: Comparison of effects of horizontal and head-down bed rest
[NASA-TP-3037] p 60 N90-28965
- BENDING**
- Dynamic characteristics of a vibrating beam with periodic variation in bending stiffness
[NASA-TP-2697] p 44 N88-23988
- Loads analysis and testing of flight configuration solid rocket motor outer boot ring segments
[NASA-TP-3028] p 47 N90-25366
- Buckling and postbuckling behavior of square compression-loaded graphite-epoxy plates with circular cutouts
[NASA-TP-3007] p 29 N90-26077
- BENDING VIBRATION**
- Dynamic characteristics of a vibrating beam with periodic variation in bending stiffness
[NASA-TP-2697] p 44 N88-23988
- BIBLIOGRAPHIES**
- Aerospace medicine and biology: A cumulative index to the 1986 issues (supplement 293)
[NASA-SP-7011(293)] p 59 N87-18976
- Management: A bibliography for NASA managers (supplement 21)
[NASA-SP-7500(21)] p 69 N87-20833
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 31)
[NASA-SP-7039(31)-SECT-1] p 70 N87-25023
- Space station systems: A bibliography with indexes (supplement 4)
[NASA-SP-7056(04)] p 25 N87-26073
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 31)
[NASA-SP-7039(31)-SECT-2] p 70 N87-26689
- Earth resources: A continuing bibliography with indexes (issue 54)
[NASA-SP-7041(54)] p 49 N87-27315
- Aeronautical engineering: A continuing bibliography with indexes (supplement 217)
[NASA-SP-7037(217)] p 1 N87-27613
- Technology for large space systems: A bibliography with indexes (supplement 17)
[NASA-SP-7046(17)] p 22 N87-29576
- Aerospace medicine and biology: A continuing bibliography with indexes (supplement 302)
[NASA-SP-7011(302)] p 59 N87-30041
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 32)
[NASA-SP-7039(32)-SECT-1] p 70 N88-15732
- Catalog of infrared observations. Part 1: Data
[NASA-RP-1196-PT-1-ED-2] p 73 N88-15738
- Aerospace medicine and biology: A cumulative index to a continuing bibliography (supplement 306)
[NASA-SP-7011(306)] p 60 N88-18180
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 32)
[NASA-SP-7039(32)-SECT-2] p 70 N88-18511
- Aeronautical engineering: A cumulative index to a continuing bibliography
[NASA-SP-7037(222)] p 7 N88-19416
- Management: A bibliography for NASA managers
[NASA-SP-7500(22)] p 69 N88-21867
- Earth resources: A continuing bibliography with indexes (issue 57)
[NASA-SP-7041(57)] p 49 N88-23314
- Aeronautical engineering: A continuing bibliography with indexes
[NASA-SP-7037(229)] p 2 N88-27163
- Technology for large space systems: A bibliography with indexes (supplement 18)
[NASA-SP-7046(18)] p 22 N88-27214
- Aerospace medicine and biology: A continuing bibliography with indexes (supplement 315)
[NASA-SP-7011(315)] p 60 N88-30281
- Space station systems: A bibliography with indexes (supplement 7)
[NASA-SP-7056(07)] p 25 N89-18522
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 35)
[NASA-SP-7039(35)-SECT-1] p 71 N89-25775
- Technology for large space systems: A bibliography with indexes (supplement 20)
[NASA-SP-7046(20)] p 26 N89-26037
- Management: A bibliography for NASA managers
[NASA-SP-7500(23)] p 69 N89-26766
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 35)
[NASA-SP-7039(35)-SECT-2] p 71 N89-29264
- Aeronautical engineering: A continuing bibliography with indexes (supplement 242)
[NASA-SP-7037(242)] p 2 N89-29304
- Earth resources: A continuing bibliography with indexes (issue 62)
[NASA-SP-7041(62)] p 50 N89-29825
- Aerospace medicine and biology: A continuing bibliography with indexes (supplement 327)
[NASA-SP-7011(327)] p 60 N89-29951
- NASA scientific and technical publications: A catalog of special publications, reference publications, conference publications, and technical papers, 1988
[NASA-SP-7063(03)] p 71 N90-10782
- Earth resources: A continuing bibliography with indexes (issue 63)
[NASA-SP-7041(63)] p 50 N90-12091
- Working with people to improve productivity and quality: A bibliography with indexes, 1984-1988
[NASA-SP-7078] p 69 N90-12385
- Management: A bibliography for NASA managers
[NASA-SP-7500(24)] p 69 N90-24174
- Space station systems: A bibliography with indexes (supplement 10)
[NASA-SP-7056(10)] p 26 N90-25171
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 37)
[NASA-SP-7039(37)-SECT-1] p 71 N90-25698
- Technology for large space systems: A bibliography with indexes (supplement 22)
[NASA-SP-7046(22)] p 26 N90-26056
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 37)
[NASA-SP-7039(37)-SECT-2] p 71 N90-26700
- Information resources management, 1984-1989: A bibliography with indexes
[NASA-SP-7079] p 71 N90-27548
- Aeronautical engineering: A continuing bibliography with indexes (supplement 255)
[NASA-SP-7037(255)] p 2 N90-27648
- Spatial interferometry in optical astronomy
[NASA-RP-1245] p 75 N90-28470
- Aerospace medicine and biology: A continuing bibliography with indexes (supplement 340)
[NASA-SP-7011(340)] p 60 N90-28963
- BIDIRECTIONAL REFLECTANCE**
- Surface bidirectional reflectance properties of two southwestern Arizona deserts for wavelengths between 0.4 and 2.2 micrometers
[NASA-TP-2643] p 48 N87-22281
- Effects of aerosols and surface shadowing on bidirectional reflectance measurements of deserts
[NASA-TP-2756] p 49 N87-28162
- Summary of along-track data from the Earth radiation budget satellite for several major desert regions
[NASA-RP-1197] p 56 N88-20772
- Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677
- Summary of along-track data from the earth radiation budget satellite for several representative ocean regions
[NASA-RP-1206] p 56 N89-14634
- BINARY DATA**
- FORTTRAN program for x ray photoelectron spectroscopy data reformatting
[NASA-TP-2957] p 69 N90-12348
- BIOASTRONAUTICS**
- Report of the 1st Planning Workshop for CELSS Flight Experimentation
[NASA-CP-10020] p 60 N89-13898
- Aerospace medicine and biology: A continuing bibliography with indexes (supplement 327)
[NASA-SP-7011(327)] p 60 N89-29951
- Aerospace medicine and biology: A continuing bibliography with indexes (supplement 340)
[NASA-SP-7011(340)] p 60 N90-28963
- BIOCHEMISTRY**
- Joint US/USSR study: Comparison of effects of horizontal and head-down bed rest
[NASA-TP-3037] p 60 N90-28965
- BIOINSTRUMENTATION**
- Proceedings of a conference on Cardiovascular Bioinstrumentation
[NASA-CP-10022] p 59 N89-17997

BIOLOGICAL EFFECTS

Aerospace medicine and biology: A cumulative index to the 1986 issues (supplement 293)
 [NASA-SP-7011(293)] p 59 N87-18976
 Aerospace medicine and biology: A continuing bibliography with indexes (Supplement 302)
 [NASA-SP-7011(302)] p 59 N87-30041
 Aerospace medicine and biology: A cumulative index to a continuing bibliography (supplement 306)
 [NASA-SP-7011(306)] p 60 N88-18180
 Aerospace medicine and biology: A continuing bibliography with indexes (supplement 315)
 [NASA-SP-7011(315)] p 60 N88-30281
 Aerospace medicine and biology: A continuing bibliography with indexes (supplement 327)
 [NASA-SP-7011(327)] p 60 N89-29951
 Aerospace medicine and biology: A continuing bibliography with indexes (supplement 340)
 [NASA-SP-7011(340)] p 60 N90-28963

BIOLOGICAL EVOLUTION

Exobiology and Future Mars Missions
 [NASA-CP-10027] p 59 N89-26334

BIOMETRICS

Mental-State Estimation, 1987
 [NASA-CP-2504] p 60 N88-23370

BIOPROCESSING

Space Bioreactor Science Workshop
 [NASA-CP-2485] p 58 N88-17168

BIOREACTORS

Space Bioreactor Science Workshop
 [NASA-CP-2485] p 58 N88-17168

BIOTECHNOLOGY

Space Bioreactor Science Workshop
 [NASA-CP-2485] p 58 N88-17168

BIT ERROR RATE

Bit-error-rate testing of high-power 30-GHz traveling wave tubes for ground-terminal applications
 [NASA-TP-2635] p 33 N87-17971
 Unique bit-error-rate measurement system for satellite communication systems
 [NASA-TP-2699] p 33 N87-20448
 Digitally modulated bit error rate measurement system for microwave component evaluation
 [NASA-TP-2912] p 23 N89-28545

BLACK HOLES (ASTRONOMY)

Relativistic Gravitational Experiments in Space
 [NASA-CP-3046] p 77 N90-19940

BLADE SLAP NOISE

Correlation of helicopter impulsive noise from blade-vortex interaction with rotor mean inflow
 [NASA-TP-2650] p 66 N87-18399
 Helicopter main-rotor noise: Determination of source contributions using scaled model data
 [NASA-TP-2825] p 67 N88-26907

BLADE TIPS

Low-cost FM oscillator for capacitance type of blade tip clearance measurement system
 [NASA-TP-2746] p 17 N87-24481
 Tip aerodynamics and acoustics test: A report and data survey
 [NASA-RP-1179] p 9 N89-17579
 Rotor induced-inflow-ratio measurements and CAMRAD calculations
 [NASA-TP-2946] p 11 N90-15882

BLADE-VORTEX INTERACTION

Correlation of helicopter impulsive noise from blade-vortex interaction with rotor mean inflow
 [NASA-TP-2650] p 66 N87-18399
 Helicopter blade-vortex interaction locations: Scale-model acoustics and free-wake analysis results
 [NASA-TP-2658] p 4 N87-18537
 Advancing-side directivity and retreating-side interactions of model rotor blade-vortex interaction noise
 [NASA-TP-2784] p 67 N88-22710
 Airfoil self-noise and prediction
 [NASA-RP-1218] p 67 N89-25673
 Rotor induced-inflow-ratio measurements and CAMRAD calculations
 [NASA-TP-2946] p 11 N90-15882

BLADES

Preliminary structural design of composite main rotor blades for minimum weight
 [NASA-TP-2730] p 28 N87-25435

BLUNT BODIES

Drag measurements of blunt stores tangentially mounted on a flat plate at supersonic speeds
 [NASA-TP-2742] p 6 N87-27626
 Measured and predicted aerodynamic coefficients and shock shapes for Aeroassist Flight Experiment (AFE) configuration
 [NASA-TP-2956] p 11 N90-14185

BO-105 HELICOPTER

Helicopter main-rotor noise: Determination of source contributions using scaled model data
 [NASA-TP-2825] p 67 N88-26907

BOATTAILS

Effects of afterbody boattail design and empennage arrangement on aeropropulsive characteristics of a twin-engine fighter model at transonic speeds
 [NASA-TP-2704] p 4 N87-21873
 Effect of a trade between boattail angle and wedge size on the performance of a nonaxisymmetric wedge nozzle
 [NASA-TP-2717] p 5 N87-23593

BODIES OF REVOLUTION

Theory for computing the field scattered from a smooth inflected surface
 [NASA-TP-2632] p 68 N87-13264
 Drag measurements on a laminar-flow body of revolution in the 13-inch magnetic suspension and balance system
 [NASA-TP-2895] p 9 N89-19232

BODY-WING CONFIGURATIONS

Low-speed, high-lift aerodynamic characteristics of slender, hypersonic accelerator-type configurations
 [NASA-TP-2945] p 10 N90-10830

BOLTED JOINTS

Lightweight structural design of a bolted case joint for the space shuttle solid rocket motor
 [NASA-TP-2851] p 25 N89-12580

BOLTZMANN TRANSPORT EQUATION

A second-order accurate kinetic-theory-based method for inviscid compressible flows
 [NASA-TP-2613] p 36 N87-18783

BONDING

Effect of LID (Registered) processing on the microstructure and mechanical properties of Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo titanium foil-gauge materials
 [NASA-TP-2677] p 30 N87-18644

BOOSTER ROCKET ENGINES

Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
 [NASA-CP-2437-VOL-2] p 27 N89-12626

BORON

Effects of continuous and cyclic thermal exposures on boron- and boric-reinforced 6061 aluminum composites
 [NASA-TP-1063] p 28 N88-70029

BORSIC (TRADENAME)

Effects of continuous and cyclic thermal exposures on boron- and boric-reinforced 6061 aluminum composites
 [NASA-TP-1063] p 28 N88-70029

BOUNDARY LAYER CONTROL

The NASA Langley Laminar-Flow-Control (LFC) experiment on a swept, supercritical airfoil: Design overview
 [NASA-TP-2809] p 8 N88-21117
 Research in Natural Laminar Flow and Laminar-Flow Control, part 1
 [NASA-CP-2487-PT-1] p 10 N90-12503
 Research in Natural Laminar Flow and Laminar-Flow Control, part 2
 [NASA-CP-2487-PT-2] p 10 N90-12519
 Research in Natural Laminar Flow and Laminar-Flow Control, part 3
 [NASA-CP-2487-PT-3] p 10 N90-12539
 Simulated-airline-service flight tests of laminar-flow control with perforated-surface suction system
 [NASA-TP-2966] p 16 N90-17627
 Experimental and theoretical aerodynamic characteristics of a high-lift semispan wing model
 [NASA-TP-2990] p 11 N90-20046

BOUNDARY LAYER FLOW

In-flight surface oil-flow photographs with comparisons to pressure distribution and boundary-layer data
 [NASA-TP-2395] p 4 N87-20966
 A spectral collocation solution to the compressible stability eigenvalue problem
 [NASA-TP-2858] p 9 N89-12543

BOUNDARY LAYER SEPARATION

Airfoil self-noise and prediction
 [NASA-RP-1218] p 67 N89-25673

BOUNDARY LAYER STABILITY

Numerical simulation of channel flow transition, resolution requirements and structure of the hairpin vortex
 [NASA-TP-2667] p 4 N87-19351
 Research in Natural Laminar Flow and Laminar-Flow Control, part 3
 [NASA-CP-2487-PT-3] p 10 N90-12539

BOUNDARY LAYER TRANSITION

Numerical simulation of channel flow transition, resolution requirements and structure of the hairpin vortex
 [NASA-TP-2667] p 4 N87-19351
 Research in Natural Laminar Flow and Laminar-Flow Control, part 1
 [NASA-CP-2487-PT-1] p 10 N90-12503
 Research in Natural Laminar Flow and Laminar-Flow Control, part 2
 [NASA-CP-2487-PT-2] p 10 N90-12519
 Research in Natural Laminar Flow and Laminar-Flow Control, part 3
 [NASA-CP-2487-PT-3] p 10 N90-12539

BOUNDARY LAYERS

Aerothermal evaluation of a spherically blunted body with a trapezoidal cross section in the Langley 8-foot high-temperature tunnel
 [NASA-TP-2641] p 36 N87-18782
 NASA SC(2)-0714 airfoil data corrected for sidewall boundary-layer effects in the Langley 0.3-meter transonic cryogenic tunnel
 [NASA-TP-2890] p 9 N89-17568
 Airfoil self-noise and prediction
 [NASA-RP-1218] p 67 N89-25673

BOUNDARY LUBRICATION

Liquid lubrication in space
 [NASA-RP-1240] p 42 N90-28063

BOUNDARY VALUE PROBLEMS

Numerical simulation of channel flow transition, resolution requirements and structure of the hairpin vortex
 [NASA-TP-2667] p 4 N87-19351

BRAKING

Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system
 [NASA-TP-2401] p 4 N87-17668

BRAZING

Design, fabrication, and performance of brazed, graphite electrode, multistage depressed collectors with 500-W, continuous wave, 4.8- to 9.6-GHz traveling-wave tubes
 [NASA-TP-2904] p 35 N89-21171

BRIGHTNESS

Atlas of galaxies useful for measuring the cosmological distance scale
 [NASA-SP-496] p 74 N89-12513

BRIGHTNESS TEMPERATURE

Polar microwave brightness temperatures from Nimbus-7 SMMR: Time series of daily and monthly maps from 1978 to 1987
 [NASA-RP-1223] p 48 N89-26275

BUCKLING

Three-dimensional analysis of a postbuckled embedded delamination
 [NASA-TP-2823] p 44 N88-26684
 Research in structures, structural dynamics and materials, 1989
 [NASA-CP-10024] p 46 N89-24626
 Application of Newton's method to the postbuckling of rings under pressure loadings
 [NASA-TP-2941] p 46 N89-29811
 Buckling and postbuckling behavior of square compression-loaded graphite-epoxy plates with circular cutouts
 [NASA-TP-3007] p 29 N90-26077
 Modal interaction in postbuckled plates. Theory
 [NASA-TP-2943] p 47 N90-27121
 Buckling and postbuckling behavior of compression-loaded isotropic plates with cutouts
 [NASA-TP-3024] p 47 N90-28859

BURST TESTS

Hydroburst test of a carbon-carbon involute exit cone
 [NASA-TP-2556] p 24 N88-14112

C

C-140 AIRCRAFT

Simulated-airline-service flight tests of laminar-flow control with perforated-surface suction system
 [NASA-TP-2966] p 16 N90-17627

CALIBRATING

Calibration of the spin-scan ozone imager aboard the dynamics Explorer 1 satellite
 [NASA-TP-2723] p 55 N87-26491
 Description and calibration of the Langley Hypersonic CF4 tunnel: A facility for simulating low gamma flow as occurs for a real gas
 [NASA-TP-2384] p 37 N87-29778
 Universal test fixture for monolithic mm-wave integrated circuits calibrated with an augmented TRD algorithm
 [NASA-TP-2875] p 34 N89-17767
 Evaluation of a strain-gage load calibration on a low-aspect-ratio wing structure at elevated temperature
 [NASA-TP-2921] p 46 N89-28034
 Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
 [NASA-RP-1211] p 79 N89-30151
 Introduction to total- and partial-pressure measurements in vacuum systems
 [NASA-RP-1219] p 40 N90-10412
 Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
 [NASA-RP-1217] p 75 N90-10807
 Evaluation of various thrust calculation techniques on an F404 engine
 [NASA-TP-3001] p 16 N90-25134

CALORIMETERS

High-pressure calorimeter chamber tests for liquid oxygen/kerosene (LOX/RP-1) rocket combustion
[NASA-TP-2862] p 27 N89-15979

CAMBER

Pressure measurements on a thick cambered and twisted 58 deg delta wing at high subsonic speeds
[NASA-TP-2713] p 6 N87-27643

CAMBERED WINGS

Supersonic, nonlinear, attached-flow wing design for high lift with experimental validation
[NASA-TP-2336] p 3 N87-10042

Aerodynamic characteristics of wings designed with a combined-theory method to cruise at a Mach number of 4.5
[NASA-TP-2799] p 7 N88-19420

CAMERAS

Remote Sensing in Polarized Light
[NASA-CP-3014] p 72 N89-14189

CANARD CONFIGURATIONS

Wind-tunnel investigation of the flight characteristics of a canard general-aviation airplane configuration
[NASA-TP-2623] p 3 N87-10039

Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system
[NASA-TP-2401] p 4 N87-17668

Validation of a computer code for analysis of subsonic aerodynamic performance of wings with flaps in combination with a canard or horizontal tail and an application to optimization
[NASA-TP-2961] p 11 N90-14187

Effect of tail size reductions on longitudinal aerodynamic characteristics of a three surface F-15 model with nonaxisymmetric nozzles
[NASA-TP-3036] p 11 N90-25938

CARBON

Traveling-wave-tube efficiency improvement by a low-cost technique for deposition of carbon on multistage depressed collector
[NASA-TP-2719] p 35 N87-21239

Carbon in the Galaxy: Studies from Earth and Space
[NASA-CP-3061] p 73 N90-27562

CARBON DIOXIDE

System study of the carbon dioxide observational platform system (CO-QPS): Project overview
[NASA-TP-2696] p 23 N87-18588

Commentary on interstellar matter associated with 18 open clusters
[NASA-TP-1229] p 77 N89-27612

CARBON DIOXIDE LASERS

Closed-Cycle, Frequency-Stable CO₂ Laser Technology
[NASA-CP-2456] p 40 N87-20522

Low-Temperature CO-Oxidation Catalysts for Long-Life CO₂ Lasers
[NASA-CP-3076] p 40 N90-24586

Mode-medium instability and its correction with a Gaussian reflectivity mirror
[NASA-TP-3023] p 68 N90-25673

CARBON FIBERS

Effects of thermal cycling on graphitic-fiber-reinforced 6061 aluminum
[NASA-TP-2612] p 28 N87-10184

Instrumented impact and residual tensile strength testing of eight-ply carbon epoxy specimens
[NASA-TP-2981] p 29 N90-16007

Low velocity instrumented impact testing of four new damage tolerant carbon/epoxy composite systems
[NASA-TP-3029] p 29 N90-25198

CARBON TETRAFLUORIDE

Description and calibration of the Langley Hypersonic CF₄ tunnel: A facility for simulating low gamma flow as occurs for a real gas
[NASA-TP-2384] p 37 N87-29778

CARBON-CARBON COMPOSITES

Hydroburst test of a carbon-carbon involute exit cone
[NASA-TP-2556] p 24 N88-14112

CARDIOVASCULAR SYSTEM

Proceedings of a conference on Cardiovascular Biinstrumentation
[NASA-CP-10022] p 59 N89-17997

CARGO AIRCRAFT

General equilibrium characteristics of a dual-lift helicopter system
[NASA-TP-2615] p 2 N88-19407

CASCADE FLOW

Aerodynamics in ground effect and predicted landing ground roll of a fighter configuration with a secondary-nozzle thrust reverser
[NASA-TP-2834] p 8 N88-29752

Three component laser anemometer measurements in an annular cascade of core turbine vanes with contoured end wall
[NASA-TP-2846] p 8 N89-10844

CATALOGS

Catalog of open clusters and associated interstellar matter
[NASA-RP-1202] p 76 N88-29652

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 1: Explanatory supplement
[NASA-RP-1190-VOL-1] p 76 N89-14194

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 5: The point source catalog declination range -30 deg greater than delta greater than -50 deg
[NASA-RP-1190-VOL-5] p 76 N89-14195

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 4: The point source catalog declination range 0 deg greater than delta greater than -30 deg
[NASA-RP-1190-VOL-4] p 76 N89-14196

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 2: The point source catalog declination range 90 deg greater than delta greater than 30 deg
[NASA-RP-1190-VOL-2] p 76 N89-14197

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 6: The point source catalog declination range -50 deg greater than delta greater than -90 deg
[NASA-RP-1190-VOL-6] p 76 N89-14198

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 7: The small scale structure catalog
[NASA-RP-1190-VOL-7] p 76 N89-14199

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 3: The point source catalog declination range 30 deg greater than delta greater than 0 deg
[NASA-RP-1190-VOL-3] p 77 N89-14201

CATALOGS (PUBLICATIONS)

NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1977-1986
[NASA-SP-7063(01)] p 70 N87-30218

NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1987
[NASA-SP-7063(02)] p 70 N88-22830

NASA scientific and technical publications: A catalog of special publications, reference publications, conference publications, and technical papers, 1988
[NASA-SP-7063(03)] p 71 N90-10782

Mars landing site catalog
[NASA-RP-1238] p 78 N90-27607

CATALYSIS

Surface catalytic degradation study of two linear perfluoropolyalkylethers at 345 C
[NASA-TP-2774] p 27 N88-12543

Emission, catalysis, and dynamic oxidation of Ti-14Al-21Nb
[NASA-TP-2955] p 31 N90-10248

CATALYSTS

Low-Temperature CO-Oxidation Catalysts for Long-Life CO₂ Lasers
[NASA-CP-3076] p 40 N90-24586

CATALYTIC ACTIVITY

Low-Temperature CO-Oxidation Catalysts for Long-Life CO₂ Lasers
[NASA-CP-3076] p 40 N90-24586

CAVITIES

Space shuttle main engine high pressure fuel pump aft platform seal cavity flow analysis
[NASA-TP-2685] p 36 N87-17000

Experimental cavity pressure distributions at supersonic speeds
[NASA-TP-2683] p 5 N87-22626

Revised NASA axially symmetric ring model for coupled-cavity traveling-wave tubes
[NASA-TP-2675] p 35 N87-22923

CAVITY RESONATORS

Measured and calculated acoustic attenuation rates of tuned resonator arrays for two surface impedance distribution models with flow
[NASA-TP-2766] p 67 N88-17440

CELESTIAL MECHANICS

Fifty year canon of solar eclipses: 1986 - 2035
[NASA-RP-1178-REV] p 73 N87-25906

CELLS (BIOLOGY)

Space Bioreactor Science Workshop
[NASA-CP-2485] p 58 N88-17168

Cells in Space
[NASA-CP-10034] p 61 N90-13939

CEPSTRAL ANALYSIS

Power cepstrum technique with application to model helicopter acoustic data
[NASA-TP-2586] p 66 N87-17479

CERAMICS

Aeropropulsion '87. Session 1: Aeropropulsion Materials Research
[NASA-CP-10003-SESS-1] p 18 N88-16697

Structural Ceramics
[NASA-CP-2427] p 31 N88-23872

Ceramics Analysis and Reliability Evaluation of Structures (CARES). Users and programmers manual
[NASA-TP-2916] p 47 N90-28099

CERTIFICATION

Laminar Flow Aircraft Certification
[NASA-CP-2413] p 8 N88-23737

CHANNEL FLOW

Numerical simulation of channel flow transition, resolution requirements and structure of the hairpin vortex
[NASA-TP-2667] p 4 N87-19351

Interactions of Tollmien-Schlichting waves and Dean vortices. Comparison of direct numerical simulation and a weakly nonlinear theory
[NASA-TP-2919] p 10 N89-25118

CHARGED PARTICLES

First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744

CHEMICAL COMPOSITION

Nuclear techniques in studies of condensed matter
[NASA-RP-1195] p 68 N88-13015

A rapid method for the computation of equilibrium chemical composition of air to 15000 K
[NASA-TP-2792] p 30 N88-16830

CHEMICAL EQUILIBRIUM

A rapid method for the computation of equilibrium chemical composition of air to 15000 K
[NASA-TP-2792] p 30 N88-16830

Conservation equations and physical models for hypersonic air flows in thermal and chemical nonequilibrium
[NASA-TP-2867] p 38 N89-16115

CHEMICAL EVOLUTION

Exobiology and Future Mars Missions
[NASA-CP-10027] p 59 N89-26334

CHEMICAL REACTIONS

Aeropropulsion '87. Session 3: Internal Fluid Mechanics Research
[NASA-CP-10003-SESS-3] p 18 N88-15790

An analytical study of the hydrogen-air reaction mechanism with application to scramjet combustion
[NASA-TP-2791] p 30 N88-15846

CHEMILUMINESCENCE

Ester oxidation on an aluminum surface using chemiluminescence
[NASA-TP-2611] p 31 N87-18666

CHRONOLOGY

Astronautics and aeronautics, 1978: A chronology
[NASA-SP-4023] p 80 N88-14062

Astronautics and aeronautics, 1985: A chronology
[NASA-SP-4025] p 81 N89-26803

CINEMATOGRAPHY

Evaluation of diffuse-illumination holographic cinematography in a flutter cascade
[NASA-TP-2593] p 39 N87-13731

CIRCULAR CYLINDERS

Application of turbulence modeling to predict surface heat transfer in stagnation flow region of circular cylinder
[NASA-TP-2758] p 37 N87-27161

CIRCULATION CONTROL AIRFOILS

Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959

Proceedings of the Circulation-Control Workshop, 1986
[NASA-CP-2432] p 7 N88-17586

CIRCULATION CONTROL ROTORS

Proceedings of the Circulation-Control Workshop, 1986
[NASA-CP-2432] p 7 N88-17586

CIRRUS CLOUDS

FIRE Science Results 1989
[NASA-CP-3079] p 58 N90-28224

CLASSIFICATIONS

Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807

CLEANING

Fourteenth Space Simulation Conference: Testing for a Permanent Presence in Space
[NASA-CP-2446] p 25 N88-10829

An Auger electron spectroscopy study of surface-preparation contaminants
[NASA-TP-2972] p 33 N90-16968

CLIMATE

Five year global dataset: NMC operational analyses (1978 to 1982)
[NASA-RP-1194] p 55 N87-29996

Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 7 Earth radiation budget data set - November 1978 to October 1985
[NASA-RP-1186] p 55 N88-10451

CLIMATE CHANGE

SeaRISE: A Multidisciplinary Research Initiative to Predict Rapid Changes in Global Sea Level Caused by Collapse of Marine Ice Sheets
[NASA-CP-3075] p 48 N90-22824

CLIMATOLOGY

FIRE Science Results 1989
[NASA-CP-3079] p 58 N90-28224

CLOSED CYCLES

Closed-Cycle, Frequency-Stable CO₂ Laser Technology
[NASA-CP-2456] p 40 N87-20522

CLOSED ECOLOGICAL SYSTEMS

Controlled Ecological Life Support System: Regenerative Life Support Systems in Space
[NASA-CP-2480] p 60 N88-12251

Controlled Ecological Life Support System: Design, Development, and Use of a Ground-Based Plant Growth Module
[NASA-CP-2479] p 60 N88-13852

Report of the 1st Planning Workshop for CELSS Flight Experimentation
[NASA-CP-10020] p 60 N89-13898

CLOUDS

SAM 2 data user's guide
[NASA-RP-1200] p 52 N88-25094

Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022

Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
[NASA-CP-10026-VOL-2] p 59 N89-24023

CLOUDS (METEOROLOGY)

The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598

FIRE Science Results 1989
[NASA-CP-3079] p 58 N90-28224

COALESCING

Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585

COANDA EFFECT

Proceedings of the Circulation-Control Workshop, 1986
[NASA-CP-2432] p 7 N88-17586

COBALT

Investigation of the effects of cobalt ions on epoxy properties
[NASA-TP-2639] p 31 N87-12680

COCKPIT SIMULATORS

Jet transport flight operations using cockpit display of traffic information during instrument meteorological conditions: Simulation evaluation
[NASA-TP-2567] p 12 N87-29469

COCKPITS

Effects of combining vertical and horizontal information into a primary flight display
[NASA-TP-2783] p 17 N88-12487

Flight deck automation: Promises and realities
[NASA-CP-10036] p 17 N90-13384

CODING

Pulse Code Modulation (PCM) encoder handbook for Aydin Vector MMP-600 series system
[NASA-RP-1171] p 33 N87-11916

Lewis inverse design code (LINDEX): Users manual
[NASA-TP-2676] p 4 N87-20238

Experiments in encoding multilevel images as quadrees
[NASA-TP-2722] p 65 N87-28367

A transonic-small-disturbance wing design methodology
[NASA-TP-2806] p 7 N88-17614

A performance index approach to aerodynamic design with the use of analysis codes only
[NASA-TP-2805] p 7 N88-18552

Visual Information Processing for Television and Telerobotics
[NASA-CP-3053] p 40 N90-16204

COEFFICIENTS

Cornering characteristics of the main-gear tire of the space shuttle orbiter
[NASA-TP-2790] p 14 N88-18583

COHERENT ELECTROMAGNETIC RADIATION

LANDSAT-4 and LANDSAT-5 multispectral scanner coherent noise characterization and removal
[NASA-TP-2595-REV] p 49 N89-12114

COLLISION PARAMETERS

Doubly differential cross sections for galactic heavy-ion fragmentation
[NASA-TP-2659] p 68 N87-17487

COLORADO

Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401

COMBUSTIBLE FLOW

Automated Reduction of Data from Images and Holograms
[NASA-CP-2477] p 6 N87-29432

COMBUSTION

NASA-Chinese Aeronautical Establishment (CAE) Symposium
[NASA-CP-2433] p 17 N87-20267

An analytical study of the hydrogen-air reaction mechanism with application to scramjet combustion
[NASA-TP-2791] p 30 N88-15846

Turbine Engine Hot Section Technology, 1987
[NASA-CP-2493] p 45 N89-17298

COMBUSTION CHAMBERS

Conventionally cast and forged copper alloy for high-heat-flux thrust chambers
[NASA-TP-2694] p 30 N87-16902

Turbine Engine Hot Section Technology, 1985
[NASA-CP-2405] p 43 N88-11140

High-pressure calorimeter chamber tests for liquid oxygen/kerosene (LOX/RP-1) rocket combustion
[NASA-TP-2862] p 27 N89-15979

COMBUSTION PHYSICS

Spacecraft Fire Safety
[NASA-CP-2476] p 24 N88-12520

Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153

Microgravity Combustion Diagnostics Workshop
[NASA-CP-10017] p 32 N89-17682

COMBUSTION PRODUCTS

Finite-rate water condensation in combustion-heated wind tunnels
[NASA-TP-2833] p 22 N88-28075

COMBUSTION TEMPERATURE

Determination of combustion gas temperatures by infrared radiometry in sooting and nonsooting flames
[NASA-TP-2900] p 38 N89-25409

COMBUSTION WIND TUNNELS

Finite-rate water condensation in combustion-heated wind tunnels
[NASA-TP-2833] p 22 N88-28075

COMET HEADS

Atlas of Comet Halley 1910 II
[NASA-SP-488] p 75 N87-30235

COMET NUCLEI

Atlas of Comet Halley 1910 II
[NASA-SP-488] p 75 N87-30235

COMET TAILS

Atlas of Comet Halley 1910 II
[NASA-SP-488] p 75 N87-30235

COMETARY ATMOSPHERES

Infrared Observations of Comets Halley and Wilson and Properties of the Grains
[NASA-CP-3004] p 74 N89-13330

COMETS

Carbon in the Galaxy: Studies from Earth and Space
[NASA-CP-3061] p 73 N90-27562

COMMAND AND CONTROL

Conceptual design of a synchronous Mars telecommunications satellite
[NASA-TP-2942] p 78 N90-10814

Unique bit-error-rate measurement system for satellite communication systems
[NASA-TP-2699] p 33 N87-20448

Satellite-matrix-switched, time-division-multiple-access network simulator
[NASA-TP-2944] p 34 N90-11915

COMMUNICATION SATELLITES

Propagation effects on satellite systems at frequencies below 10 GHz: A handbook for satellite systems design
[NASA-RP-1108/2] p 34 N88-14226

Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582

Digitally modulated bit error rate measurement system for microwave component evaluation
[NASA-TP-2912] p 23 N89-28545

Conceptual design of a synchronous Mars telecommunications satellite
[NASA-TP-2942] p 78 N90-10814

Satellite-matrix-switched, time-division-multiple-access network simulator
[NASA-TP-2944] p 34 N90-11915

COMMUTER AIRCRAFT

Low-speed wind-tunnel investigation of the flight dynamic characteristics of an advanced turboprop business/commuter aircraft configuration
[NASA-TP-2982] p 20 N90-19239

COMPARISON

Calculation of viscous effects on transonic flow for oscillating airfoils and comparisons with experiment
[NASA-TP-2731] p 6 N87-27622

Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401

COMPATIBILITY

Compatibility of dispersion-strengthened platinum with resistojel propellants
[NASA-TP-2765] p 27 N88-12538

COMPONENT RELIABILITY

Electronics reliability and measurement technology
[NASA-CP-2472] p 42 N87-27204

Effects of variables upon pyrotechnically induced shock response spectra, part 2
[NASA-TP-2872] p 45 N89-13814

COMPOSITE MATERIALS

Preliminary structural design of composite main rotor blades for minimum weight
[NASA-TP-2730] p 28 N87-25435

The effects of simulated space environmental parameters on six commercially available composite materials
[NASA-TP-2906] p 29 N89-19385

Effects of continuous and cyclic thermal exposures on boron- and boron-reinforced 6061 aluminum composites
[NASA-TP-1063] p 28 N88-70029

COMPOSITE STRUCTURES

The ACEE program and basic composites research at Langley Research Center (1975 to 1986): Summary and bibliography
[NASA-RP-1177] p 28 N87-29612

Research in structures, structural dynamics and materials, 1989
[NASA-CP-10024] p 46 N89-24626

A Protection And Detection Surface (PADS) for damage tolerance
[NASA-TP-3011] p 29 N90-27788

COMPRESSIBLE FLOW

A spectral collocation solution to the compressible stability eigenvalue problem
[NASA-TP-2858] p 9 N89-12543

An upwind-biased, point-implicit relaxation algorithm for viscous, compressible perfect-gas flows
[NASA-TP-2953] p 38 N90-17042

COMPRESSION LOADS

Buckling and postbuckling behavior of square compression-loaded graphite-epoxy plates with circular cutouts
[NASA-TP-3007] p 29 N90-26077

COMPRESSIVE STRENGTH

Properties of two composite materials made of toughened epoxy resin and high-strain graphite fiber
[NASA-TP-2826] p 28 N88-25480

COMPRESSOR BLADES

Shot peening for Ti-6Al-4V alloy compressor blades
[NASA-TP-2711] p 43 N87-20566

COMPRESSORS

Design of 9.271-pressure-ratio 5-stage core compressor and overall performance for first 3 stages
[NASA-TP-2597] p 17 N87-17699

Rotordynamic Instability Problems in High-Performance Turbomachinery, 1988
[NASA-CP-3026] p 41 N89-22891

COMPUTATION

Calculation and accuracy of ERBE scanner measurement locations
[NASA-TP-2670] p 72 N87-28471

A rapid method for the computation of equilibrium chemical composition of air to 15000 K
[NASA-TP-2792] p 30 N88-16830

A closed-form trim solution yielding minimum trim drag for airplanes with multiple longitudinal-control effectors
[NASA-TP-2907] p 20 N89-23468

Computational Methods for Structural Mechanics and Dynamics, part 1
[NASA-CP-3034-PT-1] p 46 N89-24638

A review of high-speed, convective, heat-transfer computation methods
[NASA-TP-2914] p 38 N89-27116

COMPUTATIONAL ASTROPHYSICS

Supercomputing in Aerospace
[NASA-CP-2454] p 5 N87-25998

COMPUTATIONAL CHEMISTRY

Supercomputing in Aerospace
[NASA-CP-2454] p 5 N87-25998

COMPUTATIONAL FLUID DYNAMICS

Combined aerodynamic and structural dynamic problem emulating routines (CASPER): Theory and implementation
[NASA-TP-2418] p 4 N87-17669

Numerical simulation of channel flow transition, resolution requirements and structure of the hairpin vortex
[NASA-TP-2667] p 4 N87-19351

Supercomputing in Aerospace
[NASA-CP-2454] p 5 N87-25998

Simplified curve fits for the thermodynamic properties of equilibrium air
 [NASA-RP-1181] p 36 N87-26309
 Langley Symposium on Aerodynamics, volume 1
 [NASA-CP-2397] p 1 N88-14926
 NASA/Army Rotorcraft Technology, Volume 1: Aerodynamics, and Dynamics and Aeroelasticity
 [NASA-CP-2495-VOL-1] p 1 N88-16625
 Numerical simulation of scramjet inlet flow fields
 [NASA-TP-2517] p 8 N88-23735
 Three-dimensional multigrid algorithms for the flux-split Euler equations
 [NASA-TP-2829] p 65 N89-12316
 Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 1
 [NASA-CP-3022-PT-1] p 9 N89-19234
 Transonic Symposium: Theory, Application, and Experiment, Volume 1, Part 1
 [NASA-CP-3020-VOL-1-PT-1] p 9 N89-20925
 Transonic Symposium: Theory, Application, and Experiment, volume 1, part 2
 [NASA-CP-3020-VOL-1-PT-2] p 9 N89-20942
 Recent Advances in Multidisciplinary Analysis and Optimization, part 1
 [NASA-CP-3031-PT-1] p 15 N89-25146
 A procedure for computing surface wave trajectories on an inhomogeneous surface
 [NASA-TP-2929] p 10 N89-26811
 Research in Natural Laminar Flow and Laminar-Flow Control, part 2
 [NASA-CP-2487-PT-2] p 10 N90-12519

COMPUTATIONAL GRIDS
 Supercomputing in Aerospace
 [NASA-CP-2454] p 5 N87-25998
 A spectral collocation solution to the compressible stability eigenvalue problem
 [NASA-TP-2858] p 9 N89-12543
 Satellite radar altimetry over ice, Volume 4: Users' guide for Antarctica elevation data from Seasat
 [NASA-RP-1233-VOL-4] p 54 N90-20564
 A time-accurate adaptive grid method and the numerical simulation of a shock-vortex interaction
 [NASA-TP-2998] p 61 N90-21524

COMPUTER AIDED DESIGN
 Recent Experiences in Multidisciplinary Analysis and Optimization, part 1
 [NASA-CP-2327-PT-1] p 13 N87-11717
 Recent Experiences in Multidisciplinary Analysis and Optimization, part 2
 [NASA-CP-2327-PT-2] p 13 N87-11750
 Fifteenth NASTRAN (R) Users' Colloquium
 [NASA-CP-2481] p 43 N87-27231
 First Annual Workshop on Space Operations Automation and Robotics (SOAR 87)
 [NASA-CP-2491] p 61 N88-17206
 A generalized method for automatic downhand and wirefeed control of a welding robot and positioner
 [NASA-TP-2807] p 32 N88-17869
 Computer-aided design analysis of 57-mm, angular-contact, cryogenic turbopump bearings
 [NASA-TP-2816] p 41 N88-18933
 Second Conference on Artificial Intelligence for Space Applications
 [NASA-CP-3007] p 63 N88-29351
 Comparison study of gear dynamic computer programs at NASA Lewis Research Center
 [NASA-TP-2901] p 41 N89-21243
 A knowledge-based tool for multilevel decomposition of a complex design problem
 [NASA-TP-2903] p 63 N89-23181
 Recent Advances in Multidisciplinary Analysis and Optimization, part 1
 [NASA-CP-3031-PT-1] p 15 N89-25146
 Recent Advances in Multidisciplinary Analysis and Optimization, part 2
 [NASA-CP-3031-PT-2] p 15 N89-25173
 Recent Advances in Multidisciplinary Analysis and Optimization, part 3
 [NASA-CP-3031-PT-3] p 15 N89-25201
 NASA Workshop on Computational Structural Mechanics 1987, part 2
 [NASA-CP-10012-PT-2] p 46 N89-29789
 Spent-beam refocusing analysis and multistage depressed collector design for a 75-W, 59- to 64-GHz coupled-cavity traveling-wave tube
 [NASA-TP-3039] p 35 N90-27965

COMPUTER AIDED MANUFACTURING
 A generalized method for automatic downhand and wirefeed control of a welding robot and positioner
 [NASA-TP-2807] p 32 N88-17869

COMPUTER ANIMATION
 Graphics Technology in Space Applications (GTSA 1989)
 [NASA-CP-3045] p 62 N90-20651

COMPUTER ASSISTED INSTRUCTION
 Second Annual Workshop on Space Operations Automation and Robotics (SOAR 1988)
 [NASA-CP-3019] p 61 N89-19817
 National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
 [NASA-CP-3074] p 28 N90-24350

COMPUTER GRAPHICS
 Frontiers of Massively Parallel Scientific Computation
 [NASA-CP-2478] p 62 N87-26531
 A general solution to the silhouette problem
 [NASA-TP-2695] p 61 N88-14629
 Interactive orbital proximity operations planning system
 [NASA-TP-2839] p 61 N89-18039
 Graphics Technology in Space Applications (GTSA 1989)
 [NASA-CP-3045] p 62 N90-20651
 Spatial Displays and Spatial Instruments
 [NASA-CP-10032] p 61 N90-22918
 Determination of depth-viewing volumes for stereo three-dimensional graphic displays
 [NASA-TP-2999] p 61 N90-22965
 Sensor performance analysis
 [NASA-RP-1241] p 50 N90-23780

COMPUTER NETWORKS
 Proceedings of the 5th Annual Users' Conference
 [NASA-CP-2399] p 62 N87-10720

COMPUTER PROGRAMMING
 Some path-following techniques for solution of nonlinear equations and comparison with parametric differentiation
 [NASA-TP-2654] p 64 N87-14054

COMPUTER PROGRAMS
 Third Conference on Artificial Intelligence for Space Applications, part 1
 [NASA-CP-2492-PT-1] p 62 N88-16360
 A transonic-small-disturbance wing design methodology
 [NASA-TP-2806] p 7 N88-17614
 A performance index approach to aerodynamic design with the use of analysis codes only
 [NASA-TP-2805] p 7 N88-18552
 CARE 3 User's Workshop
 [NASA-CP-10011] p 61 N88-21646
 User's manual for LINEAR, a FORTRAN program to derive linear aircraft models
 [NASA-TP-2768] p 65 N88-21740
 Analysis and testing of the SURE program
 [NASA-TP-2817] p 65 N88-22653
 Third Conference on Artificial Intelligence for Space Applications, part 2
 [NASA-CP-2492-PT-2] p 63 N88-24188
 Validation of a pair of computer codes for estimation and optimization of subsonic aerodynamic performance of simple hinged-flap systems for thin swept wings
 [NASA-TP-2828] p 8 N89-10024
 OEXP Analysis Tools Workshop
 [NASA-CP-10013] p 63 N89-11407
 Analysis of positron lifetime spectra in polymers
 [NASA-TP-2853] p 63 N89-12237
 BRYNTRN: A baryon transport model
 [NASA-TP-2887] p 80 N89-17562
 Integrated tools for control-system analysis
 [NASA-TP-2885] p 20 N89-19309
 Comparison study of gear dynamic computer programs at NASA Lewis Research Center
 [NASA-TP-2901] p 41 N89-21243
 The Fault Tree Compiler (FTC): Program and mathematics
 [NASA-TP-2915] p 64 N89-24815
 FORTRAN program for x ray photoelectron spectroscopy data reformatting
 [NASA-TP-2957] p 69 N90-12348
 Validation of a computer code for analysis of subsonic aerodynamic performance of wings with flaps in combination with a canard or horizontal tail and an application to optimization
 [NASA-TP-2961] p 11 N90-14187
 Surface flow and heating distributions on a cylinder in near wake of Aeroassist Flight Experiment (AFE) configuration at incidence in Mach 10 Air
 [NASA-TP-2954] p 38 N90-14493
 Software Reuse Issues
 [NASA-CP-3057] p 63 N90-14789
 Rotor induced-inflow-ratio measurements and CAMRAD calculations
 [NASA-TP-2946] p 11 N90-15882
 Experimental and theoretical aerodynamic characteristics of a high-lift semispan wing model
 [NASA-TP-2990] p 11 N90-20046
 Loads analysis and testing of flight configuration solid rocket motor outer boot ring segments
 [NASA-TP-3028] p 47 N90-25366

Computer code for predicting coolant flow and heat transfer in turbomachinery
 [NASA-TP-2985] p 18 N90-27722
 Modification of the SHABERTH bearing code to incorporate RP-1 and a discussion of the traction model
 [NASA-TP-3017] p 42 N90-28066
 Ceramics Analysis and Reliability Evaluation of Structures (CARES). Users and programmers manual
 [NASA-TP-2916] p 47 N90-28099
 Comparison of dose estimates using the buildup-factor method and a Baryon transport code (BRYNTRN) with Monte Carlo results
 [NASA-TP-3021] p 80 N90-29290

COMPUTER SYSTEMS PERFORMANCE
 Frontiers of Massively Parallel Scientific Computation
 [NASA-CP-2478] p 62 N87-26531

COMPUTER SYSTEMS PROGRAMS
 Sixth Annual Users' Conference --- Transportable Applications Executive (TAE)
 [NASA-CP-2463] p 62 N87-23156
 NASA Workshop on Computational Structural Mechanics 1987, part 2
 [NASA-CP-10012-PT-2] p 46 N89-29789

COMPUTER TECHNIQUES
 Fifteenth NASTRAN (R) Users' Colloquium
 [NASA-CP-2481] p 43 N87-27231
 Lewis Structures Technology, 1988. Volume 1: Structural Dynamics
 [NASA-CP-3003-VOL-1] p 44 N88-23226
 An economical semi-analytical orbit theory for micro-computer applications
 [NASA-TP-2811] p 66 N89-14052
 Joint University Program for Air Transportation Research, 1987
 [NASA-CP-3028] p 2 N89-19230
 Second Annual Workshop on Space Operations Automation and Robotics (SOAR 1988)
 [NASA-CP-3019] p 61 N89-19817
 The Fault Tree Compiler (FTC): Program and mathematics
 [NASA-TP-2915] p 64 N89-24815
 NASA Workshop on Computational Structural Mechanics 1987, part 3
 [NASA-CP-10012-PT-3] p 46 N89-29799
 Applications of the hybrid automated reliability predictor: Revised edition
 [NASA-TP-2760-REV] p 63 N90-11454

COMPUTER VISION
 Second Conference on Artificial Intelligence for Space Applications
 [NASA-CP-3007] p 63 N88-29351
 Spatial vision processes: From the optical image to the symbolic structures of contour information
 [NASA-TP-2838] p 39 N89-13762
 The 1989 Goddard Conference on Space Applications of Artificial Intelligence
 [NASA-CP-3033] p 64 N89-26578
 Visual Information Processing for Television and Telerobotics
 [NASA-CP-3053] p 40 N90-16204

COMPUTERIZED SIMULATION
 Combined aerodynamic and structural dynamic problem emulating routines (CASPER): Theory and implementation
 [NASA-TP-2418] p 4 N87-17669
 Tether Dynamics Simulation
 [NASA-CP-2458] p 41 N87-18821
 Supercomputing in Aerospace
 [NASA-CP-2454] p 5 N87-25998
 Frontiers of Massively Parallel Scientific Computation
 [NASA-CP-2478] p 62 N87-26531
 The 1988 Goddard Conference on Space Applications of Artificial Intelligence
 [NASA-CP-3009] p 64 N88-30330
 Transonic Symposium: Theory, Application, and Experiment, volume 1, part 2
 [NASA-CP-3020-VOL-1-PT-2] p 9 N89-20942
 Comparison of predicted and measured temperatures of UH-60A helicopter transmission
 [NASA-TP-2911] p 41 N89-24607
 Computational Methods for Structural Mechanics and Dynamics, part 1
 [NASA-CP-3034-PT-1] p 46 N89-24638
 Computational Methods for Structural Mechanics and Dynamics
 [NASA-CP-3034-PT-2] p 46 N89-24654
 Interactions of Tollmien-Schlichting waves and Dean vortices. Comparison of direct numerical simulation and a weakly nonlinear theory
 [NASA-TP-2919] p 10 N89-25118
 Recent Advances in Multidisciplinary Analysis and Optimization, part 3
 [NASA-CP-3031-PT-3] p 15 N89-25201
 The 1989 Goddard Conference on Space Applications of Artificial Intelligence
 [NASA-CP-3033] p 64 N89-26578

- NASA Workshop on Computational Structural Mechanics 1987, part 2
[NASA-CP-10012-PT-2] p 46 N89-29789
Delivery performance of conventional aircraft by terminal-area, time-based air traffic control: A real-time simulation evaluation
[NASA-TP-2978] p 13 N90-18378
A time-accurate adaptive grid method and the numerical simulation of a shock-vortex interaction
[NASA-TP-2998] p 61 N90-21524
- COMPUTERS**
A technique for evaluating the application of the pin-level stuck-at fault model to VLSI circuits
[NASA-TP-2738] p 42 N87-28025
- CONCRETES**
Evaluation of two transport aircraft and several ground test vehicle friction measurements obtained for various runway surface types and conditions. A summary of test results from joint FAA/NASA Runway Friction Program
[NASA-TP-2917] p 16 N90-15902
- CONCURRENT PROCESSING**
Computer Sciences and Data Systems, volume 1
[NASA-CP-2459-VOL-1] p 62 N87-19931
- CONDENSING**
Finite-rate water condensation in combustion-heated wind tunnels
[NASA-TP-2833] p 22 N88-28075
- CONES**
Hydroburst test of a carbon-carbon involute exit cone
[NASA-TP-2556] p 24 N88-14112
- CONFERENCES**
Doppler Radar Detection of Wind Shear
[NASA-CP-2435] p 12 N87-10054
Thirteenth International Laser Radar Conference
[NASA-CP-2431] p 39 N87-10263
The 1985 Goddard Space Flight Center Battery Workshop
[NASA-CP-2434] p 34 N87-11072
Turbine Engine Hot Section Technology, 1984
[NASA-CP-2339] p 43 N87-11180
Recent Experiences in Multidisciplinary Analysis and Optimization, part 1
[NASA-CP-2327-PT-1] p 13 N87-11717
NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-1] p 24 N87-16014
The 20th Aerospace Mechanics Symposium
[NASA-CP-2423-REV] p 43 N87-16321
Space Opportunities for Tropospheric Chemistry Research
[NASA-CP-2450] p 51 N87-18248
Joint University Program for Air Transportation Research, 1983
[NASA-CP-2451] p 1 N87-18520
Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings
[NASA-CP-2439] p 79 N87-19328
Computer Sciences and Data Systems, volume 1
[NASA-CP-2459-VOL-1] p 62 N87-19931
Computer Sciences and Data Systems, volume 2
[NASA-CP-2459-VOL-2] p 62 N87-19932
The 1986 Get Away Special Experimenter's Symposium
[NASA-CP-2438] p 22 N87-20302
Coronal and Prominence Plasmas
[NASA-CP-2442] p 79 N87-20871
Microgravity Fluid Management Symposium
[NASA-CP-2465] p 32 N87-21141
Rapid Fluctuations in Solar Flares
[NASA-CP-2449] p 79 N87-21785
Atmospheric Turbulence Relative to Aviation, Missile, and Space Programs
[NASA-CP-2468] p 55 N87-22341
Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-2] p 23 N87-22729
Structural Integrity and Durability of Reusable Space Propulsion Systems
[NASA-CP-2471] p 26 N87-22766
Sixth Annual Users' Conference --- Transportable Applications Executive (TAE)
[NASA-CP-2463] p 62 N87-23156
Double Layers in Astrophysics
[NASA-CP-2469] p 72 N87-23313
Essays in Space Science
[NASA-CP-2464] p 72 N87-24247
Star Formation in Galaxies
[NASA-CP-2466] p 73 N87-24266
Supercomputing in Aerospace
[NASA-CP-2454] p 5 N87-25998
Space Photovoltaic Research and Technology 1986. High Efficiency, Space Environment, and Array Technology
[NASA-CP-2475] p 50 N87-26413
Fifteenth NASTRAN (R) Users' Colloquium
[NASA-CP-2481] p 43 N87-27231
- Joint University Program for Air Transportation Research, 1985
[NASA-CP-2453] p 1 N87-27596
NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1977-1986
[NASA-SP-7063(01)] p 70 N87-30218
Spacecraft 2000
[NASA-CP-2473] p 25 N88-10084
Fourteenth Space Simulation Conference: Testing for a Permanent Presence in Space
[NASA-CP-2446] p 25 N88-10829
Space Construction
[NASA-CP-2490] p 25 N88-10870
The 1986 Goddard Space Flight Center Battery Workshop
[NASA-CP-2486] p 35 N88-11021
Turbine Engine Hot Section Technology, 1985
[NASA-CP-2405] p 43 N88-11140
Spacecraft Fire Safety
[NASA-CP-2476] p 24 N88-12520
The 58th Shock and Vibration Symposium, volume 1
[NASA-CP-2488-VOL-1] p 43 N88-13609
Scientific and Operational Requirements for TOMS Data
[NASA-CP-2497] p 47 N88-13774
Langley Symposium on Aerodynamics, volume 1
[NASA-CP-2397] p 1 N88-14926
Wind shear detection. Forward-looking sensor technology
[NASA-CP-10004] p 12 N88-14970
Aeropropulsion '87. Session 4: Instrumentation and Controls Research
[NASA-CP-10003-SESS-4] p 18 N88-15794
Aeropropulsion '87. Session 5: Subsonic Propulsion Technology
[NASA-CP-10003-SESS-5] p 18 N88-15800
Aeropropulsion '87. Session 6: High-Speed Propulsion Technology
[NASA-CP-10003-SESS-6] p 18 N88-15807
Cryogenic Fluid Management Technology Workshop. Volume 1: Presentation material and discussion
[NASA-CP-10001] p 37 N88-15924
Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-PT-1] p 62 N88-16360
NASA/Army Rotorcraft Technology. Volume 1: Aerodynamics, and Dynamics and Aeroelasticity
[NASA-CP-2495-VOL-1] p 1 N88-16625
NASA/Army Rotorcraft Technology. Volume 2: Materials and Structures, Propulsion and Drive Systems, Flight Dynamics and Control, and Acoustics
[NASA-CP-2495-VOL-2] p 1 N88-16632
Space Bioreactor Science Workshop
[NASA-CP-2485] p 58 N88-17168
First Annual Workshop on Space Operations Automation and Robotics (SOAR 87)
[NASA-CP-2491] p 61 N88-17206
Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference
[NASA-CP-10006] p 12 N88-17616
The 58th Shock and Vibration Symposium, volume 2
[NASA-CP-2488-VOL-2] p 44 N88-18948
Cryogenic Fluid Management Technology Workshop. Volume 2: Roundtable Discussion of Technology Requirements
[NASA-CP-10009] p 37 N88-20599
Sixteenth NASTRAN (R) Users' Colloquium
[NASA-CP-2505] p 44 N88-20652
CARE 3 User's Workshop
[NASA-CP-10011] p 61 N88-21646
Lewis Structures Technology, 1988. Volume 3: Structural Integrity Fatigue and Fracture Wind Turbines HOST
[NASA-CP-3003-VOL-3] p 44 N88-22408
NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1987
[NASA-SP-7063(02)] p 70 N88-22830
Lewis Structures Technology, 1988. Volume 1: Structural Dynamics
[NASA-CP-3003-VOL-1] p 44 N88-23226
Laminar Flow Aircraft Certification
[NASA-CP-2413] p 8 N88-23737
Structural Ceramics
[NASA-CP-2427] p 31 N88-23872
Noncontact Temperature Measurement
[NASA-CP-2503] p 32 N88-23895
Space Station Human Factors Research Review. Volume 1: EVA Research and Development
[NASA-CP-2426-VOL-1] p 59 N88-24145
Third Conference on Artificial Intelligence for Space Applications, part 2
[NASA-CP-2492-PT-2] p 63 N88-24188
- A Study of Space Station Contamination Effects --- conference
[NASA-CP-3002] p 72 N88-25390
Integrated Technology Rotor Methodology Assessment Workshop
[NASA-CP-10007] p 2 N88-27148
The 1988 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3009] p 64 N88-30330
The 1987 Ground Vortex Workshop
[NASA-CP-10008] p 9 N89-10849
The 1988 Get Away Special Experimenter's Symposium
[NASA-CP-3008] p 22 N89-10902
Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153
Technology for Future NASA Missions: Civil Space Technology Initiative (CSTI) and Pathfinder
[NASA-CP-3016] p 22 N89-11760
Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582
Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626
Turbine Engine Hot Section Technology 1986
[NASA-CP-2444] p 45 N89-12876
Second Workshop on Improvements to Photometry
[NASA-CP-10015] p 74 N89-13310
Thermal Barrier Coatings. Abstracts and figures
[NASA-CP-10019] p 31 N89-13642
Report of the 1st Planning Workshop for CELSS Flight Experimentation
[NASA-CP-10020] p 60 N89-13898
Polar Ozone Workshop. Abstracts
[NASA-CP-10014] p 51 N89-14503
Experiments in Planetary and Related Sciences and the Space Station
[NASA-CP-2494] p 72 N89-14998
Turbine Engine Hot Section Technology, 1987
[NASA-CP-2493] p 45 N89-17298
Microgravity Combustion Diagnostics Workshop
[NASA-CP-10017] p 32 N89-17682
Proceedings of a conference on Cardiovascular Bioinstrumentation
[NASA-CP-10022] p 59 N89-17997
Proceedings of the Polar Processes on Mars Workshop
[NASA-CP-10021] p 78 N89-18373
Transonic Symposium: Theory, Application, and Experiment, Volume 1, Part 1
[NASA-CP-3020-VOL-1-PT-1] p 9 N89-20925
Proceedings of the Scientific Data Compression Workshop
[NASA-CP-3025] p 63 N89-22332
Rotordynamic Instability Problems in High-Performance Turbomachinery, 1988
[NASA-CP-3026] p 41 N89-22891
Seventeenth NASTRAN (R) Users' Colloquium
[NASA-CP-3029] p 45 N89-22940
Space Electrochemical Research and Technology Conference: Abstracts
[NASA-CP-10029] p 50 N89-22982
NASA/SPIO Space Environmental Effects on Materials Workshop, part 1
[NASA-CP-3035-PT-1] p 27 N89-23528
The 23rd Aerospace Mechanisms Symposium
[NASA-CP-3032] p 46 N89-23892
Research in structures, structural dynamics and materials, 1989
[NASA-CP-10024] p 46 N89-24626
Computational Methods for Structural Mechanics and Dynamics, part 1
[NASA-CP-3034-PT-1] p 46 N89-24638
Computational Methods for Structural Mechanics and Dynamics
[NASA-CP-3034-PT-2] p 46 N89-24654
Space Photovoltaic Research and Technology, 1988. High Efficiency, Space Environment, and Array Technology
[NASA-CP-3030] p 50 N89-24704
Recent Advances in Multidisciplinary Analysis and Optimization, part 1
[NASA-CP-3031-PT-1] p 15 N89-25146
Recent Advances in Multidisciplinary Analysis and Optimization, part 2
[NASA-CP-3031-PT-2] p 15 N89-25173
Recent Advances in Multidisciplinary Analysis and Optimization, part 3
[NASA-CP-3031-PT-3] p 15 N89-25201
Exobiology and Future Mars Missions
[NASA-CP-10027] p 59 N89-26334
The 1989 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3033] p 64 N89-26578

- NASA Workshop on Computational Structural Mechanics 1987, part 1
[NASA-CP-10012-PT-1] p 46 N89-29773
- NASA Workshop on Computational Structural Mechanics 1987, part 2
[NASA-CP-10012-PT-2] p 46 N89-29789
- NASA Workshop on Computational Structural Mechanics 1987, part 3
[NASA-CP-10012-PT-3] p 46 N89-29799
- Second Beamed Space-Power Workshop
[NASA-CP-3037] p 27 N90-10140
- A lunar far-side very low frequency array
[NASA-CP-3039] p 75 N90-10805
- Two-Dimensional Intercomparison of Stratospheric Models
[NASA-CP-3042] p 53 N90-11405
- Research in Natural Laminar Flow and Laminar-Flow Control, part 1
[NASA-CP-2487-PT-1] p 10 N90-12503
- Research in Natural Laminar Flow and Laminar-Flow Control, part 2
[NASA-CP-2487-PT-2] p 10 N90-12519
- Research in Natural Laminar Flow and Laminar-Flow Control, part 3
[NASA-CP-2487-PT-3] p 10 N90-12539
- Flight deck automation: Promises and realities
[NASA-CP-10036] p 17 N90-13384
- Flight Mechanics/Estimation Theory Symposium, 1989
[NASA-CP-3050] p 23 N90-13413
- Cells in Space
[NASA-CP-10034] p 61 N90-13939
- Software Reuse Issues
[NASA-CP-3057] p 63 N90-14789
- Visual Information Processing for Television and Telerobotics
[NASA-CP-3053] p 40 N90-16204
- CAST-10-2/DOA 2 Airfoil Studies Workshop Results
[NASA-CP-3052] p 22 N90-17647
- Solar-Terrestrial Science Strategy Workshop
[NASA-CP-3048] p 73 N90-18329
- Earth Science Geostationary Platform Technology
[NASA-CP-3040] p 24 N90-19249
- Space Electrochemical Research and Technology (SERT), 1989
[NASA-CP-3056] p 50 N90-20454
- Graphics Technology in Space Applications (GTSA 1989)
[NASA-CP-3045] p 62 N90-20651
- Joint University Program for Air Transportation Research, 1988-1989
[NASA-CP-3063] p 2 N90-20921
- NASA/DOD Controls-Structures Interaction Technology 1989
[NASA-CP-3041] p 26 N90-21062
- Free-Space Power Transmission
[NASA-CP-10016] p 27 N90-21795
- The 24th Aerospace Mechanisms Symposium
[NASA-CP-3062] p 47 N90-22079
- The 1990 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3068] p 64 N90-22294
- Spatial Displays and Spatial Instruments
[NASA-CP-10032] p 61 N90-22918
- The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
[NASA-CP-3071] p 77 N90-23294
- National Educators' Workshop: Update 1989
[NASA-CP-3074] p 28 N90-24350
- Low-Temperature CO-Oxidation Catalysts for Long-Life CO₂ Lasers
[NASA-CP-3076] p 40 N90-24586
- Eighteenth NASTRAN (R) Users' Colloquium
[NASA-CP-3069] p 47 N90-24637
- FAA/NASA En Route Noise Symposium
[NASA-CP-3067] p 67 N90-24853
- Geoscience and a Lunar Base: A Comprehensive Plan for Lunar Exploration
[NASA-CP-3070] p 78 N90-25030
- Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
- Space Transportation Avionics Technology Symposium, Volume 1: Executive summary
[NASA-CP-3081-VOL-1] p 17 N90-25980
- Proceedings of the LDEF Materials Data Analysis Workshop
[NASA-CP-10046] p 28 N90-26075
- First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744
- Earth Sciences Requirements for the Information Sciences Experiment System
[NASA-CP-3072] p 50 N90-27140
- Fifth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3073] p 63 N90-27275
- Carbon in the Galaxy: Studies from Earth and Space
[NASA-CP-3061] p 73 N90-27562
- AMSAHTS 1990: Advances in Materials Science and Applications of High Temperature Superconductors
[NASA-CP-10043] p 29 N90-27792
- FIRE Science Results 1989
[NASA-CP-3079] p 58 N90-28224
- Advanced Earth-to-Orbit Propulsion Technology 1988, volume 1
[NASA-CP-3012-VOL-1] p 27 N90-28611
- The MSFC/UAH Data Management Symposium
[NASA-CP-2040] p 62 N78-74659
- Flight Mechanics/Estimation Theory Symposium
[NASA-CP-2002] p 22 N78-76855
- CONFIDENCE LIMITS**
Development of confidence limits by pivotal functions for estimating software reliability
[NASA-TP-2709] p 65 N87-23244
- CONGRESSIONAL REPORTS**
Present state of knowledge of the upper atmosphere 1990: An assessment report
[NASA-TP-1242] p 54 N90-28929
- CONICAL BODIES**
Discrete-vortex model for the symmetric-vortex flow on cones
[NASA-TP-2989] p 11 N90-20946
- CONICAL CAMBER**
Study of lee-side flows over conically cambered delta wings at supersonic speeds, part 1
[NASA-TP-2660-PT-1] p 5 N87-23597
- Study of lee-side flows over conically cambered Delta wings at supersonic speeds, part 2
[NASA-TP-2660-PT-2] p 5 N87-25301
- CONSERVATION EQUATIONS**
Conservation equations and physical models for hypersonic air flows in thermal and chemical nonequilibrium
[NASA-TP-2867] p 38 N89-16115
- CONSOLIDATION**
Effects of combining vertical and horizontal information into a primary flight display
[NASA-TP-2783] p 17 N88-12487
- CONSTITUTIVE EQUATIONS**
Nonlinear Constitutive Relations for High Temperature Applications, 1986
[NASA-CP-10010] p 44 N88-21498
- Constitutive Relationships and Models in Continuum Theories of Multiphase Flows --- conferences
[NASA-CP-3047] p 38 N90-10385
- CONTACT LOADS**
Mixed formulation for frictionless contact problems
[NASA-TP-2897] p 45 N89-19580
- CONTAMINANTS**
A Study of Space Station Contamination Effects --- conference
[NASA-CP-3002] p 72 N88-25390
- An Auger electron spectroscopy study of surface-preparation contaminants
[NASA-TP-2972] p 33 N90-16868
- CONTINUOUS RADIATION**
Performance of a small, graphite electrode, multistage depressed collector with a 500-W, continuous wave, 4.8- to 9.6-GHz traveling wave tube
[NASA-TP-2788] p 35 N88-15146
- Design, fabrication, and performance of brazed, graphite electrode, multistage depressed collectors with 500-W, continuous wave, 4.8- to 9.6-GHz traveling-wave tubes
[NASA-TP-2904] p 35 N89-21171
- CONTINUUM MECHANICS**
Constitutive Relationships and Models in Continuum Theories of Multiphase Flows --- conferences
[NASA-CP-3047] p 38 N90-10385
- CONTINUUM MODELING**
Continuum modeling of large lattice structures: Status and projections
[NASA-TP-2767] p 25 N88-14115
- CONTROLLERS**
Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 6 Earth radiation budget data set, July 1975 to June 1978
[NASA-PP-1185] p 55 N87-26489
- Spatial vision processes: From the optical image to the symbolic structures of contour information
[NASA-TP-2838] p 39 N89-13762
- CONTROL STABILITY**
NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-2] p 25 N87-24495
- CONTROL SURFACES**
Steady and unsteady transonic pressure measurements on a clipped delta wing for pitching and control-surface oscillations
[NASA-TP-2594] p 8 N88-28895
- Control surface spanwise placement in active flutter suppression systems
[NASA-TP-2873] p 45 N89-16196
- Effect of control surface mass unbalance on the stability of a closed-loop active control system
[NASA-TP-2952] p 47 N90-12042
- CONTROL SYSTEMS DESIGN**
Piloted simulator study of allowable time delays in large-airplane response
[NASA-TP-2652] p 19 N87-16849
- Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-1] p 23 N87-22702
- Modeling digital control systems with MA-prefiltered measurements
[NASA-TP-2732] p 32 N87-22870
- NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-2] p 25 N87-24495
- A new approach to state estimation in deterministic digital control systems
[NASA-TP-2745] p 32 N87-24585
- Aeropropulsion '87, Session 2: Aeropropulsion Structures Research
[NASA-CP-10003-SESS-2] p 18 N88-15785
- Aeropropulsion '87, Session 4: Instrumentation and Controls Research
[NASA-CP-10003-SESS-4] p 18 N88-15794
- Further developments in exact state reconstruction in deterministic digital control systems
[NASA-TP-2812] p 32 N88-18751
- More on exact state reconstruction in deterministic digital control systems
[NASA-TP-2847] p 33 N88-28177
- Integrated tools for control-system analysis
[NASA-TP-2885] p 20 N89-19309
- Development and flight test experiences with a flight-critical digital control system
[NASA-TP-2857] p 20 N89-24327
- Further developments in modeling digital control systems with MA-prefiltered measurements
[NASA-TP-2909] p 33 N89-24507
- Research in structures, structural dynamics and materials, 1989
[NASA-CP-10024] p 46 N89-24626
- A new state reconstructor for digital controls systems using weighted-average measurements
[NASA-TP-2936] p 33 N89-27039
- Joint University Program for Air Transportation Research, 1988-1989
[NASA-CP-3063] p 2 N90-20921
- NASA/DOD Controls-Structures Interaction Technology 1989
[NASA-CP-3041] p 26 N90-21062
- A general-purpose balloon-borne pointing system for solar scientific instruments
[NASA-TP-3013] p 33 N90-21219
- CONTROL THEORY**
Joint University Program for Air Transportation Research, 1984
[NASA-CP-2452] p 1 N87-22604
- Joint University Program for Air Transportation Research, 1987
[NASA-CP-3028] p 2 N89-19230
- Recent Advances in Multidisciplinary Analysis and Optimization, part 3
[NASA-CP-3031-PT-3] p 15 N89-25201
- Joint University Program for Air Transportation Research, 1988-1989
[NASA-CP-3063] p 2 N90-20921
- CONTROLLABILITY**
Piloted-simulation study of effects of vortex flaps on low-speed handling qualities of a Delta-wing airplane
[NASA-TP-2747] p 19 N87-26922
- NASA/Army Rotorcraft Technology, Volume 2: Materials and Structures, Propulsion and Drive Systems, Flight Dynamics and Control, and Acoustics
[NASA-CP-2495-VOL-2] p 1 N88-16632
- CONTROLLERS**
Integrated tools for control-system analysis
[NASA-TP-2885] p 20 N89-19309
- CONVECTIVE FLOW**
Preparative electrophoresis for space
[NASA-TP-2777] p 32 N88-10977
- Continuous flow electrophoresis system experiments on shuttle flights STS-6 and STS-7
[NASA-TP-2778] p 32 N88-10978
- CONVECTIVE HEAT TRANSFER**
A review of high-speed, convective, heat-transfer computation methods
[NASA-TP-2914] p 38 N89-27116
- CONVERGENT NOZZLES**
Static performance of nonaxisymmetric nozzles with yaw thrust-vectoring vanes
[NASA-TP-2813] p 8 N88-21118

CONVERGENT-DIVERGENT NOZZLES

- Static internal performance of a two-dimensional convergent-divergent nozzle with thrust vectoring [NASA-TP-2721] p 5 N87-24432
- Static performance of an axisymmetric nozzle with post-exit vanes for multiaxis thrust vectoring [NASA-TP-2800] p 8 N88-20280
- Static performance of nonaxisymmetric nozzles with yaw thrust-vectoring vanes [NASA-TP-2813] p 8 N88-21118
- Static investigation of a two-dimensional convergent-divergent exhaust nozzle with multiaxis thrust-vectoring capability [NASA-TP-2973] p 11 N90-19193
- Internal performance of two nozzles utilizing gimbal concepts for thrust vectoring [NASA-TP-2991] p 11 N90-19200

COOL STARS

- The M-type stars [NASA-SP-492] p 75 N88-11592

COPPER

- Traveling-wave-tube efficiency improvement by a low-cost technique for deposition of carbon on multistage depressed collector [NASA-TP-2719] p 35 N87-21239
- Thermoviscoplastic model with application to copper [NASA-TP-2845] p 45 N89-16183
- Tungsten fiber reinforced copper matrix composites: A review [NASA-TP-2924] p 29 N89-27796
- Secondary electron emission characteristics of molybdenum-masked, ion-textured OFHC copper [NASA-TP-2967] p 31 N90-15211

COPPER ALLOYS

- Conventionally cast and forged copper alloy for high-heat-flux thrust chambers [NASA-TP-2694] p 30 N87-16902

CORNER FLOW

- Effect of port corner geometry on the internal performance of a rotating-vane-type thrust reverser [NASA-TP-2624] p 3 N87-12541
- Experimental evaluation of two turning vane designs for fan drive corner of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel [NASA-TP-2646] p 21 N87-18576
- Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel [NASA-TP-2681] p 21 N88-17686

CORROSION

- Structural Ceramics [NASA-CP-2427] p 31 N88-23872
- Fastener design manual [NASA-RP-1228] p 42 N90-18740

CORROSION RESISTANCE

- The corrosion mechanisms for primer coated 2219-T87 aluminum [NASA-TP-2715] p 30 N87-21076

COSMIC DUST

- Infrared Observations of Comets Halley and Wilson and Properties of the Grains [NASA-CP-3004] p 74 N89-13330
- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview [NASA-CP-10026-VOL-1] p 59 N89-24022
- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study [NASA-CP-10026-VOL-2] p 59 N89-24023
- Planetary geosciences, 1988 [NASA-SP-498] p 48 N89-26274

COSMIC RAYS

- Essays in Space Science [NASA-CP-2464] p 72 N87-24247

COSMOLOGY

- Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 4: The point source catalog declination range 0 deg greater than delta greater than -30 deg [NASA-RP-1190-VOL-4] p 76 N89-14196
- Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 7: The small scale structure catalog [NASA-RP-1190-VOL-7] p 76 N89-14199

COUNTER-ROTATING WHEELS

- Theory of gearing [NASA-RP-1212] p 42 N90-19593

COUNTERFLOW

- Weak-wave analysis of shock interaction with a slipstream [NASA-TP-2848] p 8 N89-10020

COUPLED MODES

- Revised NASA axially symmetric ring model for coupled-cavity traveling-wave tubes [NASA-TP-2675] p 35 N87-22923

COUPLING

- Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel [NASA-TP-2681] p 21 N88-17686
- The effects of structural flap-lag and pitch-lag coupling on soft inplane hingeless rotor stability in hover [NASA-TP-3002] p 12 N90-28503

COVARIANCE

- The estimation error covariance matrix for the ideal state reconstructor with measurement noise [NASA-TP-2881] p 63 N89-13994

CRACKS

- Stress intensity and crack displacement for small edge cracks [NASA-TP-2801] p 44 N88-17095

CRASHWORTHINESS

- Evaluation of energy absorption of new concepts of aircraft composite subfloor intersections [NASA-TP-2951] p 16 N90-26823

CREEP PROPERTIES

- Aeropropulsion '87. Session 1: Aeropropulsion Materials Research [NASA-CP-10003-SESS-1] p 18 N88-16697

CREW PROCEDURES (INFLIGHT)

- Payload crew utilization for spacelab missions [NASA-TP-2976] p 24 N90-14256

CRITICAL PATH METHOD

- Some path-following techniques for solution of nonlinear equations and comparison with parametric differentiation [NASA-TP-2654] p 64 N87-14054

CROP GROWTH

- Controlled Ecological Life Support System. Design, Development, and Use of a Ground-Based Plant Growth Module [NASA-CP-2479] p 60 N88-13852

CROSS CORRELATION

- Spanwise measurements of vertical components of atmospheric turbulence [NASA-TP-2963] p 58 N90-19718

CROSSLINKING

- Degradation and crosslinking of perfluoroalkyl polyethers under X-ray irradiation in ultrahigh vacuum [NASA-TP-2910] p 31 N89-21103

CRUCIFORM WINGS

- Mach 6 experimental and theoretical stability and performance of a cruciform missile at angles of attack up to 65 degrees [NASA-TP-2733] p 5 N87-23592

CRYOGENIC COOLING

- Cryogenic Fluid Management Technology Workshop. Volume 1: Presentation material and discussion [NASA-CP-10001] p 37 N88-15924
- Workshop on Technology Development Issues for the Large Deployable Reflector (LDR) [NASA-CP-2407] p 75 N88-20235

CRYOGENIC FLUID STORAGE

- Cryogenic Fluid Management Technology Workshop. Volume 1: Presentation material and discussion [NASA-CP-10001] p 37 N88-15924

CRYOGENIC FLUIDS

- Cryogenic Fluid Management Technology Workshop. Volume 1: Presentation material and discussion [NASA-CP-10001] p 37 N88-15924
- Computer-aided design analysis of 57-mm, angular-contact, cryogenic turbopump bearings [NASA-TP-2816] p 41 N88-18933
- Cryogenic Fluid Management Technology Workshop. Volume 2: Roundtable Discussion of Technology Requirements [NASA-CP-10009] p 37 N88-20599

CRYOGENIC ROCKET PROPELLANTS

- Cryogenic Fluid Management Technology Workshop. Volume 1: Presentation material and discussion [NASA-CP-10001] p 37 N88-15924

CRYOGENIC TEMPERATURE

- Experimental evaluation of a tuned electromagnetic damper for vibration control of cryogenic turbopump rotors [NASA-TP-3005] p 18 N90-23403

CRYOGENIC WIND TUNNELS

- Evolution, calibration, and operational characteristics of the two-dimensional test section of the Langley 0.3-meter transonic cryogenic tunnel [NASA-TP-2749] p 21 N87-28570
- NASA SC(2)-0714 airfoil data corrected for sidewall boundary-layer effects in the Langley 0.3-meter transonic cryogenic tunnel [NASA-TP-2890] p 9 N89-17568
- Hot-jet simulation in cryogenic wind tunnels [NASA-RP-1220] p 15 N89-23448

CRYOGENICS

- Cryogenic Fluid Management Technology Workshop. Volume 1: Presentation material and discussion [NASA-CP-10001] p 37 N88-15924

CRYSTAL DISLOCATIONS

- Indentation plasticity and fracture in silicon [NASA-TP-2863] p 30 N89-10996

CRYSTAL GROWTH

- Growth of solid solution single crystals [NASA-TP-2787] p 32 N88-14212
- Raman intensity as a probe of concentration near a crystal growing in solution [NASA-TP-2865] p 39 N89-16139

CRYSTAL LATTICES

- Hydrogen trapping and the interaction of hydrogen with metals [NASA-TP-2744] p 30 N87-25463

CRYSTALLOGRAPHY

- Auger electron intensity variations in oxygen-exposed large grain polycrystalline silver [NASA-TP-2930] p 67 N89-30022

CUES

- Effect of motion cues during complex curved approach and landing tasks: A piloted simulation study [NASA-TP-2773] p 14 N88-12480
- Stereopsis cueing effects on hover-in-turbulence performance in a simulated rotorcraft [NASA-TP-2980] p 17 N90-21004

CULTURE TECHNIQUES

- Space Bioreactor Science Workshop [NASA-CP-2485] p 58 N88-17168

CURRENT DENSITY

- Performance of textured carbon on copper electrode multistage depressed collectors with medium-power traveling wave tubes [NASA-TP-2665] p 34 N87-17990

CURVATURE

- Theory of gearing [NASA-RP-1212] p 42 N90-19593

CURVE FITTING

- Simplified curve fits for the thermodynamic properties of equilibrium air [NASA-RP-1181] p 36 N87-26309

CURVED BEAMS

- Mixed formulation for frictionless contact problems [NASA-TP-2897] p 45 N89-19580

CURVES

- Theory of gearing [NASA-RP-1212] p 42 N90-19593

CYCLIC LOADS

- Cyclic loads tests of carbon involute solid rocket motor outer boot ring segments [NASA-TP-2884] p 45 N89-16192
- Effects of continuous and cyclic thermal exposures on boron- and boron-reinforced 6061 aluminum composites [NASA-TP-1063] p 28 N88-70029

CYCLOHEXANE

- Velocity profiles in laminar diffusion flames [NASA-TP-2596] p 36 N87-18035

CYCLOTRON RESONANCE DEVICES

- Free-Space Power Transmission [NASA-CP-10016] p 27 N90-21795

CYLINDRICAL BODIES

- Straight cylindrical seal for high-performance turbomachines [NASA-TP-1850] p 36 N87-23936
- Surface flow and heating distributions on a cylinder in near wake of Aeroassist Flight Experiment (AFE) configuration at incidence in Mach 10 Air [NASA-TP-2954] p 38 N90-14493

CYLINDRICAL SHELLS

- Application of Newton's method to the postbuckling of rings under pressure loadings [NASA-TP-2941] p 46 N89-23811

D

DAMAGE ASSESSMENT

- Low velocity instrumented impact testing of four new damage tolerant carbon/epoxy composite systems [NASA-TP-3029] p 29 N90-25198

DAMPERS

- Rotordynamic Instability Problems in High-Performance Turbomachinery, 1988 [NASA-CP-3026] p 41 N89-22891

DATA ACQUISITION

- Analog signal conditioning for flight-test instrumentation [NASA-RP-1159] p 17 N87-29533
- Five year global dataset: NMC operational analyses (1978 to 1982) [NASA-RP-1194] p 55 N87-29996
- Outgassing data for selecting spacecraft materials [NASA-RP-1124] p 28 N88-10117
- The 1989 Airborne Arctic Stratospheric Expedition Nimbus-7 TOMS data atlas [NASA-RP-1227] p 57 N89-27302

The Langley 14-by 22-foot subsonic tunnel: Description, flow characteristics, and guide for users
[NASA-TP-3008] p 12 N90-27649

DATA BASE MANAGEMENT SYSTEMS
Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-PT-1] p 62 N88-16360
Catalog of open clusters and associated interstellar matter
[NASA-RP-1202] p 76 N88-29652

DATA BASES
Catalog of infrared observations. Part 1: Data
[NASA-RP-1196-PT-1-ED-2] p 73 N88-15738
The NASA scientific and technical information system: Its scope and coverage
[NASA-SP-7065] p 71 N89-15779
BRYNTRN: A baryon transport model
[NASA-TP-2887] p 80 N89-17562
Two-Dimensional Intercomparison of Stratospheric Models
[NASA-CP-3042] p 53 N90-11405
Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-RP-1233-VOL-1] p 54 N90-20562
Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
[NASA-RP-1233-VOL-2] p 54 N90-20563
Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
[NASA-RP-1233-VOL-4] p 54 N90-20564
Proceedings of the LDEF Materials Data Analysis Workshop
[NASA-CP-10046] p 28 N90-26075

DATA COMPRESSION
Experiments in encoding multilevel images as quadrees
[NASA-TP-2722] p 65 N87-28367
Proceedings of the Scientific Data Compression Workshop
[NASA-CP-3025] p 63 N89-22332

DATA LINKS
A piloted simulation study of data link ATC message exchange
[NASA-TP-2859] p 13 N89-15900

DATA MANAGEMENT
Computer Sciences and Data Systems, volume 1
[NASA-CP-2459-VOL-1] p 62 N87-19931
Proceedings of the Scientific Data Compression Workshop
[NASA-CP-3025] p 63 N89-22332
The 1989 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3033] p 64 N89-26578
The MSFC/UAH Data Management Symposium
[NASA-CP-2040] p 62 N78-74659

DATA PROCESSING
Pulse Code Modulation (PCM) data storage and analysis using a microcomputer
[NASA-TP-2629] p 33 N87-12718
NASA/MSFC FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043
Earth resources: A continuing bibliography with indexes (issue 54)
[NASA-SP-7041(54)] p 49 N87-27315
User's guide for the Nimbus 7 Scanning Multichannel Microwave Radiometer (SMMR) CELL-ALL tape
[NASA-RP-1210] p 56 N89-14648
Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
[NASA-RP-1211] p 79 N89-30151
Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
[NASA-RP-1233-VOL-2] p 54 N90-20563

DATA PROCESSING EQUIPMENT
Earth Sciences Requirements for the Information Sciences Experiment System
[NASA-CP-3072] p 50 N90-27140

DATA REDUCTION
Pulse Code Modulation (PCM) data storage and analysis using a microcomputer
[NASA-TP-2629] p 33 N87-12718
A synchronous data analyzer for the Minimum Delay Data Format (MDDF) and Launch Trajectory Acquisition System (LTAS)
[NASA-TP-2743] p 34 N87-24590

DATA STORAGE
Pulse Code Modulation (PCM) data storage and analysis using a microcomputer
[NASA-TP-2629] p 33 N87-12718
Computer Sciences and Data Systems, volume 2
[NASA-CP-2459-VOL-2] p 62 N87-19932
Experiments in encoding multilevel images as quadrees
[NASA-TP-2722] p 65 N87-28367

DATA TRANSMISSION

A simulator investigation of the use of digital data link for pilot/ATC communications in a single pilot operation
[NASA-TP-2837] p 13 N89-11726
Proceedings of the Scientific Data Compression Workshop
[NASA-CP-3025] p 63 N89-22332
Digitally modulated bit error rate measurement system for microwave component evaluation
[NASA-TP-2912] p 23 N89-28545

DECISION MAKING
National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350

DECLINATION
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 6: The point source catalog declination range -50 deg greater than delta greater than -90 deg
[NASA-RP-1190-VOL-6] p 76 N89-14198

DECOUPLING
A piloted evaluation of an oblique-wing research aircraft motion simulation with decoupling control laws
[NASA-TP-2874] p 20 N89-15930

DEFLECTION
Optical measurement of propeller blade deflections
[NASA-TP-2841] p 39 N88-28286

DEFLECTORS
Static internal performance of a nonaxisymmetric vaned thrust reverser with flow splay capability
[NASA-TP-2933] p 10 N89-27634

DEFORMATION
Mixed formulation for frictionless contact problems
[NASA-TP-2897] p 45 N89-19580
Application of Newton's method to the postbuckling of rings under pressure loadings
[NASA-TP-2941] p 46 N89-29811

DEGRADATION
Surface catalytic degradation study of two linear perfluoropolyalkylethers at 345 C
[NASA-TP-2774] p 27 N88-12543

DEGREES OF FREEDOM
Optimized resolved rate control of seven-degree-of-freedom Laboratory Telerobotic Manipulator (LTM) with application to three-dimensional graphics simulation
[NASA-TP-2938] p 64 N90-10618

DELAMINATING
Three-dimensional analysis of a postbuckled embedded delamination
[NASA-TP-2823] p 44 N88-26684

DELTA WINGS
Investigation of leading-edge flap performance on delta and double-delta wings at supersonic speeds
[NASA-TP-2656] p 4 N87-20233
Study of lee-side flows over conically cambered delta wings at supersonic speeds, part 1
[NASA-TP-2660-PT-1] p 5 N87-23597
Study of lee-side flows over conically cambered Delta wings at supersonic speeds, part 2
[NASA-TP-2660-PT-2] p 5 N87-25301
Piloted-simulation study of effects of vortex flaps on low-speed handling qualities of a Delta-wing airplane
[NASA-TP-2747] p 19 N87-26922
Pressure measurements on a thick cambered and twisted 58 deg delta wing at high subsonic speeds
[NASA-TP-2713] p 6 N87-27643
Supersonic aerodynamics of delta wings
[NASA-TP-2771] p 7 N88-17615
Steady and unsteady transonic pressure measurements on a clipped delta wing for pitching and control-surface oscillations
[NASA-TP-2594] p 8 N88-28895

DEPLOYMENT
The 21st Aerospace Mechanisms Symposium
[NASA-CP-2470] p 43 N87-29858
Workshop on Technology Development Issues for the Large Deployable Reflector (LDR)
[NASA-CP-2407] p 75 N88-20235
The 23rd Aerospace Mechanisms Symposium
[NASA-CP-3032] p 46 N89-23892

DEPOSITION
Traveling-wave-tube efficiency improvement by a low-cost technique for deposition of carbon on multistage depressed collector
[NASA-TP-2719] p 35 N87-21239
Influence of the deposition conditions on radiofrequency magnetron sputtered MoS₂ films
[NASA-TP-2994] p 33 N90-21210

DEPTH
Determination of depth-viewing volumes for stereo three-dimensional graphic displays
[NASA-TP-2999] p 61 N90-22965

DESERTS

Surface bidirectional reflectance properties of two southwestern Arizona deserts for wavelengths between 0.4 and 2.2 micrometers
[NASA-TP-2643] p 48 N87-22281
Effects of aerosols and surface shadowing on bidirectional reflectance measurements of deserts
[NASA-TP-2756] p 49 N87-28162
Summary of along-track data from the Earth radiation budget satellite for several major desert regions
[NASA-RP-1197] p 56 N88-20772

DESIGN ANALYSIS
Recent Experiences in Multidisciplinary Analysis and Optimization, part 1
[NASA-CP-2327-PT-1] p 13 N87-11717
Applicability of linearized-theory attached-flow methods to design and analysis of flap systems at low speeds for thin swept wings with sharp leading edges
[NASA-TP-2653] p 3 N87-15174
Design of 9.271-pressure-ratio 5-stage core compressor and overall performance for first 3 stages
[NASA-TP-2597] p 17 N87-17699
Lewis inverse design code (LINDES): Users manual
[NASA-TP-2676] p 4 N87-20238
Design, fabrication and performance of small, graphite electrode, multistage depressed collectors with 200-W, CW, 8- to 18-GHz traveling-wave tubes
[NASA-TP-2693] p 35 N87-20474
Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-2] p 23 N87-22729
On minimizing the number of calculations in design-by-analysis codes
[NASA-TP-2706] p 5 N87-23586
Aeropropulsion '87. Session 2: Aeropropulsion Structures Research
[NASA-CP-10003-SESS-2] p 18 N88-15785
A transonic-small-disturbance wing design methodology
[NASA-TP-2806] p 7 N88-17614
A performance index approach to aerodynamic design with the use of analysis codes only
[NASA-TP-2805] p 7 N88-18552
Aerodynamic characteristics of wings designed with a combined-theory method to cruise at a Mach number of 4.5
[NASA-TP-2799] p 7 N88-19420
Rotorcraft flight-propulsion control integration: An eclectic design concept
[NASA-TP-2815] p 19 N88-19475
Recent Advances in Multidisciplinary Analysis and Optimization, part 2
[NASA-CP-3031-PT-2] p 15 N89-25173
Recent Advances in Multidisciplinary Analysis and Optimization, part 3
[NASA-CP-3031-PT-3] p 15 N89-25201
Fastener design manual
[NASA-RP-1228] p 42 N90-18740
Spent-beam refocusing analysis and multistage depressed collector design for a 75-W, 59- to 64-GHz coupled-cavity traveling-wave tube
[NASA-TP-3039] p 35 N90-27965

DESORPTION
Electron stimulated desorption of atomic oxygen from silver
[NASA-TP-2668] p 29 N87-18629

DETECTION
Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference
[NASA-CP-10006] p 12 N88-17616

DIAGNOSIS
Microgravity Combustion Diagnostics Workshop
[NASA-CP-10017] p 32 N89-17682

DICTIONARIES
NASA thesaurus. Volume 3: Definitions
[NASA-SP-7064-VOL-3] p 70 N89-13301

DIFFERENTIAL EQUATIONS
Some path-following techniques for solution of nonlinear equations and comparison with parametric differentiation
[NASA-TP-2654] p 64 N87-14054

DIFFUSION
Effect of LID (Registered) processing on the microstructure and mechanical properties of Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo titanium foil-gauge materials
[NASA-TP-2677] p 30 N87-18644

DIFFUSION FLAMES
Velocity profiles in laminar diffusion flames
[NASA-TP-2596] p 36 N87-18035

DIGITAL COMMAND SYSTEMS
Exact state reconstruction in deterministic digital control systems
[NASA-TP-2757] p 32 N87-27067

DIGITAL DATA

A simulator investigation of the use of digital data link for pilot/ATC communications in a single pilot operation [NASA-TP-2837] p 13 N89-11726

Digitally modulated bit error rate measurement system for microwave component evaluation [NASA-TP-2912] p 23 N89-28545

DIGITAL ELECTRONICS

Advanced detection, isolation, and accommodation of sensor failures in turbofan engines: Real-time microcomputer implementation [NASA-TP-2925] p 20 N90-15112

DIGITAL FILTERS

Modeling digital control systems with MA-prefiltered measurements [NASA-TP-2732] p 32 N87-22870

Further developments in modeling digital control systems with MA-prefiltered measurements [NASA-TP-2909] p 33 N89-24507

DIGITAL SYSTEMS

Modeling digital control systems with MA-prefiltered measurements [NASA-TP-2732] p 32 N87-22870

A new approach to state estimation in deterministic digital control systems [NASA-TP-2745] p 32 N87-24585

Further developments in exact state reconstruction in deterministic digital control systems [NASA-TP-2812] p 32 N88-18751

More on exact state reconstruction in deterministic digital control systems [NASA-TP-2847] p 33 N88-28177

Singular perturbations and time scales in the design of digital flight control systems [NASA-TP-2844] p 19 N89-12569

Flight control systems development and flight test experience with the HiMAT research vehicles [NASA-TP-2822] p 20 N89-15929

Development and flight test experiences with a flight-critical digital control system [NASA-TP-2857] p 20 N89-24327

Further developments in modeling digital control systems with MA-prefiltered measurements [NASA-TP-2909] p 33 N89-24507

DIGITAL TECHNIQUES

Automated Reduction of Data from Images and Holograms [NASA-CP-2477] p 6 N87-29432

Digital enhancement of flow field images [NASA-TP-2770] p 62 N88-20833

A new state reconstructor for digital control systems using weighted-average measurements [NASA-TP-2936] p 33 N89-27039

DIHEDRAL ANGLE

Effect of milling machine roughness and wing dihedral on the supersonic aerodynamic characteristics of a highly swept wing [NASA-TP-2918] p 10 N89-25117

DIRECT CURRENT

An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods [NASA-TP-2820] p 30 N89-19406

DIRECTIONAL CONTROL

Development and evaluation of an airplane electronic display format aligned with the inertial velocity vector [NASA-TP-2648] p 16 N87-13438

DIRECTIONAL STABILITY

Effects of the installation and operation of jet-exhaust yaw vanes on the longitudinal and lateral-directional characteristics of the F-14 airplane [NASA-TP-2769] p 6 N88-12455

DIRECTIVITY

Surface bidirectional reflectance properties of two southwestern Arizona deserts for wavelengths between 0.4 and 2.2 micrometers [NASA-TP-2643] p 48 N87-22281

DISCRETE FUNCTIONS

A transient response method for linear coupled substructures [NASA-TP-2926] p 23 N90-13444

DISPERSING

Compatibility of dispersion-strengthened platinum with resistojet propellants [NASA-TP-2765] p 27 N88-12538

DISPLACEMENT

Stress intensity and crack displacement for small edge cracks [NASA-TP-2801] p 44 N88-17095

Research in structures, structural dynamics and materials, 1989 [NASA-CP-10024] p 46 N89-24626

Integrated force method versus displacement method for finite element analysis [NASA-TP-2937] p 47 N90-18081

DISPLACEMENT MEASUREMENT

Optical measurement of propeller blade deflections [NASA-TP-2841] p 39 N88-28286

DISPLAY DEVICES

Development and evaluation of an airplane electronic display format aligned with the inertial velocity vector [NASA-TP-2648] p 16 N87-13438

Jet transport flight operations using cockpit display of traffic information during instrument meteorological conditions: Simulation evaluation [NASA-TP-2567] p 12 N87-29469

Effects of combining vertical and horizontal information into a primary flight display [NASA-TP-2783] p 17 N88-12487

A general solution to the silhouette problem [NASA-TP-2695] p 61 N88-14629

Simulator evaluation of a display for a Takeoff Performance Monitoring System [NASA-TP-2908] p 20 N89-23469

A simulation evaluation of the engine monitoring and control system display [NASA-TP-2960] p 17 N90-18393

Graphics Technology in Space Applications (G TSA 1989) [NASA-CP-3045] p 62 N90-20651

Stereopsis cueing effects on hover-in-turbulence performance in a simulated rotorcraft [NASA-TP-2980] p 17 N90-21004

Spatial Displays and Spatial Instruments [NASA-CP-10032] p 61 N90-22918

DISTANCE

Atlas of galaxies useful for measuring the cosmological distance scale [NASA-SP-496] p 74 N89-12513

DISTRIBUTED PROCESSING

Computer Sciences and Data Systems, volume 1 [NASA-CP-2459-VOL-1] p 62 N87-19931

Computer Sciences and Data Systems, volume 2 [NASA-CP-2459-VOL-2] p 62 N87-19932

First Annual Workshop on Space Operations Automation and Robotics (SOAR 87) [NASA-CP-2491] p 61 N88-17206

DOCUMENTATION

NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1977-1986 [NASA-SP-7063(01)] p 70 N87-30218

NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1987 [NASA-SP-7063(02)] p 70 N88-22830

DOCUMENTS

The NASA scientific and technical information system: Its scope and coverage [NASA-SP-7065] p 71 N89-15779

DOMAINS

Frequency domain laser velocimeter signal processor: A new signal processing scheme [NASA-TP-2735] p 40 N87-27994

DOPED CRYSTALS

Indentation plasticity and fracture in silicon [NASA-TP-2863] p 30 N89-10996

DOPPLER RADAR

Doppler Radar Detection of Wind Shear [NASA-CP-2435] p 12 N87-10054

NASA/MSFC FY-85 Atmospheric Processes Research Review [NASA-CP-2402] p 55 N87-13043

Wind shear detection. Forward-looking sensor technology [NASA-CP-10004] p 12 N88-14970

Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference [NASA-CP-10006] p 12 N88-17616

DRAG

Effects of afterbody boattail design and empennage arrangement on aerodynamic characteristics of a twin-engine fighter model at transonic speeds [NASA-TP-2704] p 4 N87-21873

Influence of base modifications on in-flight base drag in the presence of jet exhaust for Mach numbers from 0.7 to 1.5 [NASA-TP-2802] p 37 N88-18881

DRAG MEASUREMENTS

Drag measurements on a laminar-flow body of revolution in the 13-inch magnetic suspension and balance system [NASA-TP-2895] p 9 N89-19232

DRAG REDUCTION

Summary of studies to reduce wing-mounted propfan installation drag on an M = 0.8 transport [NASA-TP-2678] p 14 N87-20990

Flight and wind-tunnel measurements showing base drag reduction provided by a trailing disk for high Reynolds number turbulent flow for subsonic and transonic Mach numbers [NASA-TP-2638] p 37 N88-14299

DRAINAGE PATTERNS

Sapping features of the Colorado Plateau: A comparative planetary geology field guide [NASA-SP-491] p 49 N89-10401

DROPS (LIQUIDS)

Liquid drop stability for protein crystal growth in microgravity [NASA-TP-2724] p 58 N87-20727

DUCTS

Aeropropulsion '87. Session 3: Internal Fluid Mechanics Research [NASA-CP-10003-SESS-3] p 18 N88-15790

DURABILITY

Spectroscopic comparison of effects of electron radiation on mechanical properties of two polyimides [NASA-TP-2663] p 27 N87-18611

Structural Integrity and Durability of Reusable Space Propulsion Systems [NASA-CP-2471] p 26 N87-22766

DUST

Effects of aerosols and surface shadowing on bidirectional reflectance measurements of deserts [NASA-TP-2756] p 49 N87-28162

DYNAMIC CHARACTERISTICS

Dynamic analysis of multimesh-gear helicopter transmissions [NASA-TP-2789] p 41 N88-17045

Dynamic characteristics of a vibrating beam with periodic variation in bending stiffness [NASA-TP-2697] p 44 N88-23988

Time-Variation Phenomena in the Jovian System [NASA-SP-494] p 78 N89-28474

Low-speed wind-tunnel investigation of the flight dynamic characteristics of an advanced turboprop business/commuter aircraft configuration [NASA-TP-2982] p 20 N90-19239

DYNAMIC CONTROL

Analysis of flight data from a High-Incidence Research Model by system identification methods [NASA-TP-2940] p 20 N90-10074

DYNAMIC LOADS

Predicted effect of dynamic load on pitting fatigue life for low-contact-ratio spur gears [NASA-TP-2610] p 41 N87-18095

Langley Aircraft Landing Dynamics Facility [NASA-RP-1189] p 21 N87-29544

DYNAMIC MODELS

Derivation and definition of a linear aircraft model [NASA-RP-1207] p 19 N89-15123

DYNAMIC PRESSURE

Aerodynamic pressures and heating rates on surfaces between split elevons at Mach 6.6 [NASA-TP-2855] p 37 N89-12822

Method for experimental determination of flutter speed by parameter identification [NASA-TP-2923] p 15 N89-26844

DYNAMIC RESPONSE

Shape sensitivity analysis of wing static aeroelastic characteristics [NASA-TP-2808] p 15 N88-22031

DYNAMIC STABILITY

Three-step cylindrical seal for high-performance turbomachines [NASA-TP-1849] p 36 N87-24639

Rotordynamic Instability Problems in High-Performance Turbomachinery, 1988 [NASA-CP-3026] p 41 N89-22891

DYNAMIC STRUCTURAL ANALYSIS

Combined aerodynamic and structural dynamic problem emulating routines (CASPER): Theory and implementation [NASA-TP-2418] p 4 N87-17669

Sensitivity Analysis in Engineering [NASA-CP-2457] p 43 N87-18855

Modeling of joints for the dynamic analysis of truss structures [NASA-TP-2661] p 43 N87-20567

Space station structures and dynamics test program [NASA-TP-2710] p 43 N87-20568

Structural Dynamics and Control Interaction of Flexible Structures [NASA-CP-2467-PT-1] p 23 N87-22702

Structural Dynamics and Control Interaction of Flexible Structures [NASA-CP-2467-PT-2] p 23 N87-22729

Structural Integrity and Durability of Reusable Space Propulsion Systems [NASA-CP-2471] p 26 N87-22766

Preliminary structural design of composite main rotor blades for minimum weight [NASA-TP-2730] p 28 N87-25435

- The 58th Shock and Vibration Symposium, volume 1
[NASA-CP-2488-VOL-1] p 43 N88-13609
- The 58th Shock and Vibration Symposium, volume 2
[NASA-CP-2488-VOL-2] p 44 N88-18948
- Lewis Structures Technology, 1988. Volume 2: Structural Mechanics
[NASA-CP-3003-VOL-2] p 44 N88-22382
- Lewis Structures Technology, 1988. Volume 3: Structural Integrity Fatigue and Fracture Wind Turbines HOST
[NASA-CP-3003-VOL-3] p 44 N88-22408
- Lewis Structures Technology, 1988. Volume 1: Structural Dynamics
[NASA-CP-3003-VOL-1] p 44 N88-23226
- SRM propellant and polymer materials structural test program
[NASA-TP-2821] p 44 N88-25013
- Partitioning strategy for efficient nonlinear finite element dynamic analysis on multiprocessor computers
[NASA-TP-2850] p 45 N89-16170
- Research in structures, structural dynamics and materials, 1989
[NASA-CP-10024] p 46 N89-24626
- Computational Methods for Structural Mechanics and Dynamics
[NASA-CP-3034-PT-2] p 46 N89-24654
- DYNAMIC TESTS**
Space station structures and dynamics test program
[NASA-TP-2710] p 43 N87-20568
- DYNAMICS EXPLORER 1 SATELLITE**
Calibration of the spin-scan ozone imager aboard the dynamics Explorer 1 satellite
[NASA-TP-2723] p 55 N87-26491

E

EARTH ALBEDO

- Nimbus 7 Solar Backscatter Ultraviolet (SBUV) spectral scan solar irradiance and Earth radiance product user's guide
[NASA-RP-1199] p 48 N88-17096
- Atlas of albedo and absorbed solar radiation derived from Nimbus 7 Earth radiation budget data set, November 1978 to October 1985
[NASA-RP-1231] p 57 N90-17233
- EARTH ATMOSPHERE**
Calculation and accuracy of ERBE scanner measurement locations
[NASA-TP-2670] p 72 N87-28471
- An assessment model for atmospheric composition
[NASA-CP-3023] p 57 N89-20588
- A high-resolution atlas of the infrared spectrum of the Sun and the Earth atmosphere from space: A compilation of ATMOS spectra of the region from 650 to 4800 cm (2.3 to 16 micron). Volume 1: The Sun
[NASA-RP-1224-VOL-1] p 53 N90-13893
- EARTH CRUST**
Crustal Dynamics Project: Catalogue of site information
[NASA-RP-1198] p 52 N88-19037
- EARTH LIMB**
Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide
[NASA-TP-2761] p 56 N88-14572
- EARTH OBSERVATIONS (FROM SPACE)**
Remote Sensing in Polarized Light
[NASA-CP-3014] p 72 N89-14189
- Polar Ozone Workshop. Abstracts
[NASA-CP-10014] p 51 N89-14503
- EARTH OBSERVING SYSTEM (EOS)**
Earth Sciences Requirements for the Information Sciences Experiment System
[NASA-CP-3072] p 50 N90-27140
- EARTH ORBITAL ENVIRONMENTS**
A Study of Space Station Contamination Effects --- conference
[NASA-CP-3002] p 72 N88-25390
- The effects of simulated space environmental parameters on six commercially available composite materials
[NASA-TP-2906] p 29 N89-19385
- NASA/SPIO Space Environmental Effects on Materials Workshop, part 1
[NASA-CP-3035-PT-1] p 27 N89-23528
- EARTH RADIATION BUDGET**
Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 6 Earth radiation budget data set, July 1975 to June 1978
[NASA-RP-1185] p 55 N87-26489
- Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 7 Earth radiation budget data set - November 1978 to October 1985
[NASA-RP-1186] p 55 N88-10451

- Limb-darkening functions as derived from along-track operation of the ERBE scanning radiometer for January 1985
[NASA-RP-1214] p 56 N89-17374
- Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation
[NASA-RP-1184-VOL-2] p 57 N89-20587
- Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152
- Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
[NASA-RP-1211] p 79 N89-30151
- Atlas of albedo and absorbed solar radiation derived from Nimbus 6 earth radiation budget data set, July 1975 to May 1978
[NASA-RP-1230] p 57 N90-14741
- Atlas of albedo and absorbed solar radiation derived from Nimbus 7 Earth radiation budget data set, November 1978 to October 1985
[NASA-RP-1231] p 57 N90-17233
- EARTH RADIATION BUDGET EXPERIMENT**
Calculation and accuracy of ERBE scanner measurement locations
[NASA-TP-2670] p 72 N87-28471
- Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 7 Earth radiation budget data set - November 1978 to October 1985
[NASA-RP-1186] p 55 N88-10451
- Summary of along-track data from the Earth radiation budget satellite for several major desert regions
[NASA-RP-1197] p 56 N88-20772
- Summary of along-track data from the earth radiation budget satellite for several representative ocean regions
[NASA-RP-1206] p 56 N89-14634
- Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation
[NASA-RP-1184-VOL-2] p 57 N89-20587
- EARTH RESOURCES**
Earth resources: A continuing bibliography with indexes (issue 54)
[NASA-SP-7041(54)] p 49 N87-27315
- Earth resources: A continuing bibliography with indexes (issue 57)
[NASA-SP-7041(57)] p 49 N88-23314
- Earth resources: A continuing bibliography with indexes (issue 62)
[NASA-SP-7041(62)] p 50 N89-29825
- Earth resources: A continuing bibliography with indexes (issue 63)
[NASA-SP-7041(63)] p 50 N90-12091
- ECOLOGY**
Exobiology and Future Mars Missions
[NASA-CP-10027] p 59 N89-26334
- EDDY CURRENTS**
Technique for temperature compensation of eddy-current proximity probes
[NASA-TP-2880] p 39 N89-15380
- Parametric study of power absorption from electromagnetic waves by small ferrite spheres
[NASA-TP-2949] p 66 N90-12282
- EDGES**
Stress intensity and crack displacement for small edge cracks
[NASA-TP-2801] p 44 N88-17095
- Spatial vision processes: From the optical image to the symbolic structures of contour information
[NASA-TP-2838] p 39 N89-13762
- EDUCATION**
National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350
- EFFECTIVE PERCEIVED NOISE LEVELS**
Effects of background noise on total noise annoyance
[NASA-TP-2630] p 66 N87-14120
- EIGENVALUES**
Sensitivity Analysis in Engineering
[NASA-TP-2457] p 43 N87-18855
- EIKONAL EQUATION**
Eikonal solutions to optical model coupled-channel equations
[NASA-TP-2830] p 68 N88-30402
- Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103
- EJECTION**
Calculation of two-neutron multiplicity in photonuclear reactions
[NASA-TP-2968] p 68 N90-14890
- EL NINO**
On the statistics of El Nino occurrences and the relationship of El Nino to volcanic and solar/geomagnetic activity
[NASA-TP-2948] p 79 N90-12456

ELASTIC DEFORMATION

- Stress intensity and crack displacement for small edge cracks
[NASA-TP-2801] p 44 N88-17095

ELASTIC PROPERTIES

- Weld stresses beyond elastic limit: Materials discontinuity
[NASA-TP-2935] p 46 N89-27214

ELASTIC SCATTERING

- Eikonal solutions to optical model coupled-channel equations
[NASA-TP-2830] p 68 N88-30402

ELECTRIC BATTERIES

- Space Electrochemical Research and Technology (SERT)
[NASA-CP-2484] p 50 N87-29914
- Space Electrochemical Research and Technology (SERT), 1989
[NASA-CP-3056] p 50 N90-20454

ELECTRIC CORONA

- Asymptotic analysis of corona discharge from thin electrodes
[NASA-TP-2645] p 68 N87-14998

ELECTRIC DISCHARGES

- Asymptotic analysis of corona discharge from thin electrodes
[NASA-TP-2645] p 68 N87-14998

ELECTRIC ENERGY STORAGE

- Space Electrochemical Research and Technology (SERT), 1989
[NASA-CP-3056] p 50 N90-20454

ELECTRIC FIELDS

- Double Layers in Astrophysics
[NASA-CP-2469] p 72 N87-23313

ELECTRIC GENERATORS

- Laser production and heating of plasma for MHD application
[NASA-TP-2798] p 68 N88-18443

ELECTRIC RESISTIVITY

- Continuous flow electrophoresis system experiments on shuttle flights STS-6 and STS-7
[NASA-TP-2778] p 32 N88-10978

ELECTRO-OPTICS

- Sensor performance analysis
[NASA-RP-1241] p 50 N90-23780

ELECTROCATALYSTS

- Space Electrochemical Research and Technology (SERT)
[NASA-CP-2484] p 50 N87-29914
- Space Electrochemical Research and Technology Conference: Abstracts
[NASA-CP-10029] p 50 N89-22982
- Space Electrochemical Research and Technology (SERT), 1989
[NASA-CP-3056] p 50 N90-20454

ELECTROCHEMICAL CORROSION

- An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods
[NASA-TP-2820] p 30 N89-19406

ELECTROCHEMISTRY

- Space Electrochemical Research and Technology (SERT)
[NASA-CP-2484] p 50 N87-29914
- The 1986 Goddard Space Flight Center Battery Workshop
[NASA-CP-2486] p 35 N88-11021
- Space Electrochemical Research and Technology Conference: Abstracts
[NASA-CP-10029] p 50 N89-22982
- Space Electrochemical Research and Technology (SERT), 1989
[NASA-CP-3056] p 50 N90-20454
- National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350

ELECTRODE MATERIALS

- Design, fabrication, and performance of brazed, graphite electrode, multistage depressed collectors with 500-W, continuous wave, 4.8- to 9.6-GHz traveling-wave tubes
[NASA-TP-2904] p 35 N89-21171
- Space Electrochemical Research and Technology (SERT), 1989
[NASA-CP-3056] p 50 N90-20454

ELECTRODES

- Asymptotic analysis of corona discharge from thin electrodes
[NASA-TP-2645] p 68 N87-14998
- Performance of textured carbon on copper electrode multistage depressed collectors with medium-power traveling wave tubes
[NASA-TP-2665] p 34 N87-17990

- Design, fabrication and performance of small, graphite electrode, multistage depressed collectors with 200-W, CW, 8- to 18-GHz traveling-wave tubes
[NASA-TP-2693] p 35 N87-20474
- Traveling-wave-tube efficiency improvement by a low-cost technique for deposition of carbon on multistage depressed collector
[NASA-TP-2719] p 35 N87-21239
- Performance of a small, graphite electrode, multistage depressed collector with a 500-W, continuous wave, 4.8- to 9.6-GHz traveling wave tube
[NASA-TP-2788] p 35 N88-15146
- Performance of a multistage depressed collector with machined titanium electrodes
[NASA-TP-2891] p 35 N89-15337
- Space Electrochemical Research and Technology Conference: Abstracts
[NASA-CP-10029] p 50 N89-22982
- ELECTRODYNAMICS**
- Tether Dynamics Simulation
[NASA-CP-2458] p 41 N87-18821
- New methods and results for quantification of lightning-aircraft electrostatics
[NASA-TP-2737] p 4 N87-21871
- Continuous flow electrophoresis system experiments on shuttle flights STS-6 and STS-7
[NASA-TP-2778] p 32 N88-10978
- ELECTROHYDRODYNAMICS**
- Preparative electrophoresis for space
[NASA-TP-2777] p 32 N88-10977
- ELECTROKINETICS**
- Preparative electrophoresis for space
[NASA-TP-2777] p 32 N88-10977
- ELECTROMAGNETIC NOISE**
- LANDSAT-4 and LANDSAT-5 multispectral scanner coherent noise characterization and removal
[NASA-TP-2595-REV] p 49 N89-12114
- ELECTROMAGNETIC RADIATION**
- Theory for computing the field scattered from a smooth inflected surface
[NASA-TP-2632] p 68 N87-13264
- Analytical and experimental procedures for determining propagation characteristics of millimeter-wave gallium arsenide microstrip lines
[NASA-TP-2899] p 35 N89-21169
- Parametric study of power absorption from electromagnetic waves by small ferrite spheres
[NASA-TP-2949] p 66 N90-12282
- ELECTROMAGNETISM**
- Earth Science Geostationary Platform Technology
[NASA-CP-3040] p 24 N90-19249
- Experimental evaluation of a tuned electromagnetic damper for vibration control of cryogenic turbopump rotors
[NASA-TP-3005] p 18 N90-23403
- ELECTRON BEAMS**
- Analytical and experimental performance of a dual-mode traveling wave tube and multistage depressed collector
[NASA-TP-2752] p 35 N87-25532
- ELECTRON BOMBARDMENT**
- Secondary electron emission characteristics of molybdenum-masked, ion-textured OFHC copper
[NASA-TP-2967] p 31 N90-15211
- ELECTRON EMISSION**
- Performance of textured carbon on copper electrode multistage depressed collectors with medium-power traveling wave tubes
[NASA-TP-2665] p 34 N87-17990
- Calculation of secondary electron trajectories in multistage depressed collectors for microwave amplifiers
[NASA-TP-2664] p 34 N87-17991
- Electron stimulated desorption of atomic oxygen from silver
[NASA-TP-2668] p 29 N87-18629
- Secondary electron emission characteristics of untreated and ion-textured titanium
[NASA-TP-2902] p 30 N89-17650
- Design, fabrication, and performance of brazed, graphite electrode, multistage depressed collectors with 500-W, continuous wave, 4.8- to 9.6-GHz traveling-wave tubes
[NASA-TP-2904] p 35 N89-21171
- ELECTRON FLUX DENSITY**
- Auger electron intensity variations in oxygen-exposed large grain polycrystalline silver
[NASA-TP-2930] p 67 N89-30022
- ELECTRON RADIATION**
- Spectroscopic comparison of effects of electron radiation on mechanical properties of two polyimides
[NASA-TP-2663] p 27 N87-18611
- Absorbed dose thresholds and absorbed dose rate limitations for studies of electron radiation effects on polyetherimides
[NASA-TP-2928] p 31 N89-25332
- ELECTRON SPECTROSCOPY**
- FORTTRAN program for x ray photoelectron spectroscopy data reformatting
[NASA-TP-2957] p 69 N90-12348
- An Auger electron spectroscopy study of surface-preparation contaminants
[NASA-TP-2972] p 33 N90-16968
- ELECTRONIC CONTROL**
- Advanced detection, isolation, and accommodation of sensor failures in turbofan engines: Real-time microcomputer implementation
[NASA-TP-2925] p 20 N90-15112
- ELECTRONIC EQUIPMENT**
- Development and evaluation of an airplane electronic display format aligned with the inertial velocity vector
[NASA-TP-2648] p 16 N87-13438
- ELECTROPHORESIS**
- Preparative electrophoresis for space
[NASA-TP-2777] p 32 N88-10977
- Continuous flow electrophoresis system experiments on shuttle flights STS-6 and STS-7
[NASA-TP-2778] p 32 N88-10978
- ELECTROPOLISHING**
- An Auger electron spectroscopy study of surface-preparation contaminants
[NASA-TP-2972] p 33 N90-16968
- ELEVONS**
- Aerodynamic pressures and heating rates on surfaces between split elevons at Mach 6.6
[NASA-TP-2855] p 37 N89-12822
- ELLIPTIC DIFFERENTIAL EQUATIONS**
- Solution of elliptic partial differential equations by fast Poisson solvers using a local relaxation factor. 2: Two-step method
[NASA-TP-2530] p 64 N87-14918
- ELLIPTIC FUNCTIONS**
- Solution of elliptic partial differential equations by fast Poisson solvers using a local relaxation factor. 2: Two-step method
[NASA-TP-2530] p 64 N87-14918
- ELLIPTICAL CYLINDERS**
- Propagation of sound waves in tubes of noncircular cross section
[NASA-TP-2601] p 3 N87-14284
- EMBEDDING**
- Efficient solutions to the Euler equations for supersonic flow with embedded subsonic regions
[NASA-TP-2523] p 3 N87-15183
- EMISSION SPECTRA**
- Commentary on interstellar matter associated with 18 open clusters
[NASA-RP-1229] p 77 N89-27612
- EMITTANCE**
- Emission, catalysis, and dynamic oxidation of Ti-14Al-21Nb
[NASA-TP-2955] p 31 N90-10248
- END EFFECTORS**
- Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
- ENERGY ABSORPTION**
- Low-energy gamma ray attenuation characteristics of aviation fuels
[NASA-TP-2974] p 63 N90-18882
- ENERGY CONSERVATION**
- Ground-based time-guidance algorithm for control of airplanes in a time-metered air traffic control environment: A piloted simulation study
[NASA-TP-2616] p 16 N87-10864
- Advanced turboprop project
[NASA-SP-495] p 18 N89-12565
- ENERGY CONVERSION**
- Second Beamed Space-Power Workshop
[NASA-CP-3037] p 27 N90-10140
- ENERGY CONVERSION EFFICIENCY**
- Laser-powered MHD generators for space application
[NASA-TP-2621] p 68 N87-10764
- Space Photovoltaic Research and Technology 1986. High Efficiency, Space Environment, and Array Technology
[NASA-CP-2475] p 50 N87-26413
- Laser production and heating of plasma for MHD application
[NASA-TP-2798] p 68 N88-18443
- ENERGY STORAGE**
- The 1985 Goddard Space Flight Center Battery Workshop
[NASA-CP-2434] p 34 N87-11072
- Space Electrochemical Research and Technology Conference: Abstracts
[NASA-CP-10029] p 50 N89-22982
- ENERGY TRANSFER**
- Double Layers in Astrophysics
[NASA-CP-2469] p 72 N87-23313
- BRYNTRN: A baryon transport model
[NASA-TP-2887] p 80 N89-17562
- ENGINE AIRFRAME INTEGRATION**
- An experimental investigation of an advanced turboprop installation on a swept wing at subsonic and transonic speeds
[NASA-TP-2729] p 6 N87-26883
- ENGINE CONTROL**
- Advanced detection, isolation and accommodation of sensor failures: Real-time evaluation
[NASA-TP-2740] p 19 N87-25331
- ENGINE COOLANTS**
- Computer code for predicting coolant flow and heat transfer in turbomachinery
[NASA-TP-2985] p 18 N90-27722
- ENGINE DESIGN**
- Aeropropulsion '87, Session 5: Subsonic Propulsion Technology
[NASA-CP-10003-SESS-5] p 18 N88-15800
- NASA/Army Rotorcraft Technology, Volume 2: Materials and Structures, Propulsion and Drive Systems, Flight Dynamics and Control, and Acoustics
[NASA-CP-2495-VOL-2] p 1 N88-16632
- Aeropropulsion '87, Session 1: Aeropropulsion Materials Research
[NASA-CP-10003-SESS-1] p 18 N88-16697
- ENGINE FAILURE**
- Piloted simulation study of the effects of an automated trim system on flight characteristics of a light twin-engine airplane with one engine inoperative
[NASA-TP-2633] p 3 N87-10843
- Advanced detection, isolation and accommodation of sensor failures: Real-time evaluation
[NASA-TP-2740] p 19 N87-25331
- Probabilistic risk analysis of flying the space shuttle with and without fuel turbine discharge temperature redline protection
[NASA-TP-2759] p 65 N87-27474
- ENGINE INLETS**
- Measurements of flow rate and trajectory of aircraft tire-generated water spray
[NASA-TP-2718] p 14 N87-24458
- ENGINE MONITORING INSTRUMENTS**
- A simulation evaluation of the engine monitoring and control system display
[NASA-TP-2960] p 17 N90-18393
- ENGINE NOISE**
- Measured and calculated acoustic attenuation rates of tuned resonator arrays for two surface impedance distribution models with flow
[NASA-TP-2766] p 67 N88-17440
- Annoyance caused by advanced turboprop aircraft flyover noise: Single-rotating propeller configuration
[NASA-TP-2782] p 67 N88-17441
- ENGINE PARTS**
- Aeropropulsion '87, Session 1: Aeropropulsion Materials Research
[NASA-CP-10003-SESS-1] p 18 N88-16697
- ENGINE TESTING LABORATORIES**
- Aeronautical facilities assessment
[NASA-RP-1146] p 21 N87-10876
- ENGINE TESTS**
- Comparison of theoretical and experimental thrust performance of a 1030:1 area ratio rocket nozzle at a chamber pressure of 2413 kN/m² (350 psia)
[NASA-TP-2725] p 26 N87-25423
- Efficiency testing of a helicopter transmission planetary reduction stage
[NASA-TP-2795] p 41 N88-15224
- Thrust-reverser flow investigation on a twin-engine transport
[NASA-TP-2856] p 9 N89-14213
- Advanced detection, isolation, and accommodation of sensor failures in turbofan engines: Real-time microcomputer implementation
[NASA-TP-2925] p 20 N90-15112
- Evaluation of various thrust calculation techniques on an F404 engine
[NASA-TP-3001] p 16 N90-25134
- ENTROPY**
- On the Maxwellian distribution, symmetric form, and entropy conservation for the Euler equations
[NASA-TP-2583] p 35 N87-11963
- ENVIRONMENT EFFECTS**
- Proceedings of the LDEF Materials Data Analysis Workshop
[NASA-CP-10046] p 28 N90-26075
- ENVIRONMENTAL MONITORING**
- Space Station Induced Monitoring
[NASA-CP-3021] p 73 N89-15790
- An assessment model for atmospheric composition
[NASA-CP-3023] p 57 N89-20588
- Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989
[NASA-RP-1237] p 58 N90-23837
- EPHEMERIDES**
- Fifty year canon of solar eclipses: 1986 - 2035
[NASA-RP-1178-REV] p 73 N87-25906

- Compilation of methods in orbital mechanics and solar geometry
[NASA-RP-1204] p 52 N89-10420
- Effect of ephemeris errors on the accuracy of the computation of the tangent point altitude of a solar scanning ray as measured by the SAGE 1 and 2 instruments
[NASA-TP-2866] p 65 N89-16415
Fifty year canon of lunar eclipses: 1986-2035
[NASA-RP-1216] p 75 N90-18342
- EPOXY COMPOUNDS**
Analysis of positron lifetime spectra in polymers
[NASA-TP-2853] p 63 N89-12237
- EPOXY MATRIX COMPOSITES**
Instrumented impact and residual tensile strength testing of eight-ply carbon epoxy specimens
[NASA-TP-2981] p 29 N90-16007
Low velocity instrumented impact testing of four new damage tolerant carbon/epoxy composite systems
[NASA-TP-3029] p 29 N90-25198
- EPOXY RESINS**
Investigation of the effects of cobalt ions on epoxy properties
[NASA-TP-2639] p 31 N87-12680
Properties of two composite materials made of toughened epoxy resin and high-strain graphite fiber
[NASA-TP-2826] p 28 N88-25480
- EQUATIONS OF MOTION**
Nonlinear programming extensions to rational function approximation methods for unsteady aerodynamic forces
[NASA-TP-2776] p 15 N88-24623
Benchmark solutions for the galactic ion transport equations: Energy and spatially dependent problems
[NASA-TP-2878] p 79 N89-16714
- EQUATIONS OF STATE**
Further developments in exact state reconstruction in deterministic digital control systems
[NASA-TP-2812] p 32 N88-18751
Derivation and definition of a linear aircraft model
[NASA-RP-1207] p 19 N89-15123
- EQUILIBRIUM**
General equilibrium characteristics of a dual-lift helicopter system
[NASA-TP-2615] p 2 N88-19407
- EQUILIBRIUM EQUATIONS**
Integrated force method versus displacement method for finite element analysis
[NASA-TP-2937] p 47 N90-18081
- EQUILIBRIUM FLOW**
Simplified curve fits for the thermodynamic properties of equilibrium air
[NASA-RP-1181] p 36 N87-26309
- EQUIPMENT SPECIFICATIONS**
Earth Sciences Requirements for the Information Sciences Experiment System
[NASA-CP-3072] p 50 N90-27140
- ERROR ANALYSIS**
Preliminary estimates of radiosonde thermistor errors
[NASA-TP-2637] p 55 N87-12086
Low-cost FM oscillator for capacitance type of blade tip clearance measurement system
[NASA-TP-2746] p 17 N87-24481
A technique for evaluating the application of the pin-level stuck-at fault model to VLSI circuits
[NASA-TP-2738] p 42 N87-28025
Analysis and testing of the SURE program
[NASA-TP-2817] p 65 N88-22653
The estimation error covariance matrix for the ideal state reconstructor with measurement noise
[NASA-TP-2881] p 63 N89-13994
Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-RP-1233-VOL-1] p 54 N90-20562
Foundations of measurement and instrumentation
[NASA-RP-1222] p 40 N90-21351
- ERRORS**
Investigation of the mistuning of reciprocating piston aircraft engines
[NASA-TP-2803] p 12 N88-21144
- ESTERS**
Ester oxidation on an aluminum surface using chemiluminescence
[NASA-TP-2611] p 31 N87-18666
- ESTIMATES**
Flight Mechanics/Estimation Theory Symposium 1988
[NASA-CP-3011] p 23 N89-15934
- ESTIMATING**
Mental-State Estimation, 1987
[NASA-CP-2504] p 60 N88-23370
Diode laser satellite systems for beamed power transmission
[NASA-TP-2992] p 40 N90-24585
- ETHERS**
Surface catalytic degradation study of two linear perfluoropolyalkylethers at 345 C
[NASA-TP-2774] p 27 N88-12543
- ETHYL ALCOHOL**
Velocity profiles in laminar diffusion flames
[NASA-TP-2596] p 36 N87-18035
- EULER EQUATIONS OF MOTION**
On the Maxwellian distribution, symmetric form, and entropy conservation for the Euler equations
[NASA-TP-2583] p 35 N87-11963
Efficient solutions to the Euler equations for supersonic flow with embedded subsonic regions
[NASA-TP-2523] p 3 N87-15183
A second-order accurate kinetic-theory-based method for inviscid compressible flows
[NASA-TP-2613] p 36 N87-18783
Three-dimensional multigrid algorithms for the flux-split Euler equations
[NASA-TP-2829] p 65 N89-12316
An approximate method for calculating three-dimensional inviscid hypersonic flow fields
[NASA-TP-3018] p 39 N90-27066
- EUROPEAN SPACE AGENCY**
Spacelab: An international success story
[NASA-SP-487] p 72 N88-19375
- EVACUATING (VACUUM)**
Experimental evaluation of blockage ratio and plenum evacuation system flow effects on pressure distribution for bodies of revolution in 0.1 scale model test section of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2702] p 21 N87-22694
- EVALUATION**
Experimental evaluation of blockage ratio and plenum evacuation system flow effects on pressure distribution for bodies of revolution in 0.1 scale model test section of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2702] p 21 N87-22694
A technique for evaluating the application of the pin-level stuck-at fault model to VLSI circuits
[NASA-TP-2738] p 42 N87-28025
A study to evaluate STS heads-up ascent trajectory performance employing a minimum-Hamiltonian optimization strategy
[NASA-TP-2793] p 23 N88-15820
Present state of knowledge of the upper atmosphere 1988: An assessment report
[NASA-RP-1208] p 52 N88-29233
Technique for temperature compensation of eddy-current proximity probes
[NASA-TP-2880] p 39 N89-15380
Simulation evaluation of TIMER, a time-based, terminal air traffic, flow-management concept
[NASA-TP-2870] p 13 N89-15901
A piloted evaluation of an oblique-wing research aircraft motion simulation with decoupling control laws
[NASA-TP-2874] p 20 N89-15930
- EVOLUTION (DEVELOPMENT)**
Evolution, calibration, and operational characteristics of the two-dimensional test section of the Langley 0.3-meter transonic cryogenic tunnel
[NASA-TP-2749] p 21 N87-28570
- EXCITATION**
Calculation of two-neutron multiplicity in photonuclear reactions
[NASA-TP-2968] p 68 N90-14890
The effectiveness of vane-aileron excitation in the experimental determination of flutter speed by parameter identification
[NASA-TP-2971] p 16 N90-15100
- EXHAUST FLOW SIMULATION**
Hot-jet simulation in cryogenic wind tunnels
[NASA-RP-1220] p 15 N89-23448
- EXHAUST GASES**
The 1987 Ground Vortex Workshop
[NASA-CP-10008] p 9 N89-10849
- EXHAUST NOZZLES**
Experimental evaluation of heat transfer on a 1030:1 area ratio rocket nozzle
[NASA-TP-2726] p 27 N87-25424
Hydroburst test of a carbon-carbon involute exit cone
[NASA-TP-2556] p 24 N88-14112
Static investigation of a two-dimensional convergent-divergent exhaust nozzle with multiaxis thrust-vectoring capability
[NASA-TP-2973] p 11 N90-19193
Exhaust nozzles for propulsion systems with emphasis on supersonic cruise aircraft
[NASA-RP-1235] p 18 N90-21037
- EXOBIOLGY**
Aerospace medicine and biology: A cumulative index to the 1986 issues (supplement 293)
[NASA-SP-7011(293)] p 59 N87-18976
Aerospace medicine and biology: A continuing bibliography with indexes (supplement 302)
[NASA-SP-7011(302)] p 59 N87-30041
Aerospace medicine and biology: A cumulative index to a continuing bibliography (supplement 306)
[NASA-SP-7011(306)] p 60 N88-18180
Aerospace medicine and biology: A continuing bibliography with indexes (supplement 315)
[NASA-SP-7011(315)] p 60 N88-30281
Exobiology and Future Mars Missions
[NASA-CP-10027] p 59 N89-26334
Aerospace medicine and biology: A continuing bibliography with indexes (supplement 327)
[NASA-SP-7011(327)] p 60 N89-29951
Aerospace medicine and biology: A continuing bibliography with indexes (supplement 340)
[NASA-SP-7011(340)] p 60 N90-28963
- EXPERIMENT DESIGN**
Investigation of leading-edge flap performance on delta and double-delta wings at supersonic speeds
[NASA-TP-2656] p 4 N87-20233
Controlled Ecological Life Support System. Design, Development, and Use of a Ground-Based Plant Growth Module
[NASA-CP-2479] p 60 N88-13852
Cells in Space
[NASA-CP-10034] p 61 N90-13939
National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350
- EXPERIMENTATION**
Mach 6 experimental and theoretical stability and performance of a cruciform missile at angles of attack up to 65 degrees
[NASA-TP-2733] p 5 N87-23592
- EXPERT SYSTEMS**
Computer Sciences and Data Systems, volume 1
[NASA-CP-2459-VOL-1] p 62 N87-19931
Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-Pt-1] p 62 N88-16360
First Annual Workshop on Space Operations Automation and Robotics (SOAR 87)
[NASA-CP-2491] p 61 N88-17206
Third Conference on Artificial Intelligence for Space Applications, part 2
[NASA-CP-2492-Pt-2] p 63 N88-24188
Second Conference on Artificial Intelligence for Space Applications
[NASA-CP-3007] p 63 N88-29351
The 1988 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3009] p 64 N88-30330
Fourth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3013] p 63 N89-15549
Second Annual Workshop on Space Operations Automation and Robotics (SOAR 1988)
[NASA-CP-3019] p 61 N89-19817
Recent Advances in Multidisciplinary Analysis and Optimization, part 1
[NASA-CP-3031-Pt-1] p 15 N89-25146
The 1989 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3033] p 64 N89-26578
Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
- EXPLORER SATELLITES**
Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084
- EXPLORER 51 SATELLITE**
Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084
- EXPLORER 54 SATELLITE**
Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084
- EXPLORER 55 SATELLITE**
Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084
- EXPOSURE**
Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031
- EXTERNAL STORES**
Drag measurements of blunt stores tangentially mounted on a flat plate at supersonic speeds
[NASA-TP-2742] p 6 N87-27626
- EXTRATERRESTRIAL ENVIRONMENTS**
NASA/SDIO Space Environmental Effects on Materials Workshop, part 2
[NASA-CP-3035-Pt-2] p 28 N89-23547
- EXTRATERRESTRIAL RADIATION**
Comparison of dose estimates using the buildup-factor method and a Baryon transport code (BRYNTRN) with Monte Carlo results
[NASA-TP-3021] p 80 N90-29290

EXTRAVEHICULAR ACTIVITY

- Space Construction
[NASA-CP-2490] p 25 N88-10870
Space Station Human Factors Research Review.
Volume 1: EVA Research and Development
[NASA-CP-2426-VOL-1] p 59 N88-24145

F

F STARS

- FGK stars and T Tauri stars: Monograph series on
nonthermal phenomena in stellar atmospheres
[NASA-SP-502] p 77 N90-18344

F-106 AIRCRAFT

- Wind-tunnel free-flight investigation of a 0.15-scale
model of the F-106B airplane with vortex flaps
[NASA-TP-2700] p 4 N87-21855
New methods and results for quantification of
lightning-aircraft electrodynamic
[NASA-TP-2737] p 4 N87-21871
Sensitivity of F-106B leading-edge-vortex images to
flight and vapor-screen parameters
[NASA-TP-2818] p 8 N88-23760

F-14 AIRCRAFT

- Effects of the installation and operation of jet-exhaust
yaw vanes on the longitudinal and lateral-directional
characteristics of the F-14 airplane
[NASA-TP-2769] p 6 N88-12455

F-15 AIRCRAFT

- Dynamic ground-effect measurements on the F-15 STOL
and Maneuver Technology Demonstrator (S/MTD)
configuration
[NASA-TP-3000] p 11 N90-22531
Effect of tail size reductions on longitudinal aerodynamic
characteristics of a three surface F-15 model with
nonaxisymmetric nozzles
[NASA-TP-3036] p 11 N90-25938

F-16 AIRCRAFT

- Development and flight test experiences with a
flight-critical digital control system
[NASA-TP-2857] p 20 N89-24327

FABRICATION

- Design, fabrication and performance of small, graphite
electrode, multistage depressed collectors with 200-W,
CW, 8- to 18-GHz traveling-wave tubes
[NASA-TP-2693] p 35 N87-20474

FABRICS

- Measured and predicted root-mean-square errors in
square and triangular antenna mesh facets
[NASA-TP-2896] p 45 N89-17892
The interlaminar fracture toughness of woven
graphite/epoxy composites
[NASA-TP-2950] p 29 N90-10179

FABRY-PEROT INTERFEROMETERS

- Three component laser anemometer measurements in
an annular cascade of core turbine vanes with contoured
end wall
[NASA-TP-2846] p 8 N89-10844

FAILURE

- A Protection And Detection Surface (PADS) for damage
tolerance
[NASA-TP-3011] p 29 N90-27788

FAILURE ANALYSIS

- Development of confidence limits by pivotal functions
for estimating software reliability
[NASA-TP-2709] p 65 N87-23244
The 1986 Goddard Space Flight Center Battery
Workshop
[NASA-CP-2486] p 35 N88-11021
Thermal Barrier Coatings. Abstracts and figures
[NASA-CP-10019] p 31 N89-13642
The 1989 Goddard Conference on Space Applications
of Artificial Intelligence
[NASA-CP-3033] p 64 N89-26578
Loads analysis and testing of flight configuration solid
rocket motor outer boot ring segments
[NASA-TP-3028] p 47 N90-25366

FAILURE MODES

- Modal interaction in postbuckled plates. Theory
[NASA-TP-2943] p 47 N90-27121
Ceramics Analysis and Reliability Evaluation of
Structures (CARES). Users and programmers manual
[NASA-TP-2916] p 47 N90-28099

FAN BLADES

- Laser anemometer measurements in a transonic
axial-flow fan rotor
[NASA-TP-2879] p 38 N90-11245

FAR INFRARED RADIATION

- Far infrared supplement: Catalog of infrared
observations, second edition
[NASA-RP-1205] p 74 N88-30545

FASTENERS

- Fastener design manual
[NASA-RP-1228] p 42 N90-18740

FATIGUE (MATERIALS)

- Predicted effect of dynamic load on pitting fatigue life
for low-contact-ratio spur gears
[NASA-TP-2610] p 41 N87-18095
Structural Integrity and Durability of Reusable Space
Propulsion Systems
[NASA-CP-2471] p 26 N87-22766
Aeropropulsion '87. Session 1: Aeropropulsion Materials
Research
[NASA-CP-10003-SESS-1] p 18 N88-16697
Lewis Structures Technology, 1988. Volume 2: Structural
Mechanics
[NASA-CP-3003-VOL-2] p 44 N88-22382
Turbine Engine Hot Section Technology 1986
[NASA-CP-2444] p 45 N89-12876

FATIGUE LIFE

- Life prediction of thermomechanical fatigue using total
strain version of strainrange partitioning (SRP): A
proposal
[NASA-TP-2779] p 44 N88-15263

FAULT TOLERANCE

- Advanced detection, isolation and accommodation of
sensor failures: Real-time evaluation
[NASA-TP-2740] p 19 N87-25331
Joint University Program for Air Transportation
Research, 1985
[NASA-CP-2453] p 1 N87-27596
A technique for evaluating the application of the pin-level
stuck-at fault model to VLSI circuits
[NASA-TP-2738] p 42 N87-28025
SURE reliability analysis: Program and mathematics
[NASA-TP-2764] p 65 N88-17380
CARE 3 User's Workshop
[NASA-CP-10011] p 61 N88-21646
Analysis and testing of the SURE program
[NASA-TP-2817] p 65 N88-22653
The Fault Tree Compiler (FTC): Program and
mathematics
[NASA-TP-2915] p 64 N89-24815
Applications of the hybrid automated reliability predictor:
Revised edition
[NASA-TP-2760-REV] p 63 N90-11454
The 1990 Goddard Conference on Space Applications
of Artificial Intelligence
[NASA-CP-3068] p 64 N90-22294

FAULT TREES

- The Fault Tree Compiler (FTC): Program and
mathematics
[NASA-TP-2915] p 64 N89-24815

FEASIBILITY ANALYSIS

- Analysis of quasi-hybrid solid rocket booster concepts
for advanced earth-to-orbit vehicles
[NASA-TP-2751] p 27 N87-25425
Evaluation of a scale-model experiment to investigate
long-range acoustic propagation
[NASA-TP-2748] p 66 N88-11450

FEEDBACK CONTROL

- Effect of control surface mass unbalance on the stability
of a closed-loop active control system
[NASA-TP-2952] p 47 N90-12042
Advanced detection, isolation, and accommodation of
sensor failures in turbofan engines: Real-time
microcomputer implementation
[NASA-TP-2925] p 20 N90-15112

FERRITES

- Parametric study of power absorption from
electromagnetic waves by small ferrite spheres
[NASA-TP-2949] p 66 N90-12282

FIBER COMPOSITES

- Cyclic loads tests of carbon involute solid rocket motor
outer boot ring segments
[NASA-TP-2884] p 45 N89-16192
The effects of simulated space environmental
parameters on six commercially available composite
materials
[NASA-TP-2906] p 29 N89-19385
Tungsten fiber reinforced copper matrix composites: A
review
[NASA-TP-2924] p 29 N89-27796
Heat treatment study of the SiC/Ti-15-3 composite
system
[NASA-TP-2970] p 29 N90-19302
National Educators' Workshop: Update 1989 Standard
Experiments in Engineering Materials Science and
Technology
[NASA-CP-3074] p 28 N90-24350

FIBER OPTICS

- Computer Sciences and Data Systems, volume 2
[NASA-CP-2459-VOL-2] p 62 N87-19932
Aeropropulsion '87. Session 4: Instrumentation and
Controls Research
[NASA-CP-10003-SESS-4] p 18 N88-15794
Second Workshop on Improvements to Photometry
[NASA-CP-10015] p 74 N89-13310

- NASA Laser Light Scattering Advanced Technology
Development Workshop, 1988
[NASA-CP-10033] p 40 N90-17085

FIELD OF VIEW

- Atlas of wide-field-of-view outgoing longwave radiation
derived from Nimbus 6 Earth radiation budget data set,
July 1975 to June 1978
[NASA-RP-1185] p 55 N87-26489

FIGHTER AIRCRAFT

- Interference effects of thrust reversing on horizontal tail
effectiveness of twin-engine fighter aircraft at Mach
numbers from 0.15 to 0.90
[NASA-TP-2350] p 19 N87-10870
Subsonic maneuver capability of a supersonic cruise
fighter wing concept
[NASA-TP-2642] p 3 N87-15184
Effects of empennage surface location on aerodynamic
characteristics of a twin-engine afterbody model with
nonaxisymmetric nozzles
[NASA-TP-2392] p 14 N87-17693
Effects of afterbody boattail design and empennage
arrangement on aeropropulsive characteristics of a
twin-engine fighter model at transonic speeds
[NASA-TP-2704] p 4 N87-21873
Multiaxis control power from thrust vectoring for a
supersonic fighter aircraft model at Mach 0.20 to 2.47
[NASA-TP-2712] p 5 N87-24433
Steady and unsteady aerodynamic forces from the
SOUSSA surface-panel method for a fighter wing with tip
missile and comparison with experiment and PANAIR
[NASA-TP-2736] p 5 N87-26032
Subsonic longitudinal and lateral-directional
characteristics of a forward-swept-wing fighter
configuration at angles of attack up to 47 deg
[NASA-TP-2727] p 6 N87-26874
Comparison of wind tunnel and flight test afterbody and
nozzle pressures for a twin-jet fighter aircraft at transonic
speeds
[NASA-TP-2588] p 6 N88-10765

FILM COOLING

- Jet model for slot film cooling with effect of free-stream
and coolant turbulence
[NASA-TP-2655] p 36 N87-18034
Gas-jet and tangent-slot film cooling tests of a 12.5 deg
cone at Mach number of 6.7
[NASA-TP-2786] p 39 N90-28806

FINENESS RATIO

- Planform effects on the supersonic aerodynamics of
multibody configurations
[NASA-TP-2762] p 6 N88-12454

FINITE ELEMENT METHOD

- Exploiting symmetries in the modeling and analysis of
tires
[NASA-TP-2649] p 13 N87-17690
Fifteenth NASTRAN (R) Users' Colloquium
[NASA-CP-2481] p 43 N87-27231
Finite-element reentry heat-transfer analysis of space
shuttle Orbiter
[NASA-TP-2657] p 37 N87-29795
Measured and calculated acoustic attenuation rates of
tuned resonator arrays for two surface impedance
distribution models with flow
[NASA-TP-2766] p 67 N88-17440
The 58th Shock and Vibration Symposium, volume 2
[NASA-CP-2488-VOL-2] p 44 N88-18948
Three-dimensional analysis of a postbuckled embedded
delamination
[NASA-TP-2823] p 44 N88-26684
Partitioning strategy for efficient nonlinear finite element
dynamic analysis on multiprocessor computers
[NASA-TP-2850] p 45 N89-16170
Turbine Engine Hot Section Technology, 1987
[NASA-CP-2493] p 45 N89-17298
Mixed finite element models for free vibrations of
thin-walled beams
[NASA-TP-2868] p 45 N89-19579
Mixed formulation for frictionless contact problems
[NASA-TP-2897] p 45 N89-19580
Seventeenth NASTRAN (R) Users' Colloquium
[NASA-CP-3029] p 45 N89-22940
Derivation of a tapered p-version beam finite element
[NASA-TP-2931] p 46 N89-26255
NASA Workshop on Computational Structural
Mechanics 1987, part 1
[NASA-CP-10012-PT-1] p 46 N89-29773
NASA Workshop on Computational Structural
Mechanics 1987, part 2
[NASA-CP-10012-PT-2] p 46 N89-29789
NASA Workshop on Computational Structural
Mechanics 1987, part 3
[NASA-CP-10012-PT-3] p 46 N89-29799
Integrated force method versus displacement method
for finite element analysis
[NASA-TP-2937] p 47 N90-18081

- Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
[NASA-TP-2977] p 42 N90-19595
- Eighteenth NASTRAN (R) Users' Colloquium
[NASA-CP-3069] p 47 N90-24637
- FINIS**
Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system
[NASA-TP-2401] p 4 N87-17668
- FIRE EXTINGUISHERS**
Spacecraft Fire Safety
[NASA-CP-2476] p 24 N88-12520
- FIRES**
Spacecraft Fire Safety
[NASA-CP-2476] p 24 N88-12520
- FLAME TEMPERATURE**
Determination of combustion gas temperatures by infrared radiometry in sooting and nonsooting flames
[NASA-TP-2900] p 38 N89-25409
- FLAMMABILITY**
Spacecraft Fire Safety
[NASA-CP-2476] p 24 N88-12520
- FLAPPING HINGES**
Validation of a pair of computer codes for estimation and optimization of subsonic aerodynamic performance of simple hinged-flap systems for thin swept wings
[NASA-TP-2828] p 8 N89-10024
- FLAPS (CONTROL SURFACES)**
Applicability of linearized-theory attached-flow methods to design and analysis of flap systems at low speeds for thin swept wings with sharp leading edges
[NASA-TP-2653] p 3 N87-15174
An experimental investigation of the flap-lag-torsion aeroelastic stability of a small-scale hingeless helicopter rotor in hover
[NASA-TP-2546] p 7 N88-20257
Validation of a computer code for analysis of subsonic aerodynamic performance of wings with flaps in combination with a canard or horizontal tail and an application to optimization
[NASA-TP-2961] p 11 N90-14187
- FLAT PLATES**
Drag measurements of blunt stores tangentially mounted on a flat plate at supersonic speeds
[NASA-TP-2742] p 6 N87-27626
- FLEXIBLE BODIES**
Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-1] p 23 N87-22702
Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-2] p 23 N87-22729
Nonlinear programming extensions to rational function approximation methods for unsteady aerodynamic forces
[NASA-TP-2776] p 15 N88-24623
NASA/DOD Controls-Structures Interaction Technology 1989
[NASA-CP-3041] p 26 N90-21062
- FLEXIBLE SPACECRAFT**
NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-1] p 24 N87-16014
The 20th Aerospace Mechanics Symposium
[NASA-CP-2423-REV] p 43 N87-16321
Recent Advances in Multidisciplinary Analysis and Optimization, part 3
[NASA-CP-3031-PT-3] p 15 N89-25201
- FLIGHT CHARACTERISTICS**
Wind-tunnel investigation of the flight characteristics of a canard general-aviation airplane configuration
[NASA-TP-2623] p 3 N87-10039
Piloted simulator study of allowable time delays in large-airplane response
[NASA-TP-2652] p 19 N87-16849
Flight characteristics of the AD-1 oblique-wing research aircraft
[NASA-TP-2223] p 19 N87-18570
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987
Analysis of flight data from a High-Incidence Research Model by system identification methods
[NASA-TP-2940] p 20 N90-10074
Comparison of flying qualities derived from in-flight and ground-based simulators for a jet-transport airplane for the approach and landing pilot tasks
[NASA-TP-2962] p 20 N90-11757
Global stratospheric change: Requirements for a Very-High-Altitude Aircraft for Atmospheric Research
[NASA-CP-10041] p 16 N90-14220
Longitudinal stability and control characteristics of the Quiet Short-Haul Research Aircraft (QSRA)
[NASA-TP-2965] p 20 N90-17639
- Low-speed wind-tunnel investigation of the flight dynamic characteristics of an advanced turboprop business/commuter aircraft configuration
[NASA-TP-2982] p 20 N90-19239
- FLIGHT CONTROL**
Joint University Program for Air Transportation Research, 1983
[NASA-CP-2451] p 1 N87-18520
Joint University Program for Air Transportation Research, 1985
[NASA-CP-2453] p 1 N87-27596
NASA/Army Rotorcraft Technology. Volume 1: Aerodynamics, and Dynamics and Aeroelasticity
[NASA-CP-2495-VOL-1] p 1 N88-16625
Singular perturbations and time scales in the design of digital flight control systems
[NASA-TP-2844] p 19 N89-12569
Flight control systems development and flight test experience with the HiMAT research vehicles
[NASA-TP-2822] p 20 N89-15929
Modal control of an oblique wing aircraft
[NASA-TP-2898] p 20 N89-16845
Development and flight test experiences with a flight-critical digital control system
[NASA-TP-2857] p 20 N89-24327
Comparison of flying qualities derived from in-flight and ground-based simulators for a jet-transport airplane for the approach and landing pilot tasks
[NASA-TP-2962] p 20 N90-11757
- FLIGHT CREWS**
Cockpit Resource Management Training
[NASA-CP-2455] p 12 N87-22634
Delivery performance of conventional aircraft by terminal-area, time-based air traffic control: A real-time simulation evaluation
[NASA-TP-2978] p 13 N90-18378
- FLIGHT HAZARDS**
Piloted-simulation evaluation of escape guidance for microburst wind shear encounters
[NASA-TP-2886] p 17 N89-16820
- FLIGHT INSTRUMENTS**
A simulation evaluation of the engine monitoring and control system display
[NASA-TP-2960] p 17 N90-18393
- FLIGHT MANAGEMENT SYSTEMS**
Ground-based time-guidance algorithm for control of airplanes in a time-metered air traffic control environment: A piloted simulation study
[NASA-TP-2616] p 16 N87-10864
- FLIGHT MECHANICS**
Derivation and definition of a linear aircraft model
[NASA-RP-1207] p 19 N89-15123
Flight Mechanics/Estimation Theory Symposium 1988
[NASA-CP-3011] p 23 N89-15934
Flight Mechanics/Estimation Theory Symposium, 1989
[NASA-CP-3050] p 23 N90-13413
Flight Mechanics/Estimation Theory Symposium
[NASA-CP-2002] p 22 N78-76855
- FLIGHT SAFETY**
Wind Shear/Turbulence Inputs to Flight Simulation and Systems Certification
[NASA-CP-2474] p 1 N87-25267
Meteorological and Environmental Inputs to Aviation Systems
[NASA-CP-2498] p 56 N88-25105
Practices in adequate structural design
[NASA-TP-2893] p 24 N89-18504
- FLIGHT SIMULATION**
Ground-based time-guidance algorithm for control of airplanes in a time-metered air traffic control environment: A piloted simulation study
[NASA-TP-2616] p 16 N87-10864
Cockpit Resource Management Training
[NASA-CP-2455] p 12 N87-22634
Wind Shear/Turbulence Inputs to Flight Simulation and Systems Certification
[NASA-CP-2474] p 1 N87-25267
Piloted-simulation study of effects of vortex flaps on low-speed handling qualities of a Delta-wing airplane
[NASA-TP-2747] p 19 N87-26922
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987
A piloted simulation study of data link ATC message exchange
[NASA-TP-2859] p 13 N89-15900
A piloted evaluation of an oblique-wing research aircraft motion simulation with decoupling control laws
[NASA-TP-2874] p 20 N89-15930
Piloted-simulation evaluation of escape guidance for microburst wind shear encounters
[NASA-TP-2886] p 17 N89-16820
- Comparison of flying qualities derived from in-flight and ground-based simulators for a jet-transport airplane for the approach and landing pilot tasks
[NASA-TP-2962] p 20 N90-11757
Stereopsis cueing effects on hover-in-turbulence performance in a simulated rotorcraft
[NASA-TP-2980] p 17 N90-21004
- FLIGHT SIMULATORS**
Aeronautical facilities assessment
[NASA-RP-1146] p 21 N87-10876
Piloted simulator study of allowable time delays in large-airplane response
[NASA-TP-2652] p 19 N87-16849
- FLIGHT TESTS**
In-flight total forces, moments and static aeroelastic characteristics of an oblique-wing research airplane
[NASA-TP-2224] p 19 N87-10103
Development and evaluation of an airplane electronic display format aligned with the inertial velocity vector
[NASA-TP-2648] p 16 N87-13438
New methods and results for quantification of lightning-aircraft electrodynamicity
[NASA-TP-2737] p 4 N87-21871
Flight investigation of the effects of an outboard wing-leading-edge modification on stall/spin characteristics of a low-wing, single-engine, T-tail light airplane
[NASA-TP-2691] p 14 N87-23614
Application of parameter estimation to aircraft stability and control: The output-error approach
[NASA-RP-1168] p 14 N87-29499
Analog signal conditioning for flight-test instrumentation
[NASA-RP-1159] p 17 N87-29533
Comparison of wind tunnel and flight test afterbody and nozzle pressures for a twin-jet fighter aircraft at transonic speeds
[NASA-TP-2588] p 6 N88-10765
The 1986 Goddard Space Flight Center Battery Workshop
[NASA-CP-2486] p 35 N88-11021
Flight and wind-tunnel measurements showing base drag reduction provided by a trailing disk for high Reynolds number turbulent flow for subsonic and transonic Mach numbers
[NASA-TP-2638] p 37 N88-14299
NASA/Army Rotorcraft Technology, Volume 3: Systems Integration, Research Aircraft, and Industry
[NASA-CP-2495-VOL-3] p 1 N88-16650
Influence of base modifications on in-flight base drag in the presence of jet exhaust for Mach numbers from 0.7 to 1.5
[NASA-TP-2802] p 37 N88-18881
A perspective on 15 years of proof-of-concept aircraft development and flight research at Ames-Moffett by the Rotorcraft and Powered-Lift Flight Projects Division, 1970-1985
[NASA-RP-1187] p 14 N88-19467
A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel
[NASA-TP-2796] p 7 N88-20264
Development and flight test of an experimental maneuver autopilot for a highly maneuverable aircraft
[NASA-TP-2618] p 15 N88-21153
Flight control systems development and flight test experience with the HiMAT research vehicles
[NASA-TP-2822] p 20 N89-15929
A piloted evaluation of an oblique-wing research aircraft motion simulation with decoupling control laws
[NASA-TP-2874] p 20 N89-15930
Tip aerodynamics and acoustics test: A report and data survey
[NASA-RP-1179] p 9 N89-17579
Transonic Symposium: Theory, Application, and Experiment, Volume 1, Part 1
[NASA-CP-3020-VOL-1-PT-1] p 9 N89-20925
Effect of advanced rotorcraft airfoil sections on the hover performance of a small-scale rotor model
[NASA-TP-2832] p 10 N89-24264
Method for experimental determination of flutter speed by parameter identification
[NASA-TP-2923] p 15 N89-26844
Longitudinal stability and control characteristics of the Quiet Short-Haul Research Aircraft (QSRA)
[NASA-TP-2965] p 20 N90-17639
Low-speed wind-tunnel investigation of the flight dynamic characteristics of an advanced turboprop business/commuter aircraft configuration
[NASA-TP-2982] p 20 N90-19239
Evaluation of various thrust calculation techniques on an F404 engine
[NASA-TP-3001] p 16 N90-25134
Supercritical wing technology: A report on flight evaluations
[NASA-SP-301] p 2 N77-85474

FLIGHT TRAINING

Cockpit Resource Management Training
[NASA-CP-2455] p 12 N87-22634

FLIR DETECTORS

Wind shear detection. Forward-looking sensor technology
[NASA-CP-10004] p 12 N88-14970

FLOORS

Evaluation of energy absorption of new concepts of aircraft composite subfloor intersections
[NASA-TP-2951] p 16 N90-26823

FLOW CHARACTERISTICS

The Langley 14- by 22-foot subsonic tunnel: Description, flow characteristics, and guide for users
[NASA-TP-3008] p 12 N90-27649

FLOW DEFLECTION

Static internal performance of a nonaxisymmetric vaned thrust reverser with flow splay capability
[NASA-TP-2933] p 10 N89-27634

FLOW DISTRIBUTION

Design of 9.271-pressure-ratio 5-stage core compressor and overall performance for first 3 stages
[NASA-TP-2597] p 17 N87-17699

Aerothermal evaluation of a spherically blunted body with a trapezoidal cross section in the Langley 8-foot high-temperature tunnel
[NASA-TP-2641] p 36 N87-18782

Detailed flow surveys of turning vanes designed for a 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2680] p 21 N87-20295

Study of lee-side flows over conically cambered delta wings at supersonic speeds, part 1
[NASA-TP-2660-PT-1] p 5 N87-23597

Study of lee-side flows over conically cambered Delta wings at supersonic speeds, part 2
[NASA-TP-2660-PT-2] p 5 N87-25301

Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack
[NASA-TP-2716] p 14 N87-29497

A spectral collocation solution to the compressible stability eigenvalue problem
[NASA-TP-2858] p 9 N89-12543

Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 2
[NASA-CP-3022-PT-2] p 9 N89-19247

CAST-10-2/DOA 2 Airfoil Studies Workshop Results
[NASA-CP-3052] p 22 N90-17647

Spanwise measurements of vertical components of atmospheric turbulence
[NASA-TP-2963] p 58 N90-19718

Laser-velocimeter-measured flow field around an advanced, swept, eight-blade propeller at Mach 0.8
[NASA-TP-2462] p 2 N90-20942

Discrete-vortex model for the symmetric-vortex flow on cones
[NASA-TP-2989] p 11 N90-20946

An approximate method for calculating three-dimensional inviscid hypersonic flow fields
[NASA-TP-3018] p 39 N90-27066

Computer code for predicting coolant flow and heat transfer in turbomachinery
[NASA-TP-2985] p 18 N90-27722

FLOW MEASUREMENT

Three component laser anemometer measurements in an annular cascade of core turbine vanes with contoured end wall
[NASA-TP-2846] p 8 N89-10844

Rotor induced-inflow-ratio measurements and CAMRAD calculations
[NASA-TP-2946] p 11 N90-15882

FLOW STABILITY

A spectral collocation solution to the compressible stability eigenvalue problem
[NASA-TP-2858] p 9 N89-12543

Research in Natural Laminar Flow and Laminar-Flow Control, part 1
[NASA-CP-2487-PT-1] p 10 N90-12503

FLOW VELOCITY

Experimental evaluation of wall Mach number distributions of the octagonal test section proposed for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2666] p 21 N87-17717

Jet model for slot film cooling with effect of free-stream and coolant turbulence
[NASA-TP-2655] p 36 N87-18034

Measurements of flow rate and trajectory of aircraft tire-generated water spray
[NASA-TP-2718] p 14 N87-24458

Laser anemometer measurements in a transonic axial-flow fan rotor
[NASA-TP-2879] p 38 N90-11245

FLOW VISUALIZATION

Evaluation of diffuse-illumination holographic cinematography in a flutter cascade
[NASA-TP-2593] p 39 N87-13731

In-flight surface oil-flow photographs with comparisons to pressure distribution and boundary-layer data
[NASA-TP-2395] p 4 N87-20966

Study of lee-side flows over conically cambered Delta wings at supersonic speeds, part 2
[NASA-TP-2660-PT-2] p 5 N87-25301

Digital enhancement of flow field images
[NASA-TP-2770] p 62 N88-20833

FLUENCE

Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031

FLUID DYNAMICS

NASA-Chinese Aeronautical Establishment (CAE) Symposium
[NASA-CP-2433] p 17 N87-20267

Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153

FLUID FLOW

Experimental cavity pressure distributions at supersonic speeds
[NASA-TP-2683] p 5 N87-22626

FLUID MANAGEMENT

Microgravity Fluid Management Symposium
[NASA-CP-2465] p 32 N87-21141

Cryogenic Fluid Management Technology Workshop. Volume 2: Roundtable Discussion of Technology Requirements
[NASA-CP-10009] p 37 N88-20599

Workshop on Two-Phase Fluid Behavior in a Space Environment
[NASA-CP-3043] p 38 N89-26184

FLUID MECHANICS

Aeropropulsion '87. Session 3: Internal Fluid Mechanics Research
[NASA-CP-10003-SESS-3] p 18 N88-15790

Aeropropulsion '87. Session 4: Instrumentation and Controls Research
[NASA-CP-10003-SESS-4] p 18 N88-15794

Aeropropulsion '87. Session 5: Subsonic Propulsion Technology
[NASA-CP-10003-SESS-5] p 18 N88-15800

Aeropropulsion '87. Session 6: High-Speed Propulsion Technology
[NASA-CP-10003-SESS-6] p 18 N88-15807

FLUTTER

Effects of winglet on transonic flutter characteristics of a cantilevered twin-engine-transport wing model
[NASA-TP-2627] p 43 N87-13789

Method for experimental determination of flutter speed by parameter identification
[NASA-TP-2923] p 15 N89-26844

Effect of control surface mass unbalance on the stability of a closed-loop active control system
[NASA-TP-2952] p 47 N90-12042

The effectiveness of vane-aileron excitation in the experimental determination of flutter speed by parameter identification
[NASA-TP-2971] p 16 N90-15100

FLUTTER ANALYSIS

Control surface spanwise placement in active flutter suppression systems
[NASA-TP-2873] p 45 N89-16196

Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 1
[NASA-CP-3022-PT-1] p 9 N89-19234

FLUX VECTOR SPLITTING

Three-dimensional multigrid algorithms for the flux-split Euler equations
[NASA-TP-2829] p 65 N89-12316

FOG DISPERSAL

Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585

FOOD

Controlled Ecological Life Support System. Design, Development, and Use of a Ground-Based Plant Growth Module
[NASA-CP-2479] p 60 N88-13852

FOREST MANAGEMENT

Earth resources: A continuing bibliography with indexes (issue 57)
[NASA-SP-7041(57)] p 49 N88-23314

FORMAT

Proceedings of the 5th Annual Users' Conference
[NASA-CP-2399] p 62 N87-10720

FORTTRAN program for x ray photoelectron spectroscopy data reformatting
[NASA-TP-2957] p 69 N90-12348

FORTTRAN

User's manual for LINEAR, a FORTTRAN program to derive linear aircraft models
[NASA-TP-2768] p 65 N88-21740

User's manual for interactive LINEAR: A FORTTRAN program to derive linear aircraft models
[NASA-TP-2835] p 65 N89-16437

FORTTRAN program for x ray photoelectron spectroscopy data reformatting
[NASA-TP-2957] p 69 N90-12348

FOSSILS

Exobiology and Future Mars Missions
[NASA-CP-10027] p 59 N89-26334

FRACTURE MECHANICS

Structural Integrity and Durability of Reusable Space Propulsion Systems
[NASA-CP-2471] p 26 N87-22766

NASA/Army Rotorcraft Technology. Volume 2: Materials and Structures, Propulsion and Drive Systems, Flight Dynamics and Control, and Acoustics
[NASA-CP-2495-VOL-2] p 1 N88-16632

Lewis Structures Technology, 1988. Volume 2: Structural Mechanics
[NASA-CP-3003-VOL-2] p 44 N88-22382

Lewis Structures Technology, 1988. Volume 3: Structural Integrity Fatigue and Fracture Wind Turbines HOST
[NASA-CP-3003-VOL-3] p 44 N88-22408

Structural Ceramics
[NASA-CP-2427] p 31 N88-23872

Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626

Turbine Engine Hot Section Technology 1986
[NASA-CP-2444] p 45 N89-12876

Turbine Engine Hot Section Technology, 1987
[NASA-CP-2493] p 45 N89-17298

FRACTURE STRENGTH

Indentation plasticity and fracture in silicon
[NASA-TP-2863] p 30 N89-10996

The interlaminar fracture toughness of woven graphite/epoxy composites
[NASA-TP-2950] p 29 N90-10179

FREE ELECTRON LASERS

Free-Space Power Transmission
[NASA-CP-10016] p 27 N90-21795

FREE FLIGHT

Wind-tunnel free-flight investigation of a 0.15-scale model of the F-106B airplane with vortex flaps
[NASA-TP-2700] p 4 N87-21855

FREE FLOW

Helicopter blade-vortex interaction locations: Scale-model acoustics and free-wake analysis results
[NASA-TP-2658] p 4 N87-18537

Thrust-reverser flow investigation on a twin-engine transport
[NASA-TP-2856] p 9 N89-14213

Surface flow and heating distributions on a cylinder in near wake of Aeroassist Flight Experiment (AFE) configuration at incidence in Mach 10 Air
[NASA-TP-2954] p 38 N90-14493

FREE VIBRATION

Mixed finite element models for free vibrations of thin-walled beams
[NASA-TP-2868] p 45 N89-19579

FREQUENCIES

Frequency domain laser velocimeter signal processor: A new signal processing scheme
[NASA-TP-2735] p 40 N87-27994

FREQUENCY MODULATION

Low-cost FM oscillator for capacitance type of blade tip clearance measurement system
[NASA-TP-2746] p 17 N87-24481

FREQUENCY STABILITY

Closed-Cycle, Frequency-Stable CO₂ Laser Technology
[NASA-CP-2456] p 40 N87-20522

FRICTION

Advances in contact algorithms and their application to tires
[NASA-TP-2781] p 44 N88-21456

FRICTION FACTOR

Mixed formulation for frictionless contact problems
[NASA-TP-2897] p 45 N89-19580

FRICTION MEASUREMENT

Evaluation of two transport aircraft and several ground test vehicle friction measurements obtained for various runway surface types and conditions. A summary of test results from joint FAA/NASA Runway Friction Program
[NASA-TP-2917] p 16 N90-15902

FUEL COMBUSTION

Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153

Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626

FUEL CONSUMPTION

Ground-based time-guidance algorithm for control of airplanes in a time-metered air traffic control environment: A piloted simulation study
[NASA-TP-2616] p 16 N87-10864

Advanced turboprop project
[NASA-SP-495] p 18 N89-12565

FUEL CONTAMINATION

Contamination of liquid oxygen by pressurized gaseous nitrogen
[NASA-TP-2894] p 38 N89-19499

FUEL PUMPS

Space shuttle main engine high pressure fuel pump aft platform seal cavity flow analysis
[NASA-TP-2685] p 36 N87-17000

Three-step labyrinth seal for high-performance turbomachines
[NASA-TP-1848] p 36 N87-23921

Straight cylindrical seal for high-performance turbomachines
[NASA-TP-1850] p 36 N87-23936

Three-step cylindrical seal for high-performance turbomachines
[NASA-TP-1849] p 36 N87-24639

FUEL SYSTEMS

Low-energy gamma ray attenuation characteristics of aviation fuels
[NASA-TP-2974] p 63 N90-18882

FUSELAGES

Measurements of pressures on the tail and aft fuselage of an airplane model during rotary motions at spin attitudes
[NASA-TP-2939] p 10 N90-10829

Fuselage design for a specified Mach-sliced area distribution
[NASA-TP-2975] p 16 N90-18385

G**G STARS**

FGK stars and T Tauri stars: Monograph series on nonthermal phenomena in stellar atmospheres
[NASA-SP-502] p 77 N90-18344

GALACTIC COSMIC RAYS

Possible complementary cosmic-ray systems: Nuclei and antinuclei
[NASA-TP-2741] p 68 N87-24977

Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets
[NASA-TP-1180] p 79 N87-25984

A general formalism for phase space calculations
[NASA-TP-2843] p 66 N89-14053

Radiation exposure for manned Mars surface missions
[NASA-TP-2979] p 80 N90-18357

The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
[NASA-CP-3071] p 77 N90-23294

GALACTIC RADIATION

Benchmark solutions for the galactic ion transport equations: Energy and spatially dependent problems
[NASA-TP-2878] p 79 N89-16714

The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
[NASA-CP-3071] p 77 N90-23294

GALACTIC STRUCTURE

Star Formation in Galaxies
[NASA-CP-2466] p 73 N87-24266

The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
[NASA-CP-3071] p 77 N90-23294

GALAXIES

Doubly differential cross sections for galactic heavy-ion fragmentation
[NASA-TP-2659] p 68 N87-17487

Star Formation in Galaxies
[NASA-CP-2466] p 73 N87-24266

Atlas of galaxies useful for measuring the cosmological distance scale
[NASA-SP-496] p 74 N89-12513

GALILEO PROBE

Galileo probe parachute test program: Wake properties of the Galileo probe at Mach numbers from 0.25 to 0.95
[NASA-TP-1130] p 37 N88-18884

GAMMA RAY ABSORPTION

Low-energy gamma ray attenuation characteristics of aviation fuels
[NASA-TP-2974] p 63 N90-18882

GAMMA RAY ASTRONOMY

Essays in Space Science
[NASA-CP-2464] p 72 N87-24247

The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
[NASA-CP-3071] p 77 N90-23294

GAMMA RAY OBSERVATORY

The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
[NASA-CP-3071] p 77 N90-23294

GAMMA RAY TELESCOPES

The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
[NASA-CP-3071] p 77 N90-23294

GAMMA RAYS

Low-energy gamma ray attenuation characteristics of aviation fuels
[NASA-TP-2974] p 63 N90-18882

GAS DETECTORS

A simplified method for determining heat of combustion of natural gas
[NASA-TP-2682] p 39 N87-20514

GAS DYNAMICS

The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598

Preliminary design of turbopumps and related machinery
[NASA-TP-1170] p 3 N87-17665

GAS EXCHANGE

Controlled Ecological Life Support System: Regenerative Life Support Systems in Space
[NASA-CP-2480] p 60 N88-12251

GAS FLOW

An upwind-biased, point-implicit relaxation algorithm for viscous, compressible perfect-gas flows
[NASA-TP-2953] p 38 N90-17042

GAS GIANT PLANETS

The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598

GAS JETS

Gas-jet and tangent-slot film cooling tests of a 12.5 deg cone at Mach number of 6.7
[NASA-TP-2786] p 39 N90-28806

GAS TEMPERATURE

Determination of combustion gas temperatures by infrared radiometry in sooting and nonsooting flames
[NASA-TP-2900] p 38 N89-25409

GAS TURBINE ENGINES

Turbine Engine Hot Section Technology, 1985
[NASA-CP-2405] p 43 N88-11140

Turbine Engine Hot Section Technology 1986
[NASA-CP-2444] p 45 N89-12876

Turbine Engine Hot Section Technology, 1987
[NASA-CP-2493] p 45 N89-17298

GAS TURBINES

Thermal Barrier Coatings. Abstracts and figures
[NASA-CP-10019] p 31 N89-13642

GAS-GAS INTERACTIONS

Contamination of liquid oxygen by pressurized gaseous nitrogen
[NASA-TP-2894] p 38 N89-19499

GAS-METAL INTERACTIONS

Hydrogen trapping and the interaction of hydrogen with metals
[NASA-TP-2744] p 30 N87-25463

GASEOUS DIFFUSION

Contamination of liquid oxygen by pressurized gaseous nitrogen
[NASA-TP-2894] p 38 N89-19499

GASES

Space Opportunities for Tropospheric Chemistry Research
[NASA-CP-2450] p 51 N87-18248

GAUSSIAN ELIMINATION

Parallel Gaussian elimination of a block tridiagonal matrix using multiple microcomputers
[NASA-TP-2892] p 64 N89-17422

GEAR TEETH

Gear tooth stress measurements on the UH-60A helicopter transmission
[NASA-TP-2698] p 41 N87-22235

Theory of gearing
[NASA-TP-1212] p 42 N90-19593

GEARS

Predicted effect of dynamic load on pitting fatigue life for low-contact-ratio spur gears
[NASA-TP-2610] p 41 N87-18095

Efficiency testing of a helicopter transmission planetary reduction stage
[NASA-TP-2795] p 41 N88-15224

Dynamic analysis of multimesh-gear helicopter transmissions
[NASA-TP-2789] p 41 N88-17045

Comparison study of gear dynamic computer programs at NASA Lewis Research Center
[NASA-TP-2901] p 41 N89-21243

Theory of gearing
[NASA-TP-1212] p 42 N90-19593

GENERAL AVIATION AIRCRAFT

Wind-tunnel investigation of the flight characteristics of a canard general-aviation airplane configuration
[NASA-TP-2823] p 3 N87-10039

Flight investigation of the effect of tail configuration on stall, spin, and recovery characteristics of a low-wing general aviation research airplane
[NASA-TP-2644] p 13 N87-16815

A simulation evaluation of a pilot interface with an automatic terminal approach system
[NASA-TP-2669] p 16 N87-19393

Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462

Wind-tunnel investigation of a full-scale general aviation airplane equipped with an advanced natural laminar flow wing
[NASA-TP-2772] p 6 N88-10009

Investigation of the misfueling of reciprocating piston aircraft engines
[NASA-TP-2803] p 12 N88-21144

GEOCENTRIC COORDINATES

Ten year planetary ephemeris: 1986-1995
[NASA-RP-1176] p 73 N87-14219

Compilation of methods in orbital mechanics and solar geometry
[NASA-RP-1204] p 52 N89-10420

GEOCHEMISTRY

Planetary geosciences, 1988
[NASA-SP-498] p 48 N89-26274

GEODEIC SURVEYS

Crustal Dynamics Project: Catalogue of site information
[NASA-RP-1198] p 52 N88-19037

GEODYNAMICS

Crustal Dynamics Project: Catalogue of site information
[NASA-RP-1198] p 52 N88-19037

GEOLOGY

Geoscience and a Lunar Base: A Comprehensive Plan for Lunar Exploration
[NASA-CP-3070] p 78 N90-25030

GEOMAGNETISM

On the statistics of El Nino occurrences and the relationship of El Nino to volcanic and solar/geomagnetic activity
[NASA-TP-2948] p 79 N90-12456

GEO MORPHOLOGY

Geomorphology from space: A global overview of regional landforms
[NASA-SP-486] p 47 N87-18139

Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401

GEO PHYSICS

NASA/MSFC FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043

Planetary geosciences, 1988
[NASA-SP-498] p 48 N89-26274

Geoscience and a Lunar Base: A Comprehensive Plan for Lunar Exploration
[NASA-CP-3070] p 78 N90-25030

GEO POTENTIAL HEIGHT

Comparison of satellite-derived dynamical quantities for the stratosphere of the Southern Hemisphere
[NASA-CP-3044] p 53 N89-25540

GEOSYNCHRONOUS ORBITS

Thermal-distortion analysis of an antenna strongback for geostationary high-frequency microwave applications
[NASA-TP-3016] p 26 N90-27738

GET AWAY SPECIALS (STS)

The 1986 Get Away Special Experimenter's Symposium
[NASA-CP-2438] p 22 N87-20302

The 1987 Get Away Special Experimenter's Symposium
[NASA-CP-2500] p 22 N88-17691

The 1988 Get Away Special Experimenter's Symposium
[NASA-CP-3008] p 22 N89-10902

GIMBALS

Internal performance of two nozzles utilizing gimbal concepts for thrust vectoring
[NASA-TP-2991] p 11 N90-19200

GLACIERS

Surface topography of the Greenland Ice Sheet from satellite radar altimetry
[NASA-SP-503] p 54 N90-22850

GLASS FIBER REINFORCED PLASTICS

An examination of impact damage in glass-phenolic and aluminum honeycomb core composite panels
[NASA-TP-3042] p 29 N90-27876

GLASS LASERS

Analysis of Nd³⁺:glass, solar-pumped, high-power laser systems
[NASA-TP-2905] p 40 N89-17855

- GLOBAL POSITIONING SYSTEM**
Joint University Program for Air Transportation Research, 1985
[NASA-CP-2453] p 1 N87-27596
- GOVERNMENT/INDUSTRY RELATIONS**
The 1986 Get Away Special Experimenters' Symposium
[NASA-CP-2438] p 22 N87-20302
- GRAIN BOUNDARIES**
Permeation of oxygen through high purity, large grain silver
[NASA-TP-2755] p 30 N87-27024
- GRAINS**
Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022
Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
[NASA-CP-10026-VOL-2] p 59 N89-24023
- GRAMMARS**
Grammar, punctuation, and capitalization: A handbook for technical writers and editors
[NASA-SP-7084] p 71 N90-26710
- GRAPHITE**
Performance of a small, graphite electrode, multistage depressed collector with a 500-W, continuous wave, 4.8- to 9.6-GHz traveling wave tube
[NASA-TP-2788] p 35 N88-15146
- GRAPHITE-EPOXY COMPOSITES**
Properties of two composite materials made of toughened epoxy resin and high-strain graphite fiber
[NASA-TP-2826] p 28 N88-25480
The interlaminar fracture toughness of woven graphite/epoxy composites
[NASA-TP-2950] p 29 N90-10179
Buckling and postbuckling behavior of square compression-loaded graphite-epoxy plates with circular cutouts
[NASA-TP-3007] p 29 N90-26077
An examination of impact damage in glass-phenolic and aluminum honeycomb core composite panels
[NASA-TP-3042] p 29 N90-27876
- GRAVITATIONAL EFFECTS**
Continuous flow electrophoresis system experiments on shuttle flights STS-6 and STS-7
[NASA-TP-2778] p 32 N88-10978
Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022
Cells in Space
[NASA-CP-10034] p 61 N90-13939
Development and approach to low-frequency microgravity isolation systems
[NASA-TP-2984] p 33 N90-28754
- GRAVITATIONAL PHYSIOLOGY**
Cells in Space
[NASA-CP-10034] p 61 N90-13939
- GRAVITATIONAL WAVES**
Relativistic Gravitational Experiments in Space
[NASA-CP-3046] p 77 N90-19940
- GRAY SCALE**
Experiments in encoding multilevel images as quadrates
[NASA-TP-2722] p 65 N87-28367
- GRAZING FLOW**
Measured and calculated acoustic attenuation rates of tuned resonator arrays for two surface impedance distribution models with flow
[NASA-TP-2766] p 67 N88-17440
- GREENLAND**
Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-RP-1233-VOL-1] p 54 N90-20562
Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
[NASA-RP-1233-VOL-2] p 54 N90-20563
Surface topography of the Greenland Ice Sheet from satellite radar altimetry
[NASA-SP-503] p 54 N90-22850
- GRID GENERATION (MATHEMATICS)**
Transonic Symposium: Theory, Application, and Experiment, Volume 1, Part 1
[NASA-CP-3020-VOL-1-PT-1] p 9 N89-20925
Transonic Symposium: Theory, Application, and Experiment, volume 1, part 2
[NASA-CP-3020-VOL-1-PT-2] p 9 N89-20942
A time-accurate adaptive grid method and the numerical simulation of a shock-vortex interaction
[NASA-TP-2998] p 61 N90-21524
- GROUND EFFECT (AERODYNAMICS)**
Proceedings of the 1985 NASA Ames Research Center's Ground-Effects Workshop
[NASA-CP-2462] p 5 N87-24410
- Aerodynamics in ground effect and predicted landing ground roll of a fighter configuration with a secondary-nozzle thrust reverser
[NASA-TP-2834] p 8 N88-29752
The 1987 Ground Vortex Workshop
[NASA-CP-10008] p 9 N89-10849
Thrust-reverser flow investigation on a twin-engine transport
[NASA-TP-2856] p 9 N89-14213
Dynamic ground-effect measurements on the F-15 STOL and Maneuver Technology Demonstrator (S/MTD) configuration
[NASA-TP-3000] p 11 N90-22531
The Langley 14-by-22-foot subsonic tunnel: Description, flow characteristics, and guide for users
[NASA-TP-3008] p 12 N90-27649
- GROUND STATIONS**
Crustal Dynamics Project: Catalogue of site information
[NASA-RP-1198] p 52 N88-19037
- GROUND SUPPORT EQUIPMENT**
The 24th Aerospace Mechanisms Symposium
[NASA-CP-3062] p 47 N90-22079
- GROUND SUPPORT SYSTEMS**
Proceedings of a conference on Cardiovascular Biinstrumentation
[NASA-CP-10022] p 59 N89-17997
- GROUND TESTS**
Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959
Applications and requirements for real-time simulators in ground-test facilities
[NASA-TP-2672] p 64 N87-23202
Evaluation of two transport aircraft and several ground test vehicle friction measurements obtained for various runway surface types and conditions. A summary of test results from joint FAA/NASA Runway Friction Program
[NASA-TP-2917] p 16 N90-15902
NASA/DOD Controls-Structures Interaction Technology 1989
[NASA-CP-3041] p 26 N90-21062
Dynamic ground-effect measurements on the F-15 STOL and Maneuver Technology Demonstrator (S/MTD) configuration
[NASA-TP-3000] p 11 N90-22531
- GROUND WATER**
Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401
- GROUP DYNAMICS**
Cockpit Resource Management Training
[NASA-CP-2455] p 12 N87-22634
- GUIDANCE (MOTION)**
Joint University Program for Air Transportation Research, 1987
[NASA-CP-3028] p 2 N89-19230
- GUIDE VANES**
Detailed flow surveys of turning vanes designed for a 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2680] p 21 N87-20295
Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2681] p 21 N88-17686
- GUSTS**
Spanwise measurements of vertical components of atmospheric turbulence
[NASA-TP-2963] p 58 N90-19718
- GYROSCOPES**
Further developments in modeling digital control systems with MA-prefiltered measurements
[NASA-TP-2909] p 33 N89-24507

H

- HALF LIFE**
Analysis of positron lifetime spectra in polymers
[NASA-TP-2853] p 63 N89-12237
- HALLEY'S COMET**
Atlas of Comet Halley 1910 II
[NASA-SP-488] p 75 N87-30235
Infrared Observations of Comets Halley and Wilson and Properties of the Grains
[NASA-CP-3004] p 74 N89-13330
- HAMILTONIAN FUNCTIONS**
A study to evaluate STS heads-up ascent trajectory performance employing a minimum-Hamiltonian optimization strategy
[NASA-TP-2793] p 23 N88-15820
- HANDBOOKS**
Propagation effects handbook for satellite systems design. A summary of propagation impairments on 10 to 100 GHz satellite links with techniques for system design
[NASA-RP-1082(04)] p 34 N89-17060
Grammar, punctuation, and capitalization: A handbook for technical writers and editors
[NASA-SP-7084] p 71 N90-26710
- HARDNESS**
Indentation plasticity and fracture in silicon
[NASA-TP-2863] p 30 N89-10996
- HEAD DOWN TILT**
Joint US/USSR study: Comparison of effects of horizontal and head-down bed rest
[NASA-TP-3037] p 60 N90-28965
- HEAT FLUX**
Conventionally cast and forged copper alloy for high-heat-flux thrust chambers
[NASA-TP-2694] p 30 N87-16902
Experimental evaluation of heat transfer on a 1030:1 area ratio rocket nozzle
[NASA-TP-2726] p 27 N87-25424
Measurement of local high-level, transient surface heat flux
[NASA-TP-2840] p 39 N88-30099
- HEAT OF COMBUSTION**
A simplified method for determining heat of combustion of natural gas
[NASA-TP-2682] p 39 N87-20514
- HEAT TRANSFER**
Aerothermal evaluation of a spherically blunted body with a trapezoidal cross section in the Langley 8-foot high-temperature tunnel
[NASA-TP-2641] p 36 N87-18782
Experimental evaluation of heat transfer on a 1030:1 area ratio rocket nozzle
[NASA-TP-2726] p 27 N87-25424
Application of turbulence modeling to predict surface heat transfer in stagnation flow region of circular cylinder
[NASA-TP-2758] p 37 N87-27161
Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582
Turbine Engine Hot Section Technology 1986
[NASA-CP-2444] p 45 N89-12876
Turbine Engine Hot Section Technology, 1987
[NASA-CP-2493] p 45 N89-17298
Workshop on Two-Phase Fluid Behavior in a Space Environment
[NASA-CP-3043] p 38 N89-26184
Surface flow and heating distributions on a cylinder in near wake of Aeroassist Flight Experiment (AFE) configuration at incidence in Mach 10 Air
[NASA-TP-2954] p 38 N90-14493
Computer code for predicting coolant flow and heat transfer in turbomachinery
[NASA-TP-2985] p 18 N90-27722
Gas-jet and tangent-slot film cooling tests of a 12.5 deg cone at Mach number of 6.7
[NASA-TP-2786] p 39 N90-28806
- HEAT TRANSFER COEFFICIENTS**
Finite-element reentry heat-transfer analysis of space shuttle Orbiter
[NASA-TP-2657] p 37 N87-29795
- HEAT TREATMENT**
Outgassing data for selecting spacecraft materials
[NASA-RP-1124] p 28 N88-10117
- HEATING**
Aerodynamic pressure and heating-rate distributions in tile gaps around chine regions with pressure gradients at a Mach number of 6.6
[NASA-TP-2988] p 38 N90-23670
- HEAVY IONS**
Doubly differential cross sections for galactic heavy-ion fragmentation
[NASA-TP-2659] p 68 N87-17487
Possible complementary cosmic-ray systems: Nuclei and antinuclei
[NASA-TP-2741] p 68 N87-24977
Eikonal solutions to optical model coupled-channel equations
[NASA-TP-2830] p 68 N88-30402
Benchmark solutions for the galactic ion transport equations: Energy and spatially dependent problems
[NASA-TP-2878] p 79 N89-16714
- HEAVY LIFT HELICOPTERS**
General equilibrium characteristics of a dual-lift helicopter system
[NASA-TP-2615] p 2 N88-19407
- HELICOPTER ENGINES**
Efficiency testing of a helicopter transmission planetary reduction stage
[NASA-TP-2795] p 41 N88-15224

- Dynamic analysis of multimesh-gear helicopter transmissions
[NASA-TP-2789] p 41 N88-17045
- HELICOPTER PERFORMANCE**
Transonic flow analysis for rotors. Part 2: Three-dimensional, unsteady, full-potential calculation
[NASA-TP-2375-PT-2] p 3 N87-10841
NASA/Army Rotorcraft Technology, Volume 3: Systems Integration, Research Aircraft, and Industry
[NASA-CP-2495-VOL-3] p 1 N88-16650
- HELICOPTER PROPELLER DRIVE**
Comparison of predicted and measured temperatures of UH-60A helicopter transmission
[NASA-TP-2911] p 41 N89-24607
- HELICOPTER WAKES**
Rotor induced-inflow-ratio measurements and CAMRAD calculations
[NASA-TP-2946] p 11 N90-15882
- HELICOPTERS**
Testing of UH-60A helicopter transmission in NASA Lewis 2240-kW (3000-hp) facility
[NASA-TP-2626] p 41 N87-10391
Recent Experiences in Multidisciplinary Analysis and Optimization, part 2
[NASA-CP-2327-PT-2] p 13 N87-11750
Power cepstrum technique with application to model helicopter acoustic data
[NASA-TP-2586] p 66 N87-17479
Helicopter blade-vortex interaction locations: Scale-model acoustics and free-wake analysis results
[NASA-TP-2658] p 4 N87-18537
Vibration characteristics of OH-58A helicopter main rotor transmission
[NASA-TP-2705] p 41 N87-20555
Preliminary structural design of composite main rotor blades for minimum weight
[NASA-TP-2730] p 28 N87-25435
NASA/Army Rotorcraft Technology, Volume 1: Aerodynamics, and Dynamics and Aeroelasticity
[NASA-CP-2495-VOL-1] p 1 N88-16625
NASA/Army Rotorcraft Technology, Volume 2: Materials and Structures, Propulsion and Drive Systems, Flight Dynamics and Control, and Acoustics
[NASA-CP-2495-VOL-2] p 1 N88-16632
An experimental investigation of the flap-lag-torsion aeroelastic stability of a small-scale hingeless helicopter rotor in hover
[NASA-TP-2546] p 7 N88-20257
Tip aerodynamics and acoustics test: A report and data survey
[NASA-RP-1179] p 9 N89-17579
- HELIUM ISOTOPES**
Lunar Helium-3 and Fusion Power
[NASA-CP-10018] p 69 N89-14842
- HEPTANES**
Velocity profiles in laminar diffusion flames
[NASA-TP-2596] p 36 N87-18035
- HIGH POWER LASERS**
Analysis of Nd³⁺:glass, solar-pumped, high-power laser systems
[NASA-TP-2905] p 40 N89-17855
Mode-medium instability and its correction with a Gaussian reflectivity mirror
[NASA-TP-3023] p 68 N90-25673
- HIGH PRESSURE**
Space shuttle main engine high pressure fuel pump aft platform seal cavity flow analysis
[NASA-TP-2685] p 36 N87-17000
High-pressure calorimeter chamber tests for liquid oxygen/kerosene (LOX/RP-1) rocket combustion
[NASA-TP-2862] p 27 N89-15979
Aerodynamic pressure and heating-rate distributions in tile gaps around chine regions with pressure gradients at a Mach number of 6.6
[NASA-TP-2988] p 38 N90-23670
- HIGH RESOLUTION**
Theoretical Problems in High Resolution Solar Physics, 2
[NASA-CP-2483] p 79 N88-11609
- HIGH SPEED**
Summary of studies to reduce wing-mounted propfan installation drag on an M = 0.8 transport
[NASA-TP-2678] p 14 N87-20990
Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2681] p 21 N88-17686
- HIGH TEMPERATURE**
Conventionally cast and forged copper alloy for high-heat-flux thrust chambers
[NASA-TP-2694] p 30 N87-16902
A rapid method for the computation of equilibrium chemical composition of air to 15000 K
[NASA-TP-2792] p 30 N88-16830
- Fluctuating pressures measured beneath a high-temperature, turbulent boundary layer on a flat plate at Mach number of 5
[NASA-TP-2947] p 67 N90-10680
- HIGH TEMPERATURE ENVIRONMENTS**
Finite-rate water condensation in combustion-heated wind tunnels
[NASA-TP-2833] p 22 N88-28075
Evaluation of a strain-gage load calibration on a low-aspect-ratio wing structure at elevated temperature
[NASA-TP-2921] p 46 N89-28034
- HIGH TEMPERATURE SUPERCONDUCTORS**
AMSAHTS 1990: Advances in Materials Science and Applications of High Temperature Superconductors
[NASA-CP-10043] p 29 N90-27792
- HIGHLY MANEUVERABLE AIRCRAFT**
Forward-swept wing configuration designed for high maneuverability by use of a transonic computational method
[NASA-TP-2628] p 3 N87-11702
Development and flight test of an experimental maneuver autopilot for a highly maneuverable aircraft
[NASA-TP-2618] p 15 N88-21153
Flight control systems development and flight test experience with the HiMAT research vehicles
[NASA-TP-2822] p 20 N89-15929
- HISTORIES**
Evolution, calibration, and operational characteristics of the two-dimensional test section of the Langley 0.3-meter transonic cryogenic tunnel
[NASA-TP-2749] p 21 N87-28570
NASA historical data book. Volume 1: NASA resources 1958-1968
[NASA-SP-4012-VOL-1] p 80 N88-25428
NASA historical data book. Volume 2: Programs and projects 1958-1968
[NASA-SP-4012-VOL-2] p 80 N88-25429
NASA historical data book. Volume 3: Programs and projects 1969-1978
[NASA-SP-4012-VOL-3] p 81 N88-25430
Where no man has gone before: A history of Apollo lunar exploration missions
[NASA-SP-4214] p 81 N89-25946
Astronautics and aeronautics, 1985: A chronology
[NASA-SP-4025] p 81 N89-26803
Orders of magnitude: A history of the NASA and NASA, 1915-1990
[NASA-SP-4406] p 81 N89-26805
- HODOGRAPHS**
Lewis inverse design code (LINDES): Users manual
[NASA-TP-2676] p 4 N87-20238
- HOLOGRAPHIC INTERFEROMETRY**
Evaluation of diffuse-illumination holographic cinematography in a flutter cascade
[NASA-TP-2593] p 39 N87-13731
Automated Reduction of Data from Images and Holograms
[NASA-CP-2477] p 6 N87-29432
- HOLOGRAPHY**
Evaluation of diffuse-illumination holographic cinematography in a flutter cascade
[NASA-TP-2593] p 39 N87-13731
- HONEYCOMB CORES**
An examination of impact damage in glass-phenolic and aluminum honeycomb core composite panels
[NASA-TP-3042] p 29 N90-27876
- HONEYCOMB STRUCTURES**
Experimental evaluation of honeycomb/screen configurations and short contraction section for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2692] p 21 N87-23662
- HORIZONTAL ORIENTATION**
Effects of combining vertical and horizontal information into a primary flight display
[NASA-TP-2783] p 17 N88-12487
- HORIZONTAL TAIL SURFACES**
Validation of a computer code for analysis of subsonic aerodynamic performance of wings with flaps in combination with a canard or horizontal tail and an application to optimization
[NASA-TP-2961] p 11 N90-14187
- HOVERING**
An experimental investigation of the flap-lag-torsion aeroelastic stability of a small-scale hingeless helicopter rotor in hover
[NASA-TP-2546] p 7 N88-20257
Effect of advanced rotorcraft airfoil sections on the hover performance of a small-scale rotor model
[NASA-TP-2832] p 10 N89-24264
Stereopsis cueing effects on hover-in-turbulence performance in a simulated rotorcraft
[NASA-TP-2980] p 17 N90-21004
The effects of structural flap-lag and pitch-lag coupling on soft inplane hingeless rotor stability in hover
[NASA-TP-3002] p 12 N90-28503
- HOVERING STABILITY**
The effects of structural flap-lag and pitch-lag coupling on soft inplane hingeless rotor stability in hover
[NASA-TP-3002] p 12 N90-28503
- HUMAN FACTORS ENGINEERING**
Space Station Human Factors Research Review. Volume 3: Space Station Habitability and Function: Architectural Research
[NASA-CP-2426-VOL-3] p 59 N88-19883
Space Station Human Factors Research Review. Volume 1: EVA Research and Development
[NASA-CP-2426-VOL-1] p 59 N88-24145
Space Station Human Factors Research Review. Volume 4: Inhouse Advanced Development and Research
[NASA-CP-2426-VOL-4] p 59 N88-24148
Second Annual Workshop on Space Operations Automation and Robotics (SOAR 1988)
[NASA-CP-3019] p 61 N89-19817
Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
- HUMAN PERFORMANCE**
Mental-State Estimation, 1987
[NASA-TP-2504] p 60 N88-23370
- HUMAN TOLERANCES**
Annoyance response to simulated advanced turboprop aircraft interior noise containing tonal beats
[NASA-TP-2689] p 66 N87-24161
Annoyance caused by advanced turboprop aircraft flyover noise: Counter-rotating-propeller configuration
[NASA-TP-3027] p 67 N90-29166
- HYBRID PROPELLANT ROCKET ENGINES**
Analysis of quasi-hybrid solid rocket booster concepts for advanced earth-to-orbit vehicles
[NASA-TP-2751] p 27 N87-25425
- HYDRAULIC EQUIPMENT**
The 20th Aerospace Mechanics Symposium
[NASA-CP-2423-REV] p 43 N87-16321
- HYDRODYNAMICS**
Preliminary design of turbopumps and related machinery
[NASA-RP-1170] p 3 N87-17665
Hydroburst test of a carbon-carbon involute exit cone
[NASA-TP-2556] p 24 N88-14112
A procedure for computing surface wave trajectories on an inhomogeneous surface
[NASA-TP-2929] p 10 N89-26811
- HYDROGEN**
The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598
Hydrogen trapping and the interaction of hydrogen with metals
[NASA-TP-2744] p 30 N87-25463
- HYDROGEN EMBRITTLEMENT**
Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626
- HYDROGEN FUELS**
Effect of Reynolds number variation on aerodynamics of a hydrogen-fueled transport concept at Mach 6
[NASA-TP-2728] p 5 N87-26031
- HYDROGEN OXYGEN ENGINES**
An analytical study of the hydrogen-air reaction mechanism with application to scramjet combustion
[NASA-TP-2791] p 30 N88-15846
Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626
- HYDROGEN OXYGEN FUEL CELLS**
Space Electrochemical Research and Technology Conference: Abstracts
[NASA-CP-10029] p 50 N89-22982
Space Electrochemical Research and Technology (SERT), 1989
[NASA-CP-3056] p 50 N90-20454
- HYDROGEN PEROXIDE**
Future directions for H sub x O sub y detection
[NASA-CP-2448] p 51 N87-15528
- HYDROXYL RADICALS**
Future directions for H sub x O sub y detection
[NASA-CP-2448] p 51 N87-15528
- HYPERSONIC AIRCRAFT**
Effect of Reynolds number variation on aerodynamics of a hydrogen-fueled transport concept at Mach 6
[NASA-TP-2728] p 5 N87-26031
Aeropropulsion '87. Session 6: High-Speed Propulsion Technology
[NASA-CP-10003-SESS-6] p 18 N88-15807
Aerothermal tests of quilted dome models on a flat plate at a Mach number of 6.5
[NASA-TP-2804] p 37 N88-22325
- HYPERSONIC FLIGHT**
Aerodynamic pressures and heating rates on surfaces between split elevons at Mach 6.6
[NASA-TP-2855] p 37 N89-12822

HYPERSONIC FLOW

Simplified curve fits for the thermodynamic properties of equilibrium air
 [NASA-RP-1181] p 36 N87-26309
 Conservation equations and physical models for hypersonic air flows in thermal and chemical nonequilibrium
 [NASA-TP-2867] p 38 N89-16115
 Low-speed, high-lift aerodynamic characteristics of slender, hypersonic accelerator-type configurations
 [NASA-TP-2945] p 10 N90-10830
 Measured and predicted aerodynamic coefficients and shock shapes for Aeroassist Flight Experiment (AFE) configuration
 [NASA-TP-2956] p 11 N90-14185
 An upwind-biased, point-implicit relaxation algorithm for viscous, compressible perfect-gas flows
 [NASA-TP-2953] p 38 N90-17042
 An approximate method for calculating three-dimensional inviscid hypersonic flow fields
 [NASA-TP-3018] p 39 N90-27066

HYPERSONIC SPEED

Mach 6 experimental and theoretical stability and performance of a cruciform missile at angles of attack up to 65 degrees
 [NASA-TP-2733] p 5 N87-23592
 Aerodynamic characteristics of wings designed with a combined-theory method to cruise at a Mach number of 4.5
 [NASA-TP-2799] p 7 N88-19420
 Aerodynamic pressure and heating-rate distributions in tile gaps around chine regions with pressure gradients at a Mach number of 6.6
 [NASA-TP-2988] p 38 N90-23670

HYPERSONIC VEHICLES

Aerothermal tests of spherical dome protuberances on a flat plate at a Mach number of 6.5
 [NASA-TP-2631] p 35 N87-13664
 Measured and predicted aerodynamic coefficients and shock shapes for Aeroassist Flight Experiment (AFE) configuration
 [NASA-TP-2956] p 11 N90-14185

HYPERSONIC WIND TUNNELS

Description and calibration of the Langley Hypersonic CF4 tunnel: A facility for simulating low gamma flow as occurs for a real gas
 [NASA-TP-2384] p 37 N87-29778
 Contamination of liquid oxygen by pressurized gaseous nitrogen
 [NASA-TP-2894] p 38 N89-19499

HYPERVELOCITY PROJECTILES

Trajectory characteristics and heating of hypervelocity projectiles having large ballistic coefficients
 [NASA-TP-2614] p 7 N88-19412

HYPOKINESIA

Joint US/USSR study: Comparison of effects of horizontal and head-down bed rest
 [NASA-TP-3037] p 60 N90-28965

HYSTERESIS

Parametric study of power absorption from electromagnetic waves by small ferrite spheres
 [NASA-TP-2949] p 66 N90-12282

ICE

Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
 [NASA-RP-1233-VOL-1] p 54 N90-20562
 Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
 [NASA-RP-1233-VOL-2] p 54 N90-20563
 Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
 [NASA-RP-1233-VOL-4] p 54 N90-20564

ICE ENVIRONMENTS

SeaRISE: A Multidisciplinary Research Initiative to Predict Rapid Changes in Global Sea Level Caused by Collapse of Marine Ice Sheets
 [NASA-CP-3075] p 48 N90-22824

ICE MAPPING

Arctic Sea ice, 1973-1976: Satellite passive-microwave observations
 [NASA-SP-489] p 58 N87-24870
 Polar microwave brightness temperatures from Nimbus-7 SMMR: Time series of daily and monthly maps from 1978 to 1987
 [NASA-RP-1223] p 48 N89-26275
 Surface topography of the Greenland Ice Sheet from satellite radar altimetry
 [NASA-SP-503] p 54 N90-22850

IMAGE ANALYSIS

Automated Reduction of Data from Images and Holograms
 [NASA-CP-2477] p 6 N87-29432

Spatial Displays and Spatial Instruments
 [NASA-CP-10032] p 61 N90-22918

IMAGE ENHANCEMENT

A general solution to the silhouette problem
 [NASA-TP-2695] p 61 N88-14629
 Digital enhancement of flow field images
 [NASA-TP-2770] p 62 N88-20833

IMAGE PROCESSING

Proceedings of the 5th Annual Users' Conference
 [NASA-CP-2399] p 62 N87-10720
 Sixth Annual Users' Conference --- Transportable Applications Executive (TAE)
 [NASA-CP-2463] p 62 N87-23156
 Experiments in encoding multilevel images as quadrees
 [NASA-TP-2722] p 65 N87-28367
 A general solution to the silhouette problem
 [NASA-TP-2695] p 61 N88-14629
 Digital enhancement of flow field images
 [NASA-TP-2770] p 62 N88-20833
 Sensitivity of F-106B leading-edge-vortex images to flight and vapor-screen parameters
 [NASA-TP-2818] p 8 N88-23760
 The 1988 Goddard Conference on Space Applications of Artificial Intelligence
 [NASA-CP-3009] p 64 N88-30330
 Spatial vision processes: From the optical image to the symbolic structures of contour information
 [NASA-TP-2838] p 39 N89-13762
 Proceedings of the Scientific Data Compression Workshop
 [NASA-CP-3025] p 63 N89-22332
 The 1989 Goddard Conference on Space Applications of Artificial Intelligence
 [NASA-CP-3033] p 64 N89-26578

IMAGE RECONSTRUCTION

Visual Information Processing for Television and Telerobotics
 [NASA-CP-3053] p 40 N90-16204

IMAGING TECHNIQUES

Remote Sensing in Polarized Light
 [NASA-CP-3014] p 72 N89-14189
 Proceedings of the Scientific Data Compression Workshop
 [NASA-CP-3025] p 63 N89-22332
 Visual Information Processing for Television and Telerobotics
 [NASA-CP-3053] p 40 N90-16204
 Spatial interferometry in optical astronomy
 [NASA-RP-1245] p 75 N90-28470

IMPACT DAMAGE

Low velocity instrumented impact testing of four new damage tolerant carbon/epoxy composite systems
 [NASA-TP-3029] p 29 N90-25198
 A Protection And Detection Surface (PADS) for damage tolerance
 [NASA-TP-3011] p 29 N90-27788
 An examination of impact damage in glass-phenolic and aluminum honeycomb core composite panels
 [NASA-TP-3042] p 29 N90-27876

IMPACT STRENGTH

Instrumented impact and residual tensile strength testing of eight-ply carbon epoxy specimens
 [NASA-TP-2981] p 29 N90-16007

IMPACT TESTS

Instrumented impact and residual tensile strength testing of eight-ply carbon epoxy specimens
 [NASA-TP-2981] p 29 N90-16007
 Low velocity instrumented impact testing of four new damage tolerant carbon/epoxy composite systems
 [NASA-TP-3029] p 29 N90-25198

IMPEDANCE

An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods
 [NASA-TP-2820] p 30 N89-19406

IMPPELLERS

Rotordynamic Instability Problems in High-Performance Turbomachinery, 1988
 [NASA-CP-3026] p 41 N89-22891

IN-FLIGHT MONITORING

In-flight surface oil-flow photographs with comparisons to pressure distribution and boundary-layer data
 [NASA-TP-2395] p 4 N87-20966

INDEXES (DOCUMENTATION)

Technology for large space systems: A bibliography with indexes (supplement 17)
 [NASA-SP-7046(17)] p 22 N87-29576
 NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1977-1986
 [NASA-SP-7063(01)] p 70 N87-30218
 A performance index approach to aerodynamic design with the use of analysis codes only
 [NASA-TP-2805] p 7 N88-18552

NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1987
 [NASA-SP-7063(02)] p 70 N88-22830
 Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 1: Explanatory supplement
 [NASA-RP-1190-VOL-1] p 76 N89-14194
 Space station systems: A bibliography with indexes (supplement 7)
 [NASA-SP-7056(07)] p 25 N89-18522
 Aeronautical engineering: A continuing bibliography with indexes (supplement 242)
 [NASA-SP-7037(242)] p 2 N89-29304
 Earth resources: A continuing bibliography with indexes (issue 62)
 [NASA-SP-7041(62)] p 50 N89-29825
 Aerospace medicine and biology: A continuing bibliography with indexes (supplement 327)
 [NASA-SP-7011(327)] p 60 N89-29951
 NASA scientific and technical publications: A catalog of special publications, reference publications, conference publications, and technical papers, 1988
 [NASA-SP-7063(03)] p 71 N90-10782
 Earth resources: A continuing bibliography with indexes (issue 63)
 [NASA-SP-7041(63)] p 50 N90-12091
 NASA Thesaurus supplement: A four part cumulative supplement to the 1988 edition of the NASA Thesaurus (supplement 3)
 [NASA-SP-7064-SUPPL-3] p 71 N90-22438
 Space station systems: A bibliography with indexes (supplement 10)
 [NASA-SP-7056(10)] p 26 N90-25171
 Aeronautical engineering: A continuing bibliography with indexes (supplement 255)
 [NASA-SP-7037(255)] p 2 N90-27648
 Aerospace medicine and biology: A continuing bibliography with indexes (supplement 340)
 [NASA-SP-7011(340)] p 60 N90-28963

INDUSTRIES

Orders of magnitude: A history of the NACA and NASA, 1915-1990
 [NASA-SP-4406] p 81 N89-26805

INELASTIC SCATTERING

Eikonal solutions to optical model coupled-channel equations
 [NASA-TP-2830] p 68 N88-30402

INERT ATMOSPHERE

Spacecraft Fire Safety
 [NASA-CP-2476] p 24 N88-12520

INERTIA

Effect of control surface mass unbalance on the stability of a closed-loop active control system
 [NASA-TP-2952] p 47 N90-12042

INERTIAL NAVIGATION

Development and evaluation of an airplane electronic display format aligned with the inertial velocity vector
 [NASA-TP-2648] p 16 N87-13438
 Joint University Program for Air Transportation Research, 1985
 [NASA-CP-2453] p 1 N87-27596

INFLATABLE STRUCTURES

Free-Space Power Transmission
 [NASA-CP-10016] p 27 N90-21795

INFORMATION DISSEMINATION

Information resources management, 1984-1989: A bibliography with indexes
 [NASA-SP-7079] p 71 N90-27548

INFORMATION MANAGEMENT

Information resources management, 1984-1989: A bibliography with indexes
 [NASA-SP-7079] p 71 N90-27548

INFORMATION RETRIEVAL

NASA thesaurus. Volume 3: Definitions
 [NASA-SP-7064-VOL-3] p 70 N89-13301
 NASA Thesaurus supplement: A four part cumulative supplement to the 1988 edition of the NASA Thesaurus (supplement 3)
 [NASA-SP-7064-SUPPL-3] p 71 N90-22438
 Information resources management, 1984-1989: A bibliography with indexes
 [NASA-SP-7079] p 71 N90-27548

INFORMATION SYSTEMS

Sixth Annual Users' Conference --- Transportable Applications Executive (TAE)
 [NASA-CP-2463] p 62 N87-23156
 The NASA scientific and technical information system: Its scope and coverage
 [NASA-SP-7065] p 71 N89-15779
 Second Annual Workshop on Space Operations Automation and Robotics (SOAR 1988)
 [NASA-CP-3019] p 61 N89-19817
 Information resources management, 1984-1989: A bibliography with indexes
 [NASA-SP-7079] p 71 N90-27548

INFORMATION TRANSFER

Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference
[NASA-CP-10006] p 12 N88-17616

INFRARED ASTRONOMY

Infrared source cross-index, first edition
[NASA-RP-1182] p 73 N87-22573

Essays in Space Science
[NASA-CP-2464] p 72 N87-24247

Star Formation in Galaxies
[NASA-CP-2466] p 73 N87-24266

Workshop on Technology Development Issues for the Large Deployable Reflector (LDR)
[NASA-CP-2407] p 75 N88-20235

Far infrared supplement: Catalog of infrared observations, second edition
[NASA-RP-1205] p 74 N88-30545

Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807

INFRARED ASTRONOMY SATELLITE

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 1: Explanatory supplement
[NASA-RP-1190-VOL-1] p 76 N89-14194

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 5: The point source catalog declination range -30 deg greater than delta greater than -50 deg
[NASA-RP-1190-VOL-5] p 76 N89-14195

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 4: The point source catalog declination range 0 deg greater than delta greater than -30 deg
[NASA-RP-1190-VOL-4] p 76 N89-14196

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 2: The point source catalog declination range 90 deg greater than delta greater than 30 deg
[NASA-RP-1190-VOL-2] p 76 N89-14197

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 6: The point source catalog declination range -50 deg greater than delta greater than -90 deg
[NASA-RP-1190-VOL-6] p 76 N89-14198

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 7: The small scale structure catalog
[NASA-RP-1190-VOL-7] p 76 N89-14199

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 3: The point source catalog declination range 30 deg greater than delta greater than 0 deg
[NASA-RP-1190-VOL-3] p 77 N89-14201

INFRARED DETECTORS

Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid
[NASA-TP-2625] p 51 N87-13022

Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide
[NASA-TP-2761] p 56 N88-14572

INFRARED RADIATION

Atlas of absorption lines from 0 to 17900 cm (sup)-1
[NASA-RP-1188] p 49 N87-28955

Catalog of infrared observations. Part 2: Appendixes
[NASA-RP-1196-PT-2-ED-2] p 74 N88-16615

The Cassini mission: Infrared and microwave spectroscopic measurements
[NASA-RP-1213] p 78 N89-16709

Nimbus-7 Stratospheric and Mesospheric Sounder (SAMS) experiment data user's guide
[NASA-RP-1221] p 53 N89-26304

INFRARED RADIOMETERS

Noncontact Temperature Measurement
[NASA-CP-2503] p 32 N88-23895

Determination of combustion gas temperatures by infrared radiometry in sooting and nonsooting flames
[NASA-TP-2900] p 38 N89-25409

INFRARED SOURCES (ASTRONOMY)

Infrared source cross-index, first edition
[NASA-RP-1182] p 73 N87-22573

Catalog of infrared observations. Part 1: Data
[NASA-RP-1196-PT-1-ED-2] p 73 N88-15738

Catalog of infrared observations. Part 2: Appendixes
[NASA-RP-1196-PT-2-ED-2] p 74 N88-16615

Far infrared supplement: Catalog of infrared observations, second edition
[NASA-RP-1205] p 74 N88-30545

INFRARED SPECTRA

Infrared Observations of Comets Halley and Wilson and Properties of the Grains
[NASA-CP-3004] p 74 N89-13330

A high-resolution atlas of the infrared spectrum of the sun and the earth atmosphere from space. A compilation of ATMOS spectra of the region from 650 to 4800 cm-1 (2.3 to 16 microns). Volume 2: Stratosphere and mesosphere, 650 to 3350 cm-1
[NASA-RP-1224-VOL-2] p 53 N89-28969

Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807

A high-resolution atlas of the infrared spectrum of the Sun and the Earth atmosphere from space: A compilation of ATMOS spectra of the region from 650 to 4800 cm (2.3 to 16 micron). Volume 1: The Sun
[NASA-RP-1224-VOL-1] p 53 N90-13893

Spatial interferometry in optical astronomy
[NASA-RP-1245] p 75 N90-28470

INFRARED SPECTROSCOPY

A high-resolution atlas of the infrared spectrum of the sun and the earth atmosphere from space. A compilation of ATMOS spectra of the region from 650 to 4800 cm-1 (2.3 to 16 microns). Volume 2: Stratosphere and mesosphere, 650 to 3350 cm-1
[NASA-RP-1224-VOL-2] p 53 N89-28969

INFRARED TELESCOPES

Workshop on Technology Development Issues for the Large Deployable Reflector (LDR)
[NASA-CP-2407] p 75 N88-20235

INGESTION (ENGINES)

Proceedings of the 1985 NASA Ames Research Center's Ground-Effects Workshop
[NASA-CP-2462] p 5 N87-24410

Measurements of flow rate and trajectory of aircraft tire-generated water spray
[NASA-TP-2718] p 14 N87-24458

INGOTS

Oxidation characteristics of Ti-14Al-21Nb ingot alloy
[NASA-TP-3012] p 31 N90-25206

INHOMOGENEITY

A procedure for computing surface wave trajectories on an inhomogeneous surface
[NASA-TP-2929] p 10 N89-26811

INLET FLOW

Aeropropulsion '87. Session 3: Internal Fluid Mechanics Research
[NASA-CP-10003-SESS-3] p 18 N88-15790

Numerical simulation of scramjet inlet flow fields
[NASA-TP-2517] p 8 N88-23735

Rotor induced-inflow-ratio measurements and CAMRAD calculations
[NASA-TP-2946] p 11 N90-15882

INSPECTION

Electronics reliability and measurement technology
[NASA-CP-2472] p 42 N87-27204

INSTALLING

Evaluation of installed performance of a wing-tip-mounted pusher turboprop on a semispan wing
[NASA-TP-2739] p 14 N87-26041

Integration effects of pylon geometry on a high-wing transport airplane
[NASA-TP-2877] p 9 N89-15888

INSTRUMENT APPROACH

Jet transport flight operations using cockpit display of traffic information during instrument meteorological conditions: Simulation evaluation
[NASA-TP-2567] p 12 N87-29469

INTEGRATED CIRCUITS

Pulse Code Modulation (PCM) encoder handbook for Aydin Vector MMP-600 series system
[NASA-RP-1171] p 33 N87-11916

A technique for evaluating the application of the pin-level stuck-at fault model to VLSI circuits
[NASA-TP-2738] p 42 N87-28025

Universal test fixture for monolithic mm-wave integrated circuits calibrated with an augmented TRD algorithm
[NASA-TP-2875] p 34 N89-17767

INTEGRATORS

Rotorcraft flight-propulsion control integration: An eclectic design concept
[NASA-TP-2815] p 19 N88-19475

INTERACTIONAL AERODYNAMICS

Supercomputing in Aerospace
[NASA-CP-2454] p 5 N87-25998

Transonic Symposium: Theory, Application, and Experiment, volume 1, part 2
[NASA-CP-3020-VOL-1-PT-2] p 9 N89-20942

INTERACTIVE CONTROL

NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-2] p 25 N87-24495

User's manual for interactive LINEAR: A FORTRAN program to derive linear aircraft models
[NASA-TP-2835] p 65 N89-16437

INTERFACES

Effect of LID (Registered) processing on the microstructure and mechanical properties of Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo titanium foil-gauge materials
[NASA-TP-2677] p 30 N87-18644

INTERNATIONAL COOPERATION

Orders of magnitude: A history of the NACA and NASA, 1915-1990
[NASA-SP-4406] p 81 N89-26805

INTERPLANETARY DUST

Carbon in the Galaxy: Studies from Earth and Space
[NASA-CP-3061] p 73 N90-27562

INTERPLANETARY NAVIGATION

The effect of interplanetary trajectory options on a manned Mars aerobrake configuration
[NASA-TP-3019] p 24 N90-26036

INTERPLANETARY TRAJECTORIES

The effect of interplanetary trajectory options on a manned Mars aerobrake configuration
[NASA-TP-3019] p 24 N90-26036

INTERPOLATION

Quantitative analysis of the reconstruction performance of interpolants
[NASA-TP-2688] p 65 N87-22441

INTERSTELLAR CHEMISTRY

Experiments in Planetary and Related Sciences and the Space Station
[NASA-CP-2494] p 72 N89-14998

Carbon in the Galaxy: Studies from Earth and Space
[NASA-CP-3061] p 73 N90-27562

INTERSTELLAR MATTER

Catalog of open clusters and associated interstellar matter
[NASA-RP-1202] p 76 N88-29652

Commentary on interstellar matter associated with 18 open clusters
[NASA-RP-1229] p 77 N89-27612

INVENTIONS

Significant NASA inventions. Available for licensing in foreign countries
[NASA-SP-7038(04)] p 72 N87-70425

INVERSIONS

Lewis inverse design code (LINDES): Users manual
[NASA-TP-2676] p 4 N87-20238

INVESTIGATION

Investigation of the effects of cobalt ions on epoxy properties
[NASA-TP-2639] p 31 N87-12680

Flight investigation of the effects of an outboard wing-leading-edge modification on stall/spin characteristics of a low-wing, single-engine, T-tail light airplane
[NASA-TP-2691] p 14 N87-23614

INVISCID FLOW

Calculation of viscous effects on transonic flow for oscillating airfoils and comparisons with experiment
[NASA-TP-2731] p 6 N87-27622

Supersonic aerodynamics of delta wings
[NASA-TP-2771] p 7 N88-17615

An approximate method for calculating three-dimensional inviscid hypersonic flow fields
[NASA-TP-3018] p 39 N90-27066

ION BEAMS

Benchmark solutions for the galactic ion transport equations: Energy and spatially dependent problems
[NASA-TP-2878] p 79 N89-16714

ION PLATING

Secondary electron emission characteristics of untreated and ion-textured titanium
[NASA-TP-2902] p 30 N89-17650

IONIC COLLISIONS

Eikonal solutions to optical model coupled-channel equations
[NASA-TP-2830] p 68 N88-30402

IONIC MOBILITY

Benchmark solutions for the galactic ion transport equations: Energy and spatially dependent problems
[NASA-TP-2878] p 79 N89-16714

IONS

Investigation of the effects of cobalt ions on epoxy properties
[NASA-TP-2639] p 31 N87-12680

Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets
[NASA-RP-1180] p 79 N87-25984

IUE

International ultraviolet explorer spectral atlas of planetary nebulae, central stars, and related objects
[NASA-RP-1203] p 76 N88-28843

J

JET AIRCRAFT

Jet transport flight operations using cockpit display of traffic information during instrument meteorological conditions: Simulation evaluation
[NASA-TP-2567] p 12 N87-29469

Effect of empennage arrangement on single-engine nozzle/afterbody static pressures at transonic speeds
[NASA-TP-2753] p 6 N88-10771

Comparison of flying qualities derived from in-flight and ground-based simulators for a jet-transport airplane for the approach and landing pilot tasks
[NASA-TP-2962] p 20 N90-11757

JET AIRCRAFT NOISE

- Shock structure and noise of supersonic jets in simulated flight to Mach 0.4
[NASA-TP-2785] p 67 N88-16510
- Annoyance caused by advanced turboprop aircraft flyover noise: Single-rotating propeller configuration
[NASA-TP-2782] p 67 N88-17441

JET ENGINES

- Jet model for slot film cooling with effect of free-stream and coolant turbulence
[NASA-TP-2655] p 36 N87-18034
- Effect of empennage arrangement on single-engine nozzle/afterbody static pressures at transonic speeds
[NASA-TP-2753] p 6 N88-10771

JET EXHAUST

- Multiscale turbulence effects in supersonic jets exhausting into still air
[NASA-TP-2707] p 36 N87-24672
- Influence of base modifications on in-flight base drag in the presence of jet exhaust for Mach numbers from 0.7 to 1.5
[NASA-TP-2802] p 37 N88-18881

JET FLOW

- Hot-jet simulation in cryogenic wind tunnels
[NASA-RP-1220] p 15 N89-23448

JET VANES

- Effects of the installation and operation of jet-exhaust yaw vanes on the longitudinal and lateral-directional characteristics of the F-14 airplane
[NASA-TP-2769] p 6 N88-12455

JOINTS (JUNCTIONS)

- The 20th Aerospace Mechanics Symposium
[NASA-CP-2423-REV] p 43 N87-16321
- Modeling of joints for the dynamic analysis of truss structures
[NASA-TP-2661] p 43 N87-20567
- Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-2] p 23 N87-22729
- Effects of variables upon pyrotechnically induced shock response spectra, part 2
[NASA-TP-2872] p 45 N89-13814

JUPITER ATMOSPHERE

- The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598
- Time-Variable Phenomena in the Jovian System
[NASA-SP-494] p 78 N89-28474

JUPITER RINGS

- Time-Variable Phenomena in the Jovian System
[NASA-SP-494] p 78 N89-28474

JUPITER SATELLITES

- Time-Variable Phenomena in the Jovian System
[NASA-SP-494] p 78 N89-28474

K

K STARS

- FGK stars and T Tauri stars: Monograph series on nonthermal phenomena in stellar atmospheres
[NASA-SP-502] p 77 N90-18344

KALMAN FILTERS

- Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid
[NASA-TP-2625] p 51 N87-13022

KAONS

- Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103

KAPTON (TRADEMARK)

- Spectroscopic comparison of effects of electron radiation on mechanical properties of two polyimides
[NASA-TP-2663] p 27 N87-18611

KEPLER LAWS

- Forbidden tangential orbit transfers between intersecting Keplerian orbits
[NASA-TP-3031] p 23 N90-26028

KEROSENE

- High-pressure calorimeter chamber tests for liquid oxygen/kerosene (LOX/RP-1) rocket combustion
[NASA-TP-2862] p 27 N89-15979

KINEMATICS

- Theory of gearing
[NASA-RP-1212] p 42 N90-19593

KINETIC THEORY

- A second-order accurate kinetic-theory-based method for inviscid compressible flows
[NASA-TP-2613] p 36 N87-18783

KNOWLEDGE

- Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-PT-1] p 62 N88-16360

KNOWLEDGE BASES (ARTIFICIAL INTELLIGENCE)

- Second Annual Workshop on Space Operations Automation and Robotics (SOAR 1988)
[NASA-CP-3019] p 61 N89-19817

- A knowledge-based tool for multilevel decomposition of a complex design problem
[NASA-TP-2903] p 63 N89-23181
- Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
- Fifth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3073] p 63 N90-27275

L

LABORATORY EQUIPMENT

- Controlled Ecological Life Support System. Design, Development, and Use of a Ground-Based Plant Growth Module
[NASA-CP-2479] p 60 N88-13852

LABYRINTH SEALS

- Three-step labyrinth seal for high-performance turbomachines
[NASA-TP-1848] p 36 N87-23921

LAMINAR BOUNDARY LAYER

- Aerothermal tests of spherical dome protuberances on a flat plate at a Mach number of 6.5
[NASA-TP-2631] p 35 N87-13664
- The NASA Langley Laminar-Flow-Control (LFC) experiment on a swept, supercritical airfoil: Design overview
[NASA-TP-2809] p 8 N88-21117
- Aerothermal tests of quilted dome models on a flat plate at a Mach number of 6.5
[NASA-TP-2804] p 37 N88-22325
- A review of high-speed, convective, heat-transfer computation methods
[NASA-TP-2914] p 38 N89-27116
- Research in Natural Laminar Flow and Laminar-Flow Control, part 1
[NASA-CP-2487-PT-1] p 10 N90-12503
- Research in Natural Laminar Flow and Laminar-Flow Control, part 2
[NASA-CP-2487-PT-2] p 10 N90-12519
- Experimental and theoretical aerodynamic characteristics of a high-lift semispan wing model
[NASA-TP-2990] p 11 N90-20046

LAMINAR FLOW

- Velocity profiles in laminar diffusion flames
[NASA-TP-2596] p 36 N87-18035
- The NASA Langley Laminar-Flow-Control (LFC) experiment on a swept, supercritical airfoil: Design overview
[NASA-TP-2809] p 8 N88-21117
- Laminar Flow Aircraft Certification
[NASA-CP-2413] p 8 N88-23737
- Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153
- Drag measurements on a laminar-flow body of revolution in the 13-inch magnetic suspension and balance system
[NASA-TP-2895] p 9 N89-19232
- Research in Natural Laminar Flow and Laminar-Flow Control, part 1
[NASA-CP-2487-PT-1] p 10 N90-12503
- Research in Natural Laminar Flow and Laminar-Flow Control, part 2
[NASA-CP-2487-PT-2] p 10 N90-12519
- Research in Natural Laminar Flow and Laminar-Flow Control, part 3
[NASA-CP-2487-PT-3] p 10 N90-12539
- Simulated-airline-service flight tests of laminar-flow control with perforated-surface suction system
[NASA-TP-2966] p 16 N90-17627

LAMINAR FLOW AIRFOILS

- Wind-tunnel investigation of a full-scale general aviation airplane equipped with an advanced natural laminar flow wing
[NASA-TP-2772] p 6 N88-10009
- Laminar Flow Aircraft Certification
[NASA-CP-2413] p 8 N88-23737
- Research in Natural Laminar Flow and Laminar-Flow Control, part 1
[NASA-CP-2487-PT-1] p 10 N90-12503
- Research in Natural Laminar Flow and Laminar-Flow Control, part 2
[NASA-CP-2487-PT-2] p 10 N90-12519
- Research in Natural Laminar Flow and Laminar-Flow Control, part 3
[NASA-CP-2487-PT-3] p 10 N90-12539

LAMINATES

- Three-dimensional analysis of a postbuckled embedded delamination
[NASA-TP-2823] p 44 N88-26684
- Evaluation of energy absorption of new concepts of aircraft composite subfloor intersections
[NASA-TP-2951] p 16 N90-26823

LANDFORMS

- Geomorphology from space: A global overview of regional landforms
[NASA-SP-486] p 47 N87-18139

LANDING

- Effect of motion cues during complex curved approach and landing tasks: A piloted simulation study
[NASA-TP-2773] p 14 N88-12480

LANDING GEAR

- Langley Aircraft Landing Dynamics Facility
[NASA-RP-1189] p 21 N87-29544
- Cornering characteristics of the main-gear tire of the space shuttle orbiter
[NASA-TP-2790] p 14 N88-18583
- Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
[NASA-TP-2977] p 42 N90-19595

LANDING SITES

- Mars landing site catalog
[NASA-RP-1238] p 78 N90-27607

LANDSAT 4

- LANDSAT-4 and LANDSAT-5 multispectral scanner coherent noise characterization and removal
[NASA-TP-2595-REV] p 49 N89-12114

LANDSAT 5

- LANDSAT-4 and LANDSAT-5 multispectral scanner coherent noise characterization and removal
[NASA-TP-2595-REV] p 49 N89-12114

LARGE DEPLOYABLE REFLECTOR

- Workshop on Technology Development Issues for the Large Deployable Reflector (LDR)
[NASA-CP-2407] p 75 N88-20235

LARGE SPACE STRUCTURES

- Solar array flight dynamic experiment
[NASA-TP-2598] p 23 N87-12581
- NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-1] p 24 N87-16014
- Solar array flight experiment/dynamic augmentation experiment
[NASA-TP-2690] p 26 N87-20380
- Modeling of joints for the dynamic analysis of truss structures
[NASA-TP-2661] p 43 N87-20567
- Space station structures and dynamics test program
[NASA-TP-2710] p 43 N87-20568
- Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-1] p 23 N87-22702
- Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-2] p 23 N87-22729
- Technology for large space systems: A bibliography with indexes (supplement 17)
[NASA-SP-7046(17)] p 22 N87-29576
- The 21st Aerospace Mechanisms Symposium
[NASA-CP-2470] p 43 N87-29858
- Workshop on Technology Development Issues for the Large Deployable Reflector (LDR)
[NASA-CP-2407] p 75 N88-20235
- Technology for large space systems: A bibliography with indexes (supplement 18)
[NASA-SP-7046(18)] p 22 N88-27214
- Recent Advances in Multidisciplinary Analysis and Optimization, part 3
[NASA-CP-3031-PT-3] p 15 N89-25201
- Technology for large space systems: A bibliography with indexes (supplement 20)
[NASA-SP-7046(20)] p 26 N89-26037
- NASA Workshop on Computational Structural Mechanics 1987, part 3
[NASA-CP-10012-PT-3] p 46 N89-29799
- Earth Science Geostationary Platform Technology
[NASA-CP-3040] p 24 N90-19249
- NASA/DOD Controls-Structures Interaction Technology 1989
[NASA-CP-3041] p 26 N90-21062
- The 24th Aerospace Mechanisms Symposium
[NASA-CP-3062] p 47 N90-22079
- Technology for large space systems: A bibliography with indexes (supplement 22)
[NASA-SP-7046(22)] p 26 N90-26056

LASER ANEMOMETERS

- Three component laser anemometer measurements in an annular cascade of core turbine vanes with contoured end wall
[NASA-TP-2846] p 8 N89-10844
- Laser anemometer measurements in a transonic axial-flow fan rotor
[NASA-TP-2879] p 38 N90-11245

LASER APPLICATIONS

- Thirteenth International Laser Radar Conference
[NASA-CP-2431] p 39 N87-10263
- Solar array flight dynamic experiment
[NASA-TP-2598] p 23 N87-12581

LASER BEAMS

- NASA Laser Light Scattering Advanced Technology Development Workshop, 1988
[NASA-CP-10033] p 40 N90-17085
Mode-medium instability and its correction with a Gaussian reflectivity mirror
[NASA-TP-3023] p 68 N90-25673

LASER DOPPLER VELOCIMETERS

- Frequency domain laser velocimeter signal processor: A new signal processing scheme
[NASA-TP-2735] p 40 N87-27994
Laser-velocimeter-measured flow field around an advanced, swept, eight-blade propeller at Mach 0.8
[NASA-TP-2462] p 2 N90-20942

LASER OUTPUTS

- Evaluation of diffuse-illumination holographic cinematography in a flutter cascade
[NASA-TP-2593] p 39 N87-13731

LASER PLASMA INTERACTIONS

- Laser-powered MHD generators for space application
[NASA-TP-2621] p 68 N87-10764

LASER POWER BEAMING

- Second Beamed Space-Power Workshop
[NASA-CP-3037] p 27 N90-10140
Diode laser satellite systems for beamed power transmission
[NASA-TP-2992] p 40 N90-24585

LASER PROPULSION

- Second Beamed Space-Power Workshop
[NASA-CP-3037] p 27 N90-10140

LASER STABILITY

- Mode-medium instability and its correction with a Gaussian reflectivity mirror
[NASA-TP-3023] p 68 N90-25673

LASERS

- Thirteenth International Laser Radar Conference
[NASA-CP-2431] p 39 N87-10263

LASING

- Mode-medium instability and its correction with a Gaussian reflectivity mirror
[NASA-TP-3023] p 68 N90-25673

LATERAL CONTROL

- Subsonic longitudinal and lateral-directional characteristics of a forward-swept-wing fighter configuration at angles of attack up to 47 deg
[NASA-TP-2727] p 6 N87-26874

LATERAL STABILITY

- Subsonic longitudinal and lateral-directional characteristics of a forward-swept-wing fighter configuration at angles of attack up to 47 deg
[NASA-TP-2727] p 6 N87-26874
Effects of the installation and operation of jet-exhaust yaw vanes on the longitudinal and lateral-directional characteristics of the F-14 airplane
[NASA-TP-2769] p 6 N88-12455

LATTICES

- Continuum modeling of large lattice structures: Status and projections
[NASA-TP-2767] p 25 N88-14115

LAUNCHING

- A synchronous data analyzer for the Minimum Delay Data Format (MDDF) and Launch Trajectory Acquisition System (LTAS)
[NASA-TP-2743] p 34 N87-24590

LEADING EDGE FLAPS

- Investigation of leading-edge flap performance on delta and double-delta wings at supersonic speeds
[NASA-TP-2656] p 4 N87-20233

LEADING EDGES

- Flight investigation of the effects of an outboard wing-leading-edge modification on stall/spin characteristics of a low-wing, single-engine, T-tail light airplane
[NASA-TP-2691] p 14 N87-23614
Sensitivity of F-106B leading-edge-vortex images to flight and vapor-screen parameters
[NASA-TP-2818] p 8 N88-23760
Simulated-airline-service flight tests of laminar-flow control with perforated-surface suction system
[NASA-TP-2968] p 16 N90-17627

LEAKAGE

- Three-step cylindrical seal for high-performance turbomachines
[NASA-TP-1849] p 36 N87-24639

LEE WAVES

- Study of lee-side flows over conically cambered delta wings at supersonic speeds, part 1
[NASA-TP-2660-PT-1] p 5 N87-23597

LIBRATION

- A lunar far-side very low frequency array
[NASA-CP-3039] p 75 N90-10805

LICENSING

- Significant NASA inventions. Available for licensing in foreign countries
[NASA-SP-7038(04)] p 72 N87-70425

LIFE (DURABILITY)

- Turbine Engine Hot Section Technology, 1984
[NASA-CP-2339] p 43 N87-11180
Predicted effect of dynamic load on pitting fatigue life for low-contact-ratio spur gears
[NASA-TP-2610] p 41 N87-18095
Life prediction of thermomechanical fatigue using total strain version of strainrange partitioning (SRP): A proposal
[NASA-TP-2779] p 44 N88-15263
Thermal Barrier Coatings. Abstracts and figures
[NASA-CP-10019] p 31 N89-13642
Proceedings of the LDEF Materials Data Analysis Workshop
[NASA-CP-10046] p 28 N90-26075

LIFT

- Low-speed, high-lift aerodynamic characteristics of slender, hypersonic accelerator-type configurations
[NASA-TP-2945] p 10 N90-10830
Powered-lift aircraft technology
[NASA-SP-501] p 15 N90-12589

LIFT AUGMENTATION

- Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959

LIFT DEVICES

- A closed-form trim solution yielding minimum trim drag for airplanes with multiple longitudinal-control effectors
[NASA-TP-2907] p 20 N89-23468

LIFT DRAG RATIO

- Effect of milling machine roughness and wing dihedral on the supersonic aerodynamic characteristics of a highly swept wing
[NASA-TP-2918] p 10 N89-25117

LIGHT AIRCRAFT

- Piloted simulation study of the effects of an automated trim system on flight characteristics of a light twin-engine airplane with one engine inoperative
[NASA-TP-2633] p 3 N87-10843

LIGHT SCATTERING

- NASA Laser Light Scattering Advanced Technology Development Workshop, 1988
[NASA-CP-10033] p 40 N90-17085

LIGHTNING

- New methods and results for quantification of lightning-aircraft electrostatics
[NASA-TP-2737] p 4 N87-21871

LIMB DARKENING

- Summary of along-track data from the earth radiation budget satellite for several representative ocean regions
[NASA-RP-1206] p 56 N89-14634
Limb-darkening functions as derived from along-track operation of the ERBE scanning radiometer for January 1985
[NASA-RP-1214] p 56 N89-17374
Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation
[NASA-RP-1184-VOL-2] p 57 N89-20587

LINE SPECTRA

- Atlas of absorption lines from 0 to 17900 cm (sup)-1
[NASA-RP-1188] p 49 N87-28955

LINEAR ENERGY TRANSFER (LET)

- Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets
[NASA-RP-1180] p 79 N87-25984

LINEAR SYSTEMS

- Derivation and definition of a linear aircraft model
[NASA-RP-1207] p 19 N89-15123
User's manual for interactive LINEAR: A FORTRAN program to derive linear aircraft models
[NASA-TP-2835] p 65 N89-16437
Integrated tools for control-system analysis
[NASA-TP-2885] p 20 N89-19309
A transient response method for linear coupled substructures
[NASA-TP-2926] p 23 N90-13444

LINEARITY

- Applicability of linearized-theory attached-flow methods to design and analysis of flap systems at low speeds for thin swept wings with sharp leading edges
[NASA-TP-2653] p 3 N87-15174

LINEARIZATION

- User's manual for LINEAR, a FORTRAN program to derive linear aircraft models
[NASA-TP-2768] p 65 N88-21740

LININGS

- Turbine Engine Hot Section Technology, 1984
[NASA-CP-2339] p 43 N87-11180
Conventionally cast and forged copper alloy for high-heat-flux thrust chambers
[NASA-TP-2694] p 30 N87-16902
Turbine Engine Hot Section Technology, 1985
[NASA-CP-2405] p 43 N88-11140

LIQUID NITROGEN

- Contamination of liquid oxygen by pressurized gaseous nitrogen
[NASA-TP-2894] p 38 N89-19499

LIQUID OXYGEN

- High-pressure calorimeter chamber tests for liquid oxygen/kerosene (LOX/RP-1) rocket combustion
[NASA-TP-2862] p 27 N89-15979
Contamination of liquid oxygen by pressurized gaseous nitrogen
[NASA-TP-2894] p 38 N89-19499

LIQUID PROPELLANT ROCKET ENGINES

- Preliminary design of turbopumps and related machinery
[NASA-RP-1170] p 3 N87-17665
Advanced Earth-to-Orbit Propulsion Technology 1988, volume 1
[NASA-CP-3012-VOL-1] p 27 N90-28611

LIQUID ROCKET PROPELLANTS

- Advanced Earth-to-Orbit Propulsion Technology 1988, volume 1
[NASA-CP-3012-VOL-1] p 27 N90-28611

LIQUID-VAPOR INTERFACES

- Workshop on Two-Phase Fluid Behavior in a Space Environment
[NASA-CP-3043] p 38 N89-26184

LIQUIDS

- Effect of LID (Registered) processing on the microstructure and mechanical properties of Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo titanium foil-gauge materials
[NASA-TP-2677] p 30 N87-18644

LITHIUM SULFUR BATTERIES

- The 1985 Goddard Space Flight Center Battery Workshop
[NASA-CP-2434] p 34 N87-11072
The 1986 Goddard Space Flight Center Battery Workshop
[NASA-CP-2486] p 35 N88-11021

LOAD TESTS

- Cyclic loads tests of carbon involute solid rocket motor outer boot ring segments
[NASA-TP-2884] p 45 N89-16192
Evaluation of a strain-gage load calibration on a low-aspect-ratio wing structure at elevated temperature
[NASA-TP-2921] p 46 N89-28034

LOADS (FORCES)

- Application of Newton's method to the postbuckling of rings under pressure loadings
[NASA-TP-2941] p 46 N89-29811
A transient response method for linear coupled substructures
[NASA-TP-2926] p 23 N90-13444
Integrated force method versus displacement method for finite element analysis
[NASA-TP-2937] p 47 N90-18081
Fastener design manual
[NASA-RP-1228] p 42 N90-18740

LOGISTICS

- First Annual Workshop on Space Operations Automation and Robotics (SOAR 87)
[NASA-CP-2491] p 61 N88-17206

LONG DURATION EXPOSURE FACILITY

- Proceedings of the LDEF Materials Data Analysis Workshop
[NASA-CP-10046] p 28 N90-26075

LONG TERM EFFECTS

- Five year global dataset: NMC operational analyses (1978 to 1982)
[NASA-RP-1194] p 55 N87-29996

LONG WAVE RADIATION

- Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 6 Earth radiation budget data set, July 1975 to June 1978
[NASA-RP-1185] p 55 N87-26489
Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation
[NASA-RP-1184-VOL-2] p 57 N89-20587

LONGITUDINAL CONTROL

- Steady and unsteady transonic pressure measurements on a clipped delta wing for pitching and control-surface oscillations
[NASA-TP-2594] p 8 N88-28895
Longitudinal stability and control characteristics of the Quiet Short-Haul Research Aircraft (QSRA)
[NASA-TP-2965] p 20 N90-17639

LONGITUDINAL STABILITY

- Effects of the installation and operation of jet-exhaust yaw vanes on the longitudinal and lateral-directional characteristics of the F-14 airplane
[NASA-TP-2769] p 6 N88-12455
Longitudinal stability and control characteristics of the Quiet Short-Haul Research Aircraft (QSRA)
[NASA-TP-2965] p 20 N90-17639

LOW ASPECT RATIO WINGS

Evaluation of a strain-gage load calibration on a low-aspect-ratio wing structure at elevated temperature [NASA-TP-2921] p 46 N89-28034

LOW SPEED

Applicability of linearized-theory attached-flow methods to design and analysis of flap systems at low speeds for thin swept wings with sharp leading edges [NASA-TP-2653] p 3 N87-15174

Piloted simulator study of allowable time delays in large-airplane response [NASA-TP-2652] p 19 N87-16849

Flight characteristics of the AD-1 oblique-wing research aircraft [NASA-TP-2223] p 19 N87-18570

Piloted-simulation study of effects of vortex flaps on low-speed handling qualities of a Delta-wing airplane [NASA-TP-2747] p 19 N87-26922

Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers [NASA-TP-2763] p 6 N87-29462

A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14-x 22-foot subsonic tunnel [NASA-TP-2796] p 7 N88-20264

Low velocity instrumented impact testing of four new damage tolerant carbon/epoxy composite systems [NASA-TP-3029] p 29 N90-25198

LOW SPEED WIND TUNNELS

Comparison between design and installed acoustic characteristics of NASA Lewis 9- by 15-foot low-speed wind tunnel acoustic treatment [NASA-TP-2996] p 22 N90-19242

LOW TEMPERATURE

Low-Temperature CO-Oxidation Catalysts for Long-Life CO2 Lasers [NASA-CP-3076] p 40 N90-24586

LOWER BODY NEGATIVE PRESSURE

Joint US/USSR study: Comparison of effects of horizontal and head-down bed rest [NASA-TP-3037] p 60 N90-28965

LUBRICANTS

The 23rd Aerospace Mechanisms Symposium [NASA-CP-3032] p 46 N89-23892

Influence of the deposition conditions on radiofrequency magnetron sputtered MoS2 films [NASA-TP-2994] p 33 N90-21210

LUBRICATING OILS

Liquid lubrication in space [NASA-RP-1240] p 42 N90-28063

LUBRICATION

Liquid lubrication in space [NASA-RP-1240] p 42 N90-28063

LUBRICATION SYSTEMS

Liquid lubrication in space [NASA-RP-1240] p 42 N90-28063

LUNAR BASES

Status and future of lunar geoscience [NASA-SP-484] p 77 N87-19322

Solar-flare shielding with Regolith at a lunar-base site [NASA-TP-2869] p 79 N89-14210

Future Astronomical Observatories on the Moon [NASA-CP-2489] p 74 N89-15810

Second Beamed Space-Power Workshop [NASA-CP-3037] p 27 N90-10140

A lunar far-side very low frequency array [NASA-CP-3039] p 75 N90-10805

Geoscience and a Lunar Base: A Comprehensive Plan for Lunar Exploration [NASA-CP-3070] p 78 N90-25030

LUNAR ECLIPSES

Fifty year canon of lunar eclipses: 1986-2035 [NASA-RP-1216] p 75 N90-18342

LUNAR EXPLORATION

OEXP Analysis Tools Workshop [NASA-CP-10013] p 63 N89-11407

Report of the In Situ Resources Utilization Workshop [NASA-CP-3017] p 72 N89-14188

Where no man has gone before: A history of Apollo lunar exploration missions [NASA-SP-4214] p 81 N89-25946

Geoscience and a Lunar Base: A Comprehensive Plan for Lunar Exploration [NASA-CP-3070] p 78 N90-25030

LUNAR OBSERVATORIES

Future Astronomical Observatories on the Moon [NASA-CP-2489] p 74 N89-15810

LUNAR SOIL

Lunar Helium-3 and Fusion Power [NASA-CP-10018] p 69 N89-14842

LUNAR SURFACE

Solar-flare shielding with Regolith at a lunar-base site [NASA-TP-2869] p 79 N89-14210

M

M STARS

The M-type stars [NASA-SP-492] p 75 N88-11592

MACH NUMBER

Experimental evaluation of wall Mach number distributions of the octagonal test section proposed for NASA Lewis Research Center's altitude wind tunnel [NASA-TP-2666] p 21 N87-17717

Mach 6 experimental and theoretical stability and performance of a cruciform missile at angles of attack up to 65 degrees [NASA-TP-2733] p 5 N87-23592

Multiaxis control power from thrust vectoring for a supersonic fighter aircraft model at Mach 0.20 to 2.47 [NASA-TP-2712] p 5 N87-24433

Effect of Reynolds number variation on aerodynamics of a hydrogen-fueled transport concept at Mach 6 [NASA-TP-2728] p 5 N87-26031

Description and calibration of the Langley Hypersonic CF4 tunnel: A facility for simulating low gamma flow as occurs for a real gas [NASA-TP-2384] p 37 N87-29778

Shock structure and noise of supersonic jets in simulated flight to Mach 0.4 [NASA-TP-2785] p 67 N88-16510

Influence of base modifications on in-flight base drag in the presence of jet exhaust for Mach numbers from 0.7 to 1.5 [NASA-TP-2802] p 37 N88-18881

Galileo probe parachute test program: Wake properties of the Galileo probe at Mach numbers from 0.25 to 0.95 [NASA-RP-1130] p 37 N88-18884

Aeropropulsive characteristics of isolated combined turbojet/ramjet nozzles at Mach numbers from 0 to 1.20 [NASA-TP-2814] p 8 N88-23757

Fluctuating pressures measured beneath a high-temperature, turbulent boundary layer on a flat plate at Mach number of 5 [NASA-TP-2947] p 67 N90-10680

Fuselage design for a specified Mach-sliced area distribution [NASA-TP-2975] p 16 N90-18385

MACHINING

Performance of a multistage depressed collector with machined titanium electrodes [NASA-TP-2891] p 35 N89-15337

Secondary electron emission characteristics of untreated and ion-textured titanium [NASA-TP-2902] p 30 N89-17650

MAGNETIC FIELD CONFIGURATIONS

Coronal and Prominence Plasmas [NASA-CP-2442] p 79 N87-20871

MAGNETIC FLUX

Theoretical Problems in High Resolution Solar Physics, 2 [NASA-CP-2483] p 79 N88-11609

MAGNETIC SUSPENSION

The 22nd Aerospace Mechanisms Symposium [NASA-CP-2506] p 44 N88-21468

Drag measurements on a laminar-flow body of revolution in the 13-inch magnetic suspension and balance system [NASA-TP-2895] p 9 N89-19232

MAGNETIC TAPES

User's guide for the Nimbus 7 Scanning Multichannel Microwave Radiometer (SMMR) CELL-ALL tape [NASA-RP-1210] p 56 N89-14648

MAGNETOHYDRODYNAMIC GENERATORS

Laser-powered MHD generators for space application [NASA-TP-2621] p 68 N87-10764

Laser production and heating of plasma for MHD application [NASA-TP-2798] p 68 N88-18443

MAGNETOHYDRODYNAMIC STABILITY

Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings [NASA-CP-2439] p 79 N87-19328

Coronal and Prominence Plasmas [NASA-CP-2442] p 79 N87-20871

MAGNETOHYDRODYNAMICS

O stars and Wolf-Rayet stars [NASA-SP-497] p 74 N89-11657

MAGNETOSTATICS

Coronal and Prominence Plasmas [NASA-CP-2442] p 79 N87-20871

MAGNETRON SPUTTERING

Influence of the deposition conditions on radiofrequency magnetron sputtered MoS2 films [NASA-TP-2994] p 33 N90-21210

MAN MACHINE SYSTEMS

A simulation evaluation of a pilot interface with an automatic terminal approach system [NASA-TP-2669] p 16 N87-19393

Third Conference on Artificial Intelligence for Space Applications, part 1 [NASA-CP-2492-P1-1] p 62 N88-16360

First Annual Workshop on Space Operations Automation and Robotics (SOAR 87) [NASA-CP-2491] p 61 N88-17206

Graphics Technology in Space Applications (GTSA 1989) [NASA-CP-3045] p 62 N90-20651

MAN-COMPUTER INTERFACE

Sixth Annual Users' Conference --- Transportable Applications Executive (TAE) [NASA-CP-2463] p 62 N87-23156

Flight deck automation: Promises and realities [NASA-CP-10036] p 17 N90-13384

MANAGEMENT

Management: A bibliography for NASA managers (supplement 21) [NASA-SP-7500(21)] p 69 N87-20833

Management: A bibliography for NASA managers [NASA-SP-7500(22)] p 69 N88-21867

Management: A bibliography for NASA managers [NASA-SP-7500(23)] p 69 N89-26766

Management: A bibliography for NASA managers [NASA-SP-7500(24)] p 69 N90-24174

MANAGEMENT METHODS

Management: A bibliography for NASA managers (supplement 21) [NASA-SP-7500(21)] p 69 N87-20833

Management: A bibliography for NASA managers [NASA-SP-7500(22)] p 69 N88-21867

Practices in adequate structural design [NASA-TP-2893] p 24 N89-18504

Management: A bibliography for NASA managers [NASA-SP-7500(23)] p 69 N89-26766

Issues in NASA program and project management [NASA-SP-6101(02)] p 69 N90-13277

Sensor performance analysis [NASA-RP-1241] p 50 N90-23780

Management: A bibliography for NASA managers [NASA-SP-7500(24)] p 69 N90-24174

MANAGEMENT PLANNING

Management: A bibliography for NASA managers (supplement 21) [NASA-SP-7500(21)] p 69 N87-20833

Space Construction [NASA-CP-2490] p 25 N88-10870

Management: A bibliography for NASA managers [NASA-SP-7500(22)] p 69 N88-21867

Simulation evaluation of TIMER, a time-based, terminal air traffic, flow-management concept [NASA-TP-2870] p 13 N89-15901

Management: A bibliography for NASA managers [NASA-SP-7500(23)] p 69 N89-26766

Management: A bibliography for NASA managers [NASA-SP-7500(24)] p 69 N90-24174

MANEUVERS

Subsonic maneuver capability of a supersonic cruise fighter wing concept [NASA-TP-2642] p 3 N87-15184

MANIPULATORS

The 20th Aerospace Mechanisms Symposium [NASA-CP-2423-REV] p 43 N87-16321

The 21st Aerospace Mechanisms Symposium [NASA-CP-2470] p 43 N87-29858

The 23rd Aerospace Mechanisms Symposium [NASA-CP-3032] p 46 N89-23892

Optimized resolved rate control of seven-degree-of-freedom Laboratory Telerobotic Manipulator (LTM) with application to three-dimensional graphics simulation [NASA-TP-2938] p 64 N90-10618

Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989) [NASA-CP-3059] p 62 N90-25503

MANNED MARS MISSIONS

Radiation exposure for manned Mars surface missions [NASA-TP-2979] p 80 N90-18357

The effect of interplanetary trajectory options on a manned Mars aerobrake configuration [NASA-TP-3019] p 24 N90-26036

MANNED SPACE FLIGHT

Proceedings of a conference on Cardiovascular Bioinstrumentation [NASA-CP-10022] p 59 N89-17997

Where no man has gone before: A history of Apollo lunar exploration missions [NASA-SP-4214] p 81 N89-25946

Orders of magnitude: A history of the NACA and NASA, 1915-1990 [NASA-SP-4406] p 81 N89-26805

Cells in Space [NASA-CP-10034] p 61 N90-13939

MANUALS

Fastener design manual [NASA-RP-1228] p 42 N90-18740

MANUFACTURING

National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350

MANY BODY PROBLEM

Computational Methods for Structural Mechanics and Dynamics
[NASA-CP-3034-PT-2] p 46 N89-24654

MAPPING

Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 6 Earth radiation budget data set, July 1975 to June 1978
[NASA-RP-1185] p 55 N87-26489

Scientific and Operational Requirements for TOMS Data
[NASA-CP-2497] p 47 N88-13774

Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide
[NASA-TP-2761] p 56 N88-14572

The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-RP-1201] p 49 N88-20714

MAPS

The 1989 Airborne Arctic Stratospheric Expedition Nimbus-7 TOMS data atlas
[NASA-RP-1227] p 57 N89-27302

Atlas of albedo and absorbed solar radiation derived from Nimbus 7 Earth radiation budget data set, November 1978 to October 1985
[NASA-RP-1231] p 57 N90-17233

MARINE METEOROLOGY

FIRE Science Results 1989
[NASA-CP-3079] p 58 N90-28224

MARINE RESOURCES

Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152

MARKOV PROCESSES

SURE reliability analysis: Program and mathematics
[NASA-TP-2764] p 65 N88-17380

Analysis and testing of the SURE program
[NASA-TP-2817] p 65 N88-22653

MARS (PLANET)

Proceedings of the Polar Processes on Mars Workshop
[NASA-CP-10021] p 78 N89-18373

Mars landing site catalog
[NASA-RP-1238] p 78 N90-27607

MARS ATMOSPHERE

Proceedings of the Polar Processes on Mars Workshop
[NASA-CP-10021] p 78 N89-18373

Radiation exposure for manned Mars surface missions
[NASA-TP-2979] p 80 N90-18357

MARS LANDING

OEXP Analysis Tools Workshop
[NASA-CP-10013] p 63 N89-11407

Mars landing site catalog
[NASA-RP-1238] p 78 N90-27607

MARS SAMPLE RETURN MISSIONS

Exobiology and Future Mars Missions
[NASA-CP-10027] p 59 N89-26334

MARS SURFACE

Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401

Radiation exposure for manned Mars surface missions
[NASA-TP-2979] p 80 N90-18357

MASS DISTRIBUTION

Effect of control surface mass unbalance on the stability of a closed-loop active control system
[NASA-TP-2952] p 47 N90-12042

MASSIVELY PARALLEL PROCESSORS

Computer Sciences and Data Systems, volume 2
[NASA-CP-2459-VOL-2] p 62 N87-19932

Frontiers of Massively Parallel Scientific Computation
[NASA-CP-2478] p 62 N87-26531

MATERIALS HANDLING

Nuclear techniques in studies of condensed matter
[NASA-RP-1195] p 68 N88-13015

MATHEMATICAL MODELS

Turbine Engine Hot Section Technology, 1984
[NASA-CP-2339] p 43 N87-11180

Exploiting symmetries in the modeling and analysis of tires
[NASA-TP-2649] p 13 N87-17690

Double Layers in Astrophysics
[NASA-CP-2469] p 72 N87-23313

Probabilistic risk analysis of flying the space shuttle with and without fuel turbine discharge temperature redline protection
[NASA-TP-2759] p 65 N87-27474

Space Electrochemical Research and Technology (SERT)
[NASA-CP-2484] p 50 N87-29914

Turbine Engine Hot Section Technology, 1985
[NASA-CP-2405] p 43 N88-11140

Evaluation of a scale-model experiment to investigate long-range acoustic propagation
[NASA-TP-2748] p 66 N88-11450

SURE reliability analysis: Program and mathematics
[NASA-TP-2764] p 65 N88-17380

Nonlinear Constitutive Relations for High Temperature Applications, 1986
[NASA-CP-10010] p 44 N88-21498

Analysis and testing of the SURE program
[NASA-TP-2817] p 65 N88-22653

Integrated Technology Rotor Methodology Assessment Workshop
[NASA-CP-10007] p 2 N88-27148

Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677

Thermal Barrier Coatings. Abstracts and figures
[NASA-CP-10019] p 31 N89-13642

Derivation and definition of a linear aircraft model
[NASA-RP-1207] p 19 N89-15123

Conservation equations and physical models for hypersonic air flows in thermal and chemical nonequilibrium
[NASA-TP-2867] p 38 N89-16115

Rotordynamic Instability Problems in High-Performance Turbomachinery, 1988
[NASA-CP-3026] p 41 N89-22891

Research in structures, structural dynamics and materials, 1989
[NASA-CP-10024] p 46 N89-24626

Derivation of a tapered p-version beam finite element
[NASA-TP-2931] p 46 N89-26255

A procedure for computing surface wave trajectories on an inhomogeneous surface
[NASA-TP-2929] p 10 N89-26811

Constitutive Relationships and Models in Continuum Theories of Multiphase Flows --- conferences
[NASA-CP-3047] p 38 N90-10385

A transient response method for linear coupled substructures
[NASA-TP-2926] p 23 N90-13444

Rotor induced-inflow-ratio measurements and CAMRAD calculations
[NASA-TP-2946] p 11 N90-15882

Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
[NASA-TP-2977] p 42 N90-19595

Discrete-vortex model for the symmetric-vortex flow on cones
[NASA-TP-2989] p 11 N90-20946

NASA/DOD Controls-Structures Interaction Technology 1989
[NASA-CP-3041] p 26 N90-21062

Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031

Loads analysis and testing of flight configuration solid rocket motor outer boot ring segments
[NASA-TP-3028] p 47 N90-25366

Modification of the SHABERTH bearing code to incorporate RP-1 and a discussion of the traction model
[NASA-TP-3017] p 42 N90-28066

The effects of structural flap-lag and pitch-lag coupling on soft inplane hingeless rotor stability in hover
[NASA-TP-3002] p 12 N90-28503

Gas-jet and tangent-slot film cooling tests of a 12.5 deg cone at Mach number of 6.7
[NASA-TP-2786] p 39 N90-28806

MATRICES (MATHEMATICS)

The estimation error covariance matrix for the ideal state reconstructor with measurement noise
[NASA-TP-2881] p 63 N89-13994

Parallel Gaussian elimination of a block tridiagonal matrix using multiple microcomputers
[NASA-TP-2892] p 64 N89-17422

MAXWELL-BOLTZMANN DENSITY FUNCTION

On the Maxwellian distribution, symmetric form, and entropy conservation for the Euler equations
[NASA-TP-2583] p 35 N87-11963

MEASUREMENT

Foundations of measurement and instrumentation
[NASA-RP-1222] p 40 N90-21351

MEASURING INSTRUMENTS

On requirements for a satellite mission to measure tropical rainfall
[NASA-RP-1183] p 55 N87-20701

Earth resources: A continuing bibliography with indexes (issue 54)
[NASA-SP-7041(54)] p 49 N87-27315

Aeropropulsion '87. Session 4: Instrumentation and Controls Research
[NASA-CP-10003-SESS-4] p 18 N88-15794

Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084

Turbine Engine Hot Section Technology 1986
[NASA-CP-2444] p 45 N89-12876

Foundations of measurement and instrumentation
[NASA-RP-1222] p 40 N90-21351

MECHANICAL DRIVES

The 22nd Aerospace Mechanisms Symposium
[NASA-CP-2506] p 44 N88-21468

Comparison study of gear dynamic computer programs at NASA Lewis Research Center
[NASA-TP-2901] p 41 N89-21243

MECHANICAL PROPERTIES

Investigation of the effects of cobalt ions on epoxy properties
[NASA-TP-2639] p 31 N87-12680

Effect of LID (Registered) processing on the microstructure and mechanical properties of Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo titanium foil-gauge materials
[NASA-TP-2677] p 30 N87-18644

Static mechanical properties of 30 x 11.5 - 14.5, type 8 aircraft tires of bias-ply and radial-belted design
[NASA-TP-2810] p 15 N88-21157

MECHANICAL SHOCK

The 58th Shock and Vibration Symposium, volume 1
[NASA-CP-2488-VOL-1] p 43 N88-13609

MENTAL PERFORMANCE

Mental-State Estimation, 1987
[NASA-CP-2504] p 60 N88-23370

MERCURY CADMIUM TELLURIDES

Growth of solid solution single crystals
[NASA-TP-2787] p 32 N88-14212

MESON-NUCLEON INTERACTIONS

Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103

MESOSCALE PHENOMENA

NASA/MSCF FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043

MESOSPHERE

Nimbus-7 Stratospheric and Mesospheric Sounder (SAMS) experiment data user's guide
[NASA-RP-1221] p 53 N89-26304

A high-resolution atlas of the infrared spectrum of the sun and the earth atmosphere from space. A compilation of ATMOS spectra of the region from 650 to 4800 cm⁻¹ (2.3 to 16 microns). Volume 2: Stratosphere and mesosphere, 650 to 3350 cm⁻¹
[NASA-TP-1224-VOL-2] p 53 N89-28969

MESSAGE PROCESSING

A piloted simulation study of data link ATC message exchange
[NASA-TP-2859] p 13 N89-15900

METAL FATIGUE

Turbine Engine Hot Section Technology, 1988
[NASA-CP-2405] p 43 N88-11140

Lewis Structures Technology, 1988, Volume 3: Structural Integrity Fatigue and Fracture Wind Turbines HOST
[NASA-CP-3003-VOL-3] p 44 N88-22408

Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626

METAL MATRIX COMPOSITES

Effects of thermal cycling on graphite-fiber-reinforced 6061 aluminum
[NASA-TP-2612] p 28 N87-10184

Aeropropulsion '87. Session 1: Aeropropulsion Materials Research
[NASA-CP-10003-SESS-1] p 18 N88-16697

Tungsten fiber reinforced copper matrix composites: A review
[NASA-TP-2924] p 29 N89-27796

Effects of continuous and cyclic thermal exposures on boron- and borisic-reinforced 6061 aluminum composites
[NASA-TP-1063] p 28 N88-70029

METAL PLATES

Buckling and postbuckling behavior of square compression-loaded graphite-epoxy plates with circular cutouts
[NASA-TP-3007] p 29 N90-26077

Buckling and postbuckling behavior of compression-loaded isotropic plates with cutouts
[NASA-TP-3024] p 47 N90-28859

METAL SURFACES

Ester oxidation on an aluminum surface using chemiluminescence
[NASA-TP-2611] p 31 N87-18666

An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods
[NASA-TP-2820] p 30 N89-19406

METALS

Life prediction of thermomechanical fatigue using total strain version of strainrange partitioning (SRP): A proposal
[NASA-TP-2779] p 44 N88-15263

METEORITES

Planetary geosciences, 1988
[NASA-SP-498] p 48 N89-26274

METEORITIC DIAMONDS

Carbon in the Galaxy: Studies from Earth and Space
[NASA-CP-3061] p 73 N90-27562

METEOROLOGICAL FLIGHT

Global stratospheric change: Requirements for a Very-High-Altitude Aircraft for Atmospheric Research
[NASA-CP-10041] p 16 N90-14220

METEOROLOGICAL PARAMETERS

Thirteenth International Laser Radar Conference
[NASA-CP-2431] p 39 N87-10263

Arctic Sea ice, 1973-1976: Satellite passive-microwave observations
[NASA-SP-489] p 58 N87-24870

Five year global dataset: NMC operational analyses (1978 to 1982)
[NASA-RP-1194] p 55 N87-29996

METEOROLOGICAL SATELLITES

On requirements for a satellite mission to measure tropical rainfall
[NASA-RP-1183] p 55 N87-20701

METROLOGY

Earth Science Geostationary Platform Technology
[NASA-CP-3040] p 24 N90-19249

MICROBURSTS (METEOROLOGY)

Doppler Radar Detection of Wind Shear
[NASA-CP-2435] p 12 N87-10054

Influence of wind shear on the aerodynamic characteristics of airplanes
[NASA-TP-2827] p 12 N88-26344

Piloted-simulation evaluation of escape guidance for microburst wind shear encounters
[NASA-TP-2886] p 17 N89-16820

MICROCOMPUTERS

Pulse Code Modulation (PCM) data storage and analysis using a microcomputer
[NASA-TP-2629] p 33 N87-12718

Parallel Gaussian elimination of a block tridiagonal matrix using multiple microcomputers
[NASA-TP-2892] p 64 N89-17422

MICROELECTRONICS

Electronics reliability and measurement technology
[NASA-CP-2472] p 42 N87-27204

MICROGRAVITY APPLICATIONS

Liquid drop stability for protein crystal growth in microgravity
[NASA-TP-2724] p 58 N87-20727

MICROMETEORIODS

NASA/SPIO Space Environmental Effects on Materials Workshop, part 1
[NASA-CP-3035-PT-1] p 27 N89-23528

NASA/SPIO Space Environmental Effects on Materials Workshop, part 2
[NASA-CP-3035-PT-2] p 28 N89-23547

MICROSTRIP TRANSMISSION LINES

Analytical and experimental procedures for determining propagation characteristics of millimeter-wave gallium arsenide microstrip lines
[NASA-TP-2899] p 35 N89-21169

MICROSTRUCTURE

Effect of LID (Registered) processing on the microstructure and mechanical properties of Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo titanium foil-gauge materials
[NASA-TP-2677] p 30 N87-18644

MICROWAVE AMPLIFIERS

Calculation of secondary electron trajectories in multistage depressed collectors for microwave amplifiers
[NASA-TP-2664] p 34 N87-17991

MICROWAVE ANTENNAS

Thermal-distortion analysis of an antenna strongback for geostationary high-frequency microwave applications
[NASA-TP-3016] p 26 N90-27738

MICROWAVE CIRCUITS

Universal test fixture for monolithic mm-wave integrated circuits calibrated with an augmented TRD algorithm
[NASA-TP-2875] p 34 N89-17767

MICROWAVE EMISSION

Propagation effects handbook for satellite systems design. A summary of propagation impairments on 10 to 100 GHz satellite links with techniques for system design
[NASA-RP-1082(04)] p 34 N89-17060

MICROWAVE EQUIPMENT

Digitally modulated bit error rate measurement system for microwave component evaluation
[NASA-TP-2912] p 23 N89-28545

MICROWAVE LANDING SYSTEMS

Effect of motion cues during complex curved approach and landing tasks: A piloted simulation study
[NASA-TP-2773] p 14 N88-12480

MICROWAVE POWER BEAMING

Second Beamed Space-Power Workshop
[NASA-CP-3037] p 27 N90-10140

MICROWAVE RADIOMETERS

User's guide for the Nimbus 7 Scanning Multichannel Microwave Radiometer (SMRM) CELL-ALL tape
[NASA-RP-1210] p 56 N89-14648

Polar microwave brightness temperatures from Nimbus-7 SMRM: Time series of daily and monthly maps from 1978 to 1987
[NASA-RP-1223] p 48 N89-26275

MICROWAVE SENSORS

Earth Science Geostationary Platform Technology
[NASA-CP-3040] p 24 N90-19249

MICROWAVE SOUNDING

Thermal-distortion analysis of an antenna strongback for geostationary high-frequency microwave applications
[NASA-TP-3016] p 26 N90-27738

MICROWAVE TRANSMISSION

Analytical and experimental procedures for determining propagation characteristics of millimeter-wave gallium arsenide microstrip lines
[NASA-TP-2899] p 35 N89-21169

MICROWAVES

Theory for computing the field scattered from a smooth inflected surface
[NASA-TP-2632] p 68 N87-13264

Rapid Fluctuations in Solar Flares
[NASA-TP-2449] p 79 N87-21785

Atlas of absorption lines from 0 to 17900 cm (sup)-1
[NASA-RP-1188] p 49 N87-28955

Propagation effects on satellite systems at frequencies below 10 GHz: A handbook for satellite systems design
[NASA-RP-1108/2] p 34 N88-14226

MIDDLE ATMOSPHERE

Thirteenth International Laser Radar Conference
[NASA-CP-2431] p 39 N87-10263

MILKY WAY GALAXY

Carbon in the Galaxy: Studies from Earth and Space
[NASA-CP-3061] p 73 N90-27562

MILLIMETER WAVES

Universal test fixture for monolithic mm-wave integrated circuits calibrated with an augmented TRD algorithm
[NASA-TP-2875] p 34 N89-17767

MILLING (MACHINING)

Effect of milling machine roughness and wing dihedral on the supersonic aerodynamic characteristics of a highly swept wing
[NASA-TP-2918] p 10 N89-25117

MINING

Lunar Helium-3 and Fusion Power
[NASA-CP-10018] p 69 N89-14842

MIRRORS

Mode-medium instability and its correction with a Gaussian reflectivity mirror
[NASA-TP-3023] p 68 N90-25673

MISSILE CONFIGURATIONS

Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system
[NASA-TP-2401] p 4 N87-17668

MISSILES

Atmospheric Turbulence Relative to Aviation, Missile, and Space Programs
[NASA-CP-2468] p 55 N87-22341

MISSION PLANNING

Mach 6 experimental and theoretical stability and performance of a cruciform missile at angles of attack up to 65 degrees
[NASA-TP-2733] p 5 N87-23592

MISSION PLANNING

Status and future of lunar geoscience
[NASA-SP-484] p 77 N87-19322

MISSION PLANNING

Space Construction
[NASA-CP-2490] p 25 N88-10870

Space station systems: A bibliography with indexes
[NASA-SP-7056(05)] p 25 N88-13382

The 1987 Get Away Special Experimenter's Symposium
[NASA-CP-2500] p 22 N88-17691

The 1988 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3009] p 64 N88-30330

QEX Analysis Tools Workshop
[NASA-CP-10013] p 63 N89-11407

The 1989 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3033] p 64 N89-26578

Solar-Terrestrial Science Strategy Workshop
[NASA-CP-3048] p 73 N90-18329

MIXING

Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153

MODAL RESPONSE

Sensitivity Analysis in Engineering
[NASA-CP-2457] p 43 N87-18855

Dynamic characteristics of a vibrating beam with periodic variation in bending stiffness
[NASA-TP-2697] p 44 N88-23988

Modal control of an oblique wing aircraft
[NASA-TP-2898] p 20 N89-16845

MODELS

Power cepstrum technique with application to model helicopter acoustic data
[NASA-TP-2586] p 66 N87-17479

Modeling of joints for the dynamic analysis of truss structures
[NASA-TP-2661] p 43 N87-20567

Experimental validation of a two-dimensional shear-flow model for determining acoustic impedance
[NASA-TP-2679] p 66 N87-20798

Revised NASA axially symmetric ring model for coupled-cavity traveling-wave tubes
[NASA-TP-2675] p 35 N87-22923

Application of turbulence modeling to predict surface heat transfer in stagnation flow region of circular cylinder
[NASA-TP-2758] p 37 N87-27161

Thermoviscoplastic model with application to copper
[NASA-TP-2845] p 45 N89-16183

MODULATION

Dynamic characteristics of a vibrating beam with periodic variation in bending stiffness
[NASA-TP-2697] p 44 N88-23988

Digitally modulated bit error rate measurement system for microwave component evaluation
[NASA-TP-2912] p 23 N89-28545

MODULATION TRANSFER FUNCTION

Sensor performance analysis
[NASA-RP-1241] p 50 N90-23780

MODULUS OF ELASTICITY

Cyclic loads tests of carbon involute solid rocket motor outer boot ring segments
[NASA-TP-2884] p 45 N89-16192

MOLECULAR CLOUDS

Star Formation in Galaxies
[NASA-CP-2466] p 73 N87-24266

MOLECULAR SPECTRA

A high-resolution atlas of the infrared spectrum of the Sun and the Earth atmosphere from space: A compilation of ATMOS spectra of the region from 650 to 4800 cm (2.3 to 16 micron). Volume 1: The Sun
[NASA-RP-1224-VOL-1] p 53 N90-13893

MOLECULES

Microgravity crystallization of macromolecules: An interim report and proposal for continued research
[NASA-TP-2671] p 31 N87-20423

MOLYBDENUM

Secondary electron emission characteristics of molybdenum-masked, ion-textured OFHC copper
[NASA-TP-2967] p 31 N90-15211

MONITORS

Simulator evaluation of a display for a Takeoff Performance Monitoring System
[NASA-TP-2908] p 20 N89-23469

Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227

MONTE CARLO METHOD

Comparison of dose estimates using the buildup-factor method and a Baryon transport code (BRYNTRN) with Monte Carlo results
[NASA-TP-3021] p 80 N90-29290

MOON

Status and future of lunar geoscience
[NASA-SP-484] p 77 N87-19322

Fifty year canon of solar eclipses: 1986 - 2035
[NASA-RP-1178-REV] p 73 N87-25906

A lunar far-side very low frequency array
[NASA-CP-3039] p 75 N90-10805

MORPHOLOGY

Influence of the deposition conditions on radiofrequency magnetron sputtered MoS₂ films
[NASA-TP-2994] p 33 N90-21210

MOTION

Effect of motion cues during complex curved approach and landing tasks: A piloted simulation study
[NASA-TP-2773] p 14 N88-12480

MOUNTING

Drag measurements of blunt stores tangentially mounted on a flat plate at supersonic speeds
[NASA-TP-2742] p 6 N87-27626

MULTIPHASE FLOW

Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153

Constitutive Relationships and Models in Continuum Theories of Multiphase Flows --- conferences
[NASA-CP-3047] p 38 N90-10385

MULTIPROCESSING (COMPUTERS)

Partitioning strategy for efficient nonlinear finite element dynamic analysis on multiprocessor computers
[NASA-TP-2850] p 45 N89-16170

Parallel Gaussian elimination of a block tridiagonal matrix using multiple microcomputers
[NASA-TP-2892] p 64 N89-17422

- NASA Workshop on Computational Structural Mechanics 1987, part 1
[NASA-CP-10012-PT-1] p 46 N89-29773
- MULTISPECTRAL BAND SCANNERS**
LANDSAT-4 and LANDSAT-5 multispectral scanner coherent noise characterization and removal
[NASA-TP-2595-REV] p 49 N89-12114
- User's guide for the Nimbus 7 Scanning Multichannel Microwave Radiometer (SMMR) CELL-ALL tape
[NASA-RP-1210] p 56 N89-14648

N

NACELLES

- Integration effects of pylon geometry on a high-wing transport airplane
[NASA-TP-2877] p 9 N89-15888

NASA PROGRAMS

- Management: A bibliography for NASA managers (supplement 21)
[NASA-SP-7500(21)] p 69 N87-20833
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 31)
[NASA-SP-7039(31)-SECT-1] p 70 N87-25023
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 31)
[NASA-SP-7039(31)-SECT-2] p 70 N87-26689
- NASA Thesaurus Supplement: A four part cumulative supplement to the 1985 edition of the NASA Thesaurus (supplement 3)
[NASA-SP-7053-SUPPL-3] p 70 N87-27557
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 32)
[NASA-SP-7039(32)-SECT-1] p 70 N88-15732
- Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 32)
[NASA-SP-7039(32)-SECT-2] p 70 N88-18511
- NASA historical data book. Volume 1: NASA resources 1958-1968
[NASA-SP-4012-VOL-1] p 80 N88-25428
- NASA historical data book. Volume 2: Programs and projects 1958-1968
[NASA-SP-4012-VOL-2] p 80 N88-25429
- NASA historical data book. Volume 3: Programs and projects 1969-1978
[NASA-SP-4012-VOL-3] p 81 N88-25430
- Technology for Future NASA Missions: Civil Space Technology Initiative (CSTI) and Pathfinder
[NASA-CP-3016] p 22 N89-11760
- Issues in NASA program and project management
[NASA-SP-6101] p 69 N89-12479
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 35)
[NASA-SP-7039(35)-SECT-1] p 71 N89-25775
- Orders of magnitude: A history of the NACA and NASA, 1915-1990
[NASA-SP-4406] p 81 N89-26805
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 35)
[NASA-SP-7039(35)-SECT-2] p 71 N89-29264
- Issues in NASA program and project management
[NASA-SP-6101(02)] p 69 N90-13277
- Solar-Terrestrial Science Strategy Workshop
[NASA-CP-3048] p 73 N90-18329
- National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350
- FAA/NASA En Route Noise Symposium
[NASA-CP-3067] p 67 N90-24853
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 37)
[NASA-SP-7039(37)-SECT-1] p 71 N90-25698
- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 37)
[NASA-SP-7039(37)-SECT-2] p 71 N90-26700
- The MSFC/UAH Data Management Symposium
[NASA-CP-2040] p 62 N78-74659
- NASTRAN**
Fifteenth NASTRAN (R) Users' Colloquium
[NASA-CP-2481] p 43 N87-27231
- Sixteenth NASTRAN (R) Users' Colloquium
[NASA-CP-2505] p 44 N88-20652
- Lewis Structures Technology, 1988. Volume 1: Structural Dynamics
[NASA-CP-3003-VOL-1] p 44 N88-23226
- Seventeenth NASTRAN (R) Users' Colloquium
[NASA-CP-3029] p 45 N89-22940
- Eighteenth NASTRAN (R) Users' Colloquium
[NASA-CP-3069] p 47 N90-24637
- Ceramics Analysis and Reliability Evaluation of Structures (CARES). Users and programmers manual
[NASA-TP-2916] p 47 N90-28099

- The NASTRAN demonstration problem manual, level 17.5
[NASA-SP-224(05)] p 42 N81-71592
- The NASTRAN programmers manual, level 17.5
[NASA-SP-223(05)] p 42 N81-71594
- NATURAL GAS**
A simplified method for determining heat of combustion of natural gas
[NASA-TP-2682] p 39 N87-20514
- NAVIER-STOKES EQUATION**
Multiscale turbulence effects in supersonic jets exhausting into still air
[NASA-TP-2707] p 36 N87-24672
- Supercomputing in Aerospace
[NASA-CP-2454] p 5 N87-25998
- Numerical simulation of scramjet inlet flow fields
[NASA-TP-2517] p 8 N88-23735
- Surface flow and heating distributions on a cylinder in near wake of Aeroassist Flight Experiment (AFE) configuration at incidence in Mach 10 Air
[NASA-TP-2954] p 38 N90-14493
- NEAR WAKES**
Surface flow and heating distributions on a cylinder in near wake of Aeroassist Flight Experiment (AFE) configuration at incidence in Mach 10 Air
[NASA-TP-2954] p 38 N90-14493
- NEODYMIUM LASERS**
Analysis of Nd³⁺:glass, solar-pumped, high-power laser systems
[NASA-TP-2905] p 40 N89-17855
- NEPTUNE ATMOSPHERE**
The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598
- NEURAL NETS**
First Annual Workshop on Space Operations Automation and Robotics (SOAR 87)
[NASA-CP-2491] p 61 N88-17206
- NEWTON METHODS**
Application of Newton's method to the postbuckling of rings under pressure loadings
[NASA-TP-2941] p 46 N89-29811
- NICKEL CADMIUM BATTERIES**
The 1985 Goddard Space Flight Center Battery Workshop
[NASA-CP-2434] p 34 N87-11072
- The 1986 Goddard Space Flight Center Battery Workshop
[NASA-CP-2486] p 35 N88-11021
- NICKEL HYDROGEN BATTERIES**
The 1985 Goddard Space Flight Center Battery Workshop
[NASA-CP-2434] p 34 N87-11072
- The 1986 Goddard Space Flight Center Battery Workshop
[NASA-CP-2486] p 35 N88-11021
- Space Electrochemical Research and Technology (SERT), 1989
[NASA-CP-3056] p 50 N90-20454
- NIMBUS 6 SATELLITE**
Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 6 Earth radiation budget data set, July 1975 to June 1978
[NASA-RP-1185] p 55 N87-26489
- NIMBUS 7 SATELLITE**
Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid
[NASA-TP-2625] p 51 N87-13022
- Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide
[NASA-TP-2761] p 56 N88-14572
- Nimbus 7 Solar Backscatter Ultraviolet (SBUV) spectral scan solar irradiance and Earth radiance product user's guide
[NASA-RP-1199] p 48 N88-17096
- The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-RP-1201] p 49 N88-20714
- User's guide for the Nimbus 7 Scanning Multichannel Microwave Radiometer (SMMR) CELL-ALL tape
[NASA-TP-1210] p 56 N89-14648
- Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152
- Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227
- Atlas of albedo and absorbed solar radiation derived from Nimbus 7 Earth radiation budget data set, November 1978 to October 1985
[NASA-RP-1231] p 57 N90-17233
- Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989
[NASA-RP-1237] p 58 N90-23837
- NIOBIUM ALLOYS**
Emission, catalysis, and dynamic oxidation of Ti-14Al-21Nb
[NASA-TP-2955] p 31 N90-10248

- Oxidation characteristics of Ti-14Al-21Nb ingot alloy
[NASA-TP-3012] p 31 N90-25206
- NITRIC ACID**
Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid
[NASA-TP-2625] p 51 N87-13022
- NOISE INTENSITY**
Effects of background noise on total noise annoyance
[NASA-TP-2630] p 66 N87-14120
- Annoyance caused by advanced turboprop aircraft flyover noise: Single-rotating propeller configuration
[NASA-TP-2782] p 67 N88-17441
- Annoyance caused by advanced turboprop aircraft flyover noise: Counter-rotating-propeller configuration
[NASA-TP-3027] p 67 N90-29166
- NOISE POLLUTION**
Effects of background noise on total noise annoyance
[NASA-TP-2630] p 66 N87-14120
- FAA/NASA En Route Noise Symposium
[NASA-CP-3067] p 67 N90-24853
- NOISE PREDICTION (AIRCRAFT)**
Status of sonic boom methodology and understanding
[NASA-CP-3027] p 9 N89-23415
- Airfoil self-noise and prediction
[NASA-TP-2782] p 67 N89-25673
- NOISE REDUCTION**
Measured and calculated acoustic attenuation rates of tuned resonator arrays for two surface impedance distribution models with flow
[NASA-TP-2766] p 67 N88-17440
- LANDSAT-4 and LANDSAT-5 multispectral scanner coherent noise characterization and removal
[NASA-TP-2595-REV] p 49 N89-12114
- Fuselage design for a specified Mach-sliced area distribution
[NASA-TP-2975] p 16 N90-18385
- NOISE TOLERANCE**
Effects of background noise on total noise annoyance
[NASA-TP-2630] p 66 N87-14120
- Annoyance caused by advanced turboprop aircraft flyover noise: Single-rotating propeller configuration
[NASA-TP-2782] p 67 N88-17441
- Evaluation of the ride quality of a light twin engine airplane using a ride quality meter
[NASA-TP-2913] p 2 N89-22568
- FAA/NASA En Route Noise Symposium
[NASA-CP-3067] p 67 N90-24853
- Annoyance caused by advanced turboprop aircraft flyover noise: Counter-rotating-propeller configuration
[NASA-TP-3027] p 67 N90-29166
- NONDESTRUCTIVE TESTS**
Low-cost FM oscillator for capacitance type of blade tip clearance measurement system
[NASA-TP-2746] p 17 N87-24481
- Electronics reliability and measurement technology
[NASA-CP-2472] p 42 N87-27204
- Lewis Structures Technology, 1988. Volume 3: Structural Integrity Fatigue and Fracture Wind Turbines HOST
[NASA-CP-3003-VOL-3] p 44 N88-22408
- Structural Ceramics
[NASA-CP-2427] p 31 N88-23872
- Thermal Barrier Coatings. Abstracts and figures
[NASA-CP-10019] p 31 N89-13642
- NONEQUILIBRIUM FLOW**
Conservation equations and physical models for hypersonic air flows in thermal and chemical nonequilibrium
[NASA-TP-2867] p 38 N89-16115
- A review of reaction rates and thermodynamic and transport properties for an 11-species air model for chemical and thermal nonequilibrium calculations to 30000 K
[NASA-RP-1232] p 38 N90-27064
- NONEQUILIBRIUM THERMODYNAMICS**
Conservation equations and physical models for hypersonic air flows in thermal and chemical nonequilibrium
[NASA-TP-2867] p 38 N89-16115
- A review of reaction rates and thermodynamic and transport properties for an 11-species air model for chemical and thermal nonequilibrium calculations to 30000 K
[NASA-RP-1232] p 38 N90-27064
- NONLINEAR EQUATIONS**
Some path-following techniques for solution of nonlinear equations and comparison with parametric differentiation
[NASA-TP-2654] p 64 N87-14054
- NONLINEAR PROGRAMMING**
Nonlinear programming extensions to rational function approximation methods for unsteady aerodynamic forces
[NASA-TP-2776] p 15 N88-24623
- NONLINEAR SYSTEMS**
Interactions of Tollmien-Schlichting waves and Dean vortices. Comparison of direct numerical simulation and a weakly nonlinear theory
[NASA-TP-2919] p 10 N89-25118

NORMAL SHOCK WAVES

Measured and predicted aerodynamic coefficients and shock shapes for Aeroassist Flight Experiment (AFE) configuration
[NASA-TP-2956] p 11 N90-14185

NORMALITY

A general formalism for phase space calculations
[NASA-TP-2843] p 66 N89-14053

NOSE WHEELS

Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
[NASA-TP-2977] p 42 N90-19595

NOZZLE DESIGN

Static investigation of a two-dimensional convergent-divergent exhaust nozzle with multiaxis thrust-vectoring capability
[NASA-TP-2973] p 11 N90-19193

NOZZLE EFFICIENCY

Aeropropulsive characteristics of isolated combined turbojet/ramjet nozzles at Mach numbers from 0 to 1.20
[NASA-TP-2814] p 8 N88-23757

Static investigation of a two-dimensional convergent-divergent exhaust nozzle with multiaxis thrust-vectoring capability
[NASA-TP-2973] p 11 N90-19193

Internal performance of two nozzles utilizing gimbal concepts for thrust vectoring
[NASA-TP-2991] p 11 N90-19200

NOZZLE FLOW

Static internal performance of single-expansion-ramp nozzles with thrust-vectoring capability up to 60 deg
[NASA-TP-2364] p 3 N87-10839

Experimental evaluation of heat transfer on a 1030:1 area ratio rocket nozzle
[NASA-TP-2726] p 27 N87-25424

Aerodynamics in ground effect and predicted landing ground roll of a fighter configuration with a secondary-nozzle thrust reverser
[NASA-TP-2834] p 8 N88-29752

Effect of tail size reductions on longitudinal aerodynamic characteristics of a three surface F-15 model with nonaxisymmetric nozzles
[NASA-TP-3036] p 11 N90-25938

NOZZLE GEOMETRY

Effect of port corner geometry on the internal performance of a rotating-vane-type thrust reverser
[NASA-TP-2624] p 3 N87-12541

Effects of empennage surface location on aerodynamic characteristics of a twin-engine afterbody model with nonaxisymmetric nozzles
[NASA-TP-2392] p 14 N87-17693

Experimental thrust performance of a high-area-ratio rocket nozzle
[NASA-TP-2720] p 26 N87-20381

Effect of a trade between boattail angle and wedge size on the performance of a nonaxisymmetric wedge nozzle
[NASA-TP-2717] p 5 N87-23593

Aeropropulsive characteristics of isolated combined turbojet/ramjet nozzles at Mach numbers from 0 to 1.20
[NASA-TP-2814] p 8 N88-23757

Internal performance of two nozzles utilizing gimbal concepts for thrust vectoring
[NASA-TP-2991] p 11 N90-19200

Effect of tail size reductions on longitudinal aerodynamic characteristics of a three surface F-15 model with nonaxisymmetric nozzles
[NASA-TP-3036] p 11 N90-25938

NOZZLE THRUST COEFFICIENTS

Comparison of wind tunnel and flight test afterbody and nozzle pressures for a twin-jet fighter aircraft at transonic speeds
[NASA-TP-2588] p 6 N88-10765

NOZZLES

Effects of afterbody boattail design and empennage arrangement on aeropropulsive characteristics of a twin-engine fighter model at transonic speeds
[NASA-TP-2704] p 4 N87-21873

Effect of empennage arrangement on single-engine nozzle/afterbody static pressures at transonic speeds
[NASA-TP-2753] p 6 N88-10771

Aeropropulsion '87. Session 3: Internal Fluid Mechanics Research
[NASA-CP-10003-SESS-3] p 18 N88-15790

NUCLEAR FUSION

Lunar Helium-3 and Fusion Power
[NASA-CP-10018] p 69 N89-14842

NUCLEAR PHYSICS

Nuclear techniques in studies of condensed matter
[NASA-RP-1195] p 68 N88-13015

NUCLEAR SCATTERING

Eikonal solutions to optical model coupled-channel equations
[NASA-TP-2830] p 68 N88-30402

Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103

NUCLEATION

Finite-rate water condensation in combustion-heated wind tunnels
[NASA-TP-2833] p 22 N88-28075

Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022

NUCLEI (NUCLEAR PHYSICS)

Possible complementary cosmic-ray systems: Nuclei and antinuclei
[NASA-TP-2741] p 68 N87-24977

NUCLEONS

Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103

NUMERICAL ANALYSIS

Jet model for slot film cooling with effect of free-stream and coolant turbulence
[NASA-TP-2655] p 36 N87-18034

A second-order accurate kinetic-theory-based method for inviscid compressible flows
[NASA-TP-2613] p 36 N87-18783

On minimizing the number of calculations in design-by-analysis codes
[NASA-TP-2706] p 5 N87-23586

NUMERICAL INTEGRATION

A transient response method for linear coupled substructures
[NASA-TP-2926] p 23 N90-13444



OBLIQUE WINGS

In-flight total forces, moments and static aeroelastic characteristics of an oblique-wing research airplane
[NASA-TP-2224] p 19 N87-10103

Flight-determined aerodynamic derivatives of the AD-1 oblique-wing research airplane
[NASA-TP-2222] p 19 N87-10871

Flight characteristics of the AD-1 oblique-wing research aircraft
[NASA-TP-2223] p 19 N87-18570

A piloted evaluation of an oblique-wing research aircraft motion simulation with decoupling control laws
[NASA-TP-2874] p 20 N89-15930

Modal control of an oblique wing aircraft
[NASA-TP-2898] p 20 N89-16845

OCEAN SURFACE

Summary of along-track data from the earth radiation budget satellite for several representative ocean regions
[NASA-RP-1206] p 56 N89-14634

OCEANOGRAPHIC PARAMETERS

Arctic Sea ice, 1973-1976: Satellite passive-microwave observations
[NASA-SP-489] p 58 N87-24870

OCTANES

Velocity profiles in laminar diffusion flames
[NASA-TP-2596] p 36 N87-18035

OILS

In-flight surface oil-flow photographs with comparisons to pressure distribution and boundary-layer data
[NASA-TP-2395] p 4 N87-20966

OPEN CLUSTERS

Catalog of open clusters and associated interstellar matter
[NASA-RP-1202] p 76 N88-29652

Commentary on interstellar matter associated with 18 open clusters
[NASA-RP-1229] p 77 N89-27612

OPENINGS

Buckling and postbuckling behavior of square compression-loaded graphite-epoxy plates with circular cutouts
[NASA-TP-3007] p 29 N90-26077

Buckling and postbuckling behavior of compression-loaded isotropic plates with cutouts
[NASA-TP-3024] p 47 N90-28859

OPERATING SYSTEMS (COMPUTERS)

Sixth Annual Users' Conference --- Transportable Applications Executive (TAE)
[NASA-CP-2463] p 62 N87-23156

OPERATING TEMPERATURE

Comparison of predicted and measured temperatures of UH-60A helicopter transmission
[NASA-TP-2911] p 41 N89-24607

Diode laser satellite systems for beamed power transmission
[NASA-TP-2992] p 40 N90-24585

OPERATOR PERFORMANCE

Mental-State Estimation, 1987
[NASA-CP-2504] p 60 N88-23370

OPTICAL DATA PROCESSING

Computer Sciences and Data Systems, volume 2
[NASA-CP-2459-VOL-2] p 62 N87-19932

OPTICAL MEASUREMENT

Optical measurement of propeller blade deflections
[NASA-TP-2841] p 39 N88-28286

OPTICAL PROPERTIES

FIRE Science Results 1989
[NASA-CP-3079] p 58 N90-28224

OPTICAL PYROMETERS

Noncontact Temperature Measurement
[NASA-CP-2503] p 32 N88-23895

OPTICAL RADAR

Thirteenth International Laser Radar Conference
[NASA-CP-2431] p 39 N87-10263

Airborne lidar measurements of El Chichon stratospheric aerosols, May 1983
[NASA-RP-1172] p 51 N87-11358

NASA/MSFC FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043

Airborne lidar measurements of El Chichon stratospheric aerosols, January 1984
[NASA-RP-1175] p 51 N87-20663

Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference
[NASA-CP-10006] p 12 N88-17616

Forty-eight-inch lidar aerosol measurements taken at the Langley Research Center, May 1974 to December 1987
[NASA-RP-1209] p 52 N88-29234

OPTIMAL CONTROL

Singular perturbations and time scales in the design of digital flight control systems
[NASA-TP-2844] p 19 N89-12569

Optimized resolved rate control of seven-degree-of-freedom Laboratory Telerobotic Manipulator (LTM) with application to three-dimensional graphics simulation
[NASA-TP-2938] p 64 N90-10618

OPTIMIZATION

Recent Experiences in Multidisciplinary Analysis and Optimization, part 1
[NASA-CP-2327-PT-1] p 13 N87-11717

Recent Experiences in Multidisciplinary Analysis and Optimization, part 2
[NASA-CP-2327-PT-2] p 13 N87-11750

Sensitivity Analysis in Engineering
[NASA-CP-2457] p 43 N87-18855

A study to evaluate STS heads-up ascent trajectory performance employing a minimum-Hamiltonian optimization strategy
[NASA-TP-2793] p 23 N88-15820

Nonlinear programming extensions to rational function approximation methods for unsteady aerodynamic forces
[NASA-TP-2776] p 15 N88-24623

Validation of a pair of computer codes for estimation and optimization of subsonic aerodynamic performance of simple hinged-flap systems for thin swept wings
[NASA-TP-2828] p 8 N89-10024

A closed-form trim solution yielding minimum trim drag for airplanes with multiple longitudinal-control effectors
[NASA-TP-2907] p 20 N89-23468

Recent Advances in Multidisciplinary Analysis and Optimization, part 1
[NASA-CP-3031-PT-1] p 15 N89-25146

Recent Advances in Multidisciplinary Analysis and Optimization, part 2
[NASA-CP-3031-PT-2] p 15 N89-25173

Recent Advances in Multidisciplinary Analysis and Optimization, part 3
[NASA-CP-3031-PT-3] p 15 N89-25201

ORBIT CALCULATION

An economical semi-analytical orbit theory for micro-computer applications
[NASA-TP-2811] p 66 N89-14052

Flight Mechanics/Estimation Theory Symposium
[NASA-CP-2002] p 22 N78-76855

ORBIT PERTURBATION

An economical semi-analytical orbit theory for micro-computer applications
[NASA-TP-2811] p 66 N89-14052

ORBIT TRANSFER VEHICLES

Technology for Future NASA Missions: Civil Space Technology Initiative (CSTI) and Pathfinder
[NASA-CP-3016] p 22 N89-11760

ORBITAL MANEUVERS

Interactive orbital proximity operations planning system
[NASA-TP-2839] p 61 N89-18039

ORBITAL MECHANICS

Compilation of methods in orbital mechanics and solar geometry
[NASA-RP-1204] p 52 N89-10420

Flight Mechanics/Estimation Theory Symposium 1988
[NASA-CP-3011] p 23 N89-15934

Flight Mechanics/Estimation Theory Symposium, 1989
[NASA-CP-3050] p 23 N90-13413

ORBITAL POSITION ESTIMATION

- Flight Mechanics/Estimation Theory Symposium
[NASA-CP-2002] p 22 N78-76855

ORGANS

- Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031

ORIFICE FLOW

- Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack
[NASA-TP-2716] p 14 N87-29497

ORTHOTROPIC PLATES

- Buckling and postbuckling behavior of square compression-loaded graphite-epoxy plates with circular cutouts
[NASA-TP-3007] p 29 N90-26077

OSCILLATIONS

- Rapid Fluctuations in Solar Flares
[NASA-CP-2449] p 79 N87-21785

- Calculation of viscous effects on transonic flow for oscillating airfoils and comparisons with experiment
[NASA-TP-2731] p 6 N87-27622

- Steady and unsteady transonic pressure measurements on a clipped delta wing for pitching and control-surface oscillations
[NASA-TP-2594] p 8 N88-28895

OSCILLATORS

- Low-cost FM oscillator for capacitance type of blade tip clearance measurement system
[NASA-TP-2746] p 17 N87-24481

OUTGASSING

- Outgassing data for selecting spacecraft materials
[NASA-RP-1124] p 28 N88-10117

OXIDATION

- Ester oxidation on an aluminum surface using chemiluminescence
[NASA-TP-2611] p 31 N87-18666

- Emission, catalysis, and dynamic oxidation of Ti-14Al-21Nb
[NASA-TP-2955] p 31 N90-10248

- Heat treatment study of the SiC/Ti-15-3 composite system
[NASA-TP-2970] p 29 N90-19302

- Low-Temperature CO-Oxidation Catalysts for Long-Life CO₂ Lasers
[NASA-CP-3076] p 40 N90-24586

- Oxidation characteristics of Ti-14Al-21Nb ingot alloy
[NASA-TP-3012] p 31 N90-25206

OXIDATION RESISTANCE

- Emission, catalysis, and dynamic oxidation of Ti-14Al-21Nb
[NASA-TP-2955] p 31 N90-10248

OXYGEN

- Electron stimulated desorption of atomic oxygen from silver
[NASA-TP-2668] p 29 N87-18629

- Permeation of oxygen through high purity, large grain silver
[NASA-TP-2755] p 30 N87-27024

OXYGEN ATOMS

- NASA/SPIO Space Environmental Effects on Materials Workshop, part 1
[NASA-CP-3035-PT-1] p 27 N89-23528

- NASA/SPIO Space Environmental Effects on Materials Workshop, part 2
[NASA-CP-3035-PT-2] p 28 N89-23547

OXYGEN RECOMBINATION

- Auger electron intensity variations in oxygen-exposed large grain polycrystalline silver
[NASA-TP-2930] p 67 N89-30022

OXYGEN SUPPLY EQUIPMENT

- A simplified method for determining heat of combustion of natural gas
[NASA-TP-2682] p 39 N87-20514

OXYGEN-HYDROCARBON ROCKET ENGINES

- High-pressure calorimeter chamber tests for liquid oxygen/kerosene (LOX/RP-1) rocket combustion
[NASA-TP-2862] p 27 N89-15979

- Advanced Earth-to-Orbit Propulsion Technology 1988, volume 1
[NASA-CP-3012-VOL-1] p 27 N90-28611

OZONE

- Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid
[NASA-TP-2625] p 51 N87-13022

- Calibration of the spin-scan ozone imager aboard the dynamics Explorer 1 satellite
[NASA-TP-2723] p 55 N87-26491

- Polar Ozone Workshop. Abstracts
[NASA-CP-10014] p 51 N89-14503

- Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227

- Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989
[NASA-RP-1237] p 58 N90-23837

- Present state of knowledge of the upper atmosphere 1990: An assessment report
[NASA-RP-1242] p 54 N90-28929

OZONE DEPLETION

- Scientific and Operational Requirements for TOMS Data
[NASA-CP-2497] p 47 N88-13774

- The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-RP-1201] p 49 N88-20714

- Present state of knowledge of the upper atmosphere 1988: An assessment report
[NASA-RP-1208] p 52 N88-29233

- Polar Ozone Workshop. Abstracts
[NASA-CP-10014] p 51 N89-14503

- The 1988 Antarctic ozone monitoring Nimbus-7 TOMS data atlas
[NASA-RP-1225] p 57 N89-28983

- Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989
[NASA-RP-1237] p 58 N90-23837

- Present state of knowledge of the upper atmosphere 1990: An assessment report
[NASA-RP-1242] p 54 N90-28929

- Scientific and Operational Requirements for TOMS Data
[NASA-CP-2497] p 47 N88-13774

- Polar Ozone Workshop. Abstracts
[NASA-CP-10014] p 51 N89-14503

- The 1988 Antarctic ozone monitoring Nimbus-7 TOMS data atlas
[NASA-RP-1225] p 57 N89-28983

- Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227

- Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152

P**PANEL METHOD (FLUID DYNAMICS)**

- Steady and unsteady aerodynamic forces from the SOUSSA surface-panel method for a fighter wing with tip missile and comparison with experiment and PANAIR
[NASA-TP-2736] p 5 N87-26032

- Experimental and theoretical aerodynamic characteristics of a high-lift semispan wing model
[NASA-TP-2990] p 11 N90-20046

- Comparison between design and installed acoustic characteristics of NASA Lewis 9- by 15-foot low-speed wind tunnel acoustic treatment
[NASA-TP-2996] p 22 N90-19242

- Galileo probe parachute test program: Wake properties of the Galileo probe at Mach numbers from 0.25 to 0.95
[NASA-RP-1130] p 37 N88-18884

PARACHUTE DESCENT

- Galileo probe parachute test program: Wake properties of the Galileo probe at Mach numbers from 0.25 to 0.95
[NASA-RP-1130] p 37 N88-18884

PARALLEL PROCESSING (COMPUTERS)

- Computer Sciences and Data Systems, volume 2
[NASA-CP-2459-VOL-2] p 62 N87-19932

- Frontiers of Massively Parallel Scientific Computation
[NASA-CP-2478] p 62 N87-26531

- First Annual Workshop on Space Operations Automation and Robotics (SOAR 87)
[NASA-CP-2491] p 61 N88-17206

- Lewis Structures Technology, 1988. Volume 3: Structural Integrity Fatigue and Fracture Wind Turbines HOST
[NASA-CP-3003-VOL-3] p 44 N88-22408

- Lewis Structures Technology, 1988. Volume 1: Structural Dynamics
[NASA-CP-3003-VOL-1] p 44 N88-23226

- Partitioning strategy for efficient nonlinear finite element dynamic analysis on multiprocessor computers
[NASA-TP-2850] p 45 N89-16170

- NASA Workshop on Computational Structural Mechanics 1987, part 1
[NASA-CP-10012-PT-1] p 46 N89-29773

PARALLEL PROGRAMMING

- Parallel Gaussian elimination of a block tridiagonal matrix using multiple microcomputers
[NASA-TP-2892] p 64 N89-17422

PARAMETER IDENTIFICATION

- Some path-following techniques for solution of nonlinear equations and comparison with parametric differentiation
[NASA-TP-2654] p 64 N87-14054

- Application of parameter estimation to aircraft stability and control: The output-error approach
[NASA-RP-1168] p 14 N87-29499

- Method for experimental determination of flutter speed by parameter identification
[NASA-TP-2923] p 15 N89-26844

- The effectiveness of vane-aileron excitation in the experimental determination of flutter speed by parameter identification
[NASA-TP-2971] p 16 N90-15100

PARTIAL DIFFERENTIAL EQUATIONS

- Solution of elliptic partial differential equations by fast Poisson solvers using a local relaxation factor. 2: Two-step method
[NASA-TP-2530] p 64 N87-14918

PARTICLE COLLISIONS

- Doubly differential cross sections for galactic heavy-ion fragmentation
[NASA-TP-2659] p 68 N87-17487

- Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103

- Calculation of two-neutron multiplicity in photonuclear reactions
[NASA-TP-2968] p 68 N90-14890

PARTICLE EMISSION

- Calculation of two-neutron multiplicity in photonuclear reactions
[NASA-TP-2968] p 68 N90-14890

PARTICLE INTERACTIONS

- Experiments in Planetary and Related Sciences and the Space Station
[NASA-CP-2494] p 72 N89-14998

- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022

- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
[NASA-CP-10026-VOL-2] p 59 N89-24023

- Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103

- First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744

PARTICLE SIZE DISTRIBUTION

- Automated Reduction of Data from Images and Holograms
[NASA-CP-2477] p 6 N87-29432

PARTICLE TRAJECTORIES

- Calculation of secondary electron trajectories in multistage depressed collectors for microwave amplifiers
[NASA-TP-2664] p 34 N87-17991

- Microgravity Particle Research on the Space Station
[NASA-CP-2496] p 58 N88-15354

- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022

- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
[NASA-CP-10026-VOL-2] p 59 N89-24023

- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022

- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
[NASA-CP-10026-VOL-2] p 59 N89-24023

- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022

- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
[NASA-CP-10026-VOL-2] p 59 N89-24023

PARTITIONS (MATHEMATICS)

- Partitioning strategy for efficient nonlinear finite element dynamic analysis on multiprocessor computers
[NASA-TP-2850] p 45 N89-16170

- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 31)
[NASA-SP-7039(31)-SECT-1] p 70 N87-25023

- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 31)
[NASA-SP-7039(31)-SECT-2] p 70 N87-26689

- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 32)
[NASA-SP-7039(32)-SECT-1] p 70 N88-15732

- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 32)
[NASA-SP-7039(32)-SECT-2] p 70 N88-18511

- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 35)
[NASA-SP-7039(35)-SECT-1] p 71 N89-25775

- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 35)
[NASA-SP-7039(35)-SECT-2] p 71 N89-29264

- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 1: Abstracts (supplement 37)
[NASA-SP-7039(37)-SECT-1] p 71 N90-25698

- NASA Patent Abstracts Bibliography: A continuing bibliography. Section 2: Indexes (supplement 37)
[NASA-SP-7039(37)-SECT-2] p 71 N90-26700

PATENTS

Significant NASA inventions. Available for licensing in foreign countries

[NASA-SP-7038(04)] p 72 N87-70425

PAYLOAD INTEGRATION

Payload crew utilization for spacelab missions
[NASA-TP-2976] p 24 N90-14256

PAYLOADS

Development and approach to low-frequency microgravity isolation systems
[NASA-TP-2984] p 33 N90-28754

PERFLUORO COMPOUNDS

Surface catalytic degradation study of two linear perfluoropolyalkylethers at 345 C
[NASA-TP-2774] p 27 N88-12543

Reaction of perfluoroalkylpolyethers (PFPE) with 440C steel in vacuum under sliding conditions at room temperature
[NASA-TP-2883] p 31 N89-26091

PERFORATED PLATES

Comparison between design and installed acoustic characteristics of NASA Lewis 9- by 15-foot low-speed wind tunnel acoustic treatment
[NASA-TP-2996] p 22 N90-19242

PERFORATION

Simulated-airline-service flight tests of laminar-flow control with perforated-surface suction system
[NASA-TP-2966] p 16 N90-17627

PERFORMANCE PREDICTION

Evaluation of various thrust calculation techniques on an F404 engine
[NASA-TP-3001] p 16 N90-25134

PERFORMANCE TESTS

Development and evaluation of an airplane electronic display format aligned with the inertial velocity vector
[NASA-TP-2648] p 16 N87-13438

Design of 9.271-pressure-ratio 5-stage core compressor and overall performance for first 3 stages
[NASA-TP-2597] p 17 N87-17699

Bit-error-rate testing of high-power 30-GHz traveling wave tubes for ground-terminal applications
[NASA-TP-2635] p 33 N87-17971

Effect of a trade between boattail angle and wedge size on the performance of a nonaxisymmetric wedge nozzle
[NASA-TP-2717] p 5 N87-23593

Engineer in charge: A history of the Langley Aeronautical Laboratory, 1917-1958

[NASA-SP-4305] p 80 N87-24390

A performance index approach to aerodynamic design with the use of analysis codes only
[NASA-TP-2805] p 7 N88-18552

SRM propellant and polymer materials structural test program
[NASA-TP-2821] p 44 N88-25013

Performance of a multistage depressed collector with machined titanium electrodes
[NASA-TP-2891] p 35 N89-15337

Technique for temperature compensation of eddy-current proximity probes
[NASA-TP-2880] p 39 N89-15380

Comparison of predicted and measured temperatures of UH-60A helicopter transmission
[NASA-TP-2911] p 41 N89-24607

PERIODIC VARIATIONS

Dynamic characteristics of a vibrating beam with periodic variation in bending stiffness
[NASA-TP-2697] p 44 N88-23988

PERMEATING

Permeation of oxygen through high purity, large grain silver
[NASA-TP-2755] p 30 N87-27024

PERSONNEL

Engineer in charge: A history of the Langley Aeronautical Laboratory, 1917-1958

[NASA-SP-4305] p 80 N87-24390

PERSONNEL MANAGEMENT

Cockpit Resource Management Training
[NASA-CP-2455] p 12 N87-22634

PERTURBATION THEORY

Singular perturbations and time scales in the design of digital flight control systems
[NASA-TP-2844] p 19 N89-12569

PHASE-SPACE INTEGRAL

A general formalism for phase space calculations
[NASA-TP-2843] p 66 N89-14053

PHENOLIC RESINS

An examination of impact damage in glass-phenolic and aluminum honeycomb core composite panels
[NASA-TP-3042] p 29 N90-27876

PHOTOCHEMICAL OXIDANTS

An assessment model for atmospheric composition
[NASA-CP-3023] p 57 N89-20588

PHOTOCHEMICAL REACTIONS

Scientific and Operational Requirements for TOMS Data
[NASA-CP-2497] p 47 N88-13774

Two-Dimensional Intercomparison of Stratospheric Models
[NASA-CP-3042] p 53 N90-11405

PHOTODIODES

NASA Laser Light Scattering Advanced Technology Development Workshop, 1988
[NASA-CP-10033] p 40 N90-17085

PHOTOELECTRON SPECTROSCOPY

Degradation and crosslinking of perfluoroalkyl polyethers under X-ray irradiation in ultrahigh vacuum
[NASA-TP-2910] p 31 N89-21103

PHOTO GEOLOGY

Geomorphology from space: A global overview of regional landforms
[NASA-SP-486] p 47 N87-18139

PHOTOGRAPHIC PROCESSING

Digital enhancement of flow field images
[NASA-TP-2770] p 62 N88-20833

PHOTOGRAPHY

In-flight surface oil-flow photographs with comparisons to pressure distribution and boundary-layer data
[NASA-TP-2395] p 4 N87-20966

Atlas of Comet Halley 1910 II
[NASA-SP-488] p 75 N87-30235

PHOTOMETERS

Second Workshop on Improvements to Photometry
[NASA-CP-10015] p 74 N89-13310

PHOTONS

First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744

PHOTONUCLEAR REACTIONS

Calculation of two-neutron multiplicity in photonuclear reactions
[NASA-TP-2968] p 68 N90-14890

PHOTOVOLTAIC CONVERSION

Space Photovoltaic Research and Technology 1986. High Efficiency, Space Environment, and Array Technology
[NASA-CP-2475] p 50 N87-26413

PHOTOVOLTAIC EFFECT

Space Photovoltaic Research and Technology, 1988. High Efficiency, Space Environment, and Array Technology
[NASA-CP-3030] p 50 N89-24704

PHYSICAL EXERCISE

Joint US/USSR study: Comparison of effects of horizontal and head-down bed rest
[NASA-TP-3037] p 60 N90-28965

PHYSIOLOGY

Joint US/USSR study: Comparison of effects of horizontal and head-down bed rest
[NASA-TP-3037] p 60 N90-28965

PIEZORESISTIVE TRANSDUCERS

Fluctuating pressures measured beneath a high-temperature, turbulent boundary layer on a flat plate at Mach number of 5
[NASA-TP-2947] p 67 N90-10680

PILOT PERFORMANCE

Wind Shear/Turbulence Inputs to Flight Simulation and Systems Certification
[NASA-CP-2474] p 1 N87-25267

Effect of motion cues during complex curved approach and landing tasks: A piloted simulation study
[NASA-TP-2773] p 14 N88-12480

A simulator investigation of the use of digital data link for pilot/ATC communications in a single pilot operation
[NASA-TP-2837] p 13 N89-11726

A piloted evaluation of an oblique-wing research aircraft motion simulation with decoupling control laws
[NASA-TP-2874] p 20 N89-15930

Piloted-simulation evaluation of escape guidance for microburst wind shear encounters
[NASA-TP-2886] p 17 N89-16820

Delivery performance of conventional aircraft by terminal-area, time-based air traffic control: A real-time simulation evaluation
[NASA-TP-2978] p 13 N90-18378

Stereopsis cueing effects on hover-in-turbulence performance in a simulated rotorcraft
[NASA-TP-2980] p 17 N90-21004

PILOTS (PERSONNEL)

Ground-based time-guidance algorithm for control of airplanes in a time-metered air traffic control environment: A piloted simulation study
[NASA-TP-2616] p 16 N87-10864

Piloted-simulation study of effects of vortex flaps on low-speed handling qualities of a Delta-wing airplane
[NASA-TP-2747] p 19 N87-26922

PIPES (TUBES)

Propagation of sound waves in tubes of noncircular cross section
[NASA-TP-2601] p 3 N87-14284

PISTON ENGINES

Investigation of the misfueling of reciprocating piston aircraft engines
[NASA-TP-2803] p 12 N88-21144

PITCH (INCLINATION)

Measurement of velocity and vorticity fields in the wake of an airfoil in periodic pitching motion
[NASA-TP-2780] p 66 N88-13002

Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987

PITOT TUBES

Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack
[NASA-TP-2716] p 14 N87-29497

PITTING

Predicted effect of dynamic load on pitting fatigue life for low-contact-ratio spur gears
[NASA-TP-2610] p 41 N87-18095

PLANAR STRUCTURES

Forbidden tangential orbit transfers between intersecting Keplerian orbits
[NASA-TP-3031] p 23 N90-26028

PLANET EPHEMERIDES

Ten year planetary ephemeris: 1986-1995
[NASA-RP-1176] p 73 N87-14219

PLANETARY ATMOSPHERES

The Cassini mission: Infrared and microwave spectroscopic measurements
[NASA-RP-1213] p 78 N89-16709

First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744

PLANETARY GEOLOGY

Planetary Geology: Goals, Future Directions, and Recommendations
[NASA-CP-3005] p 78 N88-26279

PLANETARY NEBULAE

International ultraviolet explorer spectral atlas of planetary nebulae, central stars, and related objects
[NASA-RP-1203] p 76 N88-28843

PLANETARY ORBITS

Ten year planetary ephemeris: 1986-1995
[NASA-RP-1176] p 73 N87-14219

PLANETARY SURFACES

Planetary geosciences, 1988
[NASA-SP-498] p 48 N89-26274

PLANETOLOGY

Reflectance spectroscopy in planetary science: Review and strategy for the future
[NASA-SP-493] p 78 N88-24564

Planetary Geology: Goals, Future Directions, and Recommendations
[NASA-CP-3005] p 78 N88-26279

Planetary geosciences, 1988
[NASA-SP-498] p 48 N89-26274

PLANFORMS

Planform effects on the supersonic aerodynamics of multibody configurations
[NASA-TP-2762] p 6 N88-12454

PLANNING

The 1990 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3068] p 64 N90-22294

PLANT DESIGN

More on exact state reconstruction in deterministic digital control systems
[NASA-TP-2847] p 33 N88-28177

PLANTS (BOTANY)

Controlled Ecological Life Support System. Design, Development, and Use of a Ground-Based Plant Growth Module
[NASA-CP-2479] p 60 N88-13852

Report of the 1st Planning Workshop for CELSS Flight Experimentation
[NASA-CP-10020] p 60 N89-13898

PLASMA HEATING

Laser production and heating of plasma for MHD application
[NASA-TP-2798] p 68 N88-18443

PLASMA LAYERS

Double Layers in Astrophysics
[NASA-CP-2469] p 72 N87-23313

PLASMA PHYSICS

Rapid Fluctuations in Solar Flares
[NASA-CP-2449] p 79 N87-21785

Double Layers in Astrophysics
[NASA-CP-2469] p 72 N87-23313

PLASMA SPRAYING

Thermal Barrier Coatings. Abstracts and figures
[NASA-CP-10019] p 31 N89-13642

PLASMAS (PHYSICS)

Coronal and Prominence Plasmas
[NASA-CP-2442] p 79 N87-20871

PLASTIC PROPERTIES

- Indentation plasticity and fracture in silicon
[NASA-TP-2863] p 30 N89-10996
- Cyclic loads tests of carbon involute solid rocket motor outer boot ring segments
[NASA-TP-2884] p 45 N89-16192

PLASTICS

- National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350

PLATEAUS

- Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401

PLATES (STRUCTURAL MEMBERS)

- Modal interaction in postbuckled plates. Theory
[NASA-TP-2943] p 47 N90-27121

PLATINUM

- Compatibility of dispersion-strengthened platinum with resistojet propellants
[NASA-TP-2765] p 27 N88-12538

PLENUM CHAMBERS

- Experimental evaluation of blockage ratio and plenum evacuation system flow effects on pressure distribution for bodies of revolution in 0.1 scale model test section of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2702] p 21 N87-22694

POINT SOURCES

- Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 4: The point source catalog declination range 0 deg greater than delta greater than -30 deg
[NASA-RP-1190-VOL-4] p 76 N89-14196

- Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 6: The point source catalog declination range -50 deg greater than delta greater than -90 deg
[NASA-RP-1190-VOL-6] p 76 N89-14198

POINTING CONTROL SYSTEMS

- A general-purpose balloon-borne pointing system for solar scientific instruments
[NASA-TP-3013] p 33 N90-21219

- Rotating-unbalanced-mass devices for scanning balloon-borne experiments, free-flying spacecraft, and space shuttle/space station experiments
[NASA-TP-3030] p 33 N90-25255

POLAR METEOROLOGY

- Polar Ozone Workshop. Abstracts
[NASA-CP-10014] p 51 N89-14503

POLAR REGIONS

- The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-RP-1201] p 49 N88-20714

- SAM 2 data user's guide
[NASA-RP-1200] p 52 N88-25094

- Proceedings of the Polar Processes on Mars Workshop
[NASA-CP-10021] p 78 N89-18373

- Polar microwave brightness temperatures from Nimbus-7 SMMR: Time series of daily and monthly maps from 1978 to 1987
[NASA-RP-1223] p 48 N89-26275

- SeaRISE: A Multidisciplinary Research Initiative to Predict Rapid Changes in Global Sea Level Caused by Collapse of Marine Ice Sheets
[NASA-CP-3075] p 48 N90-22824

POLARIZATION (WAVES)

- Remote Sensing in Polarized Light
[NASA-CP-3014] p 72 N89-14189

POLLUTION TRANSPORT

- Airborne lidar measurements of El Chichon stratospheric aerosols, January 1984
[NASA-RP-1175] p 51 N87-20663

POLYCRYSTALS

- Auger electron intensity variations in oxygen-exposed large grain polycrystalline silver
[NASA-TP-2930] p 67 N89-30022

POLYETHER RESINS

- Degradation and crosslinking of perfluoroalkyl polyethers under X-ray irradiation in ultrahigh vacuum
[NASA-TP-2910] p 31 N89-21103

- Absorbed dose thresholds and absorbed dose rate limitations for studies of electron radiation effects on polyetherimides
[NASA-TP-2928] p 31 N89-25332

- Reaction of perfluoroalkylpolyethers (PFPE) with 440C steel in vacuum under sliding conditions at room temperature
[NASA-TP-2883] p 31 N89-26091

POLYIMIDE RESINS

- Absorbed dose thresholds and absorbed dose rate limitations for studies of electron radiation effects on polyetherimides
[NASA-TP-2928] p 31 N89-25332

POLYMER CHEMISTRY

- Microgravity crystallization of macromolecules: An interim report and proposal for continued research
[NASA-TP-2671] p 31 N87-20423

- Structural Ceramics
[NASA-CP-2427] p 31 N88-23872

POLYMER MATRIX COMPOSITES

- Aeropropulsion '87. Session 1: Aeropropulsion Materials Research
[NASA-CP-10003-SESS-1] p 18 N88-16697

POLYMERIC FILMS

- SRM (Solid Rocket Motor) propellant and polymer materials structural modeling
[NASA-TP-2824] p 45 N88-28343

PORTS (OPENINGS)

- Effect of port corner geometry on the internal performance of a rotating-vane-type thrust reverser
[NASA-TP-2624] p 3 N87-12541

POSITION (LOCATION)

- Calculation and accuracy of ERBE scanner measurement locations
[NASA-TP-2670] p 72 N87-28471

POSITION ERRORS

- Effect of ephemeris errors on the accuracy of the computation of the tangent point altitude of a solar scanning ray as measured by the SAGE 1 and 2 instruments
[NASA-TP-2866] p 65 N89-16415

POSITION INDICATORS

- Effects of combining vertical and horizontal information into a primary flight display
[NASA-TP-2783] p 17 N88-12487

POSITRONIUM

- Annihilation in Gases and Galaxies
[NASA-CP-3058] p 66 N90-18957

POSITRONS

- Analysis of positron lifetime spectra in polymers
[NASA-TP-2853] p 63 N89-12237

- Annihilation in Gases and Galaxies
[NASA-CP-3058] p 66 N90-18957

POSTFLIGHT ANALYSIS

- Spacelab 3 Mission Science Review
[NASA-CP-2429] p 36 N87-22103

POTENTIAL FLOW

- Discrete-vortex model for the symmetric-vortex flow on cones
[NASA-TP-2989] p 11 N90-20946

POWER EFFICIENCY

- Efficiency testing of a helicopter transmission planetary reduction stage
[NASA-TP-2795] p 41 N88-15224

POWER TRANSMISSION

- Free-Space Power Transmission
[NASA-CP-10016] p 27 N90-21795

POWERED LIFT AIRCRAFT

- Proceedings of the 1985 NASA Ames Research Center's Ground-Effects Workshop
[NASA-CP-2462] p 5 N87-24410

- A perspective on 15 years of proof-of-concept aircraft development and flight research at Ames-Moffett by the Rotorcraft and Powered-Lift Flight Projects Division, 1970-1985
[NASA-RP-1187] p 14 N88-19467

- Powered-lift aircraft technology
[NASA-SP-501] p 15 N90-12589

PRECIPITATION HARDENING

- Compatibility of dispersion-strengthened platinum with resistojet propellants
[NASA-TP-2765] p 27 N88-12538

PRECISION

- Foundations of measurement and instrumentation
[NASA-RP-1222] p 40 N90-21351

PREDICTION ANALYSIS TECHNIQUES

- Turbine Engine Hot Section Technology, 1984
[NASA-CP-2339] p 43 N87-11180

- Aerothermal tests of spherical dome protuberances on a flat plate at a Mach number of 6.5
[NASA-TP-2631] p 35 N87-13664

- Effects of winglet on transonic flutter characteristics of a cantilevered twin-engine-transport wing model
[NASA-TP-2627] p 43 N87-13789

- Aeropropulsion '87. Session 3: Internal Fluid Mechanics Research
[NASA-CP-10003-SESS-3] p 18 N88-15790

PREDICTIONS

- Aerothermal evaluation of a spherically blunted body with a trapezoidal cross section in the Langley 8-foot high-temperature tunnel
[NASA-TP-2641] p 36 N87-18782

- Development of confidence limits by pivotal functions for estimating software reliability
[NASA-TP-2709] p 65 N87-23244

- Comparison of theoretical and experimental thrust performance of a 1030:1 area ratio rocket nozzle at a chamber pressure of 2413 kN/m² (350 psia)
[NASA-TP-2725] p 26 N87-25423

- Life prediction of thermomechanical fatigue using total strain version of strainrange partitioning (SRP): A proposal
[NASA-TP-2779] p 44 N88-15263

- Applications of the hybrid automated reliability predictor: Revised edition
[NASA-TP-2760-REV] p 63 N90-11454

PREMIXED FLAMES

- Determination of combustion gas temperatures by infrared radiometry in sooting and nonsooting flames
[NASA-TP-2900] p 38 N89-25409

PREPROCESSING

- Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807

PRESSURE DISTRIBUTION

- In-flight surface oil-flow photographs with comparisons to pressure distribution and boundary-layer data
[NASA-TP-2395] p 4 N87-20966

- Experimental cavity pressure distributions at supersonic speeds
[NASA-TP-2683] p 5 N88-22626

- On minimizing the number of calculations in design-by-analysis codes
[NASA-TP-2706] p 5 N87-23586

- Experimental evaluation of honeycomb/screen configurations and short contraction section for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2692] p 21 N87-23662

- Aerothermal tests of quilted dome models on a flat plate at a Mach number of 6.5
[NASA-TP-2804] p 37 N88-22325

PRESSURE EFFECTS

- Contamination of liquid oxygen by pressurized gaseous nitrogen
[NASA-TP-2894] p 38 N89-19499

PRESSURE MEASUREMENT

- Aerothermal evaluation of a spherically blunted body with a trapezoidal cross section in the Langley 8-foot high-temperature tunnel
[NASA-TP-2641] p 36 N87-18782

- Pressure measurements on a thick cambered and twisted 58 deg delta wing at high subsonic speeds
[NASA-TP-2713] p 6 N87-27643

- Steady and unsteady transonic pressure measurements on a clipped delta wing for pitching and control-surface oscillations
[NASA-TP-2594] p 8 N88-28895

- Introduction to total- and partial-pressure measurements in vacuum systems
[NASA-RP-1219] p 40 N90-10412

- Fluctuating pressures measured beneath a high-temperature, turbulent boundary layer on a flat plate at Mach number of 5
[NASA-TP-2947] p 67 N90-10680

- Measurements of pressures on the tail and aft fuselage of an airplane model during rotary motions at spin attitudes
[NASA-TP-2939] p 10 N90-10829

- Gas-jet and tangent-slot film cooling tests of a 12.5 deg cone at Mach number of 6.7
[NASA-TP-2786] p 39 N90-28806

- Gas-jet and tangent-slot film cooling tests of a 12.5 deg cone at Mach number of 6.7
[NASA-TP-2786] p 39 N90-28806

- Gas-jet and tangent-slot film cooling tests of a 12.5 deg cone at Mach number of 6.7
[NASA-TP-2786] p 39 N90-28806

PRIMERS (COATINGS)

- The corrosion mechanisms for primer coated 2219-T87 aluminum
[NASA-TP-2715] p 30 N87-21076

- An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods
[NASA-TP-2820] p 30 N89-19406

PROBABILITY THEORY

- The Fault Tree Compiler (FTC): Program and mathematics
[NASA-TP-2915] p 64 N89-24815

- Ceramics Analysis and Reliability Evaluation of Structures (CARES). Users and programmers manual
[NASA-TP-2916] p 47 N90-28099

PROBES

- Technique for temperature compensation of eddy-current proximity probes
[NASA-TP-2880] p 39 N89-15380

PROBLEM SOLVING

- Solution of elliptic partial differential equations by fast Poisson solvers using a local relaxation factor. 2: Two-step method
[NASA-TP-2530] p 64 N87-14918

- Efficient solutions to the Euler equations for supersonic flow with embedded subsonic regions
[NASA-TP-2523] p 3 N87-15183

- The NASTRAN demonstration problem manual, level 17.5
[NASA-SP-224(05)] p 42 N81-71592

PROCESS CONTROL (INDUSTRY)

National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350

PRODUCTIVITY

Working with people to improve productivity and quality: A bibliography with indexes, 1984-1988
[NASA-SP-7078] p 69 N90-12385

PROGRAM VERIFICATION (COMPUTERS)

A generalized method for automatic downhand and wirefeed control of a welding robot and positioner
[NASA-TP-2807] p 32 N88-17869

Validation of a computer code for analysis of subsonic aerodynamic performance of wings with flaps in combination with a canard or horizontal tail and an application to optimization
[NASA-TP-2961] p 11 N90-14187

PROJECT MANAGEMENT

Issues in NASA program and project management
[NASA-SP-6101] p 69 N89-12479

Practices in adequate structural design
[NASA-TP-2893] p 24 N89-18504

Orders of magnitude: A history of the NACA and NASA, 1915-1990
[NASA-SP-4406] p 81 N89-26805

Issues in NASA program and project management
[NASA-SP-6101(02)] p 69 N90-13277

Supercritical wing technology: A report on flight evaluations
[NASA-SP-301] p 2 N77-85474

PROJECT PLANNING

The 1987 Get Away Special Experimenter's Symposium
[NASA-CP-2500] p 22 N88-17691

SeaRISE: A Multidisciplinary Research Initiative to Predict Rapid Changes in Global Sea Level Caused by Collapse of Marine Ice Sheets
[NASA-CP-3075] p 48 N90-22824

PROP-FAN TECHNOLOGY

Summary of studies to reduce wing-mounted proplan installation drag on an M = 0.8 transport
[NASA-TP-2678] p 14 N87-20990

Aeropropulsion '87. Session 5: Subsonic Propulsion Technology
[NASA-CP-10003-SESS-5] p 18 N88-15800

Advanced turboprop project
[NASA-SP-495] p 18 N89-12565

PROPELLANT COMBUSTION

Turbine Engine Hot Section Technology 1986
[NASA-CP-2444] p 45 N89-12876

PROPELLANTS

SRM (Solid Rocket Motor) propellant and polymer materials structural modeling
[NASA-TP-2824] p 45 N88-28343

PROPELLER BLADES

Optical measurement of propeller blade deflections
[NASA-TP-2841] p 39 N88-28286

PROPELLER FANS

Annoyance caused by advanced turboprop aircraft flyover noise: Single-rotating propeller configuration
[NASA-TP-2782] p 67 N88-17441

PROPELLER NOISE

Annoyance caused by advanced turboprop aircraft flyover noise: Counter-rotating-propeller configuration
[NASA-TP-3027] p 67 N90-29166

PROPELLERS

Evaluation of installed performance of a wing-tip-mounted pusher turboprop on a semispan wing
[NASA-TP-2739] p 14 N87-26041

Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462

Laser-velocimeter-measured flow field around an advanced, swept, eight-blade propeller at Mach 0.8
[NASA-TP-2462] p 2 N90-20942

FAA/NASA En Route Noise Symposium
[NASA-CP-3067] p 67 N90-24853

PROPULSION

Aeropropulsion '87. Session 3: Internal Fluid Mechanics Research
[NASA-CP-10003-SESS-3] p 18 N88-15790

Aeropropulsion '87. Session 4: Instrumentation and Controls Research
[NASA-CP-10003-SESS-4] p 18 N88-15794

Aeropropulsion '87. Session 5: Subsonic Propulsion Technology
[NASA-CP-10003-SESS-5] p 18 N88-15800

Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153

PROPULSION SYSTEM CONFIGURATIONS

Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462

Aeropropulsion '87. Session 2: Aeropropulsion Structures Research
[NASA-CP-10003-SESS-2] p 18 N88-15785

Aeropropulsion '87. Session 6: High-Speed Propulsion Technology
[NASA-CP-10003-SESS-6] p 18 N88-15807

Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626

Exhaust nozzles for propulsion systems with emphasis on supersonic cruise aircraft
[NASA-RP-1235] p 18 N90-21037

PROPULSION SYSTEM PERFORMANCE

Aeronautical facilities assessment
[NASA-RP-1146] p 21 N87-10876

Exhaust nozzles for propulsion systems with emphasis on supersonic cruise aircraft
[NASA-RP-1235] p 18 N90-21037

The effect of interplanetary trajectory options on a manned Mars aerobrake configuration
[NASA-TP-3019] p 24 N90-26036

Advanced Earth-to-Orbit Propulsion Technology 1988, volume 1
[NASA-CP-3012-VOL-1] p 27 N90-28611

PROPULSIVE EFFICIENCY

Effects of afterbody boattail design and empennage arrangement on aeropropulsive characteristics of a twin-engine fighter model at transonic speeds
[NASA-TP-2704] p 4 N87-21873

Rotorcraft flight-propulsion control integration: An eclectic design concept
[NASA-TP-2815] p 19 N88-19475

PROTECTION

A Protection And Detection Surface (PADS) for damage tolerance
[NASA-TP-3011] p 29 N90-27788

PROTECTIVE COATINGS

Effect of LID (Registered) processing on the microstructure and mechanical properties of Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo titanium foil-gauge materials
[NASA-TP-2677] p 30 N87-18644

The corrosion mechanisms for primer coated 2219-T87 aluminum
[NASA-TP-2715] p 30 N87-21076

An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods
[NASA-TP-2820] p 30 N89-19406

PROTEIN CRYSTAL GROWTH

Liquid drop stability for protein crystal growth in microgravity
[NASA-TP-2724] p 58 N87-20727

PROTEIN SYNTHESIS

Liquid drop stability for protein crystal growth in microgravity
[NASA-TP-2724] p 58 N87-20727

PROTON SCATTERING

Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103

PROTUBERANCES

Aerothermal tests of spherical dome protuberances on a flat plate at a Mach number of 6.5
[NASA-TP-2631] p 35 N87-13664

PROVING

A perspective on 15 years of proof-of-concept aircraft development and flight research at Ames-Moffett by the Rotorcraft and Powered-Lift Flight Projects Division, 1970-1985
[NASA-RP-1187] p 14 N88-19467

PROXIMITY

Technique for temperature compensation of eddy-current proximity probes
[NASA-TP-2880] p 39 N89-15380

Interactive orbital proximity operations planning system
[NASA-TP-2839] p 61 N89-18039

PSYCHOACOUSTICS

Annoyance caused by advanced turboprop aircraft flyover noise: Counter-rotating-propeller configuration
[NASA-TP-3027] p 67 N90-29166

PSYCHOLOGICAL EFFECTS

Annoyance response to simulated advanced turboprop aircraft interior noise containing tonal beats
[NASA-TP-2869] p 66 N87-24161

PSYCHOLOGY

Joint University Program for Air Transportation Research, 1988-1989
[NASA-CP-3063] p 2 N90-20921

PSYCHOMOTOR PERFORMANCE

Mental-State Estimation, 1987
[NASA-CP-2504] p 60 N88-23370

PULSE CODE MODULATION

Pulse Code Modulation (PCM) encoder handbook for Aydin Vector MMP-600 series system
[NASA-RP-1171] p 33 N87-11916

Pulse Code Modulation (PCM) data storage and analysis using a microcomputer
[NASA-TP-2629] p 33 N87-12718

PUMP SEALS

Three-step cylindrical seal for high-performance turbomachines
[NASA-TP-1849] p 36 N87-24639

PURITY

Permeation of oxygen through high purity, large grain silver
[NASA-TP-2755] p 30 N87-27024

PYLON MOUNTING

Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462

PYLONS

Integration effects of pylon geometry on a high-wing transport airplane
[NASA-TP-2877] p 9 N89-15888

PYROLYTIC GRAPHITE

Design, fabrication and performance of small, graphite electrode, multistage depressed collectors with 200-W, CW, 8- to 18-GHz traveling-wave tubes
[NASA-TP-2693] p 35 N87-20474

PYROTECHNICS

Effects of variables upon pyrotechnically induced shock response spectra
[NASA-TP-2603] p 43 N87-12921

Effects of variables upon pyrotechnically induced shock response spectra, part 2
[NASA-TP-2872] p 45 N89-13814

Q

QUALITY CONTROL

Electronics reliability and measurement technology
[NASA-CP-2472] p 42 N87-27204

Working with people to improve productivity and quality: A bibliography with indexes, 1984-1988
[NASA-SP-7078] p 69 N90-12385

QUANTITATIVE ANALYSIS

Quantitative analysis of the reconstruction performance of interpolants
[NASA-TP-2688] p 65 N87-22441

R

RADAR

MARA (Multimode Airborne Radar Altimeter) system documentation. Volume 1: MARA system requirements document
[NASA-RP-1226] p 39 N89-26209

RADAR EQUIPMENT

Thirteenth International Laser Radar Conference
[NASA-CP-2431] p 39 N87-10263

RADAR MEASUREMENT

Doppler Radar Detection of Wind Shear
[NASA-CP-2435] p 12 N87-10054

RADIANCE

Summary of along-track data from the earth radiation budget satellite for several representative ocean regions
[NASA-RP-1206] p 56 N89-14634

Sensor performance analysis
[NASA-RP-1241] p 50 N90-23780

RADIATION ABSORPTION

Absorbed dose thresholds and absorbed dose rate limitations for studies of electron radiation effects on polyetherimides
[NASA-TP-2928] p 31 N89-25332

Parametric study of power absorption from electromagnetic waves by small ferrite spheres
[NASA-TP-2949] p 66 N90-12282

Atlas of albedo and absorbed solar radiation derived from Nimbus 6 earth radiation budget data set, July 1975 to May 1978
[NASA-RP-1230] p 57 N90-14741

RADIATION DAMAGE

Spectroscopic comparison of effects of electron radiation on mechanical properties of two polyimides
[NASA-TP-2663] p 27 N87-18611

Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582

RADIATION DOSAGE

Solar-flare shielding with Regolith at a lunar-base site
[NASA-TP-2869] p 79 N89-14210

- Absorbed dose thresholds and absorbed dose rate limitations for studies of electron radiation effects on polyetherimides
[NASA-TP-2928] p 31 N89-25332
- Radiation exposure for manned Mars surface missions
[NASA-TP-2979] p 80 N90-18357
- Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031
- Comparison of dose estimates using the buildup-factor method and a Baryon transport code (BRYNTRN) with Monte Carlo results
[NASA-TP-3021] p 80 N90-29290
- RADIATION EFFECTS**
The effects of simulated space environmental parameters on six commercially available composite materials
[NASA-TP-2906] p 29 N89-19385
- Degradation and crosslinking of perfluoroalkyl polyethers under X-ray irradiation in ultrahigh vacuum
[NASA-TP-2910] p 31 N89-21103
- NASA/SDIO Space Environmental Effects on Materials Workshop, part 1
[NASA-CP-3035-PT-1] p 27 N89-23528
- NASA/SDIO Space Environmental Effects on Materials Workshop, part 2
[NASA-CP-3035-PT-2] p 28 N89-23547
- Absorbed dose thresholds and absorbed dose rate limitations for studies of electron radiation effects on polyetherimides
[NASA-TP-2928] p 31 N89-25332
- RADIATION HAZARDS**
Benchmark solutions for the galactic ion transport equations: Energy and spatially dependent problems
[NASA-TP-2878] p 79 N89-16714
- RADIATION MEASUREMENT**
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-TP-1184] p 56 N88-27677
- RADIATION PYROMETERS**
Noncontact Temperature Measurement
[NASA-CP-2503] p 32 N88-23895
- Determination of combustion gas temperatures by infrared radiometry in sooting and nonsooting flames
[NASA-TP-2900] p 38 N89-25409
- RADIATION SHIELDING**
Solar-flare shielding with Regolith at a lunar-base site
[NASA-TP-2869] p 79 N89-14210
- Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031
- Comparison of dose estimates using the buildup-factor method and a Baryon transport code (BRYNTRN) with Monte Carlo results
[NASA-TP-3021] p 80 N90-29290
- RADIATION SPECTRA**
Analysis of positron lifetime spectra in polymers
[NASA-TP-2853] p 63 N89-12237
- RADIATION TRANSPORT**
Comparison of dose estimates using the buildup-factor method and a Baryon transport code (BRYNTRN) with Monte Carlo results
[NASA-TP-3021] p 80 N90-29290
- RADIATIVE TRANSFER**
Remote Sensing in Polarized Light
[NASA-CP-3014] p 72 N89-14189
- Two-Dimensional Intercomparison of Stratospheric Models
[NASA-CP-3042] p 53 N90-11405
- RADIO ALTIMETERS**
MARA (Multimode Airborne Radar Altimeter) system documentation. Volume 1: MARA system requirements document
[NASA-TP-1226] p 39 N89-26209
- Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-TP-1233-VOL-1] p 54 N90-20562
- Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
[NASA-TP-1233-VOL-2] p 54 N90-20563
- Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
[NASA-TP-1233-VOL-4] p 54 N90-20564
- RADIO ASTRONOMY**
Coronal and Prominence Plasmas
[NASA-CP-2442] p 79 N87-20871
- Star Formation in Galaxies
[NASA-CP-2466] p 73 N87-24266
- Future Astronomical Observatories on the Moon
[NASA-CP-2489] p 74 N89-15810
- A lunar far-side very low frequency array
[NASA-CP-3039] p 75 N90-10805
- RADIO COMMUNICATION**
A simulator investigation of the use of digital data link for pilot/ATC communications in a single pilot operation
[NASA-TP-2837] p 13 N89-11726
- RADIO FREQUENCIES**
Influence of the deposition conditions on radiofrequency magnetron sputtered MoS₂ films
[NASA-TP-2994] p 33 N90-21210
- RADIO TELESCOPES**
Future Astronomical Observatories on the Moon
[NASA-CP-2489] p 74 N89-15810
- RADIO WAVES**
Rapid Fluctuations in Solar Flares
[NASA-CP-2449] p 79 N87-21785
- RADIOBIOLOGY**
Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets
[NASA-TP-1180] p 79 N87-25984
- RADIOMETERS**
Limb-darkening functions as derived from along-track operation of the ERBE scanning radiometer for January 1985
[NASA-TP-1214] p 56 N89-17374
- RADIOSONDES**
Preliminary estimates of radiosonde thermistor errors
[NASA-TP-2637] p 55 N87-12086
- RAIN**
Propagation effects handbook for satellite systems design. A summary of propagation impairments on 10 to 100 GHz satellite links with techniques for system design
[NASA-TP-1082(04)] p 34 N89-17060
- Steady-state and transitional aerodynamic characteristics of a wing in simulated heavy rain
[NASA-TP-2932] p 10 N89-25951
- RAIN GAGES**
On requirements for a satellite mission to measure tropical rainfall
[NASA-TP-1183] p 55 N87-20701
- RAMAN SPECTRA**
Raman intensity as a probe of concentration near a crystal growing in solution
[NASA-TP-2865] p 39 N89-16139
- RAMAN SPECTROSCOPY**
Raman intensity as a probe of concentration near a crystal growing in solution
[NASA-TP-2865] p 39 N89-16139
- RAMJET ENGINES**
Aeropropulsive characteristics of isolated combined turbojet/ramjet nozzles at Mach numbers from 0 to 1.20
[NASA-TP-2814] p 8 N88-23757
- RATINGS**
Simulator evaluation of a display for a Takeoff Performance Monitoring System
[NASA-TP-2908] p 20 N89-23469
- RATIONAL FUNCTIONS**
An algorithm for surface smoothing with rational splines
[NASA-TP-2708] p 65 N87-22447
- REACTION KINETICS**
An analytical study of the hydrogen-air reaction mechanism with application to scramjet combustion
[NASA-TP-2791] p 30 N88-15846
- Oxidation characteristics of Ti-14Al-21Nb ingot alloy
[NASA-TP-3012] p 31 N90-25206
- First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744
- A review of reaction rates and thermodynamic and transport properties for an 11-species air model for chemical and thermal nonequilibrium calculations to 30000 K
[NASA-TP-1232] p 38 N90-27064
- AMSAHTS 1990: Advances in Materials Science and Applications of High Temperature Superconductors
[NASA-CP-10043] p 29 N90-27792
- REAL GASES**
Description and calibration of the Langley Hypersonic CF4 tunnel: A facility for simulating low gamma flow as occurs for a real gas
[NASA-TP-2384] p 37 N87-29778
- REAL TIME OPERATION**
Applications and requirements for real-time simulators in ground-test facilities
[NASA-TP-2672] p 64 N87-23202
- The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-TP-1201] p 49 N88-20714
- Optimized resolved rate control of seven-degree-of-freedom Laboratory Telerobotic Manipulator (LTM) with application to three-dimensional graphics simulation
[NASA-TP-2938] p 64 N90-10618
- Delivery performance of conventional aircraft by terminal-area, time-based air traffic control: A real-time simulation evaluation
[NASA-TP-2978] p 13 N90-18378
- Evaluation of various thrust calculation techniques on an F404 engine
[NASA-TP-3001] p 16 N90-25134
- Earth Sciences Requirements for the Information Sciences Experiment System
[NASA-CP-3072] p 50 N90-27140
- REATTACHED FLOW**
Supersonic, nonlinear, attached-flow wing design for high lift with experimental validation
[NASA-TP-2936] p 3 N87-10042
- RECONSTRUCTION**
Quantitative analysis of the reconstruction performance of interpolants
[NASA-TP-2688] p 65 N87-22441
- Further developments in exact state reconstruction in deterministic digital control systems
[NASA-TP-2812] p 32 N88-18751
- More on exact state reconstruction in deterministic digital control systems
[NASA-TP-2847] p 33 N88-28177
- The estimation error covariance matrix for the ideal state reconstructor with measurement noise
[NASA-TP-2881] p 63 N89-13994
- A new state reconstructor for digital controls systems using weighted-average measurements
[NASA-TP-2936] p 33 N89-27039
- RECRYSTALLIZATION**
Microgravity crystallization of macromolecules: An interim report and proposal for continued research
[NASA-TP-2671] p 31 N87-20423
- RECTANGULAR PLATES**
Buckling and postbuckling behavior of compression-loaded isotropic plates with cutouts
[NASA-TP-3024] p 47 N90-28859
- RED DWARF STARS**
The M-type stars
[NASA-SP-492] p 75 N88-11592
- REDUCED GRAVITY**
Microgravity crystallization of macromolecules: An interim report and proposal for continued research
[NASA-TP-2671] p 31 N87-20423
- Spacelab 3 Mission Science Review
[NASA-CP-2429] p 36 N87-22103
- Microgravity Particle Research on the Space Station
[NASA-CP-2496] p 58 N88-15354
- Cryogenic Fluid Management Technology Workshop. Volume 1: Presentation material and discussion
[NASA-CP-10001] p 37 N88-15924
- Space Bioreactor Science Workshop
[NASA-CP-2485] p 58 N88-17168
- Microgravity Combustion Diagnostics Workshop
[NASA-CP-10017] p 32 N89-17682
- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022
- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
[NASA-CP-10026-VOL-2] p 59 N89-24023
- NASA Laser Light Scattering Advanced Technology Development Workshop, 1988
[NASA-CP-10033] p 40 N90-17085
- Development and approach to low-frequency microgravity isolation systems
[NASA-TP-2984] p 33 N90-28754
- REDUNDANCY**
A closed-form trim solution yielding minimum trim drag for airplanes with multiple longitudinal-control effectors
[NASA-TP-2907] p 20 N89-23468
- Space shuttle avionics system
[NASA-SP-504] p 24 N90-25160
- REDUNDANCY ENCODING**
Advanced detection, isolation and accommodation of sensor failures: Real-time evaluation
[NASA-TP-2740] p 19 N87-25331
- REENTRY SHIELDING**
Finite-element reentry heat-transfer analysis of space shuttle Orbiter
[NASA-TP-2657] p 37 N87-29795
- REFLECTANCE**
Theory for computing the field scattered from a smooth inflected surface
[NASA-TP-2632] p 68 N87-13264
- Analytical and experimental procedures for determining propagation characteristics of millimeter-wave gallium arsenide microstrip lines
[NASA-TP-2899] p 35 N89-21169
- Mode-medium instability and its correction with a Gaussian reflectivity mirror
[NASA-TP-3023] p 68 N90-25673
- REFLECTOR ANTENNAS**
A simplified approach to axisymmetric dual-reflector antenna design
[NASA-TP-2797] p 7 N88-16662
- REFLECTORS**
A simplified approach to axisymmetric dual-reflector antenna design
[NASA-TP-2797] p 7 N88-16662

- Workshop on Technology Development Issues for the Large Deployable Reflector (LDR)
[NASA-CP-2407] p 75 N88-20235
- Measured and predicted root-mean-square errors in square and triangular antenna mesh facets
[NASA-TP-2896] p 45 N89-17892
- REFRACTORY MATERIALS**
Nonlinear Constitutive Relations for High Temperature Applications, 1986
[NASA-CP-10010] p 44 N88-21498
- REFUELING**
Investigation of the mistueling of reciprocating piston aircraft engines
[NASA-TP-2803] p 12 N88-21144
- REGENERATIVE FUEL CELLS**
Space Electrochemical Research and Technology (SERT)
[NASA-CP-2484] p 50 N87-29914
- REGIONS**
Geomorphology from space: A global overview of regional landforms
[NASA-SP-486] p 47 N87-18139
- REGOLITH**
Lunar Helium-3 and Fusion Power
[NASA-CP-10018] p 69 N89-14842
- REGRESSION ANALYSIS**
Calibration of the spin-scan ozone imager aboard the dynamics Explorer 1 satellite
[NASA-TP-2723] p 55 N87-26491
- REINFORCING FIBERS**
Effects of thermal cycling on graphie-fiber-reinforced 6061 aluminum
[NASA-TP-2612] p 28 N87-10184
- Properties of two composite materials made of toughened epoxy resin and high-strain graphite fiber
[NASA-TP-2826] p 28 N88-25480
- RELATIVITY**
Relativistic Gravitational Experiments in Space
[NASA-CP-3046] p 77 N90-19940
- RELAXATION METHOD (MATHEMATICS)**
An upwind-biased, point-implicit relaxation algorithm for viscous, compressible perfect-gas flows
[NASA-TP-2953] p 38 N90-17042
- RELIABILITY**
Applications of the hybrid automated reliability predictor: Revised edition
[NASA-TP-2760-REV] p 63 N90-11454
- RELIABILITY ANALYSIS**
Development of confidence limits by pivotal functions for estimating software reliability
[NASA-TP-2709] p 65 N87-23244
- SURE reliability analysis: Program and mathematics
[NASA-TP-2764] p 65 N88-17380
- CARE 3 User's Workshop
[NASA-CP-10011] p 61 N88-21646
- Analysis and testing of the SURE program
[NASA-TP-2817] p 65 N88-22653
- The Fault Tree Compiler (FTC): Program and mathematics
[NASA-TP-2915] p 64 N89-24815
- Ceramics Analysis and Reliability Evaluation of Structures (CARES). Users and programmers manual
[NASA-TP-2916] p 47 N90-28099
- RELIABILITY ENGINEERING**
Electronics reliability and measurement technology
[NASA-CP-2472] p 42 N87-27204
- RELIEF MAPS**
Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
[NASA-RP-1233-VOL-4] p 54 N90-20564
- REMOTE CONTROL**
Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system
[NASA-TP-2401] p 4 N87-17668
- REMOTE SENSING**
SAGE aerosol measurements. Volume 3: January 1, 1981 to November 18, 1981
[NASA-RP-1173] p 51 N87-17417
- Geomorphology from space: A global overview of regional landforms
[NASA-SP-486] p 47 N87-18139
- Space Opportunities for Tropospheric Chemistry Research
[NASA-CP-2450] p 51 N87-18248
- System study of the carbon dioxide observational platform system (CO-OPS): Project overview
[NASA-TP-2696] p 23 N87-18588
- Earth resources: A continuing bibliography with indexes (issue 54)
[NASA-SP-7041(54)] p 49 N87-27315
- Effects of aerosols and surface shadowing on bidirectional reflectance measurements of deserts
[NASA-TP-2756] p 49 N87-28162
- Calculation and accuracy of ERBE scanner measurement locations
[NASA-TP-2670] p 72 N87-28471
- Atlas of absorption lines from 0 to 17900 cm (sup)-1
[NASA-RP-1188] p 49 N87-28955
- Wind shear detection. Forward-looking sensor technology
[NASA-CP-10004] p 12 N88-14970
- Summary of along-track data from the Earth radiation budget satellite for several major desert regions
[NASA-RP-1197] p 56 N88-20772
- Earth resources: A continuing bibliography with indexes (issue 57)
[NASA-SP-7041(57)] p 49 N88-23314
- Reflectance spectroscopy in planetary science: Review and strategy for the future
[NASA-SP-493] p 78 N88-24564
- Limb-darkening functions as derived from along-track operation of the ERBE scanning radiometer for January 1985
[NASA-RP-1214] p 56 N89-17374
- Earth resources: A continuing bibliography with indexes (issue 62)
[NASA-SP-7041(62)] p 50 N89-29825
- Earth resources: A continuing bibliography with indexes (issue 63)
[NASA-SP-7041(63)] p 50 N90-12091
- Global stratospheric change: Requirements for a Very-High-Altitude Aircraft for Atmospheric Research
[NASA-CP-10041] p 16 N90-14220
- Earth Science Geostationary Platform Technology
[NASA-CP-3040] p 24 N90-19249
- FIRE Science Results 1989
[NASA-CP-3079] p 58 N90-28224
- REMOTE SENSORS**
Advanced detection, isolation and accommodation of sensor failures: Real-time evaluation
[NASA-TP-2740] p 19 N87-25331
- Earth resources: A continuing bibliography with indexes (issue 62)
[NASA-SP-7041(62)] p 50 N89-29825
- Earth resources: A continuing bibliography with indexes (issue 63)
[NASA-SP-7041(63)] p 50 N90-12091
- REMOTELY PILOTED VEHICLES**
Flight control systems development and flight test experience with the HiMAT research vehicles
[NASA-TP-2822] p 20 N89-15929
- REPORTS**
NASA scientific and technical publications: A catalog of special publications, reference publications, conference publications, and technical papers, 1988
[NASA-SP-7063(03)] p 71 N90-10782
- REQUIREMENTS**
Practices in adequate structural design
[NASA-TP-2893] p 24 N89-18504
- MARA (Multimode Airborne Radar Altimeter) system documentation. Volume 1: MARA system requirements document
[NASA-RP-1226] p 39 N89-26209
- RESEARCH**
NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1977-1986
[NASA-SP-7063(01)] p 70 N87-30218
- NASA scientific and technical publications: A catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1987
[NASA-SP-7063(02)] p 70 N88-22830
- RESEARCH AIRCRAFT**
In-flight total forces, moments and static aeroelastic characteristics of an oblique-wing research airplane
[NASA-TP-2224] p 19 N87-10103
- Flight-determined aerodynamic derivatives of the AD-1 oblique-wing research airplane
[NASA-TP-2222] p 19 N87-10871
- Flight investigation of the effect of tail configuration on stall, spin, and recovery characteristics of a low-wing general aviation research airplane
[NASA-TP-2644] p 13 N87-16815
- Flight characteristics of the AD-1 oblique-wing research aircraft
[NASA-TP-2223] p 19 N87-18570
- New methods and results for quantification of lightning-aircraft electrostatics
[NASA-TP-2737] p 4 N87-21871
- A perspective on 15 years of proof-of-concept aircraft development and flight research at Ames-Moffett by the Rotorcraft and Powered-Lift Flight Projects Division, 1970-1985
[NASA-RP-1187] p 14 N88-19467
- Flight control systems development and flight test experience with the HiMAT research vehicles
[NASA-TP-2822] p 20 N89-15929
- Modal control of an oblique wing aircraft
[NASA-TP-2898] p 20 N89-16845
- Longitudinal stability and control characteristics of the Quiet Short-Haul Research Aircraft (QSRA)
[NASA-TP-2965] p 20 N90-17639
- RESEARCH AND DEVELOPMENT**
National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350
- RESEARCH FACILITIES**
Engineer in charge: A history of the Langley Aeronautical Laboratory, 1917-1958
[NASA-SP-4305] p 80 N87-24390
- The ACEE program and basic composites research at Langley Research Center (1975 to 1986): Summary and bibliography
[NASA-RP-1177] p 28 N87-29612
- A perspective on 15 years of proof-of-concept aircraft development and flight research at Ames-Moffett by the Rotorcraft and Powered-Lift Flight Projects Division, 1970-1985
[NASA-RP-1187] p 14 N88-19467
- A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel
[NASA-TP-2796] p 7 N88-20264
- RESEARCH MANAGEMENT**
Closed-Cycle, Frequency-Stable CO₂ Laser Technology
[NASA-CP-2456] p 40 N87-20522
- Nuclear techniques in studies of condensed matter
[NASA-RP-1195] p 68 N88-13015
- NASA historical data book. Volume 1: NASA resources 1958-1968
[NASA-SP-4012-VOL-1] p 80 N88-25428
- NASA historical data book. Volume 2: Programs and projects 1958-1968
[NASA-SP-4012-VOL-2] p 80 N88-25429
- NASA historical data book. Volume 3: Programs and projects 1969-1978
[NASA-SP-4012-VOL-3] p 81 N88-25430
- RESIN MATRIX COMPOSITES**
Cyclic loads tests of carbon involute solid rocket motor outer boot ring segments
[NASA-TP-2884] p 45 N89-16192
- RESISTOJET ENGINES**
Compatibility of dispersion-strengthened platinum with resistojets propellants
[NASA-TP-2765] p 27 N88-12538
- RESOURCES MANAGEMENT**
Issues in NASA program and project management
[NASA-SP-6101] p 69 N89-12479
- Geoscience and a Lunar Base: A Comprehensive Plan for Lunar Exploration
[NASA-CP-3070] p 78 N90-25030
- Information resources management, 1984-1989: A bibliography with indexes
[NASA-SP-7079] p 71 N90-27548
- RESPONSES**
Annoyance response to simulated advanced turboprop aircraft interior noise containing tonal beats
[NASA-TP-2689] p 66 N87-24161
- RETROFITTING**
Computer-aided design analysis of 57-mm, angular-contact, cryogenic turbopump bearings
[NASA-TP-2816] p 41 N88-18933
- REVERSED FLOW**
Thrust-reverser flow investigation on a twin-engine transport
[NASA-TP-2856] p 9 N89-14213
- REVISIONS**
Flight investigation of the effects of an outboard wing-leading-edge modification on stall/spin characteristics of a low-wing, single-engine, T-tail light airplane
[NASA-TP-2691] p 14 N87-23614
- Influence of base modifications on in-flight base drag in the presence of jet exhaust for Mach numbers from 0.7 to 1.5
[NASA-TP-2802] p 37 N88-18881
- Computer-aided design analysis of 57-mm, angular-contact, cryogenic turbopump bearings
[NASA-TP-2816] p 41 N88-18933
- REYNOLDS NUMBER**
Effect of Reynolds number variation on aerodynamics of a hydrogen-fueled transport concept at Mach 6
[NASA-TP-2728] p 5 N87-26031
- CAST-10-2/DOA 2 Airfoil Studies Workshop Results
[NASA-CP-3052] p 22 N90-17647
- RIGID ROTORS**
An experimental investigation of the flap-lag-torsion aeroelastic stability of a small-scale hingeless helicopter rotor in hover
[NASA-TP-2546] p 7 N88-20257

- The effects of structural flap-lag and pitch-lag coupling on soft inplane hingeless rotor stability in hover
[NASA-TP-3002] p 12 N90-28503
- RING STRUCTURES**
Application of Newton's method to the postbuckling of rings under pressure loadings
[NASA-TP-2941] p 46 N89-29811
- RINGS**
Revised NASA axially symmetric ring model for coupled-cavity traveling-wave tubes
[NASA-TP-2675] p 35 N87-22923
- RIVERS**
Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401
- RIVETS**
Fastener design manual
[NASA-RP-1228] p 42 N90-18740
- ROBOT CONTROL**
A generalized method for automatic downhand and wirefeed control of a welding robot and positioner
[NASA-TP-2807] p 32 N88-17869
Optimized resolved rate control of seven-degree-of-freedom Laboratory Telerobotic Manipulator (LTM) with application to three-dimensional graphics simulation
[NASA-TP-2938] p 64 N90-10618
- ROBOTICS**
The 21st Aerospace Mechanisms Symposium
[NASA-CP-2470] p 43 N87-29858
Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-Pt-1] p 62 N88-16360
First Annual Workshop on Space Operations Automation and Robotics (SOAR 87)
[NASA-CP-2491] p 61 N88-17206
A generalized method for automatic downhand and wirefeed control of a welding robot and positioner
[NASA-TP-2807] p 32 N88-17869
Second Conference on Artificial Intelligence for Space Applications
[NASA-CP-3007] p 63 N88-29351
Experiments in Planetary and Related Sciences and the Space Station
[NASA-CP-2494] p 72 N89-14998
Fourth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3013] p 63 N89-15549
Second Annual Workshop on Space Operations Automation and Robotics (SOAR 1988)
[NASA-CP-3019] p 61 N89-19817
Optimized resolved rate control of seven-degree-of-freedom Laboratory Telerobotic Manipulator (LTM) with application to three-dimensional graphics simulation
[NASA-TP-2938] p 64 N90-10618
Visual Information Processing for Television and Telerobotics
[NASA-CP-3053] p 40 N90-16204
Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
Fifth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3073] p 63 N90-27275
- ROBOTS**
A generalized method for automatic downhand and wirefeed control of a welding robot and positioner
[NASA-TP-2807] p 32 N88-17869
Visual Information Processing for Television and Telerobotics
[NASA-CP-3053] p 40 N90-16204
Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
- ROCKET ENGINE CASES**
Lightweight structural design of a bolted case joint for the space shuttle solid rocket motor
[NASA-TP-2851] p 25 N89-12580
- ROCKET ENGINE DESIGN**
Preliminary design of turbopumps and related machinery
[NASA-RP-1170] p 3 N87-17665
Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626
- ROCKET ENGINES**
Experimental evaluation of a tuned electromagnetic damper for vibration control of cryogenic turbopump rotors
[NASA-TP-3005] p 18 N90-23403
- ROCKET NOZZLES**
Experimental thrust performance of a high-area-ratio rocket nozzle
[NASA-TP-2720] p 26 N87-20381
Comparison of theoretical and experimental thrust performance of a 1030:1 area ratio rocket nozzle at a chamber pressure of 2413 kN/m² (350 psia)
[NASA-TP-2725] p 26 N87-25423
Experimental evaluation of heat transfer on a 1030:1 area ratio rocket nozzle
[NASA-TP-2726] p 27 N87-25424
Aeropropulsive characteristics of isolated combined turbojet/ramjet nozzles at Mach numbers from 0 to 1.20
[NASA-TP-2814] p 8 N88-23757
- ROCKET PROPELLANTS**
Compatibility of dispersion-strengthened platinum with resistojet propellants
[NASA-TP-2765] p 27 N88-12538
- ROCKET THRUST**
Experimental thrust performance of a high-area-ratio rocket nozzle
[NASA-TP-2720] p 26 N87-20381
Comparison of theoretical and experimental thrust performance of a 1030:1 area ratio rocket nozzle at a chamber pressure of 2413 kN/m² (350 psia)
[NASA-TP-2725] p 26 N87-25423
- ROLL**
Aerodynamics in ground effect and predicted landing ground roll of a fighter configuration with a secondary-nozzle thrust reverser
[NASA-TP-2834] p 8 N88-29752
- ROLLER BEARINGS**
Comparison of predicted and measured temperatures of UH-60A helicopter transmission
[NASA-TP-2911] p 41 N89-24607
Modification of the SHABERTH bearing code to incorporate RP-1 and a discussion of the traction model
[NASA-TP-3017] p 42 N90-28066
- ROLLING MOMENTS**
Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system
[NASA-TP-2401] p 4 N87-17668
- ROOT-MEAN-SQUARE ERRORS**
Measured and predicted root-mean-square errors in square and triangular antenna mesh facets
[NASA-TP-2896] p 45 N89-17892
- ROTARY WING AIRCRAFT**
NASA/Army Rotorcraft Technology, Volume 3: Systems Integration, Research Aircraft, and Industry
[NASA-CP-2495-VOL-3] p 1 N88-16650
A perspective on 15 years of proof-of-concept aircraft development and flight research at Ames-Moffett by the Rotorcraft and Powered-Lift Flight Projects Division, 1970-1985
[NASA-RP-1187] p 14 N88-19467
Rotorcraft flight-propulsion control integration: An eclectic design concept
[NASA-TP-2815] p 19 N88-19475
Stereopsis cueing effects on hover-in-turbulence performance in a simulated rotorcraft
[NASA-TP-2980] p 17 N90-21004
- ROTARY WINGS**
Helicopter main-rotor noise: Determination of source contributions using scaled model data
[NASA-TP-2825] p 67 N88-26907
Effect of advanced rotorcraft airfoil sections on the hover performance of a small-scale rotor model
[NASA-TP-2832] p 10 N89-24264
Aerodynamic characteristics of two rotorcraft airfoils designed for application to the inboard region of a main rotor blade
[NASA-TP-3009] p 11 N90-24239
The effects of structural flap-lag and pitch-lag coupling on soft inplane hingeless rotor stability in hover
[NASA-TP-3002] p 12 N90-28503
- ROTATING BODIES**
Effect of port corner geometry on the internal performance of a rotating-vane-type thrust reverser
[NASA-TP-2624] p 3 N87-12541
Rotating-unbalanced-mass devices for scanning balloon-borne experiments, free-flying spacecraft, and space shuttle/space station experiments
[NASA-TP-3030] p 33 N90-25255
- ROTOR AERODYNAMICS**
Vibration characteristics of OH-58A helicopter main rotor transmission
[NASA-TP-2705] p 41 N87-20555
Rotorcraft Instability Problems in High-Performance Turbomachinery, 1986
[NASA-CP-2443] p 41 N87-22199
NASA/Army Rotorcraft Technology, Volume 1: Aerodynamics, and Dynamics and Aeroelasticity
[NASA-CP-2495-VOL-1] p 1 N88-16625
NASA/Army Rotorcraft Technology, Volume 2: Materials and Structures, Propulsion and Drive Systems, Flight Dynamics and Control, and Acoustics
[NASA-CP-2495-VOL-2] p 1 N88-16632
- Advancing-side directivity and retreating-side interactions of model rotor blade-vortex interaction noise
[NASA-TP-2784] p 67 N88-22710
Integrated Technology Rotor Methodology Assessment Workshop
[NASA-CP-10007] p 2 N88-27148
Tip aerodynamics and acoustics test: A report and data survey
[NASA-RP-1179] p 9 N89-17579
Rotorcraft Instability Problems in High-Performance Turbomachinery, 1988
[NASA-CP-3026] p 41 N89-22891
- ROTOR BLADES (TURBOMACHINERY)**
Turbine Engine Hot Section Technology, 1984
[NASA-CP-2339] p 43 N87-11180
Design of 9.271-pressure-ratio 5-stage core compressor and overall performance for first 3 stages
[NASA-TP-2597] p 17 N87-17699
Correlation of helicopter impulsive noise from blade-vortex interaction with rotor mean inflow
[NASA-TP-2650] p 66 N87-18399
Low-cost FM oscillator for capacitance type of blade tip clearance measurement system
[NASA-TP-2746] p 17 N87-24481
Laser anemometer measurements in a transonic axial-flow fan rotor
[NASA-TP-2879] p 38 N90-11245
- ROTOR BODY INTERACTIONS**
Integrated Technology Rotor Methodology Assessment Workshop
[NASA-CP-10007] p 2 N88-27148
- ROTOR SPEED**
Experimental evaluation of a tuned electromagnetic damper for vibration control of cryogenic turbopump rotors
[NASA-TP-3005] p 18 N90-23403
- ROTORCRAFT AIRCRAFT**
Effect of advanced rotorcraft airfoil sections on the hover performance of a small-scale rotor model
[NASA-TP-2832] p 10 N89-24264
Aerodynamic characteristics of two rotorcraft airfoils designed for application to the inboard region of a main rotor blade
[NASA-TP-3009] p 11 N90-24239
- ROTORS**
Transonic flow analysis for rotors. Part 2: Three-dimensional, unsteady, full-potential calculation
[NASA-TP-2375-PT-2] p 3 N87-10841
Helicopter blade-vortex interaction locations: Scale-model acoustics and free-wake analysis results
[NASA-TP-2658] p 4 N87-18537
Preliminary structural design of composite main rotor blades for minimum weight
[NASA-TP-2730] p 28 N87-25435
Experimental evaluation of a tuned electromagnetic damper for vibration control of cryogenic turbopump rotors
[NASA-TP-3005] p 18 N90-23403
- ROUTES**
FAA/NASA En Route Noise Symposium
[NASA-CP-3067] p 67 N90-24853
- RP-1 ROCKET PROPELLANTS**
High-pressure calorimeter chamber tests for liquid oxygen/kerosene (LOX/RP-1) rocket combustion
[NASA-TP-2862] p 27 N89-15979
Modification of the SHABERTH bearing code to incorporate RP-1 and a discussion of the traction model
[NASA-TP-3017] p 42 N90-28066
- RUNWAY CONDITIONS**
Evaluation of two transport aircraft and several ground test vehicle friction measurements obtained for various runway surface types and conditions. A summary of test results from joint FAA/NASA Runway Friction Program
[NASA-TP-2917] p 16 N90-15902
- RUNWAYS**
Langley Aircraft Landing Dynamics Facility
[NASA-RP-1189] p 21 N87-29544

S

- SAGE SATELLITE**
SAGE aerosol measurements. Volume 3: January 1, 1981 to November 18, 1981
[NASA-RP-1173] p 51 N87-17417
Effect of ephemeris errors on the accuracy of the computation of the tangent point altitude of a solar scanning ray as measured by the SAGE 1 and 2 instruments
[NASA-TP-2866] p 65 N89-16415
- SALT SPRAY TESTS**
Stress corrosion study of PH13-8Mo stainless steel using the Slow Strain Rate Technique
[NASA-TP-2934] p 30 N89-26976

SAMPLING

A synchronous data analyzer for the Minimum Delay Data Format (MDDF) and Launch Trajectory Acquisition System (LTAS)
[NASA-TP-2743] p 34 N87-24590

SANDWICH STRUCTURES

An examination of impact damage in glass-phenolic and aluminum honeycomb core composite panels
[NASA-TP-3042] p 29 N90-27876

SATELLITE ALTIMETRY

Surface topography of the Greenland Ice Sheet from satellite radar altimetry
[NASA-SP-503] p 54 N90-22850

SATELLITE ATTITUDE CONTROL

Flight Mechanics/Estimation Theory Symposium, 1989
[NASA-CP-3050] p 23 N90-13413

SATELLITE COMMUNICATION

Unique bit-error-rate measurement system for satellite communication systems
[NASA-TP-2699] p 33 N87-20448

Propagation effects handbook for satellite systems design. A summary of propagation impairments on 10 to 100 GHz satellite links with techniques for system design
[NASA-RP-1082(04)] p 34 N89-17060

SATELLITE DESIGN

Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084

SATELLITE IMAGERY

NASA/MSFC FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043

Arctic Sea ice, 1973-1976: Satellite passive-microwave observations
[NASA-SP-489] p 58 N87-24870

SATELLITE INSTRUMENTS

Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084

SATELLITE OBSERVATION

Limb-darkening functions as derived from along-track operation of the ERBE scanning radiometer for January 1985
[NASA-RP-1214] p 56 N89-17374

Comparison of satellite-derived dynamical quantities for the stratosphere of the Southern Hemisphere
[NASA-CP-3044] p 53 N89-25540

SATELLITE POWER TRANSMISSION

Second Beamed Space-Power Workshop
[NASA-CP-3037] p 27 N90-10140

SATELLITE SOUNDING

Scientific and Operational Requirements for TOMS Data
[NASA-CP-2497] p 47 N88-13774

Nimbus-7 Stratospheric and Mesospheric Sounder (SAMS) experiment data user's guide
[NASA-RP-1221] p 53 N89-26304

SATELLITE TRANSMISSION

Propagation effects on satellite systems at frequencies below 10 GHz: A handbook for satellite systems design
[NASA-RP-1108(2)] p 34 N88-14226

Diode laser satellite systems for beamed power transmission
[NASA-TP-2992] p 40 N90-24585

SATELLITE-BORNE PHOTOGRAPHY

Geomorphology from space: A global overview of regional landforms
[NASA-SP-486] p 47 N87-18139

SATURN

The Cassini mission: Infrared and microwave spectroscopic measurements
[NASA-RP-1213] p 78 N89-16709

SATURN ATMOSPHERE

The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598

SCALE MODELS

Evaluation of a scale-model experiment to investigate long-range acoustic propagation
[NASA-TP-2748] p 66 N88-11450

Flight control systems development and flight test experience with the HiMAT research vehicles
[NASA-TP-2822] p 20 N89-15929

SCANNERS

Limb-darkening functions as derived from along-track operation of the ERBE scanning radiometer for January 1985
[NASA-RP-1214] p 56 N89-17374

SCANNING

Calculation and accuracy of ERBE scanner measurement locations
[NASA-TP-2670] p 72 N87-28471

Effect of ephemeris errors on the accuracy of the computation of the tangent point altitude of a solar scanning ray as measured by the SAGE 1 and 2 instruments
[NASA-TP-2866] p 65 N89-16415

SCATTERING AMPLITUDE

Eikonal solutions to optical model coupled-channel equations
[NASA-TP-2830] p 68 N88-30402

SCATTERING CROSS SECTIONS

Doubly differential cross sections for galactic heavy-ion fragmentation
[NASA-TP-2659] p 68 N87-17487

Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103

Annihilation in Gases and Galaxies
[NASA-CP-3058] p 66 N90-18957

SCHEDULING

Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-Pt-1] p 62 N88-16360

Simulation evaluation of TIMER, a time-based, terminal air traffic, flow-management concept
[NASA-TP-2870] p 13 N89-15901

A knowledge-based tool for multilevel decomposition of a complex design problem
[NASA-TP-2903] p 63 N89-23181

Payload crew utilization for spacelab missions
[NASA-TP-2976] p 24 N90-14256

The 1990 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3068] p 64 N90-22294

SCHROEDINGER EQUATION

Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103

SCREEN EFFECT

Sensitivity of F-106B leading-edge-vortex images to flight and vapor-screen parameters
[NASA-TP-2818] p 8 N88-23760

SCREENS

Experimental evaluation of honeycomb/screen configurations and short contraction section for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2692] p 21 N87-23662

SEA ICE

Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-RP-1233-VOL-1] p 54 N90-20562

SeaRISE: A Multidisciplinary Research Initiative to Predict Rapid Changes in Global Sea Level Caused by Collapse of Marine Ice Sheets
[NASA-CP-3075] p 48 N90-22824

SEA LEVEL

SeaRISE: A Multidisciplinary Research Initiative to Predict Rapid Changes in Global Sea Level Caused by Collapse of Marine Ice Sheets
[NASA-CP-3075] p 48 N90-22824

SEALS (STOPPERS)

Space shuttle main engine high pressure fuel pump aft platform seal cavity flow analysis
[NASA-TP-2685] p 36 N87-17000

Straight cylindrical seal for high-performance turbomachines
[NASA-TP-1850] p 36 N87-23936

Rotordynamic Instability Problems in High-Performance Turbomachinery, 1988
[NASA-CP-3026] p 41 N89-22891

SEASAT SATELLITES

Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-RP-1233-VOL-1] p 54 N90-20562

Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
[NASA-RP-1233-VOL-2] p 54 N90-20563

Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
[NASA-RP-1233-VOL-4] p 54 N90-20564

SECONDARY EMISSION

Secondary electron emission characteristics of untreated and ion-textured titanium
[NASA-TP-2902] p 30 N89-17650

Secondary electron emission characteristics of molybdenum-masked, ion-textured OFHC copper
[NASA-TP-2967] p 31 N90-15211

SEEPAGE

Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401

SEMICONDUCTOR LASERS

Diode laser satellite systems for beamed power transmission
[NASA-TP-2992] p 40 N90-24585

SEMISPAN MODELS

Evaluation of installed performance of a wing-tip-mounted pusher turboprop on a semispan wing
[NASA-TP-2739] p 14 N87-26041

Experimental and theoretical aerodynamic characteristics of a high-lift semispan wing model
[NASA-TP-2990] p 11 N90-20046

SENSITIVITY

Sensitivity Analysis in Engineering
[NASA-CP-2457] p 43 N87-18855

Shape sensitivity analysis of wing static aeroelastic characteristics
[NASA-TP-2808] p 15 N88-22031

SEPARATED FLOW

A review of high-speed, convective, heat-transfer computation methods
[NASA-TP-2914] p 38 N89-27116

SERVICE LIFE

Computer-aided design analysis of 57-mm, angular-contact, cryogenic turbopump bearings
[NASA-TP-2816] p 41 N88-18933

Liquid lubrication in space
[NASA-RP-1240] p 42 N90-28063

SHADOWS

Effects of aerosols and surface shadowing on bidirectional reflectance measurements of deserts
[NASA-TP-2756] p 49 N87-28162

SHAFTS (MACHINE ELEMENTS)

Experimental evaluation of a tuned electromagnetic damper for vibration control of cryogenic turbopump rotors
[NASA-TP-3005] p 18 N90-23403

SHAPED CHARGES

Effects of variables upon pyrotechnically induced shock response spectra, part 2
[NASA-TP-2872] p 45 N89-13814

SHARP LEADING EDGES

Applicability of linearized-theory attached-flow methods to design and analysis of flap systems at low speeds for thin swept wings with sharp leading edges
[NASA-TP-2653] p 3 N87-15174

SHEAR FLOW

Experimental validation of a two-dimensional shear-flow model for determining acoustic impedance
[NASA-TP-2679] p 66 N87-20798

Influence of wind shear on the aerodynamic characteristics of airplanes
[NASA-TP-2827] p 12 N88-26344

A spectral collocation solution to the compressible stability eigenvalue problem
[NASA-TP-2858] p 9 N89-12543

SHELL THEORY

Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
[NASA-TP-2977] p 42 N90-19595

SHELLS (STRUCTURAL FORMS)

Computational Methods for Structural Mechanics and Dynamics, part 1
[NASA-CP-3034-PT-1] p 46 N89-24638

SHOCK HEATING

A review of high-speed, convective, heat-transfer computation methods
[NASA-TP-2914] p 38 N89-27116

SHOCK LAYERS

Gas-jet and tangent-slot film cooling tests of a 12.5 deg cone at Mach number of 6.7
[NASA-TP-2786] p 39 N90-28806

SHOCK LOADS

Effects of variables upon pyrotechnically induced shock response spectra
[NASA-TP-2603] p 43 N87-12921

SHOCK SPECTRA

Effects of variables upon pyrotechnically induced shock response spectra
[NASA-TP-2603] p 43 N87-12921

SHOCK TESTS

The 58th Shock and Vibration Symposium, volume 1
[NASA-CP-2488-VOL-1] p 43 N88-13609

SHOCK WAVE INTERACTION

Weak-wave analysis of shock interaction with a slipstream
[NASA-TP-2848] p 8 N89-10020

A time-accurate adaptive grid method and the numerical simulation of a shock-vortex interaction
[NASA-TP-2998] p 61 N90-21524

SHOCK WAVE PROPAGATION

A second-order accurate kinetic-theory-based method for inviscid compressible flows
[NASA-TP-2613] p 36 N87-18783

SHOCK WAVES

Shock structure and noise of supersonic jets in simulated flight to Mach 0.4
[NASA-TP-2785] p 67 N88-16510

SHORT HAUL AIRCRAFT

Longitudinal stability and control characteristics of the Quiet Short-Haul Research Aircraft (QSRA)
[NASA-TP-2965] p 20 N90-17639

SHORT TAKEOFF AIRCRAFT

Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959

SUBJECT INDEX

A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel
 [NASA-TP-2796] p 7 N88-20264

Aerodynamics in ground effect and predicted landing ground roll of a fighter configuration with a secondary-nozzle thrust reverser
 [NASA-TP-2834] p 8 N88-29752

The 1987 Ground Vortex Workshop
 [NASA-CP-10008] p 9 N89-10849

Powered-lift aircraft technology
 [NASA-SP-501] p 15 N90-12589

Dynamic ground-effect measurements on the F-15 STOL and Maneuver Technology Demonstrator (S/MTD) configuration
 [NASA-TP-3000] p 11 N90-22531

SHORT WAVE RADIATION
 Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
 [NASA-RP-1184] p 56 N88-27677

SHOT PEENING
 Shot peening for Ti-6Al-4V alloy compressor blades
 [NASA-TP-2711] p 43 N87-20566

SIDESLIP
 Effects of winglets on a first-generation jet transport wing. 7: Sideslip effects on winglet loads and selected wing loads at subsonic speeds for a full-span model
 [NASA-TP-2619] p 7 N88-18567

SIGNAL PROCESSING
 Frequency domain laser velocimeter signal processor: A new signal processing scheme
 [NASA-TP-2735] p 40 N87-27994

Analog signal conditioning for flight-test instrumentation
 [NASA-RP-1159] p 17 N87-29533

Proceedings of the Scientific Data Compression Workshop
 [NASA-CP-3025] p 63 N89-22332

Fluctuating pressures measured beneath a high-temperature, turbulent boundary layer on a flat plate at Mach number of 5
 [NASA-TP-2947] p 67 N90-10680

SIGNAL REFLECTION
 Power cepstrum technique with application to model helicopter acoustic data
 [NASA-TP-2586] p 66 N87-17479

SILICON
 Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets
 [NASA-RP-1180] p 79 N87-25984

Indentation plasticity and fracture in silicon
 [NASA-TP-2863] p 30 N89-10996

SILICON CARBIDES
 Heat treatment study of the SiC/Ti-15-3 composite system
 [NASA-TP-2970] p 29 N90-19302

SILVER
 Electron stimulated desorption of atomic oxygen from silver
 [NASA-TP-2668] p 29 N87-18629

Permeation of oxygen through high purity, large grain silver
 [NASA-TP-2755] p 30 N87-27024

Auger electron intensity variations in oxygen-exposed large grain polycrystalline silver
 [NASA-TP-2930] p 67 N89-30022

SIMULATION
 Fourteenth Space Simulation Conference: Testing for a Permanent Presence in Space
 [NASA-CP-2446] p 25 N88-10829

A simulator investigation of the use of digital data link for pilot/ATC communications in a single pilot operation
 [NASA-TP-2837] p 13 N89-11726

Simulation evaluation of TIMER, a time-based, terminal air traffic, flow-management concept
 [NASA-TP-2870] p 13 N89-15901

SIMULATORS
 Applications and requirements for real-time simulators in ground-test facilities
 [NASA-TP-2672] p 64 N87-23202

Simulator evaluation of a display for a Takeoff Performance Monitoring System
 [NASA-TP-2908] p 20 N89-23469

Satellite-matrix-switched, time-division-multiple-access network simulator
 [NASA-TP-2944] p 34 N90-11915

SINGLE CRYSTALS
 Growth of solid solution single crystals
 [NASA-TP-2787] p 32 N88-14212

Indentation plasticity and fracture in silicon
 [NASA-TP-2863] p 30 N89-10996

SINGLE EVENT UPSETS
 Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets
 [NASA-RP-1180] p 79 N87-25984

SITES
 Crustal Dynamics Project: Catalogue of site information
 [NASA-RP-1198] p 52 N88-19037

SKIN FRICTION
 Effects of tail span and empennage arrangement on drag of a typical single-engine fighter aft end
 [NASA-TP-2352] p 3 N87-10838

SLIDING FRICTION
 Reaction of perfluoroalkylpolyethers (PFPE) with 440C steel in vacuum under sliding conditions at room temperature
 [NASA-TP-2883] p 31 N89-26091

SLIPSTREAMS
 Weak-wave analysis of shock interaction with a slipstream
 [NASA-TP-2848] p 8 N89-10020

SLOTS
 Gas-jet and tangent-slot film cooling tests of a 12.5 deg cone at Mach number of 6.7
 [NASA-TP-2786] p 39 N90-28806

SMALL PERTURBATION FLOW
 A transonic-small-disturbance wing design methodology
 [NASA-TP-2806] p 7 N88-17614

SMOOTHING
 An algorithm for surface smoothing with rational splines
 [NASA-TP-2708] p 65 N87-22447

SOFTWARE ENGINEERING
 Proceedings of the 5th Annual Users' Conference
 [NASA-CP-2399] p 62 N87-10720

Computer Sciences and Data Systems, volume 1
 [NASA-CP-2459-VOL-1] p 62 N87-19931

Development of confidence limits by pivotal functions for estimating software reliability
 [NASA-TP-2709] p 65 N87-23244

NASA Workshop on Computational Structural Mechanics 1987, part 1
 [NASA-CP-10012-PT-1] p 46 N89-29773

NASA Workshop on Computational Structural Mechanics 1987, part 3
 [NASA-CP-10012-PT-3] p 46 N89-29799

Software Reuse Issues
 [NASA-CP-3057] p 63 N90-14789

SOFTWARE TOOLS
 Proceedings of the 5th Annual Users' Conference
 [NASA-CP-2399] p 62 N87-10720

Third Conference on Artificial Intelligence for Space Applications, part 2
 [NASA-CP-2492-PT-2] p 63 N88-24188

OEXP Analysis Tools Workshop
 [NASA-CP-10013] p 63 N89-11407

Integrated tools for control-system analysis
 [NASA-TP-2885] p 20 N89-19309

A knowledge-based tool for multilevel decomposition of a complex design problem
 [NASA-TP-2903] p 63 N89-23181

Software Reuse Issues
 [NASA-CP-3057] p 63 N90-14789

SOILS
 Exobiology and Future Mars Missions
 [NASA-CP-10027] p 59 N89-26334

SOLAR ARRAYS
 Solar array flight dynamic experiment
 [NASA-TP-2598] p 23 N87-12581

Solar array flight experiment/dynamic augmentation experiment
 [NASA-TP-2690] p 26 N87-20380

Space Photovoltaic Research and Technology, 1988. High Efficiency, Space Environment, and Array Technology
 [NASA-CP-3030] p 50 N89-24704

SOLAR ATMOSPHERE
 Coronal and Prominence Plasmas
 [NASA-CP-2442] p 79 N87-20871

A high-resolution atlas of the infrared spectrum of the Sun and the Earth atmosphere from space: A compilation of ATMOS spectra of the region from 650 to 4800 cm (2.3 to 16 micron). Volume 1: The Sun
 [NASA-RP-1224-VOL-1] p 53 N90-13893

SOLAR BACKSCATTER UV SPECTROMETER
 Nimbus 7 Solar Backscatter Ultraviolet (SBUV) spectral scan solar irradiance and Earth radiance product user's guide
 [NASA-RP-1199] p 48 N88-17096

SOLAR CELLS
 Space Photovoltaic Research and Technology 1986. High Efficiency, Space Environment, and Array Technology
 [NASA-CP-2475] p 50 N87-26413

Space Photovoltaic Research and Technology, 1988. High Efficiency, Space Environment, and Array Technology
 [NASA-CP-3030] p 50 N89-24704

SOLAR PROMINENCES

SOLAR COLLECTORS
 Analysis of Nd3+ :glass, solar-pumped, high-power laser systems
 [NASA-TP-2905] p 40 N89-17855

SOLAR CONSTANT
 Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
 [NASA-RP-1211] p 79 N89-30151

SOLAR CORONA
 Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings
 [NASA-CP-2439] p 79 N87-19328

Coronal and Prominence Plasmas
 [NASA-CP-2442] p 79 N87-20871

SOLAR COSMIC RAYS
 Improved model for solar cosmic ray exposure in manned Earth orbital flights
 [NASA-TP-2987] p 80 N90-25031

SOLAR DYNAMIC POWER SYSTEMS
 Solar array flight experiment/dynamic augmentation experiment
 [NASA-TP-2690] p 26 N87-20380

SOLAR ECLIPSES
 Fifty year canon of solar eclipses: 1986 - 2035
 [NASA-RP-1178-REV] p 73 N87-25906

SOLAR ENERGY
 Nimbus-7 data product summary
 [NASA-RP-1215] p 48 N89-22152

SOLAR FLARES
 Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings
 [NASA-CP-2439] p 79 N87-19328

Statistical aspects of solar flares
 [NASA-TP-2714] p 79 N87-20947

Rapid Fluctuations in Solar Flares
 [NASA-CP-2449] p 79 N87-21785

Solar-flare shielding with Regolith at a lunar-base site
 [NASA-TP-2869] p 79 N89-14210

Radiation exposure for manned Mars surface missions
 [NASA-TP-2979] p 80 N90-18357

SOLAR INSTRUMENTS
 A general-purpose balloon-borne pointing system for solar scientific instruments
 [NASA-TP-3013] p 33 N90-21219

SOLAR MAGNETIC FIELD
 Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings
 [NASA-CP-2439] p 79 N87-19328

Coronal and Prominence Plasmas
 [NASA-CP-2442] p 79 N87-20871

Theoretical Problems in High Resolution Solar Physics, 2
 [NASA-CP-2483] p 79 N88-11609

SOLAR MAXIMUM MISSION
 Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings
 [NASA-CP-2439] p 79 N87-19328

SOLAR OBSERVATORIES
 Theoretical Problems in High Resolution Solar Physics, 2
 [NASA-CP-2483] p 79 N88-11609

SOLAR PHYSICS
 Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings
 [NASA-CP-2439] p 79 N87-19328

Coronal and Prominence Plasmas
 [NASA-CP-2442] p 79 N87-20871

Theoretical Problems in High Resolution Solar Physics, 2
 [NASA-CP-2483] p 79 N88-11609

SOLAR POSITION
 Surface bidirectional reflectance properties of two southwestern Arizona deserts for wavelengths between 0.4 and 2.2 micrometers
 [NASA-TP-2643] p 48 N87-22281

SOLAR POWER SATELLITES
 Technology for large space systems: A bibliography with indexes (supplement 17)
 [NASA-SP-7046(17)] p 22 N87-29576

Technology for large space systems: A bibliography with indexes (supplement 18)
 [NASA-SP-7046(18)] p 22 N88-27214

Second Beamed Space-Power Workshop
 [NASA-CP-3037] p 27 N90-10140

SOLAR PROMINENCES
 Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings
 [NASA-CP-2439] p 79 N87-19328

Coronal and Prominence Plasmas
 [NASA-CP-2442] p 79 N87-20871

Statistical aspects of solar flares
 [NASA-TP-2714] p 79 N87-20947

SOLAR RADIATION

- Nimbus 7 Solar Backscatter Ultraviolet (SBUV) spectral scan solar irradiance and Earth radiance product user's guide
[NASA-RP-1199] p 48 N88-17096
- Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152
- Atlas of albedo and absorbed solar radiation derived from Nimbus 6 earth radiation budget data set, July 1975 to May 1978
[NASA-RP-1230] p 57 N90-14741
- Atlas of albedo and absorbed solar radiation derived from Nimbus 7 Earth radiation budget data set, November 1978 to October 1985
[NASA-RP-1231] p 57 N90-17233
- SOLAR SIMULATORS**
Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582
- SOLAR SPECTRA**
A high-resolution atlas of the infrared spectrum of the sun and the earth atmosphere from space. A compilation of ATMOS spectra of the region from 650 to 4800 cm⁻¹ (2.3 to 16 microns). Volume 2: Stratosphere and mesosphere, 650 to 3350 cm⁻¹
[NASA-RP-1224-VOL-2] p 53 N89-28969
- Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
[NASA-RP-1211] p 79 N89-30151
- SOLAR TERRESTRIAL INTERACTIONS**
On the statistics of El Nino occurrences and the relationship of El Nino to volcanic and solar/geomagnetic activity
[NASA-TP-2948] p 79 N90-12456
- Solar-Terrestrial Science Strategy Workshop
[NASA-CP-3048] p 73 N90-18329
- SOLAR-PUMPED LASERS**
Free-Space Power Transmission
[NASA-CP-10016] p 27 N90-21795
- SOLID ELECTRODES**
Design, fabrication, and performance of brazed, graphite electrode, multistage depressed collectors with 500-W, continuous wave, 4.8- to 9.6-GHz traveling-wave tubes
[NASA-TP-2904] p 35 N89-21171
- SOLID PROPELLANT ROCKET ENGINES**
SRM propellant and polymer materials structural test program
[NASA-TP-2821] p 44 N88-25013
- SRM (Solid Rocket Motor) propellant and polymer materials structural modeling
[NASA-TP-2824] p 45 N88-28343
- Loads analysis and testing of flight configuration solid rocket motor outer boot ring segments
[NASA-TP-3028] p 47 N90-25366
- SOLID SOLUTIONS**
Growth of solid solution single crystals
[NASA-TP-2787] p 32 N88-14212
- SOLID STATE DEVICES**
Universal test fixture for monolithic mm-wave integrated circuits calibrated with an augmented TRD algorithm
[NASA-TP-2875] p 34 N89-17767
- SOLUTIONS**
Raman intensity as a probe of concentration near a crystal growing in solution
[NASA-TP-2865] p 39 N89-16139
- SONIC BOOMS**
Status of sonic boom methodology and understanding
[NASA-CP-3027] p 9 N89-23415
- SOOT**
Determination of combustion gas temperatures by infrared radiometry in sooting and nonsooting flames
[NASA-TP-2900] p 38 N89-25409
- SOUND PRESSURE**
Annoyance caused by advanced turboprop aircraft flyover noise: Counter-rotating-propeller configuration
[NASA-TP-3027] p 67 N90-29166
- SOUND TRANSMISSION**
Evaluation of the ride quality of a light twin engine airplane using a ride quality meter
[NASA-TP-2913] p 2 N89-22568
- SOUND WAVES**
Propagation of sound waves in tubes of noncircular cross section
[NASA-TP-2601] p 3 N87-14284
- SOUTHERN HEMISPHERE**
The 1988 Antarctic ozone monitoring Nimbus-7 TOMS data atlas
[NASA-RP-1225] p 57 N89-28983
- SPACE COMMERCIALIZATION**
Spacelab 3 Mission Science Review
[NASA-CP-2429] p 36 N87-22103
- Report of the In Situ Resources Utilization Workshop
[NASA-CP-3017] p 72 N89-14188

SPACE COMMUNICATION

- Technology for large space systems: A bibliography with indexes (supplement 17)
[NASA-SP-7046(17)] p 22 N87-29576
- SPACE DEBRIS**
NASA/SPIO Space Environmental Effects on Materials Workshop, part 1
[NASA-CP-3035-PT-1] p 27 N89-23528
- SPACE ENVIRONMENT SIMULATION**
Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582
- The effects of simulated space environmental parameters on six commercially available composite materials
[NASA-TP-2906] p 29 N89-19385
- SPACE ERECTABLE STRUCTURES**
Solar array flight experiment/dynamic augmentation experiment
[NASA-TP-2690] p 26 N87-20380
- Space station systems: A bibliography with indexes (supplement 4)
[NASA-SP-7056(04)] p 25 N87-26073
- The 21st Aerospace Mechanisms Symposium
[NASA-CP-2470] p 43 N87-29858
- SPACE EXPLORATION**
The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598
- Reflectance spectroscopy in planetary science: Review and strategy for the future
[NASA-SP-493] p 78 N88-24564
- Planetary Geology: Goals, Future Directions, and Recommendations
[NASA-CP-3005] p 78 N88-26279
- Orders of magnitude: A history of the NACA and NASA, 1915-1990
[NASA-SP-4406] p 81 N89-26805
- Astronautics and Aeronautics, 1979-1984: A chronology
[NASA-SP-4024] p 81 N90-25928
- SPACE FLIGHT**
Joint US/USSR study: Comparison of effects of horizontal and head-down bed rest
[NASA-TP-3037] p 60 N90-28965
- SPACE HABITATS**
Report of the In Situ Resources Utilization Workshop
[NASA-CP-3017] p 72 N89-14188
- SPACE LABORATORIES**
Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022
- SPACE MISSIONS**
Astronautics and Aeronautics, 1979-1984: A chronology
[NASA-SP-4024] p 81 N90-25928
- Liquid lubrication in space
[NASA-RP-1240] p 42 N90-28063
- SPACE PERCEPTION**
Determination of depth-viewing volumes for stereo three-dimensional graphic displays
[NASA-TP-2999] p 61 N90-22965
- SPACE PLASMAS**
Double Layers in Astrophysics
[NASA-CP-2469] p 72 N87-23313
- SPACE PLATFORMS**
System study of the carbon dioxide observational platform system (CO-OPS): Project overview
[NASA-TP-2696] p 23 N87-18588
- Space station systems: A bibliography with indexes (supplement 4)
[NASA-SP-7056(04)] p 25 N87-26073
- SPACE PROCESSING**
Space Bioreactor Science Workshop
[NASA-CP-2485] p 58 N88-17168
- SPACE PROGRAMS**
Atmospheric Turbulence Relative to Aviation, Missile, and Space Programs
[NASA-CP-2468] p 55 N87-22341
- SPACE SHUTTLE BOOSTERS**
Analysis of quasi-hybrid solid rocket booster concepts for advanced earth-to-orbit vehicles
[NASA-TP-2751] p 27 N87-25425
- SRM propellant and polymer materials structural test program
[NASA-TP-2821] p 44 N88-25013
- Cyclic loads tests of carbon involute solid rocket motor outer boot ring segments
[NASA-TP-2884] p 45 N89-16192
- SPACE SHUTTLE MAIN ENGINE**
Conventionally cast and forged copper alloy for high-heat-flux thrust chambers
[NASA-TP-2694] p 30 N87-16902
- Space shuttle main engine high pressure fuel pump aft platform seal cavity flow analysis
[NASA-TP-2685] p 36 N87-17000

- Structural Integrity and Durability of Reusable Space Propulsion Systems
[NASA-CP-2471] p 26 N87-22766
- Three-step labyrinth seal for high-performance turbomachines
[NASA-TP-1848] p 36 N87-23921
- Straight cylindrical seal for high-performance turbomachines
[NASA-TP-1850] p 36 N87-23936
- Three-step cylindrical seal for high-performance turbomachines
[NASA-TP-1849] p 36 N87-24639
- Probabilistic risk analysis of flying the space shuttle with and without fuel turbine discharge temperature redline protection
[NASA-TP-2759] p 65 N87-27474
- The 58th Shock and Vibration Symposium, volume 1
[NASA-CP-2488-VOL-1] p 43 N88-13609
- Computer-aided design analysis of 57-mm, angular-contact, cryogenic turbopump bearings
[NASA-TP-2816] p 41 N88-18933
- Lightweight structural design of a bolted case joint for the space shuttle solid rocket motor
[NASA-TP-2851] p 25 N89-12580
- Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626
- SPACE SHUTTLE MISSIONS**
The 1987 Get Away Special Experimenter's Symposium
[NASA-CP-2500] p 22 N88-17691
- Spacelab: An international success story
[NASA-SP-487] p 72 N88-19375
- SPACE SHUTTLE ORBITERS**
Finite-element reentry heat-transfer analysis of space shuttle Orbiter
[NASA-TP-2657] p 37 N87-29795
- Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
[NASA-TP-2977] p 42 N90-19595
- SPACE SHUTTLE PAYLOADS**
Solar array flight dynamic experiment
[NASA-TP-2598] p 23 N87-12581
- The 1986 Get Away Special Experimenter's Symposium
[NASA-CP-2438] p 22 N87-20302
- Solar array flight experiment/dynamic augmentation experiment
[NASA-TP-2690] p 26 N87-20380
- Space Construction
[NASA-CP-2490] p 25 N88-10870
- The 1988 Get Away Special Experimenter's Symposium
[NASA-CP-3008] p 22 N89-10902
- Remote Sensing in Polarized Light
[NASA-CP-3014] p 72 N89-14189
- SPACE SHUTTLES**
Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585
- Spacelab 3 Mission Science Review
[NASA-CP-2429] p 36 N87-22103
- Fourteenth Space Simulation Conference: Testing for a Permanent Presence in Space
[NASA-CP-2446] p 25 N88-10829
- Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-Pt-1] p 62 N88-16360
- Cornering characteristics of the main-gear tire of the space shuttle orbiter
[NASA-TP-2790] p 14 N88-18583
- Practices in adequate structural design
[NASA-TP-2893] p 24 N89-18504
- Graphics Technology in Space Applications (GTSA 1989)
[NASA-CP-3045] p 62 N90-20651
- Space shuttle avionics system
[NASA-SP-504] p 24 N90-25160
- Rotating-unbalanced-mass devices for scanning balloon-borne experiments, free-flying spacecraft, and space shuttle/space station experiments
[NASA-TP-3030] p 33 N90-25255
- Development and approach to low-frequency microgravity isolation systems
[NASA-TP-2984] p 33 N90-28754
- SPACE SIMULATORS**
Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582
- SPACE STATION PAYLOADS**
Microgravity Particle Research on the Space Station
[NASA-CP-2496] p 58 N88-15354
- Experiments in Planetary and Related Sciences and the Space Station
[NASA-CP-2494] p 72 N89-14998

- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022
- Rotating-unbalanced-mass devices for scanning balloon-borne experiments, free-flying spacecraft, and space shuttle/space station experiments
[NASA-TP-3030] p 33 N90-25255
- SPACE STATION POWER SUPPLIES**
- Space station systems: A bibliography with indexes
[NASA-SP-7056(05)] p 25 N88-13382
- Space station systems: A bibliography with indexes (supplement 7)
[NASA-SP-7056(07)] p 25 N89-18522
- Space station systems: A bibliography with indexes (supplement 10)
[NASA-SP-7056(10)] p 26 N90-25171
- SPACE STATION PROPULSION**
- Space station systems: A bibliography with indexes
[NASA-SP-7056(05)] p 25 N88-13382
- Space station systems: A bibliography with indexes (supplement 7)
[NASA-SP-7056(07)] p 25 N89-18522
- Space station systems: A bibliography with indexes (supplement 10)
[NASA-SP-7056(10)] p 26 N90-25171
- SPACE STATION STRUCTURES**
- Space station structures and dynamics test program
[NASA-TP-2710] p 43 N87-20568
- Space station systems: A bibliography with indexes
[NASA-SP-7056(05)] p 25 N88-13382
- Space station systems: A bibliography with indexes (supplement 7)
[NASA-SP-7056(07)] p 25 N89-18522
- Space station systems: A bibliography with indexes (supplement 10)
[NASA-SP-7056(10)] p 26 N90-25171
- SPACE STATIONS**
- Proceedings of the 5th Annual Users' Conference
[NASA-CP-2399] p 62 N87-10720
- NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-1] p 24 N87-16014
- The 20th Aerospace Mechanics Symposium
[NASA-CP-2423-REV] p 43 N87-16321
- Space station structures and dynamics test program
[NASA-TP-2710] p 43 N87-20568
- Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-2] p 23 N87-22729
- NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-2] p 25 N87-24495
- Space station systems: A bibliography with indexes (supplement 4)
[NASA-SP-7056(04)] p 25 N87-26073
- Spacecraft 2000
[NASA-CP-2473] p 25 N88-10084
- Fourteenth Space Simulation Conference: Testing for a Permanent Presence in Space
[NASA-CP-2446] p 25 N88-10829
- Space Construction
[NASA-CP-2490] p 25 N88-10870
- Spacecraft Fire Safety
[NASA-CP-2476] p 24 N88-12520
- Space station systems: A bibliography with indexes
[NASA-SP-7056(05)] p 25 N88-13382
- Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-PT-1] p 62 N88-16360
- The 1987 Get Away Special Experimenter's Symposium
[NASA-CP-2500] p 22 N88-17691
- Space Station Human Factors Research Review. Volume 3: Space Station Habitability and Function: Architectural Research
[NASA-CP-2426-VOL-3] p 59 N88-19883
- Space Station Human Factors Research Review. Volume 1: EVA Research and Development
[NASA-CP-2426-VOL-1] p 59 N88-24145
- Space Station Human Factors Research Review. Volume 4: Inhouse Advanced Development and Research
[NASA-CP-2426-VOL-4] p 59 N88-24148
- Third Conference on Artificial Intelligence for Space Applications, part 2
[NASA-CP-2492-PT-2] p 63 N88-24188
- A Study of Space Station Contamination Effects --- conference
[NASA-CP-3002] p 72 N88-25390
- Second Conference on Artificial Intelligence for Space Applications
[NASA-CP-3007] p 63 N88-29351
- Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582
- Space Station Induced Monitoring
[NASA-CP-3021] p 73 N89-15790
- Interactive orbital proximity operations planning system
[NASA-TP-2839] p 61 N89-18039
- Space station systems: A bibliography with indexes (supplement 7)
[NASA-SP-7056(07)] p 25 N89-18522
- The 23rd Aerospace Mechanisms Symposium
[NASA-CP-3032] p 46 N89-23892
- Technology for large space systems: A bibliography with indexes (supplement 20)
[NASA-SP-7046(20)] p 26 N89-26037
- Software Reuse Issues
[NASA-CP-3057] p 63 N90-14789
- Graphics Technology in Space Applications (GTSA 1989)
[NASA-CP-3045] p 62 N90-20651
- Space station systems: A bibliography with indexes (supplement 10)
[NASA-SP-7056(10)] p 26 N90-25171
- Rotating-unbalanced-mass devices for scanning balloon-borne experiments, free-flying spacecraft, and space shuttle/space station experiments
[NASA-TP-3030] p 33 N90-25255
- Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
- Technology for large space systems: A bibliography with indexes (supplement 22)
[NASA-SP-7046(22)] p 26 N90-26056
- Development and approach to low-frequency microgravity isolation systems
[NASA-TP-2984] p 33 N90-28754
- SPACE TRANSPORTATION**
- Space Transportation Avionics Technology Symposium. Volume 1: Executive summary
[NASA-CP-3081-VOL-1] p 17 N90-25980
- SPACE TRANSPORTATION SYSTEM**
- Space Construction
[NASA-CP-2490] p 25 N88-10870
- A study to evaluate STS heads-up ascent trajectory performance employing a minimum-Hamiltonian optimization strategy
[NASA-TP-2793] p 23 N88-15820
- SPACEBORNE EXPERIMENTS**
- SpaceLab 3 Mission Science Review
[NASA-CP-2429] p 36 N87-22103
- Microgravity Particle Research on the Space Station
[NASA-CP-2496] p 58 N88-15354
- Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084
- The 1988 Get Away Special Experimenter's Symposium
[NASA-CP-3008] p 22 N89-10902
- Technology for Future NASA Missions: Civil Space Technology Initiative (CSTI) and Pathfinder
[NASA-CP-3016] p 22 N89-11760
- Experiments in Planetary and Related Sciences and the Space Station
[NASA-CP-2494] p 72 N89-14998
- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022
- Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
[NASA-CP-10026-VOL-2] p 59 N89-24023
- Cells in Space
[NASA-CP-10034] p 61 N90-13939
- Solar-Terrestrial Science Strategy Workshop
[NASA-CP-3048] p 73 N90-18329
- Relativistic Gravitational Experiments in Space
[NASA-CP-3046] p 77 N90-19940
- Rotating-unbalanced-mass devices for scanning balloon-borne experiments, free-flying spacecraft, and space shuttle/space station experiments
[NASA-TP-3030] p 33 N90-25255
- Proceedings of the LDEF Materials Data Analysis Workshop
[NASA-CP-10046] p 28 N90-26075
- Development and approach to low-frequency microgravity isolation systems
[NASA-TP-2984] p 33 N90-28754
- SPACECRAFT CHARGING**
- Space Station Induced Monitoring
[NASA-CP-3021] p 73 N89-15790
- NASA/SPIO Space Environmental Effects on Materials Workshop, part 1
[NASA-CP-3035-PT-1] p 27 N89-23528
- SPACECRAFT COMPONENTS**
- The 58th Shock and Vibration Symposium, volume 2
[NASA-CP-2488-VOL-2] p 44 N88-18948
- SPACECRAFT CONSTRUCTION MATERIALS**
- Outgassing data for selecting spacecraft materials
[NASA-RP-1124] p 28 N88-10117
- Technology for Future NASA Missions: Civil Space Technology Initiative (CSTI) and Pathfinder
[NASA-CP-3016] p 22 N89-11760
- Proceedings of the LDEF Materials Data Analysis Workshop
[NASA-CP-10046] p 28 N90-26075
- SPACECRAFT CONTAMINATION**
- Fourteenth Space Simulation Conference: Testing for a Permanent Presence in Space
[NASA-CP-2446] p 25 N88-10829
- A Study of Space Station Contamination Effects --- conference
[NASA-CP-3002] p 72 N88-25390
- Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582
- NASA/SPIO Space Environmental Effects on Materials Workshop, part 1
[NASA-CP-3035-PT-1] p 27 N89-23528
- Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
- SPACECRAFT CONTROL**
- NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-1] p 24 N87-16014
- Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-1] p 23 N87-22702
- NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-2] p 25 N87-24495
- Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-PT-1] p 62 N88-16360
- SPACECRAFT DESIGN**
- NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-1] p 24 N87-16014
- Upper and Middle Atmospheric Density Modeling Requirements for Spacecraft Design and Operations
[NASA-CP-2460] p 52 N87-20665
- Airborne particulate matter in spacecraft
[NASA-CP-2499] p 59 N88-14623
- The 58th Shock and Vibration Symposium, volume 2
[NASA-CP-2488-VOL-2] p 44 N88-18948
- Space Station Human Factors Research Review. Volume 3: Space Station Habitability and Function: Architectural Research
[NASA-CP-2426-VOL-3] p 59 N88-19883
- Space Station Human Factors Research Review. Volume 4: Inhouse Advanced Development and Research
[NASA-CP-2426-VOL-4] p 59 N88-24148
- Recent Advances in Multidisciplinary Analysis and Optimization, part 3
[NASA-CP-3031-PT-3] p 15 N89-25201
- SPACECRAFT DOCKING**
- The 23rd Aerospace Mechanisms Symposium
[NASA-CP-3032] p 46 N89-23892
- SPACECRAFT ELECTRONIC EQUIPMENT**
- Spacecraft 2000
[NASA-CP-2473] p 25 N88-10084
- SPACECRAFT ENVIRONMENTS**
- Fourteenth Space Simulation Conference: Testing for a Permanent Presence in Space
[NASA-CP-2446] p 25 N88-10829
- Spacecraft Fire Safety
[NASA-CP-2476] p 24 N88-12520
- Report of the 1st Planning Workshop for CELSS Flight Experimentation
[NASA-CP-10020] p 60 N89-13898
- SPACECRAFT INSTRUMENTS**
- The 20th Aerospace Mechanics Symposium
[NASA-CP-2423-REV] p 43 N87-16321
- Earth resources: A continuing bibliography with indexes (issue 54)
[NASA-SP-7041(54)] p 49 N87-27315
- Technology for Future NASA Missions: Civil Space Technology Initiative (CSTI) and Pathfinder
[NASA-CP-3016] p 22 N89-11760
- The Cassini mission: Infrared and microwave spectroscopic measurements
[NASA-RP-1213] p 78 N89-16709
- SPACECRAFT LAUNCHING**
- Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585
- SPACECRAFT LUBRICATION**
- Modification of the SHABERTH bearing code to incorporate RP-1 and a discussion of the traction model
[NASA-TP-3017] p 42 N90-28066

SPACECRAFT ORBITS

- Effect of ephemeris errors on the accuracy of the computation of the tangent point altitude of a solar scanning ray as measured by the SAGE 1 and 2 instruments
[NASA-TP-2866] p 65 N89-16415
- SPACECRAFT PERFORMANCE**
Flight Mechanics/Estimation Theory Symposium 1988
[NASA-CP-3011] p 23 N89-15934
- SPACECRAFT POWER SUPPLIES**
Space Photovoltaic Research and Technology 1986. High Efficiency, Space Environment, and Array Technology
[NASA-CP-2475] p 50 N87-26413
Technology for Future NASA Missions: Civil Space Technology Initiative (CSTI) and Pathfinder
[NASA-CP-3016] p 22 N89-11760
Space Photovoltaic Research and Technology, 1988. High Efficiency, Space Environment, and Array Technology
[NASA-CP-3030] p 50 N89-24704
Second Beamed Space-Power Workshop
[NASA-CP-3037] p 27 N90-10140
Space Electrochemical Research and Technology (SERT), 1989
[NASA-CP-3056] p 50 N90-20454
- SPACECRAFT PROPULSION**
Structural Integrity and Durability of Reusable Space Propulsion Systems
[NASA-CP-2471] p 26 N87-22766
Spacecraft 2000
[NASA-CP-2473] p 25 N88-10084
Technology for Future NASA Missions: Civil Space Technology Initiative (CSTI) and Pathfinder
[NASA-CP-3016] p 22 N89-11760
Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626
Second Beamed Space-Power Workshop
[NASA-CP-3037] p 27 N90-10140
- SPACECRAFT RELIABILITY**
Probabilistic risk analysis of flying the space shuttle with and without fuel turbine discharge temperature redline protection
[NASA-TP-2759] p 65 N87-27474
- SPACECRAFT STRUCTURES**
Effects of thermal cycling on graphite-fiber-reinforced 6061 aluminum
[NASA-TP-2612] p 28 N87-10184
Lewis Structures Technology, 1988. Volume 1: Structural Dynamics
[NASA-CP-3003-VOL-1] p 44 N88-23226
Effects of variables upon pyrotechnically induced shock response spectra, part 2
[NASA-TP-2872] p 45 N89-13814
- SPACECRAFT TRACKING**
Spacecraft 2000
[NASA-CP-2473] p 25 N88-10084
- SPACECRAFT TRAJECTORIES**
Interactive orbital proximity operations planning system
[NASA-TP-2839] p 61 N89-18039
- SPACECREWS**
Payload crew utilization for spacelab missions
[NASA-TP-2976] p 24 N90-14256
- SPACELAB**
Spacelab 3 Mission Science Review
[NASA-CP-2429] p 36 N87-22103
Spacelab: An international success story
[NASA-SP-487] p 72 N88-19375
- SPATIAL FILTERING**
Spatial vision processes: From the optical image to the symbolic structures of contour information
[NASA-TP-2838] p 39 N89-13762
- SPATIAL RESOLUTION**
Spatial Displays and Spatial Instruments
[NASA-CP-10032] p 61 N90-22918
Spatial interferometry in optical astronomy
[NASA-RP-1245] p 75 N90-28470
- SPECIFICATIONS**
Space shuttle avionics system
[NASA-SP-504] p 24 N90-25160
- SPECKLE INTERFEROMETRY**
Spatial interferometry in optical astronomy
[NASA-RP-1245] p 75 N90-28470
- SPECTRAL METHODS**
Numerical simulation of channel flow transition, resolution requirements and structure of the hairpin vortex
[NASA-TP-2667] p 4 N87-19351
- SPECTRAL REFLECTANCE**
Reflectance spectroscopy in planetary science: Review and strategy for the future
[NASA-SP-493] p 78 N88-24564

SPECTROSCOPY

- Reflectance spectroscopy in planetary science: Review and strategy for the future
[NASA-SP-493] p 78 N88-24564
- International ultraviolet explorer spectral atlas of planetary nebulae, central stars, and related objects
[NASA-RP-1203] p 76 N88-28843
- NASA Laser Light Scattering Advanced Technology Development Workshop, 1988
[NASA-CP-10033] p 40 N90-17085
- First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744
- SPECTRUM ANALYSIS**
The 58th Shock and Vibration Symposium, volume 2
[NASA-CP-2488-VOL-2] p 44 N88-18948
- SPHERES**
Parametric study of power absorption from electromagnetic waves by small ferrite spheres
[NASA-TP-2949] p 66 N90-12282
- SPHERICAL COORDINATES**
Compilation of methods in orbital mechanics and solar geometry
[NASA-RP-1204] p 52 N89-10420
- SPHERICAL HARMONICS**
Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 7 Earth radiation budget data set - November 1978 to October 1985
[NASA-RP-1186] p 55 N88-10451
- SPIN**
Flight investigation of the effects of an outboard wing-leading-edge modification on stall/spin characteristics of a low-wing, single-engine, T-tail light airplane
[NASA-TP-2691] p 14 N87-23614
- SPIN TESTS**
Measurements of pressures on the tail and aft fuselage of an airplane model during rotary motions at spin attitudes
[NASA-TP-2939] p 10 N90-10829
- SPLASHING**
Measurements of flow rate and trajectory of aircraft tire-generated water spray
[NASA-TP-2718] p 14 N87-24458
- SPLINE FUNCTIONS**
An algorithm for surface smoothing with rational splines
[NASA-TP-2708] p 65 N87-22447
- SPLIT FLAPS**
Aerodynamic pressures and heating rates on surfaces between split elevons at Mach 6.6
[NASA-TP-2855] p 37 N89-12822
- SPRAY NOZZLES**
Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585
- SPRAYING**
Measurements of flow rate and trajectory of aircraft tire-generated water spray
[NASA-TP-2718] p 14 N87-24458
- SPUTTERING**
The 20th Aerospace Mechanics Symposium
[NASA-CP-2423-REV] p 43 N87-16321
- STABILITY**
Liquid drop stability for protein crystal growth in microgravity
[NASA-TP-2724] p 58 N87-20727
Rotordynamic Instability Problems in High-Performance Turbomachinery, 1986
[NASA-CP-2443] p 41 N87-22199
An experimental investigation of the flap-lag-torsion aeroelastic stability of a small-scale hingeless helicopter rotor in hover
[NASA-TP-2546] p 7 N88-20257
- STABILITY DERIVATIVES**
Analysis of flight data from a High-Incidence Research Model by system identification methods
[NASA-TP-2940] p 20 N90-10074
- STAGNATION FLOW**
Application of turbulence modeling to predict surface heat transfer in stagnation flow region of circular cylinder
[NASA-TP-2758] p 37 N87-27161
- STAGNATION PRESSURE**
Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack
[NASA-TP-2716] p 14 N87-29497
- STAINLESS STEELS**
An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods
[NASA-TP-2820] p 30 N89-19408
Reaction of perfluoroalkylpolyethers (PFPE) with 440C steel in vacuum under sliding conditions at room temperature
[NASA-TP-2883] p 31 N89-26091

- Stress corrosion study of PH13-8Mo stainless steel using the Slow Strain Rate Technique
[NASA-TP-2934] p 30 N89-26976
- STAR DISTRIBUTION**
Atlas of galaxies useful for measuring the cosmological distance scale
[NASA-SP-496] p 74 N89-12513
- STAR FORMATION**
Star Formation in Galaxies
[NASA-CP-2466] p 73 N87-24266
- STAR TRACKERS**
Further developments in modeling digital control systems with MA-prefiltered measurements.
[NASA-TP-2909] p 33 N89-24507
- STARS**
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 5: The point source catalog declination range -30 deg greater than delta greater than -50 deg
[NASA-RP-1190-VOL-5] p 76 N89-14195
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 2: The point source catalog declination range 90 deg greater than delta greater than 30 deg
[NASA-RP-1190-VOL-2] p 76 N89-14197
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 6: The point source catalog declination range -50 deg greater than delta greater than -90 deg
[NASA-RP-1190-VOL-6] p 76 N89-14198
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 7: The small scale structure catalog
[NASA-RP-1190-VOL-7] p 76 N89-14199
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 3: The point source catalog declination range 30 deg greater than delta greater than 0 deg
[NASA-RP-1190-VOL-3] p 77 N89-14201
- STATE ESTIMATION**
A new approach to state estimation in deterministic digital control systems
[NASA-TP-2745] p 32 N87-24585
Exact state reconstruction in deterministic digital control systems
[NASA-TP-2757] p 32 N87-27067
Further developments in exact state reconstruction in deterministic digital control systems
[NASA-TP-2812] p 32 N88-18751
More on exact state reconstruction in deterministic digital control systems
[NASA-TP-2847] p 33 N88-28177
The estimation error covariance matrix for the ideal state reconstructor with measurement noise
[NASA-TP-2881] p 63 N89-13994
A new state reconstructor for digital controls systems using weighted-average measurements
[NASA-TP-2936] p 33 N89-27039
- STATE VECTORS**
Modeling digital control systems with MA-prefiltered measurements
[NASA-TP-2732] p 32 N87-22870
Exact state reconstruction in deterministic digital control systems
[NASA-TP-2757] p 32 N87-27067
- STATIC PRESSURE**
Effect of empennage arrangement on single-engine nozzle/afterbody static pressures at transonic speeds
[NASA-TP-2753] p 6 N88-10771
- STATIC STABILITY**
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987
- STATIC TESTS**
Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959
Three-step labyrinth seal for high-performance turbomachines
[NASA-TP-1848] p 36 N87-23921
Static internal performance of a two-dimensional convergent-divergent nozzle with thrust vectoring
[NASA-TP-2721] p 5 N87-24432
Static performance of an axisymmetric nozzle with post-exit vanes for multi-axis thrust vectoring
[NASA-TP-2800] p 8 N88-20280
Static performance of nonaxisymmetric nozzles with yaw thrust-vectoring vanes
[NASA-TP-2813] p 8 N88-21118
Static mechanical properties of 30 x 11.5 - 14.5, type 8 aircraft tires of bias-ply and radial-belted design
[NASA-TP-2810] p 15 N88-21157
Static internal performance of a nonaxisymmetric vaned thrust reverser with flow splay capability
[NASA-TP-2933] p 10 N89-27634
Static investigation of a two-dimensional convergent-divergent exhaust nozzle with multi-axis thrust-vectoring capability
[NASA-TP-2973] p 11 N90-19193

- STATIC THRUST**
 Static performance of nonaxisymmetric nozzles with yaw thrust-vectoring vanes
 [NASA-TP-2813] p 8 N88-21118
- STATISTICAL ANALYSIS**
 Statistical aspects of solar flares
 [NASA-TP-2714] p 79 N87-20947
- STATOR BLADES**
 Three component laser anemometer measurements in an annular cascade of core turbine vanes with contoured end wall
 [NASA-TP-2846] p 8 N89-10844
- STEADY STATE**
 Steady and unsteady transonic pressure measurements on a clipped delta wing for pitching and control-surface oscillations
 [NASA-TP-2594] p 8 N88-28895
 Steady-state and transitional aerodynamic characteristics of a wing in simulated heavy rain
 [NASA-TP-2932] p 10 N89-25951
- STELLAR ATMOSPHERES**
 The M-type stars
 [NASA-SP-492] p 75 N88-11592
 Commentary on interstellar matter associated with 18 open clusters
 [NASA-RP-1229] p 77 N89-27612
 FGK stars and T Tauri stars: Monograph series on nonthermal phenomena in stellar atmospheres
 [NASA-SP-502] p 77 N90-18344
- STELLAR COLOR**
 O stars and Wolf-Rayet stars
 [NASA-SP-497] p 74 N89-11657
- STELLAR COMPOSITION**
 The M-type stars
 [NASA-SP-492] p 75 N88-11592
 O stars and Wolf-Rayet stars
 [NASA-SP-497] p 74 N89-11657
- STELLAR ENVELOPES**
 The M-type stars
 [NASA-SP-492] p 75 N88-11592
- STELLAR LUMINOSITY**
 Star Formation in Galaxies
 [NASA-CP-2466] p 73 N87-24266
 O stars and Wolf-Rayet stars
 [NASA-SP-497] p 74 N89-11657
- STELLAR MASS EJECTION**
 The M-type stars
 [NASA-SP-492] p 75 N88-11592
- STELLAR MODELS**
 The M-type stars
 [NASA-SP-492] p 75 N88-11592
- STELLAR PHYSICS**
 The M-type stars
 [NASA-SP-492] p 75 N88-11592
- STELLAR RADIATION**
 The M-type stars
 [NASA-SP-492] p 75 N88-11592
- STELLAR SPECTRA**
 The M-type stars
 [NASA-SP-492] p 75 N88-11592
 International ultraviolet explorer spectral atlas of planetary nebulae, central stars, and related objects
 [NASA-RP-1203] p 76 N88-28843
- STELLAR SPECTROPHOTOMETRY**
 The M-type stars
 [NASA-SP-492] p 75 N88-11592
- STEREOSCOPIC VISION**
 Determination of depth-viewing volumes for stereo three-dimensional graphic displays
 [NASA-TP-2999] p 61 N90-22965
- STIFFNESS**
 Dynamic characteristics of a vibrating beam with periodic variation in bending stiffness
 [NASA-TP-2697] p 44 N88-23988
 Integrated force method versus displacement method for finite element analysis
 [NASA-TP-2937] p 47 N90-18081
 Loads analysis and testing of flight configuration solid rocket motor outer boot ring segments
 [NASA-TP-3028] p 47 N90-25366
 Buckling and postbuckling behavior of compression-loaded isotropic plates with cutouts
 [NASA-TP-3024] p 47 N90-28859
- STIMULATED EMISSION**
 Electron stimulated desorption of atomic oxygen from silver
 [NASA-TP-2668] p 29 N87-18629
 A simplified approach to axisymmetric dual-reflector antenna design
 [NASA-TP-2797] p 7 N88-16662
- STOCHASTIC PROCESSES**
 Probabilistic risk analysis of flying the space shuttle with and without fuel turbine discharge temperature redline protection
 [NASA-TP-2759] p 65 N87-27474
- STOICHIOMETRY**
 Influence of the deposition conditions on radiofrequency magnetron sputtered MoS₂ films
 [NASA-TP-2994] p 33 N90-21210
- STORAGE BATTERIES**
 Space Electrochemical Research and Technology Conference: Abstracts
 [NASA-CP-10029] p 50 N89-22982
- STRAIN ENERGY METHODS**
 Seventeenth NASTRAN (R) Users' Colloquium
 [NASA-CP-3029] p 45 N89-22940
- STRAIN ENERGY RELEASE RATE**
 Three-dimensional analysis of a postbuckled embedded delamination
 [NASA-TP-2823] p 44 N88-26684
- STRAIN GAGES**
 Evaluation of a strain-gage load calibration on a low-aspect-ratio wing structure at elevated temperature
 [NASA-TP-2921] p 46 N89-28034
- STRAIN HARDENING**
 Weld stresses beyond elastic limit: Materials discontinuity
 [NASA-TP-2935] p 46 N89-27214
- STRAIN RATE**
 Stress corrosion study of PH13-8Mo stainless steel using the Slow Strain Rate Technique
 [NASA-TP-2934] p 30 N89-26976
- STRATEGY**
 Solar-Terrestrial Science Strategy Workshop
 [NASA-CP-3048] p 73 N90-18329
- STRATOCUMULUS CLOUDS**
 FIRE Science Results 1989
 [NASA-CP-3079] p 58 N90-28224
- STRATOSPHERE**
 Airborne lidar measurements of El Chichon stratospheric aerosols, May 1983
 [NASA-RP-1172] p 51 N87-11358
 Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid
 [NASA-TP-2625] p 51 N87-13022
 SAGE aerosol measurements. Volume 3: January 1, 1981 to November 18, 1981
 [NASA-RP-1173] p 51 N87-17417
 Airborne lidar measurements of El Chichon stratospheric aerosols, January 1984
 [NASA-RP-1175] p 51 N87-20663
 Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide
 [NASA-TP-2761] p 56 N88-14572
 SAM 2 data user's guide
 [NASA-RP-1200] p 52 N88-25094
 Present state of knowledge of the upper atmosphere 1988: An assessment report
 [NASA-RP-1208] p 52 N88-29233
 Forty-eight-inch lidar aerosol measurements taken at the Langley Research Center, May 1974 to December 1987
 [NASA-RP-1209] p 52 N88-29234
 Polar Ozone Workshop. Abstracts
 [NASA-CP-10014] p 51 N89-14503
 Comparison of satellite-derived dynamical quantities for the stratosphere of the Southern Hemisphere
 [NASA-CP-3044] p 53 N89-25540
 Nimbus-7 Stratospheric and Mesospheric Sounder (SAMS) experiment data user's guide
 [NASA-RP-1221] p 53 N89-26304
 A high-resolution atlas of the infrared spectrum of the sun and the earth atmosphere from space. A compilation of ATMOS spectra of the region from 650 to 4800 cm⁻¹ (2.3 to 16 microns). Volume 2: Stratosphere and mesosphere, 650 to 3350 cm⁻¹
 [NASA-RP-1224-VOL-2] p 53 N89-28969
 Two-Dimensional Intercomparison of Stratospheric Models
 [NASA-CP-3042] p 53 N90-11405
 Global stratospheric change: Requirements for a Very-High-Altitude Aircraft for Atmospheric Research
 [NASA-CP-10041] p 16 N90-14220
 Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
 [NASA-RP-1234] p 53 N90-17227
- STRESS (PSYCHOLOGY)**
 Mental-State Estimation, 1987
 [NASA-CP-2504] p 60 N88-23370
- STRESS ANALYSIS**
 Nonlinear Constitutive Relations for High Temperature Applications, 1986
 [NASA-CP-10010] p 44 N88-21498
 Lewis Structures Technology, 1988, Volume 2: Structural Mechanics
 [NASA-CP-3003-VOL-2] p 44 N88-22382
 Practices in adequate structural design
 [NASA-TP-2893] p 24 N89-18504
 Mixed formulation for frictionless contact problems
 [NASA-TP-2897] p 45 N89-19580
- Computational Methods for Structural Mechanics and Dynamics, part 1
 [NASA-CP-3034-PT-1] p 46 N89-24638
 Computational Methods for Structural Mechanics and Dynamics
 [NASA-CP-3034-PT-2] p 46 N89-24654
- STRESS CONCENTRATION**
 Weld stresses beyond elastic limit: Materials discontinuity
 [NASA-TP-2935] p 46 N89-27214
- STRESS CORROSION CRACKING**
 Stress corrosion study of PH13-8Mo stainless steel using the Slow Strain Rate Technique
 [NASA-TP-2934] p 30 N89-26976
- STRESS INTENSITY FACTORS**
 Stress intensity and crack displacement for small edge cracks
 [NASA-TP-2801] p 44 N88-17095
- STRESS MEASUREMENT**
 Gear tooth stress measurements on the UH-60A helicopter transmission
 [NASA-TP-2698] p 41 N87-22235
- STRESS-STRAIN RELATIONSHIPS**
 Cyclic loads tests of carbon involute solid rocket motor outer boot ring segments
 [NASA-TP-2884] p 45 N89-16192
 Tungsten fiber reinforced copper matrix composites: A review
 [NASA-TP-2924] p 29 N89-27796
- STRESSES**
 Weld stresses beyond elastic limit: Materials discontinuity
 [NASA-TP-2935] p 46 N89-27214
- STRUCTURAL ANALYSIS**
 Fifteenth NASTRAN (R) Users' Colloquium
 [NASA-CP-2481] p 43 N87-27231
 Turbine Engine Hot Section Technology, 1985
 [NASA-CP-2405] p 43 N88-11140
 Nuclear techniques in studies of condensed matter
 [NASA-RP-1195] p 68 N88-13015
 Space station systems: A bibliography with indexes
 [NASA-SP-7056(05)] p 25 N88-13382
 Continuum modeling of large lattice structures: Status and projections
 [NASA-TP-2767] p 25 N88-14115
 Aeropropulsion '87. Session 2: Aeropropulsion Structures Research
 [NASA-CP-10003-SESS-2] p 18 N88-15785
 Sixteenth NASTRAN (R) Users' Colloquium
 [NASA-CP-2505] p 44 N88-20652
 Nonlinear Constitutive Relations for High Temperature Applications, 1986
 [NASA-CP-10010] p 44 N88-21498
 SRM (Solid Rocket Motor) propellant and polymer materials structural modeling
 [NASA-TP-2824] p 45 N88-28343
 Lightweight structural design of a bolted case joint for the space shuttle solid rocket motor
 [NASA-TP-2851] p 25 N89-12580
 Turbine Engine Hot Section Technology 1986
 [NASA-CP-2444] p 45 N89-12876
 Turbine Engine Hot Section Technology, 1987
 [NASA-CP-2493] p 45 N89-17298
 Measured and predicted root-mean-square errors in square and triangular antenna mesh facets
 [NASA-TP-2896] p 45 N89-17892
 Seventeenth NASTRAN (R) Users' Colloquium
 [NASA-CP-3029] p 45 N89-22940
 Computational Methods for Structural Mechanics and Dynamics, part 1
 [NASA-CP-3034-PT-1] p 46 N89-24638
 Recent Advances in Multidisciplinary Analysis and Optimization, part 2
 [NASA-CP-3031-PT-2] p 15 N89-25173
 NASA Workshop on Computational Structural Mechanics 1987, part 1
 [NASA-CP-10012-PT-1] p 46 N89-29773
 NASA Workshop on Computational Structural Mechanics 1987, part 2
 [NASA-CP-10012-PT-2] p 46 N89-29789
 NASA Workshop on Computational Structural Mechanics 1987, part 3
 [NASA-CP-10012-PT-3] p 46 N89-29799
 Integrated force method versus displacement method for finite element analysis
 [NASA-TP-2937] p 47 N90-18081
 Eighteenth NASTRAN (R) Users' Colloquium
 [NASA-CP-3069] p 47 N90-24637
 Evaluation of energy absorption of new concepts of aircraft composite subfloor intersections
 [NASA-TP-2951] p 16 N90-26823
 Modal interaction in postbuckled plates. Theory
 [NASA-TP-2943] p 47 N90-27121
 Thermal-distortion analysis of an antenna strongback for geostationary high-frequency microwave applications
 [NASA-TP-3016] p 26 N90-27738

- Ceramics Analysis and Reliability Evaluation of Structures (CARES). Users and programmers manual [NASA-TP-2916] p 47 N90-28099
The NASTRAN demonstration problem manual, level 17.5 [NASA-SP-224(05)] p 42 N81-71592
The NASTRAN programmers manual, level 17.5 [NASA-SP-223(05)] p 42 N81-71594
- STRUCTURAL DESIGN**
In-flight total forces, moments and static aeroelastic characteristics of an oblique-wing research airplane [NASA-TP-2224] p 19 N87-10103
Recent Experiences in Multidisciplinary Analysis and Optimization, part 1 [NASA-CP-2327-PT-1] p 13 N87-11717
Study of lee-side flows over conically cambered delta wings at supersonic speeds, part 1 [NASA-TP-2660-PT-1] p 5 N87-23597
Space station systems: A bibliography with indexes [NASA-SP-7056(05)] p 25 N88-13382
Practices in adequate structural design [NASA-TP-2893] p 24 N89-18504
Recent Advances in Multidisciplinary Analysis and Optimization, part 2 [NASA-CP-3031-PT-2] p 15 N89-25173
Recent Advances in Multidisciplinary Analysis and Optimization, part 3 [NASA-CP-3031-PT-3] p 15 N89-25201
A lunar far-side very low frequency array [NASA-CP-3039] p 75 N90-10805
Conceptual design of a synchronous Mars telecommunications satellite [NASA-TP-2942] p 78 N90-10814
NASA/DOD Controls-Structures Interaction Technology 1989 [NASA-CP-3041] p 26 N90-21062
- STRUCTURAL DESIGN CRITERIA**
Diode laser satellite systems for beamed power transmission [NASA-TP-2992] p 40 N90-24585
- STRUCTURAL ENGINEERING**
Recent Advances in Multidisciplinary Analysis and Optimization, part 1 [NASA-CP-3031-PT-1] p 15 N89-25146
Recent Advances in Multidisciplinary Analysis and Optimization, part 3 [NASA-CP-3031-PT-3] p 15 N89-25201
Technology for large space systems: A bibliography with indexes (supplement 20) [NASA-SP-7046(20)] p 26 N89-26037
NASA Workshop on Computational Structural Mechanics 1987, part 2 [NASA-CP-10012-PT-2] p 46 N89-29789
Technology for large space systems: A bibliography with indexes (supplement 22) [NASA-SP-7046(22)] p 26 N90-26056
- STRUCTURAL FAILURE**
Application of Newton's method to the postbuckling of rings under pressure loadings [NASA-TP-2941] p 46 N89-29811
Evaluation of energy absorption of new concepts of aircraft composite subfloor intersections [NASA-TP-2951] p 16 N90-26823
Modal interaction in postbuckled plates. Theory [NASA-TP-2943] p 47 N90-27121
- STRUCTURAL PROPERTIES (GEOLOGY)**
Status and future of lunar geoscience [NASA-SP-484] p 77 N87-19322
- STRUCTURAL RELIABILITY**
Structural Integrity and Durability of Reusable Space Propulsion Systems [NASA-CP-2471] p 26 N87-22766
- STRUCTURAL STABILITY**
Integrated force method versus displacement method for finite element analysis [NASA-TP-2937] p 47 N90-18081
- STRUCTURAL VIBRATION**
Fifteenth NASTRAN (R) Users' Colloquium [NASA-CP-2481] p 43 N87-27231
The 58th Shock and Vibration Symposium, volume 1 [NASA-CP-2488-VOL-1] p 43 N88-13609
The 58th Shock and Vibration Symposium, volume 2 [NASA-CP-2488-VOL-2] p 44 N88-18948
Lewis Structures Technology, 1988. Volume 1: Structural Dynamics [NASA-CP-3003-VOL-1] p 44 N88-23226
Eighteenth NASTRAN (R) Users' Colloquium [NASA-CP-3069] p 47 N90-24637
- SUBJECTS**
The NASA scientific and technical information system: Its scope and coverage [NASA-SP-7065] p 71 N89-15779
- SUBSONIC AIRCRAFT**
Subsonic longitudinal and lateral-directional characteristics of a forward-swept-wing fighter configuration at angles of attack up to 47 deg [NASA-TP-2727] p 6 N87-26874
- SUBSONIC FLOW**
Efficient solutions to the Euler equations for supersonic flow with embedded subsonic regions [NASA-TP-2523] p 3 N87-15183
Validation of a pair of computer codes for estimation and optimization of subsonic aerodynamic performance of simple hinged-flap systems for thin swept wings [NASA-TP-2828] p 8 N89-10024
- SUBSONIC SPEED**
Subsonic maneuver capability of a supersonic cruise fighter wing concept [NASA-TP-2642] p 3 N87-15184
An experimental investigation of an advanced turboprop installation on a swept wing at subsonic and transonic speeds [NASA-TP-2729] p 6 N87-26883
Pressure measurements on a thick cambered and twisted 58 deg delta wing at high subsonic speeds [NASA-TP-2713] p 6 N87-27643
Effects of winglets on a first-generation jet transport wing. 7: Sideslip effects on winglet loads and selected wing loads at subsonic speeds for a full-span model [NASA-TP-2619] p 7 N88-18567
- SUBSONIC WIND TUNNELS**
The Langley 14-by-22-foot subsonic tunnel: Description, flow characteristics, and guide for users [NASA-TP-3008] p 12 N90-27649
- SUBSTRUCTURES**
Evaluation of energy absorption of new concepts of aircraft composite subfloor intersections [NASA-TP-2951] p 16 N90-26823
- SUCTION**
Simulated-airline-service flight tests of laminar-flow control with perforated-surface suction system [NASA-TP-2966] p 16 N90-17627
- SUN**
Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings [NASA-CP-2439] p 79 N87-19328
Coronal and Prominence Plasmas [NASA-CP-2442] p 79 N87-20871
Fifty year canon of solar eclipses: 1986 - 2035 [NASA-RP-1178-REV] p 73 N87-25906
Compilation of methods in orbital mechanics and solar geometry [NASA-RP-1204] p 52 N89-10420
Effect of ephemeris errors on the accuracy of the computation of the tangent point altitude of a solar scanning ray as measured by the SAGE 1 and 2 instruments [NASA-TP-2866] p 65 N89-16415
- SUNSPOTS**
Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings [NASA-CP-2439] p 79 N87-19328
- SUPERCOMPUTERS**
Supercomputing in Aerospace [NASA-CP-2454] p 5 N87-25998
- SUPERCritical AIRFOILS**
The NASA Langley Laminar-Flow-Control (LFC) experiment on a swept, supercritical airfoil: Design overview [NASA-TP-2809] p 8 N88-21117
NASA SC(2)-0714 airfoil data corrected for sidewall boundary-layer effects in the Langley 0.3-meter transonic cryogenic tunnel [NASA-TP-2890] p 9 N89-17568
NASA supercritical airfoils: A matrix of family-related airfoils [NASA-TP-2969] p 11 N90-16710
- SUPERCritical FLOW**
Supersonic, nonlinear, attached-flow wing design for high lift with experimental validation [NASA-TP-2336] p 3 N87-10042
- SUPERCritical WINGS**
Supercritical wing technology: A report on flight evaluations [NASA-SP-301] p 2 N77-85474
- SUPERPLASTICITY**
Material characterization of superplastically formed titanium (Ti-6Al-2Sn-4Zr-2Mo) sheet [NASA-TP-2674] p 30 N87-20407
- SUPERSONIC AIRCRAFT**
Multiscale turbulence effects in supersonic jets exhausting into still air [NASA-TP-2707] p 36 N87-24672
Aeropropulsion '87. Session 6: High-Speed Propulsion Technology [NASA-CP-10003-SESS-6] p 18 N88-15807
- Shock structure and noise of supersonic jets in simulated flight to Mach 0.4 [NASA-TP-2785] p 67 N88-16510
- SUPERSONIC AIRFOILS**
Supersonic, nonlinear, attached-flow wing design for high lift with experimental validation [NASA-TP-2336] p 3 N87-10042
Supersonic aerodynamics of delta wings [NASA-TP-2771] p 7 N88-17615
- SUPERSONIC COMBUSTION RAMJET ENGINES**
Aeropropulsion '87. Session 6: High-Speed Propulsion Technology [NASA-CP-10003-SESS-6] p 18 N88-15807
An analytical study of the hydrogen-air reaction mechanism with application to scramjet combustion [NASA-TP-2791] p 30 N88-15846
Numerical simulation of scramjet inlet flow fields [NASA-TP-2517] p 8 N88-23735
- SUPERSONIC CRUISE AIRCRAFT RESEARCH**
Subsonic maneuver capability of a supersonic cruise fighter wing concept [NASA-TP-2642] p 3 N87-15184
Multiaxis control power from thrust vectoring for a supersonic fighter aircraft model at Mach 0.20 to 2.47 [NASA-TP-2712] p 5 N87-24433
- SUPERSONIC FLIGHT**
Status of sonic boom methodology and understanding [NASA-CP-3027] p 9 N89-23415
- SUPERSONIC FLOW**
Supersonic, nonlinear, attached-flow wing design for high lift with experimental validation [NASA-TP-2336] p 3 N87-10042
Efficient solutions to the Euler equations for supersonic flow with embedded subsonic regions [NASA-TP-2523] p 3 N87-15183
Study of lee-side flows over conically cambered delta wings at supersonic speeds, part 1 [NASA-TP-2660-PT-1] p 5 N87-23597
Study of lee-side flows over conically cambered Delta wings at supersonic speeds, part 2 [NASA-TP-2660-PT-2] p 5 N87-25301
Exhaust nozzles for propulsion systems with emphasis on supersonic cruise aircraft [NASA-RP-1235] p 18 N90-21037
- SUPERSONIC NOZZLES**
Exhaust nozzles for propulsion systems with emphasis on supersonic cruise aircraft [NASA-RP-1235] p 18 N90-21037
- SUPERSONIC SPEED**
Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system [NASA-TP-2401] p 4 N87-17668
Investigation of leading-edge flap performance on delta and double-delta wings at supersonic speeds [NASA-TP-2656] p 4 N87-20233
Experimental cavity pressure distributions at supersonic speeds [NASA-TP-2683] p 5 N87-22626
Drag measurements of blunt stores tangentially mounted on a flat plate at supersonic speeds [NASA-TP-2742] p 6 N87-27626
Supersonic aerodynamics of delta wings [NASA-TP-2771] p 7 N88-17615
Aerodynamic characteristics of wings designed with a combined-theory method to cruise at a Mach number of 4.5 [NASA-TP-2799] p 7 N88-19420
Effect of milling machine roughness and wing dihedral on the supersonic aerodynamic characteristics of a highly swept wing [NASA-TP-2918] p 10 N89-25117
- SUPERSONICS**
Pitot effects on the supersonic aerodynamics of multibody configurations [NASA-TP-2762] p 6 N88-12454
- SUPPLEMENTS**
NASA Thesaurus Supplement: A four part cumulative supplement to the 1985 edition of the NASA Thesaurus (supplement 3) [NASA-SP-7053-SUPPL-3] p 70 N87-27557
- SUPPORT SYSTEMS**
Earth Sciences Requirements for the Information Sciences Experiment System [NASA-CP-3072] p 50 N90-27140
- SURFACE FINISHING**
Secondary electron emission characteristics of untreated and ion-textured titanium [NASA-TP-2902] p 30 N89-17650
An Auger electron spectroscopy study of surface-preparation contaminants [NASA-TP-2972] p 33 N90-16968
- SURFACE NAVIGATION**
Joint University Program for Air Transportation Research, 1984 [NASA-CP-2452] p 1 N87-22604

Joint University Program for Air Transportation Research, 1986 [NASA-CP-2502] p 2 N88-23715

Joint University Program for Air Transportation Research, 1987 [NASA-CP-3028] p 2 N89-19230

SURFACE PROPERTIES

Theory for computing the field scattered from a smooth inflected surface [NASA-TP-2632] p 68 N87-13264

Application of turbulence modeling to predict surface heat transfer in stagnation flow region of circular cylinder [NASA-TP-2758] p 37 N87-27161

Effects of aerosols and surface shadowing on bidirectional reflectance measurements of deserts [NASA-TP-2756] p 49 N87-28162

Advances in contact algorithms and their application to tires [NASA-TP-2781] p 44 N88-21456

SURFACE REACTIONS

Surface catalytic degradation study of two linear perfluoropolyalkylethers at 345 C [NASA-TP-2774] p 27 N88-12543

AMSAHTS 1990: Advances in Materials Science and Applications of High Temperature Superconductors [NASA-CP-10043] p 29 N90-27792

SURFACE ROUGHNESS

An algorithm for surface smoothing with rational splines [NASA-TP-2708] p 65 N87-22447

SURFACE ROUGHNESS EFFECTS

Effect of milling machine roughness and wing dihedral on the supersonic aerodynamic characteristics of a highly swept wing [NASA-TP-2918] p 10 N89-25117

SURFACE TEMPERATURE

Measurement of local high-level, transient surface heat flux [NASA-TP-2840] p 39 N88-30099

SURFACE WAVES

A procedure for computing surface wave trajectories on an inhomogeneous surface [NASA-TP-2929] p 10 N89-26811

SURFACES

Theory of gearing [NASA-RP-1212] p 42 N90-19593

SURVEYS

Laser anemometer measurements in a transonic axial-flow fan rotor [NASA-TP-2879] p 38 N90-11245

SUSPENDING (HANGING)

General equilibrium characteristics of a dual-lift helicopter system [NASA-TP-2615] p 2 N88-19407

SWEEP FORWARD WINGS

Forward-swept wing configuration designed for high maneuverability by use of a transonic computational method [NASA-TP-2628] p 3 N87-11702

Subsonic longitudinal and lateral-directional characteristics of a forward-swept-wing fighter configuration at angles of attack up to 47 deg [NASA-TP-2727] p 6 N87-26874

SWEEP WINGS

Applicability of linearized-theory attached-flow methods to design and analysis of flap systems at low speeds for thin swept wings with sharp leading edges [NASA-TP-2653] p 3 N87-15174

An experimental investigation of an advanced turboprop installation on a swept wing at subsonic and transonic speeds [NASA-TP-2729] p 6 N87-26883

The NASA Langley Laminar-Flow-Control (LFC) experiment on a swept, supercritical airfoil: Design overview [NASA-TP-2809] p 8 N88-21117

Validation of a pair of computer codes for estimation and optimization of subsonic aerodynamic performance of simple hinged-flap systems for thin swept wings [NASA-TP-2828] p 8 N89-10024

Effect of milling machine roughness and wing dihedral on the supersonic aerodynamic characteristics of a highly swept wing [NASA-TP-2918] p 10 N89-25117

SYMBOLS

Spatial vision processes: From the optical image to the symbolic structures of contour information [NASA-TP-2838] p 39 N89-13762

SYMMETRY

Exploiting symmetries in the modeling and analysis of tires [NASA-TP-2649] p 13 N87-17690

SYNCHRONISM

A synchronous data analyzer for the Minimum Delay Data Format (MDDF) and Launch Trajectory Acquisition System (LTAS) [NASA-TP-2743] p 34 N87-24590

SYNCHRONOUS PLATFORMS

Earth Science Geostationary Platform Technology [NASA-CP-3040] p 24 N90-19249

Thermal-distortion analysis of an antenna strongback for geostationary high-frequency microwave applications [NASA-TP-3016] p 26 N90-27738

SYNOPTIC METEOROLOGY

The Jovian Atmospheres [NASA-CP-2441] p 77 N87-17598

Five year global dataset: NMC operational analyses (1978 to 1982) [NASA-RP-1194] p 55 N87-29996

SYSTEMS ANALYSIS

Unique bit-error-rate measurement system for satellite communication systems [NASA-TP-2699] p 33 N87-20448

Space station structures and dynamics test program [NASA-TP-2710] p 43 N87-20568

Spacecraft 2000 [NASA-CP-2473] p 25 N88-10084

Dynamic analysis of multimesh-gear helicopter transmissions [NASA-TP-2789] p 41 N88-17045

Integrated tools for control-system analysis [NASA-TP-2885] p 20 N89-19309

SYSTEMS ENGINEERING

NASA/DOD Control/Structures Interaction Technology, 1986 [NASA-CP-2447-PT-1] p 24 N87-16014

Modeling digital control systems with MA-prefiltered measurements [NASA-TP-2732] p 32 N87-22870

A knowledge-based tool for multilevel decomposition of a complex design problem [NASA-TP-2903] p 63 N89-23181

Recent Advances in Multidisciplinary Analysis and Optimization, part 3 [NASA-CP-3031-PT-3] p 15 N89-25201

NASA/DOD Controls-Structures Interaction Technology 1989 [NASA-CP-3041] p 26 N90-21062

Space shuttle avionics system [NASA-SP-504] p 24 N90-25160

SYSTEMS INTEGRATION

NASA/Army Rotorcraft Technology, Volume 3: Systems Integration, Research Aircraft, and Industry [NASA-CP-2495-VOL-3] p 1 N88-16650

Second Annual Workshop on Space Operations Automation and Robotics (SOAR 1988) [NASA-CP-3019] p 61 N89-19817

Development and flight test experiences with a flight-critical digital control system [NASA-TP-2857] p 20 N89-24327

Space shuttle avionics system [NASA-SP-504] p 24 N90-25160

SYSTEMS SIMULATION

Graphics Technology in Space Applications (GTSA 1989) [NASA-CP-3045] p 62 N90-20651

T

T TAURI STARS

FGK stars and T Tauri stars: Monograph series on nonthermal phenomena in stellar atmospheres [NASA-SP-502] p 77 N90-18344

TAIL ASSEMBLIES

Effects of tail span and empennage arrangement on drag of a typical single-engine fighter aft end [NASA-TP-2352] p 3 N87-10838

Interference effects of thrust reversing on horizontal tail effectiveness of twin-engine fighter aircraft at Mach numbers from 0.15 to 0.90 [NASA-TP-2350] p 19 N87-10870

Flight investigation of the effect of tail configuration on stall, spin, and recovery characteristics of a low-wing general aviation research airplane [NASA-TP-2644] p 13 N87-16815

Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system [NASA-TP-2401] p 4 N87-17668

Effects of empennage surface location on aerodynamic characteristics of a twin-engine afterbody model with nonaxisymmetric nozzles [NASA-TP-2392] p 14 N87-17693

Effects of afterbody boattail design and empennage arrangement on aeropropulsive characteristics of a twin-engine fighter model at transonic speeds [NASA-TP-2704] p 4 N87-21873

Effect of empennage arrangement on single-engine nozzle/afterbody static pressures at transonic speeds [NASA-TP-2753] p 6 N88-10771

Measurements of pressures on the tail and aft fuselage of an airplane model during rotary motions at spin attitudes [NASA-TP-2939] p 10 N90-10829

Effect of tail size reductions on longitudinal aerodynamic characteristics of a three surface F-15 model with nonaxisymmetric nozzles [NASA-TP-3036] p 11 N90-25938

TAIL SURFACES

Effects of empennage surface location on aerodynamic characteristics of a twin-engine afterbody model with nonaxisymmetric nozzles [NASA-TP-2392] p 14 N87-17693

TAKEOFF

Simulator evaluation of a display for a Takeoff Performance Monitoring System [NASA-TP-2908] p 20 N89-23469

TANGENTS

Drag measurements of blunt stores tangentially mounted on a flat plate at supersonic speeds [NASA-TP-2742] p 6 N87-27626

Effect of ephemeris errors on the accuracy of the computation of the tangent point altitude of a solar scanning ray as measured by the SAGE 1 and 2 instruments [NASA-TP-2866] p 65 N89-16415

TAPERING

Derivation of a tapered p-version beam finite element [NASA-TP-2931] p 46 N89-26255

TASK COMPLEXITY

Payload crew utilization for spacelab missions [NASA-TP-2976] p 24 N90-14256

TECHNICAL WRITING

The NASA scientific and technical information system: Its scope and coverage [NASA-SP-7065] p 71 N89-15779

Grammar, punctuation, and capitalization: A handbook for technical writers and editors [NASA-SP-7084] p 71 N90-26710

TECHNOLOGIES

National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology [NASA-CP-3074] p 28 N90-24350

TECHNOLOGY ASSESSMENT

Aeronautical facilities assessment [NASA-RP-1146] p 21 N87-10876

Astronautics and aeronautics, 1978: A chronology [NASA-SP-4023] p 80 N88-14062

Workshop on Technology Development Issues for the Large Deployable Reflector (LDR) [NASA-CP-2407] p 75 N88-20235

A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel [NASA-TP-2796] p 7 N88-20264

Cryogenic Fluid Management Technology Workshop, Volume 2: Roundtable Discussion of Technology Requirements [NASA-CP-10009] p 37 N88-20599

Report of the In Situ Resources Utilization Workshop [NASA-CP-3017] p 72 N89-14188

Solar-Terrestrial Science Strategy Workshop [NASA-CP-3048] p 73 N90-18329

Supercritical wing technology: A report on flight evaluations [NASA-SP-301] p 2 N77-85474

TECHNOLOGY UTILIZATION

AMSAHTS 1990: Advances in Materials Science and Applications of High Temperature Superconductors [NASA-CP-10043] p 29 N90-27792

TELEMETRY

Spacecraft 2000 [NASA-CP-2473] p 25 N88-10084

Proceedings of the Scientific Data Compression Workshop [NASA-CP-3025] p 63 N89-22332

TELEOPERATORS

The 22nd Aerospace Mechanisms Symposium [NASA-CP-2506] p 44 N88-21468

Second Annual Workshop on Space Operations Automation and Robotics (SOAR 1988) [NASA-CP-3019] p 61 N89-19817

The 23rd Aerospace Mechanisms Symposium [NASA-CP-3032] p 46 N89-23892

Visual Information Processing for Television and Telerobotics [NASA-CP-3053] p 40 N90-16204

Graphics Technology in Space Applications (GTSA 1989) [NASA-CP-3045] p 62 N90-20651

- Third Annual Workshop on Space Operations
Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
- TELEROBOTICS**
Optimized resolved rate control of seven-degree-of-freedom Laboratory Telerobotic Manipulator (LTM) with application to three-dimensional graphics simulation
[NASA-TP-2938] p 64 N90-10618
Visual Information Processing for Television and Telerobotics
[NASA-CP-3053] p 40 N90-16204
- TELEVISION SYSTEMS**
Visual Information Processing for Television and Telerobotics
[NASA-CP-3053] p 40 N90-16204
- TEMPERATURE COMPENSATION**
Technique for temperature compensation of eddy-current proximity probes
[NASA-TP-2880] p 39 N89-15380
- TEMPERATURE EFFECTS**
Preparative electrophoresis for space
[NASA-TP-2777] p 32 N88-10977
Oxidation characteristics of Ti-14Al-21Nb ingot alloy
[NASA-TP-3012] p 31 N90-25206
- TEMPERATURE MEASUREMENT**
Noncontact Temperature Measurement
[NASA-CP-2503] p 32 N88-23895
Measurement of local high-level, transient surface heat flux
[NASA-TP-2840] p 39 N88-30099
Technique for temperature compensation of eddy-current proximity probes
[NASA-TP-2880] p 39 N89-15380
Determination of combustion gas temperatures by infrared radiometry in sooting and nonsooting flames
[NASA-TP-2900] p 38 N89-25409
Gas-jet and tangent-slot film cooling tests of a 12.5 deg cone at Mach number of 6.7
[NASA-TP-2786] p 39 N90-28806
- TEMPERATURE MEASURING INSTRUMENTS**
Noncontact Temperature Measurement
[NASA-CP-2503] p 32 N88-23895
Measurement of local high-level, transient surface heat flux
[NASA-TP-2840] p 39 N88-30099
- TEMPERATURE PROFILES**
Velocity profiles in laminar diffusion flames
[NASA-TP-2596] p 36 N87-18035
Nimbus-7 Stratospheric and Mesospheric Sounder (SAMS) experiment data user's guide
[NASA-RP-1221] p 53 N89-26304
- TEMPERATURE SENSORS**
Probabilistic risk analysis of flying the space shuttle with and without fuel turbine discharge temperature redline protection
[NASA-TP-2759] p 65 N87-27474
- TENSILE CREEP**
Material characterization of superplastically formed titanium (Ti-6Al-2Sn-4Zr-2Mo) sheet
[NASA-TP-2674] p 30 N87-20407
- TENSILE PROPERTIES**
Spectroscopic comparison of effects of electron radiation on mechanical properties of two polyimides
[NASA-TP-2663] p 27 N87-18611
- TENSILE STRENGTH**
Heat treatment study of the SiC/Ti-15-3 composite system
[NASA-TP-2970] p 29 N90-19302
- TERMINAL FACILITIES**
Simulation evaluation of TIMER, a time-based, terminal air traffic, flow-management concept
[NASA-TP-2870] p 13 N89-15901
- TERMINOLOGY**
NASA thesaurus: Astronomy vocabulary
[NASA-SP-7069] p 74 N88-24553
NASA Thesaurus supplement: A four part cumulative supplement to the 1988 edition of the NASA Thesaurus (supplement 3)
[NASA-SP-7064-SUPPL-3] p 71 N90-22438
- TERRAIN**
Evaluation of a scale-model experiment to investigate long-range acoustic propagation
[NASA-TP-2748] p 66 N88-11450
- TERRESTRIAL RADIATION**
Nimbus 7 Solar Backscatter Ultraviolet (SBUV) spectral scan solar irradiance and Earth radiance product user's guide
[NASA-RP-1199] p 48 N88-17096
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677
Summary of along-track data from the earth radiation budget satellite for several representative ocean regions
[NASA-RP-1206] p 56 N89-14634
- TEST FACILITIES**
Applications and requirements for real-time simulators in ground-test facilities
[NASA-TP-2672] p 64 N87-23202
Langley Aircraft Landing Dynamics Facility
[NASA-RP-1189] p 21 N87-29544
Description and calibration of the Langley Hypersonic CF4 tunnel: A facility for simulating low gamma flow as occurs for a real gas
[NASA-TP-2384] p 37 N87-29778
Fourteenth Space Simulation Conference: Testing for a Permanent Presence in Space
[NASA-CP-2446] p 25 N88-10829
- TETHERED SATELLITES**
Tether Dynamics Simulation
[NASA-CP-2458] p 41 N87-18821
- TETHERING**
General equilibrium characteristics of a dual-lift helicopter system
[NASA-TP-2615] p 2 N88-19407
- TETHERLINES**
Tether Dynamics Simulation
[NASA-CP-2458] p 41 N87-18821
- TEXTURES**
Spatial vision processes: From the optical image to the symbolic structures of contour information
[NASA-TP-2838] p 39 N89-13762
- THERMAL ANALYSIS**
Finite-element reentry heat-transfer analysis of space shuttle Orbiter
[NASA-TP-2657] p 37 N87-29795
Space station systems: A bibliography with indexes
[NASA-SP-7056(05)] p 25 N88-13382
Comparison of predicted and measured temperatures of UH-60A helicopter transmission
[NASA-TP-2911] p 41 N89-24607
- THERMAL CONDUCTIVITY**
National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350
- THERMAL CONTROL COATINGS**
Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582
Turbine Engine Hot Section Technology 1986
[NASA-CP-2444] p 45 N89-12876
Thermal Barrier Coatings. Abstracts and figures
[NASA-CP-10019] p 31 N89-13642
Turbine Engine Hot Section Technology, 1987
[NASA-CP-2493] p 45 N89-17298
- THERMAL CYCLING TESTS**
Effects of thermal cycling on graphite-fiber-reinforced 6061 aluminum
[NASA-TP-2612] p 28 N87-10184
Effects of continuous and cyclic thermal exposures on boron- and borisic-reinforced 6061 aluminum composites
[NASA-TP-1063] p 28 N88-70029
- THERMAL ENVIRONMENTS**
Fourteenth Space Simulation Conference: Testing for a Permanent Presence in Space
[NASA-CP-2446] p 25 N88-10829
Thermal-distortion analysis of an antenna strongback for geostationary high-frequency microwave applications
[NASA-TP-3016] p 26 N90-27738
- THERMAL FATIGUE**
Turbine Engine Hot Section Technology, 1987
[NASA-CP-2493] p 45 N89-17298
- THERMAL PROTECTION**
Aerothermal tests of spherical dome protuberances on a flat plate at a Mach number of 6.5
[NASA-TP-2631] p 35 N87-13664
Aerothermal evaluation of a spherically blunted body with a trapezoidal cross section in the Langley 8-foot high-temperature tunnel
[NASA-TP-2641] p 36 N87-18782
Aerothermal tests of quilted dome models on a flat plate at a Mach number of 6.5
[NASA-TP-2804] p 37 N88-22325
Aerodynamic pressure and heating-rate distributions in tile gaps around chine regions with pressure gradients at a Mach number of 6.6
[NASA-TP-2988] p 38 N90-23670
- THERMAL RADIATION**
NASA/SPIO Space Environmental Effects on Materials Workshop, part 2
[NASA-CP-3035-PT-2] p 28 N89-23547
- THERMISTORS**
Preliminary estimates of radiosonde thermistor errors
[NASA-TP-2637] p 55 N87-12086
- THERMODYNAMIC PROPERTIES**
Simplified curve fits for the thermodynamic properties of equilibrium air
[NASA-RP-1181] p 36 N87-26309
The M-type stars
[NASA-SP-492] p 75 N88-11592
- A review of reaction rates and thermodynamic and transport properties for an 11-species air model for chemical and thermal nonequilibrium calculations to 30000 K
[NASA-RP-1232] p 38 N90-27064
AMSAHTS 1990: Advances in Materials Science and Applications of High Temperature Superconductors
[NASA-CP-10043] p 29 N90-27792
FIRE Science Results 1989
[NASA-CP-3079] p 58 N90-28224
- THERMODYNAMICS**
The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598
NASA-Chinese Aeronautical Establishment (CAE) Symposium
[NASA-CP-2433] p 17 N87-20267
First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744
- THERMOPHYSICAL PROPERTIES**
Growth of solid solution single crystals
[NASA-TP-2787] p 32 N88-14212
- THERMOSPHERE**
Upper and Middle Atmospheric Density Modeling Requirements for Spacecraft Design and Operations
[NASA-CP-2460] p 52 N87-20665
Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084
- THERMOVISCOELASTICITY**
Thermoviscoelastic model with application to copper
[NASA-TP-2845] p 45 N89-16183
- THESAURI**
NASA Thesaurus Supplement: A four part cumulative supplement to the 1985 edition of the NASA Thesaurus (supplement 3)
[NASA-SP-7053-SUPPL-3] p 70 N87-27557
NASA thesaurus: Astronomy vocabulary
[NASA-SP-7069] p 74 N88-24553
NASA thesaurus. Volume 3: Definitions
[NASA-SP-7064-VOL-3] p 70 N89-13301
NASA Thesaurus supplement: A four part cumulative supplement to the 1988 edition of the NASA Thesaurus (supplement 3)
[NASA-SP-7064-SUPPL-3] p 71 N90-22438
- THICKNESS**
Pressure measurements on a thick cambered and twisted 58 deg delta wing at high subsonic speeds
[NASA-TP-2713] p 6 N87-27643
- THIN FILMS**
Traveling-wave-tube efficiency improvement by a low-cost technique for deposition of carbon on multistage depressed collector
[NASA-TP-2719] p 35 N87-21239
Influence of the deposition conditions on radiofrequency magnetron sputtered MoS2 films
[NASA-TP-2994] p 33 N90-21210
- THIN WALLS**
Mixed finite element models for free vibrations of thin-walled beams
[NASA-TP-2868] p 45 N89-19579
- THIN WINGS**
Applicability of linearized-theory attached-flow methods to design and analysis of flap systems at low speeds for thin swept wings with sharp leading edges
[NASA-TP-2653] p 3 N87-15174
- THREADS**
Fastener design manual
[NASA-RP-1228] p 42 N90-18740
- THREE AXIS STABILIZATION**
A general-purpose balloon-borne pointing system for solar scientific instruments
[NASA-TP-3013] p 33 N90-21219
- THREE DIMENSIONAL FLOW**
Evaluation of diffuse-illumination holographic cinematography in a flutter cascade
[NASA-TP-2593] p 39 N87-13731
Numerical simulation of scramjet inlet flow fields
[NASA-TP-2517] p 8 N88-23735
Three-dimensional multigrid algorithms for the flux-split Euler equations
[NASA-TP-2829] p 65 N89-12316
An upwind-biased, point-implicit relaxation algorithm for viscous, compressible perfect-gas flows
[NASA-TP-2953] p 38 N90-17042
An approximate method for calculating three-dimensional inviscid hypersonic flow fields
[NASA-TP-3018] p 39 N90-27066
- THRUST**
Evaluation of various thrust calculation techniques on an F404 engine
[NASA-TP-3001] p 16 N90-25134
- THRUST CONTROL**
Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959

THRUST REVERSAL

Interference effects of thrust reversing on horizontal tail effectiveness of twin-engine fighter aircraft at Mach numbers from 0.15 to 0.90

[NASA-TP-2350] p 19 N87-10870

Effect of port corner geometry on the internal performance of a rotating-vane-type thrust reverser

[NASA-TP-2624] p 3 N87-12541

Aerodynamics in ground effect and predicted landing ground roll of a fighter configuration with a secondary-nozzle thrust reverser

[NASA-TP-2834] p 8 N88-29752

Thrust-reverser flow investigation on a twin-engine transport

[NASA-TP-2856] p 9 N89-14213

Static internal performance of a nonaxisymmetric vaned thrust reverser with flow splay capability

[NASA-TP-2933] p 10 N89-27634

THRUST VECTOR CONTROL

Static internal performance of single-expansion-ramp nozzles with thrust-vectoring capability up to 60 deg

[NASA-TP-2364] p 3 N87-10839

Static internal performance of a two-dimensional convergent-divergent nozzle with thrust vectoring

[NASA-TP-2721] p 5 N87-24432

Multiaxis control power from thrust vectoring for a supersonic fighter aircraft model at Mach 0.20 to 2.47

[NASA-TP-2712] p 5 N87-24433

Effects of the installation and operation of jet-exhaust yaw vanes on the longitudinal and lateral-directional characteristics of the F-14 airplane

[NASA-TP-2769] p 6 N88-12455

Static performance of an axisymmetric nozzle with post-exit vanes for multiaxis thrust vectoring

[NASA-TP-2800] p 8 N88-20280

Static performance of nonaxisymmetric nozzles with yaw thrust-vectoring vanes

[NASA-TP-2813] p 8 N88-21118

A closed-form trim solution yielding minimum trim drag for airplanes with multiple longitudinal-control effectors

[NASA-TP-2907] p 20 N89-23468

Static internal performance of a nonaxisymmetric vaned thrust reverser with flow splay capability

[NASA-TP-2933] p 10 N89-27634

Static investigation of a two-dimensional convergent-divergent exhaust nozzle with multiaxis thrust-vectoring capability

[NASA-TP-2973] p 11 N90-19193

Internal performance of two nozzles utilizing gimbal concepts for thrust vectoring

[NASA-TP-2991] p 11 N90-19200

THUNDERSTORMS

NASA/MSFC FY-85 Atmospheric Processes Research Review

[NASA-CP-2402] p 55 N87-13043

TILES

Aerothermal tests of spherical dome protuberances on a flat plate at a Mach number of 6.5

[NASA-TP-2631] p 35 N87-13664

Aerodynamic pressure and heating-rate distributions in tile gaps around chine regions with pressure gradients at a Mach number of 6.6

[NASA-TP-2988] p 38 N90-23670

TIME DIVISION MULTIPLE ACCESS

Digitally modulated bit error rate measurement system for microwave component evaluation

[NASA-TP-2912] p 23 N89-28545

Satellite-matrix-switched, time-division-multiple-access network simulator

[NASA-TP-2944] p 34 N90-11915

TIME LAG

Piloted simulator study of allowable time delays in large-airplane response

[NASA-TP-2652] p 19 N87-16849

TIME SERIES ANALYSIS

Polar microwave brightness temperatures from Nimbus-7 SMMR: Time series of daily and monthly maps from 1978 to 1987

[NASA-RP-1223] p 48 N89-26275

TIMING DEVICES

Ground-based time-guidance algorithm for control of airplanes in a time-metered air traffic control environment: A piloted simulation study

[NASA-TP-2616] p 16 N87-10864

TIP VANES

Transonic flow analysis for rotors. Part 2: Three-dimensional, unsteady, full-potential calculation

[NASA-TP-2375-PT-2] p 3 N87-10841

TIRES

Exploiting symmetries in the modeling and analysis of tires

[NASA-TP-2649] p 13 N87-17690

Cornering characteristics of the main-gear tire of the space shuttle orbiter

[NASA-TP-2790] p 14 N88-18583

Advances in contact algorithms and their application to tires

[NASA-TP-2781] p 44 N88-21456

Computational Methods for Structural Mechanics and Dynamics, part 1

[NASA-CP-3034-PT-1] p 46 N89-24638

TISSUES (BIOLOGY)

Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets

[NASA-RP-1180] p 79 N87-25984

Space Bioreactor Science Workshop

[NASA-CP-2485] p 58 N88-17168

TITAN

The Cassini mission: Infrared and microwave spectroscopic measurements

[NASA-RP-1213] p 78 N89-16709

TITANATES

Heat treatment study of the SiC/Ti-15-3 composite system

[NASA-TP-2970] p 29 N90-19302

TITANIUM

Performance of a multistage depressed collector with machined titanium electrodes

[NASA-TP-2891] p 35 N89-15337

Secondary electron emission characteristics of untreated and ion-textured titanium

[NASA-TP-2902] p 30 N89-17650

TITANIUM ALLOYS

Effect of LID (Registered) processing on the microstructure and mechanical properties of Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo titanium foil-gauge materials

[NASA-TP-2677] p 30 N87-18644

Material characterization of superplastically formed titanium (Ti-6Al-2Sn-4Zr-2Mo) sheet

[NASA-TP-2674] p 30 N87-20407

Shot peening for Ti-6Al-4V alloy compressor blades

[NASA-TP-2711] p 43 N87-20566

Emission, catalysis, and dynamic oxidation of Ti-14Al-21Nb

[NASA-TP-2955] p 31 N90-10248

Oxidation characteristics of Ti-14Al-21Nb ingot alloy

[NASA-TP-3012] p 31 N90-25206

TOLERANCES (MECHANICS)

A Protection And Detection Surface (PADS) for damage tolerance

[NASA-TP-3011] p 29 N90-27788

TOLERANCES (PHYSIOLOGY)

Annoyance caused by advanced turboprop aircraft flyover noise: Single-rotating propeller configuration

[NASA-TP-2782] p 67 N88-17441

TOLLMIEN-SCHLICHTING WAVES

Interactions of Tollmien-Schlichting waves and Dean vortices. Comparison of direct numerical simulation and a weakly nonlinear theory

[NASA-TP-2919] p 10 N89-25118

TOPOGRAPHY

Surface topography of the Greenland Ice Sheet from satellite radar altimetry

[NASA-SP-503] p 54 N90-22850

TORQUE

Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system

[NASA-TP-2401] p 4 N87-17668

TORSION

An experimental investigation of the flap-lag-torsion aeroelastic stability of a small-scale hingeless helicopter rotor in hover

[NASA-TP-2546] p 7 N88-20257

TOTAL OZONE MAPPING SPECTROMETER

Scientific and Operational Requirements for TOMS Data

[NASA-CP-2497] p 47 N88-13774

The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas

[NASA-RP-1201] p 49 N88-20714

The 1989 Airborne Arctic Stratospheric Expedition Nimbus-7 TOMS data atlas

[NASA-RP-1227] p 57 N89-27302

Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989

[NASA-TP-1237] p 58 N90-23837

TRACE ELEMENTS

A high-resolution atlas of the infrared spectrum of the Sun and the Earth atmosphere from space: A compilation of ATMOS spectra of the region from 650 to 4800 cm (2.3 to 16 micron). Volume 1: The Sun

[NASA-RP-1224-VOL-1] p 53 N90-13893

TRACKING (POSITION)

Solar array flight dynamic experiment

[NASA-TP-2598] p 23 N87-12581

Effect of motion cues during complex curved approach and landing tasks: A piloted simulation study

[NASA-TP-2773] p 14 N88-12480

TRADEOFFS

Effect of a trade between boattail angle and wedge size on the performance of a nonaxisymmetric wedge nozzle

[NASA-TP-2717] p 5 N87-23593

TRAILING EDGE FLAPS

Fight and wind-tunnel measurements showing base drag reduction provided by a trailing disk for high Reynolds number turbulent flow for subsonic and transonic Mach numbers

[NASA-TP-2638] p 37 N88-14299

TRAINING SIMULATORS

Graphics Technology in Space Applications (GTSA 1989)

[NASA-CP-3045] p 62 N90-20651

TRAJECTORY ANALYSIS

A synchronous data analyzer for the Minimum Delay Data Format (MDDF) and Launch Trajectory Acquisition System (LTAS)

[NASA-TP-2743] p 34 N87-24590

Trajectory characteristics and heating of hypervelocity projectiles having large ballistic coefficients

[NASA-TP-2614] p 7 N88-19412

TRAJECTORY OPTIMIZATION

The effect of interplanetary trajectory options on a manned Mars aerobrake configuration

[NASA-TP-3019] p 24 N90-26036

TRANSDUCERS

Analog signal conditioning for flight-test instrumentation

[NASA-RP-1159] p 17 N87-29533

TRANSFER ORBITS

Forbidden tangential orbit transfers between intersecting Keplerian orbits

[NASA-TP-3031] p 23 N90-26028

Advanced Earth-to-Orbit Propulsion Technology 1988, volume 1

[NASA-CP-3012-VOL-1] p 27 N90-28611

TRANSIENT HEATING

Measurement of local high-level, transient surface heat flux

[NASA-TP-2840] p 39 N88-30099

TRANSIENT RESPONSE

Steady-state and transitional aerodynamic characteristics of a wing in simulated heavy rain

[NASA-TP-2932] p 10 N89-25951

A transient response method for linear coupled substructures

[NASA-TP-2926] p 23 N90-13444

TRANSITION TEMPERATURE

Indentation plasticity and fracture in silicon

[NASA-TP-2863] p 30 N89-10996

TRANSMISSION EFFICIENCY

Bit-error-rate testing of high-power 30-GHz traveling wave tubes for ground-terminal applications

[NASA-TP-2635] p 33 N87-17971

TRANSMISSIONS (MACHINE ELEMENTS)

Testing of UH-60A helicopter transmission in NASA Lewis 2240-kW (3000-hp) facility

[NASA-TP-2626] p 41 N87-10391

Vibration characteristics of OH-58A helicopter main rotor transmission

[NASA-TP-2705] p 41 N87-20555

Gear tooth stress measurements on the UH-60A helicopter transmission

[NASA-TP-2698] p 41 N87-22235

Efficiency testing of a helicopter transmission planetary reduction stage

[NASA-TP-2795] p 41 N88-15224

Dynamic analysis of multimesh-gear helicopter transmissions

[NASA-TP-2789] p 41 N88-17045

Comparison of predicted and measured temperatures of UH-60A helicopter transmission

[NASA-TP-2911] p 41 N89-24607

TRANSONIC FLIGHT

Sensitivity of F-106B leading-edge-vortex images to flight and vapor-screen parameters

[NASA-TP-2818] p 8 N88-23760

TRANSONIC FLOW

Transonic flow analysis for rotors. Part 2: Three-dimensional, unsteady, full-potential calculation

[NASA-TP-2375-PT-2] p 3 N87-10841

Effects of winglet on transonic flutter characteristics of a cantilevered twin-engine-transport wing model

[NASA-TP-2627] p 43 N87-13789

Calculation of viscous effects on transonic flow for oscillating airfoils and comparisons with experiment

[NASA-TP-2731] p 6 N87-27622

A transonic-small-disturbance wing design methodology

[NASA-TP-2806] p 7 N88-17614

Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 1

[NASA-CP-3022-PT-1] p 9 N89-19234

- Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 2
[NASA-CP-3022-PT-2] p 9 N89-19247
- Transonic Symposium: Theory, Application, and Experiment, volume 1, part 2
[NASA-CP-3020-VOL-1-PT-2] p 9 N89-20942
- Laser anemometer measurements in a transonic axial-flow fan rotor
[NASA-TP-2879] p 38 N90-11245
- TRANSONIC SPEED**
- Effects of tail span and empennage arrangement on drag of a typical single-engine fighter aft end
[NASA-TP-2352] p 3 N87-10838
- Forward-swept wing configuration designed for high maneuverability by use of a transonic computational method
[NASA-TP-2628] p 3 N87-11702
- An experimental investigation of an advanced turboprop installation on a swept wing at subsonic and transonic speeds
[NASA-TP-2729] p 6 N87-26883
- Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack
[NASA-TP-2716] p 14 N87-29497
- Comparison of wind tunnel and flight test afterbody and nozzle pressures for a twin-jet fighter aircraft at transonic speeds
[NASA-TP-2588] p 6 N88-10765
- Effect of empennage arrangement on single-engine nozzle/afterbody static pressures at transonic speeds
[NASA-TP-2753] p 6 N88-10771
- TRANSONIC WIND TUNNELS**
- Evolution, calibration, and operational characteristics of the two-dimensional test section of the Langley 0.3-meter transonic cryogenic tunnel
[NASA-TP-2749] p 21 N87-28570
- Effect of tail size reductions on longitudinal aerodynamic characteristics of a three surface F-15 model with nonaxisymmetric nozzles
[NASA-TP-3036] p 11 N90-25938
- TRANSPORT AIRCRAFT**
- Piloted simulator study of allowable time delays in large-airplane response
[NASA-TP-2652] p 19 N87-16849
- Summary of studies to reduce wing-mounted propfan installation drag on an M = 0.8 transport
[NASA-TP-2678] p 14 N87-20990
- Effect of Reynolds number variation on aerodynamics of a hydrogen-fueled transport concept at Mach 6
[NASA-TP-2728] p 5 N87-26031
- Jet transport flight operations using cockpit display of traffic information during instrument meteorological conditions: Simulation evaluation
[NASA-TP-2567] p 12 N87-29469
- Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987
- Aeropropulsion '87. Session 6: High-Speed Propulsion Technology
[NASA-CP-10003-SESS-6] p 18 N88-15807
- Thrust-reverser flow investigation on a twin-engine transport
[NASA-TP-2856] p 9 N89-14213
- Integration effects of pylon geometry on a high-wing transport airplane
[NASA-TP-2877] p 9 N89-15888
- Comparison of flying qualities derived from in-flight and ground-based simulators for a jet-transport airplane for the approach and landing pilot tasks
[NASA-TP-2962] p 20 N90-11757
- Evaluation of two transport aircraft and several ground test vehicle friction measurements obtained for various runway surface types and conditions. A summary of test results from joint FAA/NASA Runway Friction Program
[NASA-TP-2917] p 16 N90-15902
- TRANSPORT PROPERTIES**
- BRYNTRN: A baryon transport model
[NASA-TP-2887] p 80 N89-17562
- A review of reaction rates and thermodynamic and transport properties for an 11-species air model for chemical and thermal nonequilibrium calculations to 30000 K
[NASA-RP-1232] p 38 N90-27064
- TRANSPORT THEORY**
- Benchmark solutions for the galactic ion transport equations: Energy and spatially dependent problems
[NASA-TP-2878] p 79 N89-16714
- TRAPPING**
- Hydrogen trapping and the interaction of hydrogen with metals
[NASA-TP-2744] p 30 N87-25463
- TRAVELING WAVE TUBES**
- Bit-error-rate testing of high-power 30-GHz traveling wave tubes for ground-terminal applications
[NASA-TP-2635] p 33 N87-17971
- Performance of textured carbon on copper electrode multistage depressed collectors with medium-power traveling wave tubes
[NASA-TP-2665] p 34 N87-17990
- Calculation of secondary electron trajectories in multistage depressed collectors for microwave amplifiers
[NASA-TP-2664] p 34 N87-17991
- Design, fabrication and performance of small, graphite electrode, multistage depressed collectors with 200-W, CW, 8- to 18-GHz traveling-wave tubes
[NASA-TP-2693] p 35 N87-20474
- Traveling-wave-tube efficiency improvement by a low-cost technique for deposition of carbon on multistage depressed collector
[NASA-TP-2719] p 35 N87-21239
- Revised NASA axially symmetric ring model for coupled-cavity traveling-wave tubes
[NASA-TP-2675] p 35 N87-22923
- Analytical and experimental performance of a dual-mode traveling wave tube and multistage depressed collector
[NASA-TP-2752] p 35 N87-25532
- Performance of a small, graphite electrode, multistage depressed collector with a 500-W, continuous wave, 4.8- to 9.8-GHz traveling wave tube
[NASA-TP-2788] p 35 N88-15146
- Design, fabrication, and performance of brazed, graphite electrode, multistage depressed collectors with 500-W, continuous wave, 4.8- to 9.6-GHz traveling-wave tubes
[NASA-TP-2904] p 35 N89-21171
- Secondary electron emission characteristics of molybdenum-masked, ion-textured OFHC copper
[NASA-TP-2967] p 31 N90-15211
- Spent-beam refocusing analysis and multistage depressed collector design for a 75-W, 59- to 64-GHz coupled-cavity traveling-wave tube
[NASA-TP-3039] p 35 N90-27965
- TRIBOLOGY**
- The 20th Aerospace Mechanics Symposium
[NASA-CP-2423-REV] p 43 N87-16321
- Structural Ceramics
[NASA-CP-2427] p 31 N88-23872
- The 24th Aerospace Mechanisms Symposium
[NASA-CP-3062] p 47 N90-22079
- TROPICAL METEOROLOGY**
- On requirements for a satellite mission to measure tropical rainfall
[NASA-RP-1183] p 55 N87-20701
- TROPICAL STORMS**
- On requirements for a satellite mission to measure tropical rainfall
[NASA-RP-1183] p 55 N87-20701
- TROPOSPHERE**
- Future directions for H sub x O sub y detection
[NASA-CP-2448] p 51 N87-15528
- Space Opportunities for Tropospheric Chemistry Research
[NASA-CP-2450] p 51 N87-18248
- Scientific and Operational Requirements for TOMS Data
[NASA-CP-2497] p 47 N88-13774
- Forty-eight-inch lidar aerosol measurements taken at the Langley Research Center, May 1974 to December 1987
[NASA-RP-1209] p 52 N88-29234
- TRUSSES**
- NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-1] p 24 N87-16014
- Modeling of joints for the dynamic analysis of truss structures
[NASA-TP-2661] p 43 N87-20567
- Continuum modeling of large lattice structures: Status and projections
[NASA-TP-2767] p 25 N88-14115
- TUNGSTEN**
- Tungsten fiber reinforced copper matrix composites: A review
[NASA-TP-2924] p 29 N89-27796
- TURBINE BLADES**
- Lewis inverse design code (LINDS): Users manual
[NASA-TP-2676] p 4 N87-20238
- Turbine Engine Hot Section Technology, 1985
[NASA-CP-2405] p 43 N88-11140
- Lewis Structures Technology, 1988. Volume 1: Structural Dynamics
[NASA-CP-3003-VOL-1] p 44 N88-23226
- Turbine Engine Hot Section Technology, 1987
[NASA-CP-2493] p 45 N89-17298
- TURBINE ENGINES**
- Turbine Engine Hot Section Technology, 1984
[NASA-CP-2339] p 43 N87-11180
- Advanced detection, isolation and accommodation of sensor failures: Real-time evaluation
[NASA-TP-2740] p 19 N87-25331
- Aeropropulsive characteristics of isolated combined turbojet/ramjet nozzles at Mach numbers from 0 to 1.20
[NASA-TP-2814] p 8 N88-23757
- TURBINE PUMPS**
- Space shuttle main engine high pressure fuel pump aft platform seal cavity flow analysis
[NASA-TP-2685] p 36 N87-17000
- Straight cylindrical seal for high-performance turbomachines
[NASA-TP-1850] p 36 N87-23936
- Three-step cylindrical seal for high-performance turbomachines
[NASA-TP-1849] p 36 N87-24639
- Computer-aided design analysis of 57-mm, angular-contact, cryogenic turbopump bearings
[NASA-TP-2816] p 41 N88-18933
- Experimental evaluation of a tuned electromagnetic damper for vibration control of cryogenic turbopump rotors
[NASA-TP-3005] p 18 N90-23403
- TURBOCOMPRESSORS**
- Rotordynamic Instability Problems in High-Performance Turbomachinery, 1986
[NASA-CP-2443] p 41 N87-22199
- TURBOFAN ENGINES**
- Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959
- Evaluation of installed performance of a wing-tip-mounted pusher turboprop on a semispan wing
[NASA-TP-2739] p 14 N87-26041
- Advanced detection, isolation, and accommodation of sensor failures in turbofan engines: Real-time microcomputer implementation
[NASA-TP-2925] p 20 N90-15112
- TURBOMACHINERY**
- Rotordynamic Instability Problems in High-Performance Turbomachinery, 1986
[NASA-CP-2443] p 41 N87-22199
- Three-step labyrinth seal for high-performance turbomachines
[NASA-TP-1848] p 36 N87-23921
- Straight cylindrical seal for high-performance turbomachines
[NASA-TP-1850] p 36 N87-23936
- Aeropropulsion '87. Session 3: Internal Fluid Mechanics Research
[NASA-CP-10003-SESS-3] p 18 N88-15790
- Technique for temperature compensation of eddy-current proximity probes
[NASA-TP-2880] p 39 N89-15380
- Rotordynamic Instability Problems in High-Performance Turbomachinery, 1988
[NASA-CP-3026] p 41 N89-22891
- Computer code for predicting coolant flow and heat transfer in turbomachinery
[NASA-TP-2985] p 18 N90-27722
- TURBOPROP AIRCRAFT**
- Advanced turboprop project
[NASA-SP-495] p 18 N89-12565
- Low-speed wind-tunnel investigation of the flight dynamic characteristics of an advanced turboprop business/commuter aircraft configuration
[NASA-TP-2982] p 20 N90-19239
- TURBOPROP ENGINES**
- Evaluation of installed performance of a wing-tip-mounted pusher turboprop on a semispan wing
[NASA-TP-2739] p 14 N87-26041
- An experimental investigation of an advanced turboprop installation on a swept wing at subsonic and transonic speeds
[NASA-TP-2729] p 6 N87-26883
- Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462
- TURBULENCE**
- Multiscale turbulence effects in supersonic jets exhausting into still air
[NASA-TP-2707] p 36 N87-24672
- Application of turbulence modeling to predict surface heat transfer in stagnation flow region of circular cylinder
[NASA-TP-2758] p 37 N87-27161
- Stereopsis cueing effects on hover-in-turbulence performance in a simulated rotorcraft
[NASA-TP-2980] p 17 N90-21004
- TURBULENCE EFFECTS**
- Jet model for slot film cooling with effect of free-stream and coolant turbulence
[NASA-TP-2655] p 36 N87-18034
- Experimental evaluation of honeycomb/screen configurations and short contraction section for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2692] p 21 N87-23662
- TURBULENT BOUNDARY LAYER**
- Aerothermal tests of spherical dome protuberances on a flat plate at a Mach number of 6.5
[NASA-TP-2631] p 35 N87-13664

- Aerothermal tests of quilted dome models on a flat plate at a Mach number of 6.5
[NASA-TP-2804] p 37 N88-22325
- A review of high-speed, convective, heat-transfer computation methods
[NASA-TP-2914] p 38 N89-27116
- Fluctuating pressures measured beneath a high-temperature, turbulent boundary layer on a flat plate at Mach number of 5
[NASA-TP-2947] p 67 N90-10680
- TURBULENCE FLOW**
Experimental evaluation of honeycomb/screen configurations and short contraction section for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2692] p 21 N87-23662
- Flight and wind-tunnel measurements showing base drag reduction provided by a trailing disk for high Reynolds number turbulent flow for subsonic and transonic Mach numbers
[NASA-TP-2638] p 37 N88-14299
- Numerical simulation of scramjet inlet flow fields
[NASA-TP-2517] p 8 N88-23735
- Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153
- TWISTED WINGS**
Pressure measurements on a thick cambered and twisted 58 deg delta wing at high subsonic speeds
[NASA-TP-2713] p 6 N87-27643
- TWO BODY PROBLEM**
Forbidden tangential orbit transfers between intersecting Keplerian orbits
[NASA-TP-3031] p 23 N90-26028
- TWO DIMENSIONAL FLOW**
Experimental validation of a two-dimensional shear-flow model for determining acoustic impedance
[NASA-TP-2679] p 66 N87-20798
- Static internal performance of a two-dimensional convergent-divergent nozzle with thrust vectoring
[NASA-TP-2721] p 5 N87-24432
- Evolution, calibration, and operational characteristics of the two-dimensional test section of the Langley 0.3-meter transonic cryogenic tunnel
[NASA-TP-2749] p 21 N87-28570
- TWO DIMENSIONAL MODELS**
Experimental validation of a two-dimensional shear-flow model for determining acoustic impedance
[NASA-TP-2679] p 66 N87-20798
- Two-Dimensional Intercomparison of Stratospheric Models
[NASA-CP-3042] p 53 N90-11405
- TWO PHASE FLOW**
Workshop on Two-Phase Fluid Behavior in a Space Environment
[NASA-CP-3043] p 38 N89-26184
- U**
- U-2 AIRCRAFT**
Global stratospheric change: Requirements for a Very-High-Altitude Aircraft for Atmospheric Research
[NASA-CP-10041] p 16 N90-14220
- UH-60A HELICOPTER**
Gear tooth stress measurements on the UH-60A helicopter transmission
[NASA-TP-2698] p 41 N87-22235
- Comparison of predicted and measured temperatures of UH-60A helicopter transmission
[NASA-TP-2911] p 41 N89-24607
- ULTRAVIOLET RADIATION**
International ultraviolet explorer spectral atlas of planetary nebulae, central stars, and related objects
[NASA-RP-1203] p 76 N88-28843
- ULTRAVIOLET SPECTROMETERS**
Calibration of the spin-scan ozone imager aboard the dynamics Explorer 1 satellite
[NASA-TP-2723] p 55 N87-26491
- UNMANNED SPACECRAFT**
The 1986 Get Away Special Experimenter's Symposium
[NASA-CP-2438] p 22 N87-20302
- Orders of magnitude: A history of the NACA and NASA, 1915-1990
[NASA-SP-4406] p 81 N89-26805
- Joint University Program for Air Transportation Research, 1988-1989
[NASA-CP-3063] p 2 N90-20921
- The MSFC/UAH Data Management Symposium
[NASA-CP-2040] p 62 N78-74659
- UNMANNED SPACECRAFT**
Status and future of lunar geoscience
[NASA-SP-484] p 77 N87-19322
- UNSTEADY AERODYNAMICS**
Steady and unsteady aerodynamic forces from the SOUSSA surface-panel method for a fighter wing with tip missile and comparison with experiment and PANAIR
[NASA-TP-2736] p 5 N87-26032
- Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 1
[NASA-CP-3022-PT-1] p 9 N89-19234
- Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 2
[NASA-CP-3022-PT-2] p 9 N89-19247
- UNSTEADY FLOW**
Steady and unsteady aerodynamic forces from the SOUSSA surface-panel method for a fighter wing with tip missile and comparison with experiment and PANAIR
[NASA-TP-2736] p 5 N87-26032
- UPPER ATMOSPHERE**
Present state of knowledge of the upper atmosphere 1988: An assessment report
[NASA-RP-1208] p 52 N88-29233
- Present state of knowledge of the upper atmosphere 1990: An assessment report
[NASA-RP-1242] p 54 N90-28929
- UPPER SURFACE BLOWING**
Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959
- URANUS ATMOSPHERE**
The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598
- URBAN DEVELOPMENT**
Earth resources: A continuing bibliography with indexes (issue 57)
[NASA-SP-7041(57)] p 49 N88-23314
- USER MANUALS (COMPUTER PROGRAMS)**
Pulse Code Modulation (PCM) encoder handbook for Aydin Vector MMP-600 series system
[NASA-RP-1171] p 33 N87-11916
- Lewis inverse design code (LINDES): Users manual
[NASA-TP-2676] p 4 N87-20238
- Nimbus 7 Solar Backscatter Ultraviolet (SBUV) spectral scan solar irradiance and Earth radiance product user's guide
[NASA-RP-1199] p 48 N88-17096
- SAM 2 data user's guide
[NASA-RP-1200] p 52 N88-25094
- User's guide for the Nimbus 7 Scanning Multichannel Microwave Radiometer (SMMR) CELL-ALL tape
[NASA-RP-1210] p 56 N89-14648
- User's manual for interactive LINEAR: A FORTRAN program to derive linear aircraft models
[NASA-TP-2835] p 65 N89-16437
- Nimbus-7 Stratospheric and Mesospheric Sounder (SAMS) experiment data user's guide
[NASA-RP-1221] p 53 N89-26304
- Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
[NASA-RP-1211] p 79 N89-30151
- Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227
- The NASTRAN demonstration problem manual, level 17.5
[NASA-SP-224(05)] p 42 N81-71592
- The NASTRAN programmers manual, level 17.5
[NASA-SP-223(05)] p 42 N81-71594
- USER REQUIREMENTS**
The Langley 14-by-22-foot subsonic tunnel: Description, flow characteristics, and guide for users
[NASA-TP-3008] p 12 N90-27649
- V**
- V/STOL AIRCRAFT**
Proceedings of the 1985 NASA Ames Research Center's Ground-Effects Workshop
[NASA-CP-2462] p 5 N87-24410
- A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14 x 22-foot subsonic tunnel
[NASA-TP-2796] p 7 N88-20264
- VACUUM EFFECTS**
Reaction of perfluoroalkylpolyethers (PFPE) with 440C steel in vacuum under sliding conditions at room temperature
[NASA-TP-2883] p 31 N89-26091
- VACUUM SYSTEMS**
Introduction to total- and partial-pressure measurements in vacuum systems
[NASA-RP-1219] p 40 N90-10412
- VACUUM TESTS**
Outgassing data for selecting spacecraft materials
[NASA-RP-1124] p 28 N88-10117
- VANADIUM**
Shot peening for Ti-6Al-4V alloy compressor blades
[NASA-TP-2711] p 43 N87-20566
- VANES**
Effect of port corner geometry on the internal performance of a rotating-vane-type thrust reverser
[NASA-TP-2624] p 3 N87-12541
- Experimental evaluation of two turning vane designs for fan drive corner of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2646] p 21 N87-18576
- Turbine Engine Hot Section Technology, 1985
[NASA-CP-2405] p 43 N88-11140
- Static performance of an axisymmetric nozzle with post-exit vanes for multiaxis thrust vectoring
[NASA-TP-2800] p 8 N88-20280
- The effectiveness of vane-aileron excitation in the experimental determination of flutter speed by parameter identification
[NASA-TP-2971] p 16 N90-15100
- VAPORS**
Sensitivity of F-106B leading-edge-vortex images to flight and vapor-screen parameters
[NASA-TP-2818] p 8 N88-23760
- VARIABILITY**
Effects of variables upon pyrotechnically induced shock response spectra
[NASA-TP-2603] p 43 N87-12921
- VARIABLE STARS**
The M-type stars
[NASA-SP-492] p 75 N88-11592
- VARIABLE SWEEP WINGS**
Flight-determined aerodynamic derivatives of the AD-1 oblique-wing research airplane
[NASA-TP-2222] p 19 N87-10871
- VATOL AIRCRAFT**
The 1987 Ground Vortex Workshop
[NASA-CP-10008] p 9 N89-10849
- VECTORS (MATHEMATICS)**
Proceedings of the Scientific Data Compression Workshop
[NASA-CP-3025] p 63 N89-22332
- VEGETATION GROWTH**
Controlled Ecological Life Support System: Regenerative Life Support Systems in Space
[NASA-CP-2480] p 60 N88-12251
- VELOCITY**
Development and evaluation of an airplane electronic display format aligned with the inertial velocity vector
[NASA-TP-2648] p 16 N87-13438
- VELOCITY DISTRIBUTION**
Laser anemometer measurements in a transonic axial-flow fan rotor
[NASA-TP-2879] p 38 N90-11245
- VELOCITY MEASUREMENT**
Velocity profiles in laminar diffusion flames
[NASA-TP-2596] p 36 N87-18035
- Three component laser anemometer measurements in an annular cascade of core turbine vanes with contoured end wall
[NASA-TP-2846] p 8 N89-10844
- VERTICAL AIR CURRENTS**
Spanwise measurements of vertical components of atmospheric turbulence
[NASA-TP-2963] p 58 N90-19718
- VERTICAL DISTRIBUTION**
Forty-eight-inch lidar aerosol measurements taken at the Langley Research Center, May 1974 to December 1987
[NASA-RP-1209] p 52 N88-29234
- VERTICAL LANDING**
Proceedings of the 1985 NASA Ames Research Center's Ground-Effects Workshop
[NASA-CP-2462] p 5 N87-24410
- VERTICAL ORIENTATION**
Effects of combining vertical and horizontal information into a primary flight display
[NASA-TP-2783] p 17 N88-12487
- VERTICAL TAKEOFF AIRCRAFT**
The 1987 Ground Vortex Workshop
[NASA-CP-10008] p 9 N89-10849
- Powered-lift aircraft technology
[NASA-SP-501] p 15 N90-12589
- VERY LARGE SCALE INTEGRATION**
A technique for evaluating the application of the pin-level stuck-at fault model to VLSI circuits
[NASA-TP-2738] p 42 N87-28025
- VERY LOW FREQUENCIES**
A lunar far-side very low frequency array
[NASA-CP-3039] p 75 N90-10805
- VHSIC (CIRCUITS)**
Computer Sciences and Data Systems, volume 2
[NASA-CP-2459-VOL-2] p 62 N87-19932
- VIBRATION**
Evaluation of the ride quality of a light twin engine airplane using a ride quality meter
[NASA-TP-2913] p 2 N89-22568

VIBRATION DAMPING

- NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-1] p 24 N87-16014
- NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-2] p 25 N87-24495
- The 58th Shock and Vibration Symposium, volume 1
[NASA-CP-2488-VOL-1] p 43 N88-13609
- Lewis Structures Technology, 1988. Volume 1: Structural Dynamics
[NASA-CP-3003-VOL-1] p 44 N88-23226
- Experimental evaluation of a tuned electromagnetic damper for vibration control of cryogenic turbopump rotors
[NASA-TP-3005] p 18 N90-23403
- VIBRATION ISOLATORS**
The 58th Shock and Vibration Symposium, volume 1
[NASA-CP-2488-VOL-1] p 43 N88-13609
- The 22nd Aerospace Mechanisms Symposium
[NASA-CP-2506] p 44 N88-21468
- Development and approach to low-frequency microgravity isolation systems
[NASA-TP-2984] p 33 N90-28754
- VIBRATION MEASUREMENT**
Testing of UH-60A helicopter transmission in NASA Lewis 2240-KW (3000-hp) facility
[NASA-TP-2626] p 41 N87-10391
- Vibration characteristics of OH-58A helicopter main rotor transmission
[NASA-TP-2705] p 41 N87-20555
- VIDEO COMMUNICATION**
Jet transport flight operations using cockpit display of traffic information during instrument meteorological conditions: Simulation evaluation
[NASA-TP-2567] p 12 N87-29469
- VISCOPLASTICITY**
Nonlinear Constitutive Relations for High Temperature Applications, 1986
[NASA-CP-10010] p 44 N88-21498
- Thermoviscoplastic model with application to copper
[NASA-TP-2845] p 45 N89-16183
- VISCOUS FLOW**
Calculation of viscous effects on transonic flow for oscillating airfoils and comparisons with experiment
[NASA-TP-2731] p 6 N87-27622
- Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 2
[NASA-CP-3022-PT-2] p 9 N89-19247
- An upwind-biased, point-implicit relaxation algorithm for viscous, compressible perfect-gas flows
[NASA-TP-2953] p 38 N90-17042
- VISUAL OBSERVATION**
Atlas of Comet Halley 1910 II
[NASA-SP-488] p 75 N87-30235
- VISUAL PERCEPTION**
Spatial Displays and Spatial Instruments
[NASA-CP-10032] p 61 N90-22918
- VISUAL SIGNALS**
Determination of depth-viewing volumes for stereo three-dimensional graphic displays
[NASA-TP-2999] p 61 N90-22965
- VOICE COMMUNICATION**
A simulator investigation of the use of digital data link for pilot/ATC communications in a single pilot operation
[NASA-TP-2837] p 13 N89-11726
- VOLCANOES**
Airborne lidar measurements of El Chichon stratospheric aerosols, May 1983
[NASA-RP-1172] p 51 N87-11358
- Airborne lidar measurements of El Chichon stratospheric aerosols, January 1984
[NASA-RP-1175] p 51 N87-20663
- On the statistics of El Nino occurrences and the relationship of El Nino to volcanic and solar/geomagnetic activity
[NASA-TP-2948] p 79 N90-12456
- VORTEX FLAPS**
Applicability of linearized-theory attached-flow methods to design and analysis of flap systems at low speeds for thin swept wings with sharp leading edges
[NASA-TP-2653] p 3 N87-15174
- Wind-tunnel free-flight investigation of a 0.15-scale model of the F-106B airplane with vortex flaps
[NASA-TP-2700] p 4 N87-21855
- Piloted-simulation study of effects of vortex flaps on low-speed handling qualities of a Delta-wing airplane
[NASA-TP-2747] p 19 N87-26922
- VORTEX SHEDDING**
Airfoil self-noise and prediction
[NASA-RP-1218] p 67 N89-25673
- VORTICES**
Correlation of helicopter impulsive noise from blade-vortex interaction with rotor mean inflow
[NASA-TP-2650] p 66 N87-18399

- Helicopter blade-vortex interaction locations: Scale-model acoustics and free-wake analysis results
[NASA-TP-2658] p 4 N87-18537
- Study of lee-side flows over conically cambered delta wings at supersonic speeds, part 1
[NASA-TP-2660-PT-1] p 5 N87-23597
- Measurement of velocity and vorticity fields in the wake of an airfoil in periodic pitching motion
[NASA-TP-2780] p 66 N88-13002
- Sensitivity of F-106B leading-edge-vortex images to flight and vapor-screen parameters
[NASA-TP-2818] p 8 N88-23760
- The 1987 Ground Vortex Workshop
[NASA-CP-10008] p 9 N89-10849
- Interactions of Tollmien-Schlichting waves and Dean vortices. Comparison of direct numerical simulation and a weakly nonlinear theory
[NASA-TP-2919] p 10 N89-25118
- Discrete-vortex model for the symmetric-vortex flow on cones
[NASA-TP-2989] p 11 N90-20946
- A time-accurate adaptive grid method and the numerical simulation of a shock-vortex interaction
[NASA-TP-2998] p 61 N90-21524
- VORTICITY**
Measurement of velocity and vorticity fields in the wake of an airfoil in periodic pitching motion
[NASA-TP-2780] p 66 N88-13002

W

WAKES

- Helicopter blade-vortex interaction locations: Scale-model acoustics and free-wake analysis results
[NASA-TP-2658] p 4 N87-18537
- Measurement of velocity and vorticity fields in the wake of an airfoil in periodic pitching motion
[NASA-TP-2780] p 66 N88-13002
- Galileo probe parachute test program: Wake properties of the Galileo probe at Mach numbers from 0.25 to 0.95
[NASA-RP-1130] p 37 N88-18884

WALL JETS

- Jet model for slot film cooling with effect of free-stream and coolant turbulence
[NASA-TP-2655] p 36 N87-18034

WALL TEMPERATURE

- Experimental evaluation of heat transfer on a 1030:1 area ratio rocket nozzle
[NASA-TP-2726] p 27 N87-25424

WARNING SYSTEMS

- Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference
[NASA-CP-10006] p 12 N88-17616
- Joint University Program for Air Transportation Research, 1988-1989
[NASA-CP-3063] p 2 N90-20921

WATER

- Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585
- Future directions for H sub x O sub y detection
[NASA-CP-2448] p 51 N87-15528
- Finite-rate water condensation in combustion-heated wind tunnels
[NASA-TP-2833] p 22 N88-28075
- WATER COLOR**
Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152

WAVE INTERACTION

- Interactions of Tollmien-Schlichting waves and Dean vortices. Comparison of direct numerical simulation and a weakly nonlinear theory
[NASA-TP-2919] p 10 N89-25118

WAVE PROPAGATION

- Propagation of sound waves in tubes of noncircular cross section
[NASA-TP-2601] p 3 N87-14284
- Evaluation of a scale-model experiment to investigate long-range acoustic propagation
[NASA-TP-2748] p 66 N88-11450
- Propagation effects on satellite systems at frequencies below 10 GHz: A handbook for satellite systems design
[NASA-RP-1108/2] p 34 N88-14226
- Propagation effects handbook for satellite systems design. A summary of propagation impairments on 10 to 100 GHz satellite links with techniques for system design
[NASA-RP-1082(04)] p 34 N89-17060
- WAVE SCATTERING**
Theory for computing the field scattered from a smooth inflected surface
[NASA-TP-2632] p 68 N87-13264

WEATHER

- Meteorological and Environmental Inputs to Aviation Systems
[NASA-CP-2498] p 56 N88-25105

WEATHER FORECASTING

- Atmospheric Turbulence Relative to Aviation, Missile, and Space Programs
[NASA-CP-2468] p 55 N87-22341

WEAVING

- The interlaminar fracture toughness of woven graphite/epoxy composites
[NASA-TP-2950] p 29 N90-10179

WEDGES

- Effect of a trade between boattail angle and wedge size on the performance of a nonaxisymmetric wedge nozzle
[NASA-TP-2717] p 5 N87-23593

WEIGHT REDUCTION

- Preliminary structural design of composite main rotor blades for minimum weight
[NASA-TP-2730] p 28 N87-25435

WEIGHTLESSNESS

- Microgravity Fluid Management Symposium
[NASA-CP-2465] p 32 N87-21141

WELDING

- Weld stresses beyond elastic limit: Materials discontinuity
[NASA-TP-2935] p 46 N89-27214

WIND (METEOROLOGY)

- NASA/MSFC FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043

WIND SHEAR

- Doppler Radar Detection of Wind Shear
[NASA-CP-2435] p 12 N87-10054
- Wind Shear/Turbulence Inputs to Flight Simulation and Systems Certification
[NASA-CP-2474] p 1 N87-25267
- Wind shear detection. Forward-looking sensor technology
[NASA-CP-10004] p 12 N88-14970
- Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference
[NASA-CP-10006] p 12 N88-17616
- Influence of wind shear on the aerodynamic characteristics of airplanes
[NASA-TP-2827] p 12 N88-26344
- Piloted-simulation evaluation of escape guidance for microburst wind shear encounters
[NASA-TP-2886] p 17 N89-16820
- Joint University Program for Air Transportation Research, 1988-1989
[NASA-CP-3063] p 2 N90-20921

WIND TUNNEL APPARATUS

- Experimental evaluation of wall Mach number distributions of the octagonal test section proposed for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2666] p 21 N87-17717
- Experimental evaluation of two turning vane designs for fan drive corner of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2646] p 21 N87-18576
- Detailed flow surveys of turning vanes designed for a 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2680] p 21 N87-20295
- Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2681] p 21 N88-17686
- The Langley 14-by-22-foot subsonic tunnel: Description, flow characteristics, and guide for users
[NASA-TP-3008] p 12 N90-27649

WIND TUNNEL CALIBRATION

- Experimental evaluation of honeycomb/screen configurations and short contraction section for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2692] p 21 N87-23662

WIND TUNNEL DRIVES

- Experimental evaluation of two turning vane designs for fan drive corner of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2646] p 21 N87-18576
- Detailed flow surveys of turning vanes designed for a 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2680] p 21 N87-20295
- Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2681] p 21 N88-17686

WIND TUNNEL MODELS

Wind-tunnel free-flight investigation of a 0.15-scale model of the F-106B airplane with vortex flaps
[NASA-TP-2700] p 4 N87-21855

Experimental evaluation of blockage ratio and plenum evacuation system flow effects on pressure distribution for bodies of revolution in 0.1 scale model test section of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2702] p 21 N87-22694

Comparison of wind tunnel and flight test afterbody and nozzle pressures for a twin-jet fighter aircraft at transonic speeds
[NASA-TP-2588] p 6 N88-10765

Effects of winglets on a first-generation jet transport wing. 7: Sideslip effects on pressure distribution and selected wing loads at subsonic speeds for a full-span model
[NASA-TP-2619] p 7 N88-18567

WIND TUNNEL STABILITY TESTS

Effects of the installation and operation of jet-exhaust yaw vanes on the longitudinal and lateral-directional characteristics of the F-14 airplane
[NASA-TP-2769] p 6 N88-12455

WIND TUNNEL TESTS

Wind-tunnel investigation of the flight characteristics of a canard general-aviation airplane configuration
[NASA-TP-2623] p 3 N87-10039

In-flight total forces, moments and static aeroelastic characteristics of an oblique-wing research airplane
[NASA-TP-2224] p 19 N87-10103

Interference effects of thrust reversing on horizontal tail effectiveness of twin-engine fighter aircraft at Mach numbers from 0.15 to 0.90
[NASA-TP-2350] p 19 N87-10870

Effect of port corner geometry on the internal performance of a rotating-vane-type thrust reverser
[NASA-TP-2624] p 3 N87-12541

Effects of winglet on transonic flutter characteristics of a cantilevered twin-engine-transport wing model
[NASA-TP-2627] p 43 N87-13789

Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system
[NASA-TP-2401] p 4 N87-17668

Correlation of helicopter impulsive noise from blade-vortex interaction with rotor mean inflow
[NASA-TP-2650] p 66 N87-18399

Summary of studies to reduce wing-mounted propan installation drag on an M = 0.8 transport
[NASA-TP-2678] p 14 N87-20990

Wind-tunnel free-flight investigation of a 0.15-scale model of the F-106B airplane with vortex flaps
[NASA-TP-2700] p 4 N87-21855

Experimental evaluation of blockage ratio and plenum evacuation system flow effects on pressure distribution for bodies of revolution in 0.1 scale model test section of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2702] p 21 N87-22694

Wind-tunnel investigation of a full-scale general aviation airplane equipped with an advanced natural laminar flow wing
[NASA-TP-2772] p 6 N88-10009

Comparison of wind tunnel and flight test afterbody and nozzle pressures for a twin-jet fighter aircraft at transonic speeds
[NASA-TP-2588] p 6 N88-10765

Flight and wind-tunnel measurements showing base drag reduction provided by a trailing disk for high Reynolds number turbulent flow for subsonic and transonic Mach numbers
[NASA-TP-2638] p 37 N88-14299

A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel
[NASA-TP-2796] p 7 N88-20264

Helicopter main-rotor noise: Determination of source contributions using scaled model data
[NASA-TP-2825] p 67 N88-26907

Steady and unsteady transonic pressure measurements on a clipped delta wing for pitching and control-surface oscillations
[NASA-TP-2594] p 8 N88-28895

Transonic Symposium: Theory, Application, and Experiment, Volume 1, Part 1
[NASA-CP-3020-VOL-1-PT-1] p 9 N89-20925

Transonic Symposium: Theory, Application, and Experiment, volume 1, part 2
[NASA-CP-3020-VOL-1-PT-2] p 9 N89-20942

Hot-jet simulation in cryogenic wind tunnels
[NASA-RP-1220] p 15 N89-23448

Static internal performance of a nonaxisymmetric vaned thrust reverser with flow splay capability
[NASA-TP-2933] p 10 N89-27634

Research in Natural Laminar Flow and Laminar-Flow Control, part 2
[NASA-CP-2487-PT-2] p 10 N90-12519

Measured and predicted aerodynamic coefficients and shock shapes for Aeroassist Flight Experiment (AFE) configuration
[NASA-TP-2956] p 11 N90-14185

CAST-10-2/DOA 2 Airfoil Studies Workshop Results
[NASA-CP-3052] p 22 N90-17647

Low-speed wind-tunnel investigation of the flight dynamic characteristics of an advanced turboprop business/commuter aircraft configuration
[NASA-TP-2982] p 20 N90-19239

Laser-velocimeter-measured flow field around an advanced, swept, eight-blade propeller at Mach 0.8
[NASA-TP-2462] p 2 N90-20942

WIND TUNNEL WALLS

Experimental evaluation of wall Mach number distributions of the octagonal test section proposed for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2666] p 21 N87-17717

NASA SC(2)-0714 airfoil data corrected for sidewall boundary-layer effects in the Langley 0.3-meter transonic cryogenic tunnel
[NASA-TP-2890] p 9 N89-17568

WIND TUNNELS

Aeronautical facilities assessment
[NASA-RP-1146] p 21 N87-10876

Engineer in charge: A history of the Langley Aeronautical Laboratory, 1917-1958
[NASA-SP-4305] p 80 N87-24390

WIND TURBINES

Lewis Structures Technology, 1988. Volume 3: Structural Integrity Fatigue and Fracture Wind Turbines HOST
[NASA-CP-3003-VOL-3] p 44 N88-22408

Lewis Structures Technology, 1988. Volume 1: Structural Dynamics
[NASA-CP-3003-VOL-1] p 44 N88-23226

WIND VELOCITY

Spanwise measurements of vertical components of atmospheric turbulence
[NASA-TP-2963] p 58 N90-19718

WING LOADING

Study of lee-side flows over conically cambered Delta wings at supersonic speeds, part 2
[NASA-TP-2660-PT-2] p 5 N87-25301

Shape sensitivity analysis of wing static aeroelastic characteristics
[NASA-TP-2808] p 15 N88-22031

Evaluation of a strain-gage load calibration on a low-aspect-ratio wing structure at elevated temperature
[NASA-TP-2921] p 46 N89-28034

WING PROFILES

Shape sensitivity analysis of wing static aeroelastic characteristics
[NASA-TP-2808] p 15 N88-22031

WING TIP VORTICES

Evaluation of installed performance of a wing-tip-mounted pusher turboprop on a semispan wing
[NASA-TP-2739] p 14 N87-26041

WINGLETS

Effects of winglet on transonic flutter characteristics of a cantilevered twin-engine-transport wing model
[NASA-TP-2627] p 43 N87-13789

Effects of winglets on a first-generation jet transport wing. 7: Sideslip effects on winglet loads and selected wing loads at subsonic speeds for a full-span model
[NASA-TP-2619] p 7 N88-18567

WINGS

Effects of winglet on transonic flutter characteristics of a cantilevered twin-engine-transport wing model
[NASA-TP-2627] p 43 N87-13789

Subsonic maneuver capability of a supersonic cruise fighter wing concept
[NASA-TP-2642] p 3 N87-15184

Flight investigation of the effects of an outboard wing-leading-edge modification on stall/spin characteristics of a low-wing, single-engine, T-tail light airplane
[NASA-TP-2691] p 14 N87-23614

Steady and unsteady aerodynamic forces from the SOUSSA surface-panel method for a fighter wing with tip missile and comparison with experiment and PANAIR
[NASA-TP-2736] p 5 N87-26032

Wind-tunnel investigation of a full-scale general aviation airplane equipped with an advanced natural laminar flow wing
[NASA-TP-2772] p 6 N88-10009

A transonic-small-disturbance wing design methodology
[NASA-TP-2806] p 7 N88-17614

Sensitivity of F-106B leading-edge-vortex images to flight and vapor-screen parameters
[NASA-TP-2818] p 8 N88-23760

Integration effects of pylon geometry on a high-wing transport airplane
[NASA-TP-2877] p 9 N89-15888

Steady-state and transitional aerodynamic characteristics of a wing in simulated heavy rain
[NASA-TP-2932] p 10 N89-25951

WOLF-RAYET STARS

O stars and Wolf-Rayet stars
[NASA-SP-497] p 74 N89-11657

WORKLOADS (PSYCHOPHYSIOLOGY)

Jet transport flight operations using cockpit display of traffic information during instrument meteorological conditions: Simulation evaluation
[NASA-TP-2567] p 12 N87-29469

Effect of motion cues during complex curved approach and landing tasks: A piloted simulation study
[NASA-TP-2773] p 14 N88-12480

Mental-State Estimation, 1987

[NASA-CP-2504] p 60 N88-23370

WORKSTATIONS

Mental-State Estimation, 1987
[NASA-CP-2504] p 60 N88-23370

X

X RAY ASTRONOMY

Essays in Space Science
[NASA-CP-2464] p 72 N87-24247

X RAY SPECTROSCOPY

FORTTRAN program for x ray photoelectron spectroscopy data reformatting
[NASA-TP-2957] p 69 N90-12348

X RAYS

Rapid Fluctuations in Solar Flares
[NASA-CP-2449] p 79 N87-21785

X WING ROTORS

Proceedings of the Circulation-Control Workshop, 1986
[NASA-CP-2432] p 7 N88-17586

Y

YAWING MOMENTS

Cornering characteristics of the main-gear tire of the space shuttle orbiter
[NASA-TP-2790] p 14 N88-18583

Z

ZENITH

Surface bidirectional reflectance properties of two southwestern Arizona deserts for wavelengths between 0.4 and 2.2 micrometers
[NASA-TP-2643] p 48 N87-22281

ZERO LIFT

Planform effects on the supersonic aerodynamics of multibody configurations
[NASA-TP-2762] p 6 N88-12454

ZONAL FLOW (METEOROLOGY)

Comparison of satellite-derived dynamical quantities for the stratosphere of the Southern Hemisphere
[NASA-CP-3044] p 53 N89-25540

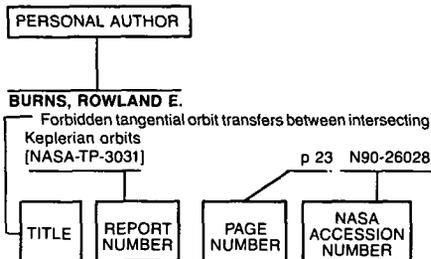
ZONAL HARMONICS

An economical semi-analytical orbit theory for micro-computer applications
[NASA-TP-2811] p 66 N89-14052

PERSONAL AUTHOR INDEX

NASA Scientific and Technical Publications 1987-1990

Typical Personal Author Index Listing



Listings in this index are arranged alphabetically by personal author. The title of the document provides the user with a brief description of the subject matter. The report number helps to indicate the type of document listed (e.g., NASA report, translation, NASA contractor report). The page and accession numbers are located beneath and to the right of the title. Under any one author's name the accession numbers are arranged in sequence with the AIAA accession numbers appearing first.

A

- ABBOTT, TERENCE S.**
Effects of combining vertical and horizontal information into a primary flight display
[NASA-TP-2783] p 17 N88-12487
A simulation evaluation of the engine monitoring and control system display
[NASA-TP-2960] p 17 N90-18393
- ABDOL-HAMID, KHALED S.**
Multiscale turbulence effects in supersonic jets exhausting into still air
[NASA-TP-2707] p 36 N87-24672
- ABEL, PHILLIP B.**
FORTRAN program for x ray photoelectron spectroscopy data reformatting
[NASA-TP-2957] p 69 N90-12348
- ABRAHAMSON, A. LOUIS**
Measured and calculated acoustic attenuation rates of tuned resonator arrays for two surface impedance distribution models with flow
[NASA-TP-2766] p 67 N88-17440
- ADAMS, MARY S.**
Fuselage design for a specified Mach-sliced area distribution
[NASA-TP-2975] p 16 N90-18385
- ADAMS, WILLIAM M., JR.**
Nonlinear programming extensions to rational function approximation methods for unsteady aerodynamic forces
[NASA-TP-2776] p 15 N88-24623
- ADELMAN, HOWARD M.**
Sensitivity Analysis in Engineering
[NASA-CP-2457] p 43 N87-18855
- ADMIRE, J. R.**
A transient response method for linear coupled substructures
[NASA-TP-2926] p 23 N90-13444
- AHMED, RAFIQ**
Cyclic loads tests of carbon involute solid rocket motor outer boot ring segments
[NASA-TP-2884] p 45 N89-16192
Loads analysis and testing of flight configuration solid rocket motor outer boot ring segments
[NASA-TP-3028] p 47 N90-25366

- AIKIN, ARTHUR C.**
Polar Ozone Workshop. Abstracts
[NASA-CP-10014] p 51 N89-14503
- ALBERTSON, CINDY W.**
Aerothermal evaluation of a spherically blunted body with a trapezoidal cross section in the Langley 8-foot high-temperature tunnel
[NASA-TP-2641] p 36 N87-18782
Fluctuating pressures measured beneath a high-temperature, turbulent boundary layer on a flat plate at Mach number of 5
[NASA-TP-2947] p 67 N90-10680
- ALFORD, WILLIAM L.**
LANDSAT-4 and LANDSAT-5 multispectral scanner coherent noise characterization and removal
[NASA-TP-2595-REV] p 49 N89-12114
- ALLEN, JOHN E., JR.**
First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744
- ALLISON, MICHAEL**
The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598
- ALTHOFF, SUSAN L.**
Effect of advanced rotorcraft airfoil sections on the hover performance of a small-scale rotor model
[NASA-TP-2832] p 10 N89-24264
- ALTON, BRADLEY M.**
Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
[NASA-RP-1211] p 79 N89-30151
- ANDERSEN, CARL M.**
Exploiting symmetries in the modeling and analysis of tires
[NASA-TP-2649] p 13 N87-17690
- ANDERSON, B. J.**
Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585
- ANDERSON, W. KYLE**
Three-dimensional multigrid algorithms for the flux-split Euler equations
[NASA-TP-2829] p 65 N89-12316
- ANDRO, MONTY**
Satellite-matrix-switched, time-division-multiple-access network simulator
[NASA-TP-2944] p 34 N90-11915
- ANTONIEWICZ, ROBERT F.**
User's manual for LINEAR, a FORTRAN program to derive linear aircraft models
[NASA-TP-2768] p 65 N88-21740
Derivation and definition of a linear aircraft model
[NASA-RP-1207] p 19 N89-15123
User's manual for interactive LINEAR: A FORTRAN program to derive linear aircraft models
[NASA-TP-2835] p 65 N89-16437
- APPLIN, ZACHARY T.**
Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462
Experimental and theoretical aerodynamic characteristics of a high-lift semispan wing model
[NASA-TP-2990] p 11 N90-20046
The Langley 14- by 22-foot subsonic tunnel: Description, flow characteristics, and guide for users
[NASA-TP-3008] p 12 N90-27649
- ARDANUY, PHILIP E.**
The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-RP-1201] p 49 N88-20714
- ARDIZZONE, JOSEPH**
Five year global dataset: NMC operational analyses (1978 to 1982)
[NASA-RP-1194] p 55 N87-29996
- ARMSTRONG, ELIZABETH S.**
Computer-aided design analysis of 57-mm, angular-contact, cryogenic turbopump bearings
[NASA-TP-2816] p 41 N88-18933
High-pressure calorimeter chamber tests for liquid oxygen/kerosene (LOX/RP-1) rocket combustion
[NASA-TP-2862] p 27 N89-15979

- ARPASI, DALE J.**
Applications and requirements for real-time simulators in ground-test facilities
[NASA-TP-2672] p 64 N87-23202
- ASAI, KEISUKE**
Hot-jet simulation in cryogenic wind tunnels
[NASA-RP-1220] p 15 N89-23448
- ATHAY, G.**
Theoretical Problems in High Resolution Solar Physics.
2
[NASA-CP-2483] p 79 N88-11609
- ATWELL, WILLIAM**
Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031
- AYDELOTT, JOHN C.**
Cryogenic Fluid Management Technology Workshop. Volume 1: Presentation material and discussion
[NASA-CP-10001] p 37 N88-15924

B

- BADI, DEBORAH**
OEXP Analysis Tools Workshop
[NASA-CP-10013] p 63 N89-11407
- BADI, DEBORAH M.**
Conceptual design of a synchronous Mars telecommunications satellite
[NASA-TP-2942] p 78 N90-10814
- BALCKBURN, LINDA B.**
Effect of LID (Registered) processing on the microstructure and mechanical properties of Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo titanium foil-gauge materials
[NASA-TP-2677] p 30 N87-18644
- BALDASARE, PAUL**
Evaluation of two transport aircraft and several ground test vehicle friction measurements obtained for various runway surface types and conditions. A summary of test results from joint FAA/NASA Runway Friction Program
[NASA-TP-2917] p 16 N90-15902
- BALDWIN, RICHARD S.**
Space Electrochemical Research and Technology (SERT). 1989
[NASA-CP-3056] p 50 N90-20454
- BALLARD, RODNEY W.**
Proceedings of a conference on Cardiovascular Bioinstrumentation
[NASA-CP-10022] p 59 N89-17997
- BALLIN, MARK G.**
Rotorcraft flight-propulsion control integration: An eclectic design concept
[NASA-TP-2815] p 19 N88-19475
- BANGERT, LINDA S.**
Effects of afterbody boattail design and empennage arrangement on aeropropulsive characteristics of a twin-engine fighter model at transonic speeds
[NASA-TP-2704] p 4 N87-21873
Static internal performance of a nonaxisymmetric vaned thrust reverser with flow spay capability
[NASA-TP-2933] p 10 N89-27634
- BANKS, DANIEL W.**
A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel
[NASA-TP-2796] p 7 N88-20264
Aerodynamics in ground effect and predicted landing ground roll of a fighter configuration with a secondary-nozzle thrust reverser
[NASA-TP-2834] p 8 N88-29752
- BANKS, PETER M.**
Solar-Terrestrial Science Strategy Workshop
[NASA-CP-3048] p 73 N90-18329
- BARE, E. ANN**
Effect of a trade between boattail angle and wedge size on the performance of a nonaxisymmetric wedge nozzle
[NASA-TP-2717] p 5 N87-23593
Static internal performance of a two-dimensional convergent-divergent nozzle with thrust vectoring
[NASA-TP-2721] p 5 N87-24432

- Multiaxis control power from thrust vectoring for a supersonic fighter aircraft model at Mach 0.20 to 2.47
[NASA-TP-2712] p 5 N87-24433
- BARGER, R. L.**
Theory for computing the field scattered from a smooth inflected surface
[NASA-TP-2632] p 68 N87-13264
Some path-following techniques for solution of nonlinear equations and comparison with parametric differentiation
[NASA-TP-2654] p 64 N87-14054
- BARGER, RAYMOND L.**
On minimizing the number of calculations in design-by-analysis codes
[NASA-TP-2706] p 5 N87-23586
A simplified approach to axisymmetric dual-reflector antenna design
[NASA-TP-2797] p 7 N88-16662
A performance index approach to aerodynamic design with the use of analysis codes only
[NASA-TP-2805] p 7 N88-18552
Weak-wave analysis of shock interaction with a slipstream
[NASA-TP-2848] p 8 N89-10020
A procedure for computing surface wave trajectories on an inhomogeneous surface
[NASA-TP-2929] p 10 N89-26811
Fuselage design for a specified Mach-sliced area distribution
[NASA-TP-2975] p 16 N90-18385
- BARKER, L. KEITH**
Optimized resolved rate control of seven-degree-of-freedom Laboratory Telerobotic Manipulator (LTM) with application to three-dimensional graphics simulation
[NASA-TP-2938] p 64 N90-10618
- BARRANGER, JOHN P.**
Low-cost FM oscillator for capacitance type of blade tip clearance measurement system
[NASA-TP-2746] p 17 N87-24481
- BARRETT, RICHARD T.**
Fastener design manual
[NASA-RP-1228] p 42 N90-18740
- BARTH, J. M.**
Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets
[NASA-RP-1180] p 79 N87-25984
- BARTHELEMY, JEAN-FRANCOIS M.**
Shape sensitivity analysis of wing static aeroelastic characteristics
[NASA-TP-2808] p 15 N88-22031
Recent Advances in Multidisciplinary Analysis and Optimization, part 1
[NASA-CP-3031-PT-1] p 15 N89-25146
Recent Advances in Multidisciplinary Analysis and Optimization, part 2
[NASA-CP-3031-PT-2] p 15 N89-25173
Recent Advances in Multidisciplinary Analysis and Optimization, part 3
[NASA-CP-3031-PT-3] p 15 N89-25201
- BARTHELME, NEAL**
The 1987 Get Away Special Experimenter's Symposium
[NASA-CP-2500] p 22 N88-17691
- BARTLETT, GLYNN R.**
Evaluation of installed performance of a wing-tip-mounted pusher turboprop on a semispan wing
[NASA-TP-2739] p 14 N87-26041
- BATTEN, CARMEN E.**
Closed-Cycle, Frequency-Stable CO₂ Laser Technology
[NASA-CP-2456] p 40 N87-20522
- BATTERSON, JAMES G.**
Analysis of flight data from a High-Incidence Research Model by system identification methods
[NASA-TP-2940] p 20 N90-10074
- BAVUSO, SALVATORE J.**
Applications of the hybrid automated reliability predictor: Revised edition
[NASA-TP-2760-REV] p 63 N90-11454
- BEARD, K. V.**
Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585
- BECKER, LAWRENCE E.**
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987
- BEDKE, JOHN**
Atlas of galaxies useful for measuring the cosmological distance scale
[NASA-SP-496] p 74 N89-12513
- BEICHMAN, C. A.**
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 1: Explanatory supplement
[NASA-RP-1190-VOL-1] p 76 N89-14194
- BELTON, MICHAEL J. S.**
Time-Variable Phenomena in the Jovian System
[NASA-SP-494] p 78 N89-28474
- BELVIN, W. KEITH**
Modeling of joints for the dynamic analysis of truss structures
[NASA-TP-2661] p 43 N87-20567
- BERGEN, FRED D.**
Shape sensitivity analysis of wing static aeroelastic characteristics
[NASA-TP-2808] p 15 N88-22031
- BERKE, LASZLO**
Integrated force method versus displacement method for finite element analysis
[NASA-TP-2937] p 47 N90-18081
- BERRIER, B. L.**
Effects of tail span and empennage arrangement on drag of a typical single-engine fighter aft end
[NASA-TP-2352] p 3 N87-10838
Static internal performance of single-expansion-ramp nozzles with thrust-vectoring capability up to 60 deg
[NASA-TP-2364] p 3 N87-10839
Effect of port corner geometry on the internal performance of a rotating-vane-type thrust reverser
[NASA-TP-2624] p 3 N87-12541
- BERRIER, BOBBY L.**
Effects of the installation and operation of jet-exhaust yaw vanes on the longitudinal and lateral-directional characteristics of the F-14 airplane
[NASA-TP-2769] p 6 N88-12455
Static performance of an axisymmetric nozzle with post-exit vanes for multiaxis thrust vectoring
[NASA-TP-2800] p 8 N88-20280
Static performance of nonaxisymmetric nozzles with yaw thrust-vectoring vanes
[NASA-TP-2813] p 8 N88-21118
Internal performance of two nozzles utilizing gimbal concepts for thrust vectoring
[NASA-TP-2991] p 11 N90-19200
- BESS, T. DALE**
Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 6 Earth radiation budget data set, July 1975 to June 1978
[NASA-RP-1185] p 55 N87-26489
Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 7 Earth radiation budget data set - November 1978 to October 1985
[NASA-RP-1186] p 55 N88-10451
Atlas of albedo and absorbed solar radiation derived from Nimbus 6 earth radiation budget data set, July 1975 to May 1978
[NASA-RP-1230] p 57 N90-14741
Atlas of albedo and absorbed solar radiation derived from Nimbus 7 Earth radiation budget data set, November 1978 to October 1985
[NASA-RP-1231] p 57 N90-17233
- BEZOS, GAUDY M.**
Steady-state and transitional aerodynamic characteristics of a wing in simulated heavy rain
[NASA-TP-2932] p 10 N89-25951
- BHARTIA, P. K.**
Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227
- BHATIA, K. G.**
Effects of winglet on transonic flutter characteristics of a cantilevered twin-engine-transport wing model
[NASA-TP-2627] p 43 N87-13789
- BIGGERS, SHERRILL B.**
A Protection And Detection Surface (PADS) for damage tolerance
[NASA-TP-3011] p 29 N90-27788
- BILSTEIN, ROGER E.**
Orders of magnitude: A history of the NACA and NASA, 1915-1990
[NASA-SP-4406] p 81 N89-26805
- BINDSCHADLER, ROBERT A.**
Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-RP-1233-VOL-1] p 54 N90-20562
Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
[NASA-RP-1233-VOL-2] p 54 N90-20563
Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
[NASA-RP-1233-VOL-4] p 54 N90-20564
SeaRISE: A Multidisciplinary Research Initiative to Predict Rapid Changes in Global Sea Level Caused by Collapse of Marine Ice Sheets
[NASA-CP-3075] p 48 N90-22824
Surface topography of the Greenland Ice Sheet from satellite radar altimetry
[NASA-SP-503] p 54 N90-22850
- BLACKFORD, GARY A.**
Secondary electron emission characteristics of untreated and ion-textured titanium
[NASA-TP-2902] p 30 N89-17650
- BLAIR, A. B., JR.**
Wind-tunnel investigation at supersonic speeds of a remote-controlled canard missile with a free-rolling-tail brake torque system
[NASA-TP-2401] p 4 N87-17668
- BLAIR, ROBERT W., JR.**
Geomorphology from space: A global overview of regional landforms
[NASA-SP-486] p 47 N87-18139
- BLAND, SAMUEL R.**
Calculation of viscous effects on transonic flow for oscillating airfoils and comparisons with experiment
[NASA-TP-2731] p 6 N87-27622
Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 1
[NASA-CP-3022-PT-1] p 9 N89-19234
Transonic Unsteady Aerodynamics and Aeroelasticity 1987, part 2
[NASA-CP-3022-PT-2] p 9 N89-19247
- BLECH, RICHARD A.**
Applications and requirements for real-time simulators in ground-test facilities
[NASA-TP-2672] p 64 N87-23202
Parallel Gaussian elimination of a block tridiagonal matrix using multiple microcomputers
[NASA-TP-2892] p 64 N89-17422
- BOCKELIE, MICHAEL J.**
A time-accurate adaptive grid method and the numerical simulation of a shock-vortex interaction
[NASA-TP-2998] p 61 N90-21524
- BOGUE, RODNEY K.**
Analog signal conditioning for flight-test instrumentation
[NASA-RP-1159] p 17 N87-29533
- BOLDMAN, DONALD R.**
Experimental evaluation of two turning vane designs for fan drive corner of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2646] p 21 N87-18576
Detailed flow surveys of turning vanes designed for a 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2680] p 21 N87-20295
Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2681] p 21 N88-17686
- BOOTH, EARL R., JR.**
Measurement of velocity and vorticity fields in the wake of an airfoil in periodic pitching motion
[NASA-TP-2780] p 66 N88-13002
- BORUCKI, WILLIAM J.**
Second Workshop on Improvements to Photometry
[NASA-CP-10015] p 74 N89-13310
- BOUSMAN, WILLIAM G.**
Integrated Technology Rotor Methodology Assessment Workshop
[NASA-CP-10007] p 2 N88-27148
The effects of structural flap-lag and pitch-lag coupling on soft inplane hingeless rotor stability in hover
[NASA-TP-3002] p 12 N90-28503
- BOWKER, DAVID E.**
Effects of aerosols and surface shadowing on bidirectional reflectance measurements of deserts
[NASA-TP-2756] p 49 N87-28162
Earth Sciences Requirements for the Information Sciences Experiment System
[NASA-CP-3072] p 50 N90-27140
- BOWLES, ROLAND L.**
Wind Shear/Turbulence Inputs to Flight Simulation and Systems Certification
[NASA-CP-2474] p 1 N87-25267
Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference
[NASA-CP-10006] p 12 N88-17616
- BOWMAN, JAMES S., JR.**
Measurements of pressures on the tail and aft fuselage of an airplane model during rotary motions at spin attitudes
[NASA-TP-2939] p 10 N90-10829
- BOYD, MARK**
Applications of the hybrid automated reliability predictor: Revised edition
[NASA-TP-2760-REV] p 63 N90-11454
- BRACALENTE, E. M.**
Wind shear detection. Forward-looking sensor technology
[NASA-CP-10004] p 12 N88-14970

- BRANDON, JAY M.**
Pilot-simulation study of effects of vortex flaps on low-speed handling qualities of a Delta-wing airplane [NASA-TP-2747] p 19 N87-26922
- BRANDT, JOHN C.**
Atlas of Comet Halley 1910 II [NASA-SP-488] p 75 N87-30235
- BRASLOW, ALBERT L.**
Simulated-airline-service flight tests of laminar-flow control with perforated-surface suction system [NASA-TP-2966] p 16 N90-17627
- BRAUN, ROBERT D.**
The effect of interplanetary trajectory options on a manned Mars aerobrake configuration [NASA-TP-3019] p 24 N90-26036
- BRENNER, ANITA C.**
Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland [NASA-RP-1233-VOL-1] p 54 N90-20562
Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat [NASA-RP-1233-VOL-2] p 54 N90-20563
Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat [NASA-RP-1233-VOL-4] p 54 N90-20564
Surface topography of the Greenland Ice Sheet from satellite radar altimetry [NASA-SP-503] p 54 N90-22850
- BRESSETTE, WALTER E.**
Calibration of the spin-scan ozone imager aboard the dynamics Explorer 1 satellite [NASA-TP-2723] p 55 N87-26491
- BROOKS, CUYLER W., JR.**
The NASA Langley Laminar-Flow-Control (LFC) experiment on a swept, supercritical airfoil: Design overview [NASA-TP-2809] p 8 N88-21117
- BROOKS, DAVID R.**
Summary of along-track data from the Earth radiation budget satellite for several major desert regions [NASA-RP-1197] p 56 N88-20772
Summary of along-track data from the earth radiation budget satellite for several representative ocean regions [NASA-RP-1206] p 56 N89-14634
- BROOKS, THOMAS F.**
Helicopter main-rotor noise: Determination of source contributions using scaled model data [NASA-TP-2825] p 67 N88-26907
Airfoil self-noise and prediction [NASA-RP-1218] p 67 N89-25673
- BROOM, BETH H.**
Liquid drop stability for protein crystal growth in microgravity [NASA-TP-2724] p 58 N87-20727
- BROWN, GERALD V.**
Experimental evaluation of a tuned electromagnetic damper for vibration control of cryogenic turbopump rotors [NASA-TP-3005] p 18 N90-23403
- BROWN, P. W.**
Pilot simulation study of the effects of an automated trim system on flight characteristics of a light twin-engine airplane with one engine inoperative [NASA-TP-2633] p 3 N87-10843
- BROWN, PHILIP W.**
Pilot-simulation study of effects of vortex flaps on low-speed handling qualities of a Delta-wing airplane [NASA-TP-2747] p 19 N87-26922
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application [NASA-TP-2482] p 19 N88-14987
- BRUNO, LEONARD C.**
NASA historical data book. Volume 1: NASA resources 1958-1968 [NASA-SP-4012-VOL-1] p 80 N88-25428
- BRUNTY, J. A.**
A transient response method for linear coupled substructures [NASA-TP-2926] p 23 N90-13444
- BRUTON, WILLIAM M.**
Advanced detection, isolation and accommodation of sensor failures: Real-time evaluation [NASA-TP-2740] p 19 N87-25331
- BUCK, WARREN W.**
Possible complementary cosmic-ray systems: Nuclei and antinuclei [NASA-TP-2741] p 68 N87-24977
BRYNTRN: A baryon transport model [NASA-TP-2887] p 80 N89-17562
Kaon-nucleus scattering [NASA-TP-2920] p 80 N89-25103
- BUDINGER, JAMES M.**
Digitally modulated bit error rate measurement system for microwave component evaluation [NASA-TP-2912] p 23 N89-28545
- Satellite-matrix-switched, time-division-multiple-access network simulator [NASA-TP-2944] p 34 N90-11915
- BUGLIA, JAMES J.**
Compilation of methods in orbital mechanics and solar geometry [NASA-RP-1204] p 52 N89-10420
Effect of ephemeris errors on the accuracy of the computation of the tangent point altitude of a solar scanning ray as measured by the SAGE 1 and 2 instruments [NASA-TP-2866] p 65 N89-16415
- BURGESS, ERIC**
Into the thermosphere: The atmosphere explorers [NASA-SP-490] p 52 N88-18084
- BURKEN, JOHN J.**
Control surface spanwise placement in active flutter suppression systems [NASA-TP-2873] p 45 N89-16196
- BURLEY, C. L.**
Power cepstrum technique with application to model helicopter acoustic data [NASA-TP-2586] p 66 N87-17479
- BURLEY, J. R., II**
Effects of tail span and empennage arrangement on drag of a typical single-engine fighter aft end [NASA-TP-2352] p 3 N87-10838
- BURLEY, JAMES R., II**
Effect of a trade between boattail angle and wedge size on the performance of a nonaxisymmetric wedge nozzle [NASA-TP-2717] p 5 N87-23593
Effect of empennage arrangement on single-engine nozzle/afterbody static pressures at transonic speeds [NASA-TP-2753] p 6 N88-10771
- BURLEY, RICHARD R.**
Experimental evaluation of wall Mach number distributions of the octagonal test section proposed for NASA Lewis Research Center's altitude wind tunnel [NASA-TP-2666] p 21 N87-17717
Experimental evaluation of blockage ratio and plenum evacuation system flow effects on pressure distribution for bodies of revolution in 0.1 scale model test section of NASA Lewis Research Center's proposed altitude wind tunnel [NASA-TP-2702] p 21 N87-22694
Experimental evaluation of honeycomb/screen configurations and short contraction section for NASA Lewis Research Center's altitude wind tunnel [NASA-TP-2692] p 21 N87-23662
- BURNS, JACK O.**
Future Astronomical Observatories on the Moon [NASA-CP-2489] p 74 N89-15810
A lunar far-side very low frequency array [NASA-CP-3039] p 75 N90-10805
- BURNS, R. A.**
Development testing of large volume water sprays for warm fog dispersal [NASA-TP-2607] p 24 N87-12585
- BURNS, ROWLAND E.**
Forbidden tangential orbit transfers between intersecting Keplerian orbits [NASA-TP-3031] p 23 N90-26028
- BUSH, HAROLD G.**
Lightweight structural design of a bolted case joint for the space shuttle solid rocket motor [NASA-TP-2851] p 25 N89-12580
- BUTLER, RICKY W.**
SURE reliability analysis: Program and mathematics [NASA-TP-2764] p 65 N88-17380
The Fault Tree Compiler (FTC): Program and mathematics [NASA-TP-2915] p 64 N89-24815

C

- CALLAHAN, PAUL X.**
Cells in Space [NASA-CP-10034] p 61 N90-13939
- CAMP, DENNIS W.**
Atmospheric Turbulence Relative to Aviation, Missile, and Space Programs [NASA-CP-2468] p 55 N87-22341
Meteorological and Environmental Inputs to Aviation Systems [NASA-CP-2498] p 56 N88-25105
- CAMPBELL, BRYAN A.**
Steady-state and transitional aerodynamic characteristics of a wing in simulated heavy rain [NASA-TP-2932] p 10 N89-25951
- CAMPBELL, RICHARD L.**
A transonic-small-disturbance wing design methodology [NASA-TP-2806] p 7 N88-17614
- CAMPBELL, THOMAS G.**
Earth Science Geostationary Platform Technology [NASA-CP-3040] p 24 N90-19249
- CAMPBELL, WILLIAM A., JR.**
Outgassing data for selecting spacecraft materials [NASA-RP-1124] p 28 N88-10117
- CAMPBELL, WILLIAM J.**
Arctic Sea ice, 1973-1976: Satellite passive-microwave observations [NASA-SP-489] p 58 N87-24870
- CANNING, THOMAS N.**
Galileo probe parachute test program: Wake properties of the Galileo probe at Mach numbers from 0.25 to 0.95 [NASA-RP-1130] p 37 N88-18884
- CAPONE, F. J.**
Interference effects of thrust reversing on horizontal tail effectiveness of twin-engine fighter aircraft at Mach numbers from 0.15 to 0.90 [NASA-TP-2350] p 19 N87-10870
Effect of port corner geometry on the internal performance of a rotating-vane-type thrust reverser [NASA-TP-2624] p 3 N87-12541
- CAPONE, FRANCIS J.**
Effects of empennage surface location on aerodynamic characteristics of a twin-engine afterbody model with nonaxisymmetric nozzles [NASA-TP-2392] p 14 N87-17693
Multiaxis control power from thrust vectoring for a supersonic fighter aircraft model at Mach 0.20 to 2.47 [NASA-TP-2712] p 5 N87-24433
- CAPRON, WILLIAM R.**
Simulation evaluation of TIMER, a time-based, terminal air traffic, flow-management concept [NASA-TP-2870] p 13 N89-15901
Delivery performance of conventional aircraft by terminal-area, time-based air traffic control: A real-time simulation evaluation [NASA-TP-2978] p 13 N90-18378
- CARDEN, HUEY D.**
Evaluation of energy absorption of new concepts of aircraft composite subfloor intersections [NASA-TP-2951] p 16 N90-26823
- CAREK, GERALD A.**
Shot peening for Ti-6Al-4V alloy compressor blades [NASA-TP-2711] p 43 N87-20566
- CARLBERG, INGRID A.**
Evaluation of a scale-model experiment to investigate long-range acoustic propagation [NASA-TP-2748] p 66 N88-11450
- CARLSON, HARRY W.**
Applicability of linearized-theory attached-flow methods to design and analysis of flap systems at low speeds for thin swept wings with sharp leading edges [NASA-TP-2653] p 3 N87-15174
Validation of a pair of computer codes for estimation and optimization of subsonic aerodynamic performance of simple hinged-flap systems for thin swept wings [NASA-TP-2828] p 8 N89-10024
Validation of a computer code for analysis of subsonic aerodynamic performance of wings with flaps in combination with a canard or horizontal tail and an application to optimization [NASA-TP-2961] p 11 N90-14187
- CARLSON, JOHN R.**
An experimental investigation of an advanced turboprop installation on a swept wing at subsonic and transonic speeds [NASA-TP-2729] p 6 N87-26883
Integration effects of pylon geometry on a high-wing transport airplane [NASA-TP-2877] p 9 N89-15888
- CARSON, GEORGE T., JR.**
Effects of empennage surface location on aerodynamic characteristics of a twin-engine afterbody model with nonaxisymmetric nozzles [NASA-TP-2392] p 14 N87-17693
Effect of a trade between boattail angle and wedge size on the performance of a nonaxisymmetric wedge nozzle [NASA-TP-2717] p 5 N87-23593
Aeropropulsive characteristics of isolated combined turbojet/ramjet nozzles at Mach numbers from 0 to 1.20 [NASA-TP-2814] p 8 N88-23757
Effect of tail size reductions on longitudinal aerodynamic characteristics of a three surface F-15 model with nonaxisymmetric nozzles [NASA-TP-3036] p 11 N90-25938
- CASTELLI, A.**
The MSFC/UAH Data Management Symposium [NASA-CP-2040] p 62 N78-74659
- CAVALIERI, DONALD J.**
Arctic Sea ice, 1973-1976: Satellite passive-microwave observations [NASA-SP-489] p 58 N87-24870

CAZIER, F. W., JR.

Steady and unsteady transonic pressure measurements on a clipped delta wing for pitching and control-surface oscillations
[NASA-TP-2594] p 8 N88-28895

CEBULA, RICHARD P.

Nimbus 7 Solar Backscatter Ultraviolet (SBUV) spectral scan solar irradiance and Earth radiance product user's guide
[NASA-RP-1199] p 48 N88-17096

Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227

CHANG, I. C.

Transonic flow analysis for rotors. Part 2: Three-dimensional, unsteady, full-potential calculation
[NASA-TP-2375-PT-2] p 3 N87-10841

CHANG, S. C.

Solution of elliptic partial differential equations by fast Poisson solvers using a local relaxation factor. 2: Two-step method
[NASA-TP-2530] p 64 N87-14918

CHANG, SHERWOOD

Carbon in the Galaxy: Studies from Earth and Space
[NASA-CP-3061] p 73 N90-27562

CHEESEMAN, PETER

Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807

CHEGINI, HOSHANG

A simplified method for determining heat of combustion of natural gas
[NASA-TP-2682] p 39 N87-20514

CHESTER, THOMAS J.

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 1: Explanatory supplement
[NASA-RP-1190-VOL-1] p 76 N89-14194

CHOY, FRED K.

Dynamic analysis of multimesh-gear helicopter transmissions
[NASA-TP-2789] p 41 N88-17045

CHU, JULIO

Pressure measurements on a thick cambered and twisted 58 deg delta wing at high subsonic speeds
[NASA-TP-2713] p 6 N87-27643

CHU, W. P.

SAM 2 data user's guide
[NASA-RP-1200] p 52 N88-25094

CHUN, SANG Y.

BRYNTRN: A baryon transport model
[NASA-TP-2887] p 80 N89-17562

CICOLANI, L. S.

General equilibrium characteristics of a dual-lift helicopter system
[NASA-TP-2615] p 2 N88-19407

CLARK, DAVID R.

Integrated tools for control-system analysis
[NASA-TP-2885] p 20 N89-19309

CLARK, R. K.

Emission, catalysis, and dynamic oxidation of Ti-14Al-21Nb
[NASA-TP-2955] p 31 N90-10248

CLARK, RONALD K.

Oxidation characteristics of Ti-14Al-21Nb ingot alloy
[NASA-TP-3012] p 31 N90-25206

CLEARWATER, YVONNE A.

Space Station Human Factors Research Review. Volume 4: Inhouse Advanced Development and Research
[NASA-CP-2426-VOL-4] p 59 N88-24148

CLEGG, P. E.

Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 1: Explanatory supplement
[NASA-RP-1190-VOL-1] p 76 N89-14194

CLEMMONS, JAMES I., JR.

Frequency domain laser velocimeter signal processor: A new signal processing scheme
[NASA-TP-2735] p 40 N87-27994

CLINE, THOMAS L.

Essays in Space Science
[NASA-CP-2464] p 72 N87-24247

COE, H. H.

Testing of UH-60A helicopter transmission in NASA Lewis 2240-kW (3000-hp) facility
[NASA-TP-2626] p 41 N87-10391

COE, HAROLD H.

Computer-aided design analysis of 57-mm, angular-contact, cryogenic turbopump bearings
[NASA-TP-2816] p 41 N88-18933

Comparison of predicted and measured temperatures of UH-60A helicopter transmission
[NASA-TP-2911] p 41 N89-24607

COE, PAUL L., JR.

Low-speed wind-tunnel investigation of the flight dynamic characteristics of an advanced turboprop business/commuter aircraft configuration
[NASA-TP-2982] p 20 N90-19239

COHEN, MARC M.

Space Station Human Factors Research Review. Volume 3: Space Station Habitability and Function: Architectural Research
[NASA-CP-2426-VOL-3] p 59 N88-19883

Space Station Human Factors Research Review. Volume 1: EVA Research and Development
[NASA-CP-2426-VOL-1] p 59 N88-24145

Space Station Human Factors Research Review. Volume 4: Inhouse Advanced Development and Research
[NASA-CP-2426-VOL-4] p 59 N88-24148

COKELEY, R.

Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987

COLLINS, WILLIAM D.

Absorbed dose thresholds and absorbed dose rate limitations for studies of electron radiation effects on polyetherimides
[NASA-TP-2928] p 31 N89-25332

COMISO, JOSEFINO C.

Arctic Sea ice, 1973-1976: Satellite passive-microwave observations
[NASA-SP-489] p 58 N87-24870

Polar microwave brightness temperatures from Nimbus-7 SMMR: Time series of daily and monthly maps from 1978 to 1987
[NASA-RP-1223] p 48 N89-26275

COMPTON, WILLIAM DAVID

Where no man has gone before: A history of Apollo lunar exploration missions
[NASA-SP-4214] p 81 N89-25946

COMSTOCK, J. RAYMOND, JR.

Mental-State Estimation, 1987
[NASA-CP-2504] p 60 N88-23370

CONNOR, ANDREW B.

Correlation of helicopter impulsive noise from blade-vortex interaction with rotor mean inflow
[NASA-TP-2650] p 66 N87-18399

CONTI, PETER S.

O stars and Wolf-Rayet stars
[NASA-SP-497] p 74 N89-11657

COOK, GEORGE E.

A generalized method for automatic downhand and wirefeed control of a welding robot and positioner
[NASA-TP-2807] p 32 N88-17869

CORALLO, GREGORY R.

Electron stimulated desorption of atomic oxygen from silver
[NASA-TP-2668] p 29 N87-18629

CORBAN, ROBERT R.

Experimental evaluation of wall Mach number distributions of the octagonal test section proposed for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2666] p 21 N87-17717

COULSON, KINSELL L.

Remote Sensing in Polarized Light
[NASA-CP-3014] p 72 N89-14189

COVELL, PETER F.

Investigation of leading-edge flap performance on delta and double-delta wings at supersonic speeds
[NASA-TP-2656] p 4 N87-20233

Effects of winglets on a first-generation jet transport wing. 7: Sideslip effects on winglet loads and selected wing loads at subsonic speeds for a full-span model
[NASA-TP-2619] p 7 N88-18567

COY, JOHN J.

Vibration characteristics of OH-58A helicopter main rotor transmission
[NASA-TP-2705] p 41 N87-20555

CRAM, LAWRENCE E.

FGK stars and T Tauri stars: Monograph series on nonthermal phenomena in stellar atmospheres
[NASA-SP-502] p 77 N90-18344

CREDEUR, LEONARD

Simulation evaluation of TIMER, a time-based, terminal air traffic, flow-management concept
[NASA-TP-2870] p 13 N89-15901

Delivery performance of conventional aircraft by terminal-area, time-based air traffic control: A real-time simulation evaluation
[NASA-TP-2978] p 13 N90-18378

CROSLEY, DAVID R.

Future directions for H sub x O sub y detection
[NASA-CP-2448] p 51 N87-15528

CROSS, JEFFREY L.

Tip aerodynamics and acoustics test: A report and data survey
[NASA-RP-1179] p 9 N89-17579

CU, C. C.

User's guide for the Nimbus 7 Scanning Multichannel Microwave Radiometer (SMMR) CELL-ALL tape
[NASA-RP-1210] p 56 N89-14648

CUCINOTTA, FRANCIS A.

Doubly differential cross sections for galactic heavy-ion fragmentation
[NASA-TP-2659] p 68 N87-17487

Eikonal solutions to optical model coupled-channel equations
[NASA-TP-2830] p 68 N88-30402

A general formalism for phase space calculations
[NASA-TP-2843] p 66 N89-14053

BRYNTRN: A baryon transport model
[NASA-TP-2887] p 80 N89-17562

Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031

Comparison of dose estimates using the buildup-factor method and a Baryon transport code (BRYNTRN) with Monte Carlo results
[NASA-TP-3021] p 80 N90-29290

CUNNINGHAM, HERBERT J.

Steady and unsteady aerodynamic forces from the SOUSSA surface-panel method for a fighter wing with tip missile and comparison with experiment and PANAIR
[NASA-TP-2736] p 5 N87-26032

CURREN, ARTHUR N.

Performance of textured carbon on copper electrode multistage depressed collectors with medium-power traveling wave tubes
[NASA-TP-2665] p 34 N87-17990

Secondary electron emission characteristics of untreated and ion-textured titanium
[NASA-TP-2902] p 30 N89-17650

Secondary electron emission characteristics of molybdenum-masked, ion-textured OFHC copper
[NASA-TP-2967] p 31 N90-15211

CURRIER, S. F.

Pulse Code Modulation (PCM) encoder handbook for Aydin Vector MMP-600 series system
[NASA-RP-1171] p 33 N87-11916

CURRY, R. E.

In-flight total forces, moments and static aeroelastic characteristics of an oblique-wing research airplane
[NASA-TP-2224] p 19 N87-10103

Flight-determined aerodynamic derivatives of the AD-1 oblique-wing research airplane
[NASA-TP-2222] p 19 N87-10871

CURRY, ROBERT E.

Flight characteristics of the AD-1 oblique-wing research aircraft
[NASA-TP-2223] p 19 N87-18570

D

DAHL, MILO D.

Comparison between design and installed acoustic characteristics of NASA Lewis 9- by 15-foot low-speed wind tunnel acoustic treatment
[NASA-TP-2996] p 22 N90-19242

DANFORD, M. D.

An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods
[NASA-TP-2820] p 30 N89-19406

DANFORD, MERLIN D.

The corrosion mechanisms for primer coated 2219-T87 aluminum
[NASA-TP-2715] p 30 N87-21076

Hydrogen trapping and the interaction of hydrogen with metals
[NASA-TP-2744] p 30 N87-25463

DANIEL, RON

Liquid drop stability for protein crystal growth in microgravity
[NASA-TP-2724] p 58 N87-20727

DARDEN, CHRISTINE M.

Applicability of linearized-theory attached-flow methods to design and analysis of flap systems at low speeds for thin swept wings with sharp leading edges
[NASA-TP-2653] p 3 N87-15174

Validation of a pair of computer codes for estimation and optimization of subsonic aerodynamic performance of simple hinged-flap systems for thin swept wings
[NASA-TP-2828] p 8 N89-10024

Status of sonic boom methodology and understanding
[NASA-CP-3027] p 9 N89-23415

Effect of milling machine roughness and wing dihedral on the supersonic aerodynamic characteristics of a highly swept wing
[NASA-TP-2918] p 10 N89-25117

- Validation of a computer code for analysis of subsonic aerodynamic performance of wings with flaps in combination with a canard or horizontal tail and an application to optimization
[NASA-TP-2961] p 11 N90-14187
- DAUGHERTY, ROBERT H.**
Measurements of flow rate and trajectory of aircraft tire-generated water spray
[NASA-TP-2718] p 14 N87-24458
Cornering characteristics of the main-gear tire of the space shuttle orbiter
[NASA-TP-2790] p 14 N88-18583
- DAVIDSON, M. R.**
Auger electron intensity variations in oxygen-exposed large grain polycrystalline silver
[NASA-TP-2930] p 67 N89-30022
- DAVIS, M. H.**
Upper and Middle Atmospheric Density Modeling Requirements for Spacecraft Design and Operations
[NASA-CP-2460] p 52 N87-20665
- DAVIS, PAMELA A.**
Langley Aircraft Landing Dynamics Facility
[NASA-RP-1189] p 21 N87-29544
Static mechanical properties of 30 x 11.5 - 14.5, type 8 aircraft tires of bias-ply and radial-belted design
[NASA-TP-2810] p 15 N88-21157
- DAVIS, RICHARD E.**
Effects of aerosols and surface shadowing on bidirectional reflectance measurements of deserts
[NASA-TP-2756] p 49 N87-28162
- DAVIS, W. J.**
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987
- DAVIS, WANDA, L.**
Exobiology and Future Mars Missions
[NASA-CP-10027] p 59 N89-26334
- DEATON, JERRY W.**
The interlaminar fracture toughness of woven graphite/epoxy composites
[NASA-TP-2950] p 29 N90-10179
- DECKER, A. J.**
Evaluation of diffuse-illumination holographic cinematography in a flutter cascade
[NASA-TP-2593] p 39 N87-13731
- DECKER, RAND**
Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153
Constitutive Relationships and Models in Continuum Theories of Multiphase Flows
[NASA-CP-3047] p 38 N90-10385
- DECKERT, W. H.**
Powered-lift aircraft technology
[NASA-SP-501] p 15 N90-12589
- DEFREES, DOUG J.**
Carbon in the Galaxy: Studies from Earth and Space
[NASA-CP-3061] p 73 N90-27562
- DEJARNETTE, FRED R.**
An approximate method for calculating three-dimensional inviscid hypersonic flow fields
[NASA-TP-3018] p 39 N90-27066
- DELAAT, JOHN C.**
Advanced detection, isolation and accommodation of sensor failures: Real-time evaluation
[NASA-TP-2740] p 19 N87-25331
Advanced detection, isolation, and accommodation of sensor failures in turbofan engines: Real-time microcomputer implementation
[NASA-TP-2925] p 20 N90-15112
- DELNORE, V. E.**
Doppler Radar Detection of Wind Shear
[NASA-CP-2435] p 12 N87-10054
Wind shear detection. Forward-looking sensor technology
[NASA-CP-10004] p 12 N88-14970
- DENNIS, BRIAN R.**
Rapid Fluctuations in Solar Flares
[NASA-CP-2449] p 79 N87-21785
- DENTON, JUDITH S.**
Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-Pt-1] p 62 N88-16360
Third Conference on Artificial Intelligence for Space Applications, part 2
[NASA-CP-2492-Pt-2] p 63 N88-24188
Fourth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3013] p 63 N89-15549
- DESHPANDE, S. M.**
On the Maxwellian distribution, symmetric form, and entropy conservation for the Euler equations
[NASA-TP-2583] p 35 N87-11963
- DESHPANDE, SURESH M.**
A second-order accurate kinetic-theory-based method for inviscid compressible flows
[NASA-TP-2613] p 36 N87-18783
- DEUTCHMAN, PHILIP A.**
A general formalism for phase space calculations
[NASA-TP-2843] p 66 N89-14053
- DEVOL, WILLIAM**
Cryogenic Fluid Management Technology Workshop. Volume 1: Presentation material and discussion
[NASA-CP-10001] p 37 N88-15924
- DEYOUNG, RUSSELL J.**
Second Beamed Space-Power Workshop
[NASA-CP-3037] p 27 N90-10140
- DICARLO, DANIEL J.**
Flight investigation of the effects of an outboard wing-leading-edge modification on stall/spin characteristics of a low-wing, single-engine, T-tail light airplane
[NASA-TP-2691] p 14 N87-23614
- DIRUSSO, ELISEO**
Experimental evaluation of a tuned electromagnetic damper for vibration control of cryogenic turbopump rotors
[NASA-TP-3005] p 18 N90-23403
- DIRON, SCOTT D.**
The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-RP-1201] p 49 N88-20714
The 1989 Airborne Arctic Stratospheric Expedition Nimbus-7 TOMS data atlas
[NASA-RP-1227] p 57 N89-27302
The 1988 Antarctic ozone monitoring Nimbus-7 TOMS data atlas
[NASA-RP-1225] p 57 N89-28983
Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989
[NASA-RP-1237] p 58 N90-23837
- DOLLMAN, THOMAS**
Second Conference on Artificial Intelligence for Space Applications
[NASA-CP-3007] p 63 N88-29351
- DOMINEK, A. K.**
Theory for computing the field scattered from a smooth inflected surface
[NASA-TP-2632] p 68 N87-13264
- DONN, BERTRAM**
Atlas of Comet Halley 1910 II
[NASA-SP-488] p 75 N87-30235
- DORSEY, JOHN T.**
Lightweight structural design of a bolted case joint for the space shuttle solid rocket motor
[NASA-TP-2851] p 25 N89-12580
- DOTSON, KELLY J.**
Development of confidence limits by pivotal functions for estimating software reliability
[NASA-TP-2709] p 65 N87-23244
Analysis and testing of the SURE program
[NASA-TP-2817] p 65 N88-22653
- DOW, MARVIN B.**
The ACEE program and basic composites research at Langley Research Center (1975 to 1986): Summary and bibliography
[NASA-RP-1177] p 28 N87-29612
Properties of two composite materials made of toughened epoxy resin and high-strain graphite fiber
[NASA-TP-2826] p 28 N88-25480
- DRACHMAN, RICHARD J.**
Annihilation in Gases and Galaxies
[NASA-CP-3058] p 66 N90-18957
- DRESS, DAVID A.**
Drag measurements on a laminar-flow body of revolution in the 13-inch magnetic suspension and balance system
[NASA-TP-2895] p 9 N89-19232
- DRIES, G. A.**
Effects of thermal cycling on graphie-fiber-reinforced 6061 aluminum
[NASA-TP-2612] p 28 N87-10184
- DUGAN, JOANNE BECHTA**
Applications of the hybrid automated reliability predictor: Revised edition
[NASA-TP-2760-REV] p 63 N90-11454
- DUKE, EUGENE L.**
Development and flight test of an experimental maneuver autopilot for a highly maneuverable aircraft
[NASA-TP-2618] p 15 N88-21153
User's manual for LINEAR, a FORTRAN program to derive linear aircraft models
[NASA-TP-2768] p 65 N88-21740
Derivation and definition of a linear aircraft model
[NASA-RP-1207] p 19 N89-15123
User's manual for interactive LINEAR: A FORTRAN program to derive linear aircraft models
[NASA-TP-2835] p 65 N89-16437
- DUNHAM, DANA MORRIS**
Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462
- DURBIN, P. A.**
Asymptotic analysis of corona discharge from thin electrodes
[NASA-TP-2645] p 68 N87-14998
- DURIC, NEBOJSA**
A lunar far-side very low frequency array
[NASA-CP-3039] p 75 N90-10805
- DWOYER, DOUGLAS L.**
Efficient solutions to the Euler equations for supersonic flow with embedded subsonic regions
[NASA-TP-2523] p 3 N87-15183

E

- EARLS, MICHAEL R.**
Flight control systems development and flight test experience with the HiMAT research vehicles
[NASA-TP-2822] p 20 N89-15929
- EBIHARA, BEN**
Design, fabrication, and performance of brazed, graphite electrode, multistage depressed collectors with 500-W, continuous wave, 4.8- to 9.6-GHz traveling-wave tubes
[NASA-TP-2904] p 35 N89-21171
- EBIHARA, BEN T.**
Design, fabrication and performance of small, graphite electrode, multistage depressed collectors with 200-W, CW, 8- to 18-GHz traveling-wave tubes
[NASA-TP-2693] p 35 N87-20474
Traveling-wave-tube efficiency improvement by a low-cost technique for deposition of carbon on multistage depressed collector
[NASA-TP-2719] p 35 N87-21239
Performance of a small, graphite electrode, multistage depressed collector with a 500-W, continuous wave, 4.8- to 9.6-GHz traveling wave tube
[NASA-TP-2788] p 35 N88-15146
Performance of a multistage depressed collector with machined titanium electrodes
[NASA-TP-2891] p 35 N89-15337
- EDWARDS, THOMAS M.**
Galileo probe parachute test program: Wake properties of the Galileo probe at Mach numbers from 0.25 to 0.95
[NASA-RP-1130] p 37 N88-18884
- EHERNBERGER, L. J.**
Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack
[NASA-TP-2716] p 14 N87-29497
- EICHOLD, ALICE**
Space Station Human Factors Research Review. Volume 3: Space Station Habitability and Function: Architectural Research
[NASA-CP-2426-VOL-3] p 59 N88-19883
- EISEMAN, PETER R.**
A time-accurate adaptive grid method and the numerical simulation of a shock-vortex interaction
[NASA-TP-2998] p 61 N90-21524
- ELLIOTT, J. W.**
Advancing-side directivity and retreating-side interactions of model rotor blade-vortex interaction noise
[NASA-TP-2784] p 67 N88-22710
- ELLIS, STEPHEN R.**
Interactive orbital proximity operations planning system
[NASA-TP-2839] p 61 N89-18039
Spatial Displays and Spatial Instruments
[NASA-CP-10032] p 61 N90-22918
- ENGLAR, R. J.**
Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959
- ENGLERT, GERALD W.**
Parametric study of power absorption from electromagnetic waves by small ferrite spheres
[NASA-TP-2949] p 66 N90-12282
- EPPEL, J. C.**
Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959
- ERICKSON, WAYNE D.**
A rapid method for the computation of equilibrium chemical composition of air to 15000 K
[NASA-TP-2792] p 30 N88-16830
Finite-rate water condensation in combustion-heated wind tunnels
[NASA-TP-2833] p 22 N88-28075
- ESPENAK, F.**
Ten year planetary ephemeris: 1986-1995
[NASA-RP-1176] p 73 N87-14219

ESPENAK, FRED
 Fifty year canon of solar eclipses: 1986 - 2035
 [NASA-RP-1178-REV] p 73 N87-25906
 Fifty year canon of lunar eclipses: 1986-2035
 [NASA-RP-1216] p 75 N90-18342

EZELL, LINDA NEUMAN
 NASA historical data book. Volume 2: Programs and projects 1958-1968
 [NASA-SP-4012-VOL-2] p 80 N88-25429
 NASA historical data book. Volume 3: Programs and projects 1969-1978
 [NASA-SP-4012-VOL-3] p 81 N88-25430

F

FAIRCHILD, KYLE
 Report of the In Situ Resources Utilization Workshop
 [NASA-CP-3017] p 72 N89-14188

FARMER, CROFTON B.
 A high-resolution atlas of the infrared spectrum of the sun and the earth atmosphere from space. A compilation of ATMOS spectra of the region from 650 to 4800 cm-1 (2.3 to 16 microns). Volume 2: Stratosphere and mesosphere, 650 to 3350 cm-1
 [NASA-RP-1224-VOL-2] p 53 N89-28969
 A high-resolution atlas of the infrared spectrum of the Sun and the Earth atmosphere from space: A compilation of ATMOS spectra of the region from 650 to 4800 cm (2.3 to 16 micron). Volume 1: The Sun
 [NASA-RP-1224-VOL-1] p 53 N90-13893

FARMER, JEFFREY T.
 Conceptual design of a synchronous Mars telecommunications satellite
 [NASA-TP-2942] p 78 N90-10814
 Thermal-distortion analysis of an antenna strongback for geostationary high-frequency microwave applications
 [NASA-TP-3016] p 26 N90-27738

FAST, THOMAS N.
 Cells in Space
 [NASA-CP-10034] p 61 N90-13939

FEIBELMAN, WALTER A.
 International ultraviolet explorer spectral atlas of planetary nebulae, central stars, and related objects
 [NASA-RP-1203] p 76 N88-28843

FELDMAN, GENE CARL
 Nimbus-7 data product summary
 [NASA-RP-1215] p 48 N89-22152

FENN, MARTA A.
 Summary of along-track data from the Earth radiation budget satellite for several major desert regions
 [NASA-RP-1197] p 56 N88-20772
 Summary of along-track data from the earth radiation budget satellite for several representative ocean regions
 [NASA-RP-1206] p 56 N89-14634

FERNANDEZ, KEN
 A generalized method for automatic downhand and wirefeed control of a welding robot and positioner
 [NASA-TP-2807] p 32 N88-17869

FEW, DAVID D.
 A perspective on 15 years of proof-of-concept aircraft development and flight research at Ames-Moffett by the Rotorcraft and Powered-Lift Flight Projects Division, 1970-1985
 [NASA-RP-1187] p 14 N88-19467

FICHTEL, CARL E.
 The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
 [NASA-CP-3071] p 77 N90-23294

FICHTER, W. B.
 Measured and predicted root-mean-square errors in square and triangular antenna mesh facets
 [NASA-TP-2896] p 45 N89-17892

FICHTL, GEORGE H.
 Spacelab 3 Mission Science Review
 [NASA-CP-2429] p 36 N87-22103

FINDLAY, JOHN T.
 OEXP Analysis Tools Workshop
 [NASA-CP-10013] p 63 N89-11407

FINELLI, GEORGE B.
 A technique for evaluating the application of the pin-level stuck-at fault model to VLSI circuits
 [NASA-TP-2738] p 42 N87-28025

FINGER, HERBERT J.
 Proceedings of a conference on Cardiovascular Bioinstrumentation
 [NASA-CP-10022] p 59 N89-17997

FISCHER, JAMES R.
 Frontiers of Massively Parallel Scientific Computation
 [NASA-CP-2478] p 62 N87-26531

FLEIG, ALBERT J.
 Nimbus 7 Solar Backscatter Ultraviolet (SBUV) spectral scan solar irradiance and Earth radiance product user's guide
 [NASA-RP-1199] p 48 N88-17096

Nimbus-7 data product summary
 [NASA-RP-1215] p 48 N89-22152
 Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
 [NASA-RP-1234] p 53 N90-17227

FLOCK, WARREN L.
 Propagation effects on satellite systems at frequencies below 10 GHz: A handbook for satellite systems design
 [NASA-RP-1108/2] p 34 N88-14226

FLOM, YURY
 AMSAHTS 1990: Advances in Materials Science and Applications of High Temperature Superconductors
 [NASA-CP-10043] p 29 N90-27792

FOGLEMAN, GUY
 Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
 [NASA-CP-10026-VOL-1] p 59 N89-24022
 Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
 [NASA-CP-10026-VOL-2] p 59 N89-24023

FONDA, MARK L.
 Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
 [NASA-CP-10026-VOL-1] p 59 N89-24022
 Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
 [NASA-CP-10026-VOL-2] p 59 N89-24023

FORCE, DALE A.
 Calculation of secondary electron trajectories in multistage depressed collectors for microwave amplifiers
 [NASA-TP-2664] p 34 N87-17991
 Analytical and experimental performance of a dual-mode traveling wave tube and multistage depressed collector
 [NASA-TP-2752] p 35 N87-25532
 Spent-beam refocusing analysis and multistage depressed collector design for a 75-W, 59- to 64-GHz coupled-cavity traveling-wave tube
 [NASA-TP-3039] p 35 N90-27965

FOUGHNER, JEROME T., JR.
 Transonic Symposium: Theory, Application, and Experiment, Volume 1, Part 1
 [NASA-CP-3020-VOL-1-PT-1] p 9 N89-20925
 Transonic Symposium: Theory, Application, and Experiment, volume 1, part 2
 [NASA-CP-3020-VOL-1-PT-2] p 9 N89-20942

FOUSHEE, H. CLAYTON
 Cockpit Resource Management Training
 [NASA-CP-2455] p 12 N87-22634

FOX, CHARLES H., JR.
 Subsonic maneuver capability of a supersonic cruise fighter wing concept
 [NASA-TP-2642] p 3 N87-15184
 Subsonic longitudinal and lateral-directional characteristics of a forward-swept-wing fighter configuration at angles of attack up to 47 deg
 [NASA-TP-2727] p 6 N87-26874
 Flight and wind-tunnel measurements showing base drag reduction provided by a trailing disk for high Reynolds number turbulent flow for subsonic and transonic Mach numbers
 [NASA-TP-2638] p 37 N88-14299

FOX, KENNETH
 First International Conference on Laboratory Research for Planetary Atmospheres
 [NASA-CP-3077] p 78 N90-26744

FRANKLIN, J. A.
 Powered-lift aircraft technology
 [NASA-SP-501] p 15 N90-12589

FRASSINELLI, MARK C.
 Effect of tail size reductions on longitudinal aerodynamic characteristics of a three surface F-15 model with nonaxisymmetric nozzles
 [NASA-TP-3036] p 11 N90-25938

FREED, ALAN D.
 Thermoviscoplastic model with application to copper
 [NASA-TP-2845] p 45 N89-16183

FREEMAN, MICHAEL S.
 Third Conference on Artificial Intelligence for Space Applications, part 1
 [NASA-CP-2492-PT-1] p 62 N88-16360
 Third Conference on Artificial Intelligence for Space Applications, part 2
 [NASA-CP-2492-PT-2] p 63 N88-24188

FROST, WALTER
 Atmospheric Turbulence Relative to Aviation, Missile, and Space Programs
 [NASA-CP-2468] p 55 N87-22341
 Wind Shear/Turbulence Inputs to Flight Simulation and Systems Certification
 [NASA-CP-2474] p 1 N87-25267

Meteorological and Environmental Inputs to Aviation Systems
 [NASA-CP-2498] p 56 N88-25105

FUCHS, A.
 Flight Mechanics/Estimation Theory Symposium
 [NASA-CP-2002] p 22 N78-76855

FUJIKAWA, GENE
 Bit-error-rate testing of high-power 30-GHz traveling wave tubes for ground-terminal applications
 [NASA-TP-2635] p 33 N87-17971

FULLER, CHARLES A.
 Proceedings of a conference on Cardiovascular Bioinstrumentation
 [NASA-CP-10022] p 59 N89-17997

FULLER, W. H., JR.
 Forty-eight-inch lidar aerosol measurements taken at the Langley Research Center, May 1974 to December 1987
 [NASA-RP-1209] p 52 N88-29234

FUNK, JOAN G.
 The effects of simulated space environmental parameters on six commercially available composite materials
 [NASA-TP-2906] p 29 N89-19385
 The interlaminar fracture toughness of woven graphite/epoxy composites
 [NASA-TP-2950] p 29 N90-10179

G

GABB, TIMOTHY P.
 Heat treatment study of the SiC/Ti-15-3 composite system
 [NASA-TP-2970] p 29 N90-19302

GAINER, THOMAS G.
 Discrete-vortex model for the symmetric-vortex flow on cones
 [NASA-TP-2989] p 11 N90-20946

GALIMORE, REGINALD N.
 The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
 [NASA-RP-1201] p 49 N88-20714

GALLAGHER, RICHARD H.
 Integrated force method versus displacement method for finite element analysis
 [NASA-TP-2937] p 47 N90-18081

GANAPOL, BARRY D.
 Benchmark solutions for the galactic ion transport equations: Energy and spatially dependent problems
 [NASA-TP-2878] p 79 N89-16714
 BRYNTRN: A baryon transport model
 [NASA-TP-2887] p 80 N89-17562

GARDNER, JAMES E.
 National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
 [NASA-CP-3074] p 28 N90-24350

GARHART, MATTHEW P.
 International ultraviolet explorer spectral atlas of planetary nebulae, central stars, and related objects
 [NASA-RP-1203] p 76 N88-28843

GARN, PAUL A.
 Conceptual design of a synchronous Mars telecommunications satellite
 [NASA-TP-2942] p 78 N90-10814

GARRETT, L. BERNARD
 OEXP Analysis Tools Workshop
 [NASA-CP-10013] p 63 N89-11407

GATLIN, GREGORY M.
 A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel
 [NASA-TP-2796] p 7 N88-20264
 Thrust-reverser flow investigation on a twin-engine transport
 [NASA-TP-2856] p 9 N89-14213
 Low-speed, high-lift aerodynamic characteristics of slender, hypersonic accelerator-type configurations
 [NASA-TP-2945] p 10 N90-10830
 The Langley 14- by 22-foot subsonic tunnel: Description, flow characteristics, and guide for users
 [NASA-TP-3008] p 12 N90-27649

GELDER, THOMAS F.
 Detailed flow surveys of turning vanes designed for a 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
 [NASA-TP-2680] p 21 N87-20295
 Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
 [NASA-TP-2681] p 21 N88-17686

H

- GENTRY, GARL L., JR.**
Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462
Experimental and theoretical aerodynamic characteristics of a high-lift semispan wing model
[NASA-TP-2990] p 11 N90-20046
The Langley 14-by-22-foot subsonic tunnel: Description, flow characteristics, and guide for users
[NASA-TP-3008] p 12 N90-27649
- GEORGE, ALBERT R.**
Status of sonic boom methodology and understanding
[NASA-CP-3027] p 9 N89-23415
- GEZARI, DANIEL Y.**
Infrared source cross-index, first edition
[NASA-RP-1182] p 73 N87-22573
Catalog of infrared observations. Part 1: Data
[NASA-RP-1196-PT-1-ED-2] p 73 N88-15738
Catalog of infrared observations. Part 2: Appendixes
[NASA-RP-1196-PT-2-ED-2] p 74 N88-16615
Far infrared supplement: Catalog of infrared observations, second edition
[NASA-RP-1205] p 74 N88-30545
Spatial interferometry in optical astronomy
[NASA-RP-1245] p 75 N90-28470
- GILYARD, GLENN B.**
A piloted evaluation of an oblique-wing research aircraft motion simulation with decoupling control laws
[NASA-TP-2874] p 20 N89-15930
Method for experimental determination of flutter speed by parameter identification
[NASA-TP-2923] p 15 N89-26844
- GLASS, C. E.**
Aerothermal tests of spherical dome protuberances on a flat plate at a Mach number of 6.5
[NASA-TP-2631] p 35 N87-13664
- GLASS, CHRISTOPHER E.**
Aerothermal tests of quilted dome models on a flat plate at a Mach number of 6.5
[NASA-TP-2804] p 37 N88-22325
- GLOERSEN, P.**
User's guide for the Nimbus 7 Scanning Multichannel Microwave Radiometer (SMMR) CELL-ALL tape
[NASA-RP-1210] p 56 N89-14648
- GLOERSEN, PER**
Arctic Sea ice, 1973-1976: Satellite passive-microwave observations
[NASA-SP-489] p 58 N87-24870
- GNOFFO, PETER A.**
Conservation equations and physical models for hypersonic air flows in thermal and chemical nonequilibrium
[NASA-TP-2867] p 38 N89-16115
An upwind-biased, point-implicit relaxation algorithm for viscous, compressible perfect-gas flows
[NASA-TP-2953] p 38 N90-17042
- GOEBEL, JOHN**
Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807
- GOLDBERG, BENJAMIN E.**
Microgravity crystallization of macromolecules: An interim report and proposal for continued research
[NASA-TP-2671] p 31 N87-20423
- GOLDBERG, LEO**
The M-type stars
[NASA-SP-492] p 75 N88-11592
- GOLDMAN, LOUIS J.**
Three component laser anemometer measurements in an annular cascade of core turbine vanes with contoured end wall
[NASA-TP-2846] p 8 N89-10844
- GONG, LESLIE**
Finite-element reentry heat-transfer analysis of space shuttle Orbiter
[NASA-TP-2657] p 37 N87-29795
- GOODRICH, KENNETH H.**
A closed-form trim solution yielding minimum trim drag for airplanes with multiple longitudinal-control effectors
[NASA-TP-2907] p 20 N89-23468
- GORDLEY, L. L.**
Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid
[NASA-TP-2625] p 51 N87-13022
- GORDON, R. A.**
An economical semi-analytical orbit theory for micro-computer applications
[NASA-TP-2811] p 66 N89-14052
- GRACIA-SALCEDO, CARMEN M.**
Determination of combustion gas temperatures by infrared radiometry in sooting and nonsooting flames
[NASA-TP-2900] p 38 N89-25409
- GRANTHAM, WILLIAM D.**
Piloted simulator study of allowable time delays in large-airplane response
[NASA-TP-2652] p 19 N87-16849
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987
Comparison of flying qualities derived from in-flight and ground-based simulators for a jet-transport airplane for the approach and landing pilot tasks
[NASA-TP-2962] p 20 N90-11757
- GRAY, STEPHANIE L.**
Absorbed dose thresholds and absorbed dose rate limitations for studies of electron radiation effects on polyetherimides
[NASA-TP-2928] p 31 N89-25332
- GREELEY, RONALD**
Experiments in Planetary and Related Sciences and the Space Station
[NASA-CP-2494] p 72 N89-14998
Mars landing site catalog
[NASA-RP-1238] p 78 N90-27607
- GREEN, ANDREW J.**
A synchronous data analyzer for the Minimum Delay Data Format (MDDF) and Launch Trajectory Acquisition System (LTAS)
[NASA-TP-2743] p 34 N87-24590
- GREEN, R. N.**
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677
Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation
[NASA-RP-1184-VOL-2] p 57 N89-20587
- GREENBERG, PAUL S.**
Microgravity Combustion Diagnostics Workshop
[NASA-CP-10017] p 32 N89-17682
- GRIFFIN, SANDY**
First Annual Workshop on Space Operations Automation and Robotics (SOAR 87)
[NASA-CP-2491] p 61 N88-17206
Second Annual Workshop on Space Operations Automation and Robotics (SOAR 1988)
[NASA-CP-3019] p 61 N89-19817
Graphics Technology in Space Applications (GTSA 1989)
[NASA-CP-3045] p 62 N90-20651
Third Annual Workshop on Space Operations Automation and Robotics (SOAR 1989)
[NASA-CP-3059] p 62 N90-25503
- GRIGORIEV, ANATOLI I.**
Joint US/USSR study: Comparison of effects of horizontal and head-down bed rest
[NASA-TP-3037] p 60 N90-28965
- GRODSINSKY, CARLOS M.**
Development and approach to low-frequency microgravity isolation systems
[NASA-TP-2984] p 33 N90-28754
- GRUNWALD, ARTHUR J.**
Interactive orbital proximity operations planning system
[NASA-TP-2839] p 61 N89-18039
Spatial Displays and Spatial Instruments
[NASA-CP-10032] p 61 N90-22918
- GUIMARAES, PATRICIA T.**
The 1989 Airborne Arctic Stratospheric Expedition Nimbus-7 TOMS data atlas
[NASA-RP-1227] p 57 N89-27302
The 1988 Antarctic ozone monitoring Nimbus-7 TOMS data atlas
[NASA-RP-1225] p 57 N89-28983
Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989
[NASA-RP-1237] p 58 N90-23837
- GUPTA, ROOP N.**
Conservation equations and physical models for hypersonic air flows in thermal and chemical nonequilibrium
[NASA-TP-2867] p 38 N89-16115
A review of reaction rates and thermodynamic and transport properties for an 11-species air model for chemical and thermal nonequilibrium calculations to 30000 K
[NASA-RP-1232] p 38 N90-27064
- GYEKENYESI, JOHN P.**
Ceramics Analysis and Reliability Evaluation of Structures (CARES). Users and programmers manual
[NASA-TP-2916] p 47 N90-28099
- HABERLE, ROBERT M.**
Proceedings of the Polar Processes on Mars Workshop
[NASA-CP-10021] p 78 N89-18373
- HABING, H. J.**
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 1: Explanatory supplement
[NASA-RP-1190-VOL-1] p 76 N89-14194
- HAFTKA, RAPHAEL T.**
Sensitivity Analysis in Engineering
[NASA-CP-2457] p 43 N87-18855
- HAGAMAN, JANE A.**
Space Construction
[NASA-CP-2490] p 25 N88-10870
- HAGER, ROY D.**
Advanced turboprop project
[NASA-SP-495] p 18 N89-12565
- HAGGARD, K. V.**
Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid
[NASA-TP-2625] p 51 N87-13022
- HAGGARD, KENNETH V.**
Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide
[NASA-TP-2761] p 56 N88-14572
- HALFORD, GARY R.**
Life prediction of thermomechanical fatigue using total strain version of strainrange partitioning (SRP): A proposal
[NASA-TP-2779] p 44 N88-15263
- HAN, D.**
User's guide for the Nimbus 7 Scanning Multichannel Microwave Radiometer (SMMR) CELL-ALL tape
[NASA-RP-1210] p 56 N89-14648
- HAN, DAESOO**
Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152
- HANAWAY, JOHN F.**
Space shuttle avionics system
[NASA-SP-504] p 24 N90-25160
- HANDSCHUH, ROBERT F.**
Efficiency testing of a helicopter transmission planetary reduction stage
[NASA-TP-2795] p 41 N88-15224
- HANNER, MARTHA S.**
Infrared Observations of Comets Halley and Wilson and Properties of the Grains
[NASA-CP-3004] p 74 N89-13330
- HANSEN, JAMES R.**
Engineer in charge: A history of the Langley Aeronautical Laboratory, 1917-1958
[NASA-SP-4305] p 80 N87-24390
- HARDY, GORDON H.**
Longitudinal stability and control characteristics of the Quiet Short-Haul Research Aircraft (QSRA)
[NASA-TP-2965] p 20 N90-17639
- HARRINGTON, DOUGLAS E.**
Experimental evaluation of wall Mach number distributions of the octagonal test section proposed for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2666] p 21 N87-17717
Experimental evaluation of blockage ratio and plenum evacuation system flow effects on pressure distribution for bodies of revolution in 0.1 scale model test section of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2702] p 21 N87-22694
Experimental evaluation of honeycomb/screen configurations and short contraction section for NASA Lewis Research Center's altitude wind tunnel
[NASA-TP-2692] p 21 N87-23662
- HARRIS, CHARLES D.**
The NASA Langley Laminar-Flow-Control (LFC) experiment on a swept, supercritical airfoil: Design overview
[NASA-TP-2809] p 8 N88-21117
NASA supercritical airfoils: A matrix of family-related airfoils
[NASA-TP-2969] p 11 N90-16710
- HARRIS, E.**
Proceedings of the 5th Annual Users' Conference
[NASA-CP-2399] p 62 N87-10720
- HARRIS, ELFRIEDA**
Sixth Annual Users' Conference
[NASA-CP-2463] p 62 N87-23156
- HARTMAN, EDWARD R.**
Mach 6 experimental and theoretical stability and performance of a cruciform missile at angles of attack up to 65 degrees
[NASA-TP-2733] p 5 N87-23592
- HARTUNG, LIN C.**
The effect of interplanetary trajectory options on a manned Mars aerobrake configuration
[NASA-TP-3019] p 24 N90-26036

- HARVEY, WILLIAM D.**
The NASA Langley Laminar-Flow-Control (LFC) experiment on a swept, supercritical airfoil: Design overview
[NASA-TP-2809] p 8 N88-21117
- HATHAWAY, MICHAEL D.**
Laser anemometer measurements in a transonic axial-flow fan rotor
[NASA-TP-2879] p 38 N90-11245
- HAYDUK, ROBERT J.**
Computational Methods for Structural Mechanics and Dynamics, part 1
[NASA-CP-3034-PT-1] p 46 N89-24638
Computational Methods for Structural Mechanics and Dynamics
[NASA-CP-3034-PT-2] p 46 N89-24654
- HAYES, WALLACE D.**
Status of sonic boom methodology and understanding
[NASA-CP-3027] p 9 N89-23415
- HEATH, DONALD F.**
Nimbus 7 Solar Backscatter Ultraviolet (SBUV) spectral scan solar irradiance and Earth radiance product user's guide
[NASA-RP-1199] p 48 N88-17096
Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227
- HEDGLEY, DAVID R., JR.**
A general solution to the silhouette problem
[NASA-TP-2695] p 61 N88-14629
- HEERS, SUSAN**
Space Station Human Factors Research Review. Volume 3: Space Station Habitability and Function: Architectural Research
[NASA-CP-2426-VOL-3] p 59 N88-19883
- HEFNER, JERRY N.**
Research in Natural Laminar Flow and Laminar-Flow Control, part 1
[NASA-CP-2487-PT-1] p 10 N90-12503
Research in Natural Laminar Flow and Laminar-Flow Control, part 2
[NASA-CP-2487-PT-2] p 10 N90-12519
Research in Natural Laminar Flow and Laminar-Flow Control, part 3
[NASA-CP-2487-PT-3] p 10 N90-12539
- HELLINGS, RONALD W.**
Relativistic Gravitational Experiments in Space
[NASA-CP-3046] p 77 N90-19940
- HELOU, GEORGE**
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 7: The small scale structure catalog
[NASA-RP-1190-VOL-7] p 76 N89-14199
- HENDERSON, WILLIAM P.**
Effect of empennage arrangement on single-engine nozzle/afterbody static pressures at transonic speeds
[NASA-TP-2753] p 6 N88-10771
- HENDRICKS, ROBERT C.**
Three-step labyrinth seal for high-performance turbomachines
[NASA-TP-1848] p 36 N87-23921
Straight cylindrical seal for high-performance turbomachines
[NASA-TP-1850] p 36 N87-23936
Three-step cylindrical seal for high-performance turbomachines
[NASA-TP-1849] p 36 N87-24639
- HESS, ROBERT W.**
Steady and unsteady transonic pressure measurements on a clipped delta wing for pitching and control-surface oscillations
[NASA-TP-2594] p 8 N88-28895
- HEYMAN, JOSEPH S.**
Electronics reliability and measurement technology
[NASA-CP-2472] p 42 N87-27204
- HICKEY, JOHN R.**
Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
[NASA-RP-1211] p 79 N89-30151
- HIGGINS, R. H.**
An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods
[NASA-TP-2820] p 30 N89-19406
- HILL, ACQUILLA S.**
CAST-10-2/DOA 2 Airfoil Studies Workshop Results
[NASA-CP-3052] p 22 N90-17647
- HILL, CHARLES K.**
Spacelab 3 Mission Science Review
[NASA-CP-2429] p 36 N87-22103
- HINNANT, HOWARD E.**
Derivation of a tapered p-version beam finite element
[NASA-TP-2931] p 46 N89-26255
- HINTON, DAVID A.**
A simulation evaluation of a pilot interface with an automatic terminal approach system
[NASA-TP-2669] p 16 N87-19393
- A simulator investigation of the use of digital data link for pilot/ATC communications in a single pilot operation
[NASA-TP-2837] p 13 N89-11726
- Piloted-simulation evaluation of escape guidance for microburst wind shear encounters
[NASA-TP-2886] p 17 N89-16820
- HOAD, DANNY R.**
Helicopter blade-vortex interaction locations: Scale-model acoustics and free-wake analysis results
[NASA-TP-2658] p 4 N87-18537
Rotor induced-inflow-ratio measurements and CAMRAD calculations
[NASA-TP-2946] p 11 N90-15882
- HOBAN, FRANCIS T.**
Issues in NASA program and project management
[NASA-SP-6101] p 69 N89-12479
Issues in NASA program and project management
[NASA-SP-6101(02)] p 69 N90-13277
- HODGE, A. J.**
An examination of impact damage in glass-phenolic and aluminum honeycomb core composite panels
[NASA-TP-3042] p 29 N90-27876
- HOELL, JAMES M.**
Future directions for H sub x O sub y detection
[NASA-CP-2448] p 51 N87-15528
- HOFFMAN, LAWRENCE H.**
Calculation and accuracy of ERBE scanner measurement locations
[NASA-TP-2670] p 72 N87-28471
- HOFLUND, G. B.**
Auger electron intensity variations in oxygen-exposed large grain polycrystalline silver
[NASA-TP-2930] p 67 N89-30022
- HOFLUND, GAR B.**
Electron stimulated desorption of atomic oxygen from silver
[NASA-TP-2668] p 29 N87-18629
Permeation of oxygen through high purity, large grain silver
[NASA-TP-2755] p 30 N87-27024
Low-Temperature CO-Oxidation Catalysts for Long-Life CO₂ Lasers
[NASA-CP-3076] p 40 N90-24586
- HOLT, HENRY E.**
Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401
- HONG, B. S.**
BRYNTRN: A baryon transport model
[NASA-TP-2887] p 80 N89-17562
- HONG, BYUNGSIK**
Kaon-nucleus scattering
[NASA-TP-2920] p 80 N89-25103
- HOPSON, P.**
An Auger electron spectroscopy study of surface-preparation contaminants
[NASA-TP-2972] p 33 N90-16968
- HOUCK, JACOB A.**
Delivery performance of conventional aircraft by terminal-area, time-based air traffic control: A real-time simulation evaluation
[NASA-TP-2978] p 13 N90-18378
- HOUSNER, JERROLD M.**
Computational Methods for Structural Mechanics and Dynamics, part 1
[NASA-CP-3034-PT-1] p 46 N89-24638
Computational Methods for Structural Mechanics and Dynamics
[NASA-CP-3034-PT-2] p 46 N89-24654
- HOWARD, ALAN D.**
Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401
- HOWARD, BRIAN T.**
Laser-velocimeter-measured flow field around an advanced, swept, eight-blade propeller at Mach 0.8
[NASA-TP-2462] p 2 N90-20942
- HOWELL, LEONARD**
Probabilistic risk analysis of flying the space shuttle with and without fuel turbine discharge temperature redline protection
[NASA-TP-2759] p 65 N87-27474
- HOWLETT, JAMES T.**
Calculation of viscous effects on transonic flow for oscillating airfoils and comparisons with experiment
[NASA-TP-2731] p 6 N87-27622
- HUCK, FRIEDRICH O.**
Visual Information Processing for Television and Telerobotics
[NASA-CP-3053] p 40 N90-16204
- HUFFMAN, JARRETT K.**
Subsonic longitudinal and lateral-directional characteristics of a forward-swept-wing fighter configuration at angles of attack up to 47 deg
[NASA-TP-2727] p 6 N87-26874
- Flight and wind-tunnel measurements showing base drag reduction provided by a trailing disk for high Reynolds number turbulent flow for subsonic and transonic Mach numbers
[NASA-TP-2638] p 37 N88-14299
- HUFFMAN, P. D.**
Preliminary estimates of radiosonde thermistor errors
[NASA-TP-2637] p 55 N87-12086
- HUGHES, PETER**
The 1988 Goddard Conference on Space Applications of Artificial Intelligence
[NASA-CP-3009] p 64 N88-30330
- HULTBERG, RANDY S.**
Measurements of pressures on the tail and aft fuselage of an airplane model during rotary motions at spin attitudes
[NASA-TP-2939] p 10 N90-10829
- HUMES, D. H.**
Diode laser satellite systems for beamed power transmission
[NASA-TP-2992] p 40 N90-24585
- HUNT, GEORGE E.**
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987
- HUNT, L. R.**
Aerothermal tests of spherical dome protuberances on a flat plate at a Mach number of 6.5
[NASA-TP-2631] p 35 N87-13664
- HUNT, L. ROANE**
Aerothermal tests of quilted dome models on a flat plate at a Mach number of 6.5
[NASA-TP-2804] p 37 N88-22325
Aerodynamic pressures and heating rates on surfaces between split elevons at Mach 6.6
[NASA-TP-2855] p 37 N89-12822
Aerodynamic pressure and heating-rate distributions in tile gaps around chine regions with pressure gradients at a Mach number of 6.6
[NASA-TP-2988] p 38 N90-23670
- HUNT, W. H.**
Forty-eight-inch lidar aerosol measurements taken at the Langley Research Center, May 1974 to December 1987
[NASA-RP-1209] p 52 N88-29234
- HUNTER, STANLEY D.**
The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
[NASA-CP-3071] p 77 N90-23294
- HUNTER, WILLIAM F.**
Research in structures, structural dynamics and materials, 1989
[NASA-CP-10024] p 46 N89-24626
- HUNTINGTON, JUDITH L.**
Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022
Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
[NASA-CP-10026-VOL-2] p 59 N89-24023
- HURLEY, EDWARD J.**
Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152
- HUSSAINI, M. YOUSUFF**
A spectral collocation solution to the compressible stability eigenvalue problem
[NASA-TP-2858] p 9 N89-12543
- IBRAHIM, K. Y.**
Payload crew utilization for spacelab missions
[NASA-TP-2976] p 24 N90-14256
- ILIFF, KENNETH W.**
Application of parameter estimation to aircraft stability and control: The output-error approach
[NASA-RP-1168] p 14 N87-29499
- IMBERT, N.**
Ground-based time-guidance algorithm for control of airplanes in a time-metered air traffic control environment: A piloted simulation study
[NASA-TP-2616] p 16 N87-10864
- IPPOLITO, LOUIS J.**
Propagation effects handbook for satellite systems design. A summary of propagation impairments on 10 to 100 GHz satellite links with techniques for system design
[NASA-RP-1082(04)] p 34 N89-17060
- IVANCIC, WILLIAM D.**
Satellite-matrix-switched, time-division-multiple-access network simulator
[NASA-TP-2944] p 34 N90-11915

- IVEY, EDWARD W.**
Space station structures and dynamics test program
[NASA-TP-2710] p 43 N87-20568
- J**
- JACHIMOWSKI, CASIMIR J.**
An analytical study of the hydrogen-air reaction mechanism with application to scramjet combustion
[NASA-TP-2791] p 30 N88-15846
- JACKMAN, CHARLES H.**
Two-Dimensional Intercomparison of Stratospheric Models
[NASA-CP-3042] p 53 N90-11405
- JACOBS, JAMES A.**
National Educators' Workshop: Update 1989 Standard Experiments in Engineering Materials Science and Technology
[NASA-CP-3074] p 28 N90-24350
- JALUFKA, N. W.**
Laser-powered MHD generators for space application
[NASA-TP-2621] p 68 N87-10764
Laser production and heating of plasma for MHD application
[NASA-TP-2798] p 68 N88-18443
- JAMES, ODETTE B.**
Planetary geosciences, 1988
[NASA-SP-498] p 48 N89-26274
- JANSON, BETTE R.**
Astronautics and aeronautics, 1978: A chronology
[NASA-SP-4023] p 80 N88-14062
Astronautics and aeronautics, 1985: A chronology
[NASA-SP-4025] p 81 N89-26803
Astronautics and Aeronautics, 1979-1984: A chronology
[NASA-SP-4024] p 81 N90-25928
- JENKINS, RENALDO V.**
NASA SC(2)-0714 airfoil data corrected for sidewall boundary-layer effects in the Langley 0.3-meter transonic cryogenic tunnel
[NASA-TP-2890] p 9 N89-17568
- JENNETT, LISA A.**
In-flight surface oil-flow photographs with comparisons to pressure distribution and boundary-layer data
[NASA-TP-2395] p 4 N87-20966
- JENSEN, KENNETH A.**
Secondary electron emission characteristics of untreated and ion-textured titanium
[NASA-TP-2902] p 30 N89-17650
Secondary electron emission characteristics of molybdenum-masked, ion-textured OFHC copper
[NASA-TP-2967] p 31 N90-15211
- JOBSON, DANIEL J.**
Spatial vision processes: From the optical image to the symbolic structures of contour information
[NASA-TP-2838] p 39 N89-13762
- JOHNSON, D. L.**
Upper and Middle Atmospheric Density Modeling Requirements for Spacecraft Design and Operations
[NASA-CP-2460] p 52 N87-20665
- JOHNSON, HOLLIS RALPH**
The M-type stars
[NASA-SP-492] p 75 N88-11592
- JOHNSON, J. BLAIR**
Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack
[NASA-TP-2716] p 14 N87-29497
- JOHNSON, STEWART**
A lunar far-side very low frequency array
[NASA-CP-3039] p 75 N90-10805
- JOHNSON, THOMAS D., JR.**
Sensitivity of F-106B leading-edge-vortex images to flight and vapor-screen parameters
[NASA-TP-2818] p 8 N88-23760
- JOHNSTON, PATRICK J.**
Mach 6 experimental and theoretical stability and performance of a cruciform missile at angles of attack up to 65 degrees
[NASA-TP-2733] p 5 N87-23592
- JOLLY, J. RALPH, JR.**
Helicopter main-rotor noise: Determination of source contributions using scaled model data
[NASA-TP-2825] p 67 N88-26907
- JONES, FRANK P.**
Development and flight test of an experimental maneuver autopilot for a highly maneuverable aircraft
[NASA-TP-2618] p 15 N88-21153
- JONES, LISA E.**
Evaluation of energy absorption of new concepts of aircraft composite subfloor intersections
[NASA-TP-2951] p 16 N90-26823
- JONES, MICHAEL G.**
Experimental validation of a two-dimensional shear-flow model for determining acoustic impedance
[NASA-TP-2679] p 66 N87-20798
- Measured and calculated acoustic attenuation rates of tuned resonator arrays for two surface impedance distribution models with flow
[NASA-TP-2766] p 67 N88-17440
Fluctuating pressures measured beneath a high-temperature, turbulent boundary layer on a flat plate at Mach number of 5
[NASA-TP-2947] p 67 N90-10680
- JONES, WILLIAM H.**
Combined aerodynamic and structural dynamic problem emulating routines (CASPER): Theory and implementation
[NASA-TP-2418] p 4 N87-17669
- JONES, WILLIAM R., JR.**
Ester oxidation on an aluminum surface using chemiluminescence
[NASA-TP-2611] p 31 N87-18666
- JORDAN, FRANK L., JR.**
Wind-tunnel investigation of a full-scale general aviation airplane equipped with an advanced natural laminar flow wing
[NASA-TP-2772] p 6 N88-10009
- JORDAN, STUART**
The M-type stars
[NASA-SP-492] p 75 N88-11592
O stars and Wolf-Rayet stars
[NASA-SP-497] p 74 N89-11657
- JORDAN, T. M.**
Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets
[NASA-RP-1180] p 79 N87-25984
- JUHASZ, AL**
Workshop on Two-Phase Fluid Behavior in a Space Environment
[NASA-CP-3043] p 38 N89-26184
- K**
- KACZYNSKI, KENNETH J.**
Experimental thrust performance of a high-area-ratio rocket nozzle
[NASA-TP-2720] p 26 N87-20381
Comparison of theoretical and experimental thrust performance of a 1030:1 area ratio rocket nozzle at a chamber pressure of 2413 kN/m² (350 psia)
[NASA-TP-2725] p 26 N87-25423
Experimental evaluation of heat transfer on a 1030:1 area ratio rocket nozzle
[NASA-TP-2726] p 27 N87-25424
- KAISER, MARY K.**
Spatial Displays and Spatial Instruments
[NASA-CP-10032] p 61 N90-22918
- KANNING, G.**
General equilibrium characteristics of a dual-lift helicopter system
[NASA-TP-2615] p 2 N88-19407
- KATZBERG, STEVE J.**
Earth Sciences Requirements for the Information Sciences Experiment System
[NASA-CP-3072] p 50 N90-27140
- KAUFMAN, BARBARA A.**
Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152
- KAZAROFF, JOHN M.**
Conventionally cast and forged copper alloy for high-heat-flux thrust chambers
[NASA-TP-2694] p 30 N87-16902
- KEATING, GERALD M.**
Calibration of the spin-scan ozone imager aboard the dynamics Explorer 1 satellite
[NASA-TP-2723] p 55 N87-26491
- KEETON, L. W.**
Space shuttle main engine high pressure fuel pump aft platform seal cavity flow analysis
[NASA-TP-2685] p 36 N87-17000
- KELLER, V. W.**
Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585
- KEMMERLY, GUY T.**
A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel
[NASA-TP-2796] p 7 N88-20264
Dynamic ground-effect measurements on the F-15 STOL and Maneuver Technology Demonstrator (S/MTD) configuration
[NASA-TP-3000] p 11 N90-22531
- KEMPEL, ROBERT W.**
Flight control systems development and flight test experience with the HIMAT research vehicles
[NASA-TP-2822] p 20 N89-15929
A piloted evaluation of an oblique-wing research aircraft motion simulation with decoupling control laws
[NASA-TP-2874] p 20 N89-15930
- KERN, F. A.**
Introduction to total- and partial-pressure measurements in vacuum systems
[NASA-RP-1219] p 40 N90-10412
- KHAN, FERDOUS**
BRYNTRN: A baryon transport model
[NASA-TP-2887] p 80 N89-17562
- KHANDELWAL, GOVIND S.**
Doubly differential cross sections for galactic heavy-ion fragmentation
[NASA-TP-2659] p 68 N87-17487
Eikonal solutions to optical model coupled-channel equations
[NASA-TP-2830] p 68 N88-30402
- KIBLER, JAMES F.**
Calculation and accuracy of ERBE scanner measurement locations
[NASA-TP-2670] p 72 N87-28471
- KIM, KYUN O.**
Mixed formulation for frictionless contact problems
[NASA-TP-2897] p 45 N89-19580
Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
[NASA-TP-2977] p 42 N90-19595
- KIM, S. T.**
User's guide for the Nimbus 7 Scanning Multichannel Microwave Radiometer (SMMR) CELL-ALL tape
[NASA-RP-1210] p 56 N89-14648
- KING, TRACY K.**
Contamination of liquid oxygen by pressurized gaseous nitrogen
[NASA-TP-2894] p 38 N89-19499
- KIPLINGER, ALAN L.**
Rapid Fluctuations in Solar Flares
[NASA-CP-2449] p 79 N87-21785
- KLEIN, VLADISLAV**
Analysis of flight data from a High-Incidence Research Model by system identification methods
[NASA-TP-2940] p 20 N90-10074
- KLENK, K. F.**
Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227
- KNOCKEMUS, WARD W.**
The corrosion mechanisms for primer coated 2219-T87 aluminum
[NASA-TP-2715] p 30 N87-21076
- KNOX, C. E.**
Ground-based time-guidance algorithm for control of airplanes in a time-metered air traffic control environment: A piloted simulation study
[NASA-TP-2616] p 16 N87-10864
- KO, WILLIAM L.**
Finite-element reentry heat-transfer analysis of space shuttle Orbiter
[NASA-TP-2657] p 37 N87-29795
- KOCHEL, R. CRAIG**
Sapping features of the Colorado Plateau: A comparative planetary geology field guide
[NASA-SP-491] p 49 N89-10401
- KOSMAHL, HENRY G.**
Analytical and experimental performance of a dual-mode traveling wave tube and multistage depressed collector
[NASA-TP-2752] p 35 N87-25532
- KRAMBEER, KEITH D.**
Derivation and definition of a linear aircraft model
[NASA-RP-1207] p 19 N89-15123
- KRIST, STEVEN E.**
Numerical simulation of channel flow transition, resolution requirements and structure of the hairpin vortex
[NASA-TP-2667] p 4 N87-19351
- KROPP, JACK**
Solar-Terrestrial Science Strategy Workshop
[NASA-CP-3048] p 73 N90-18329
- KRUEGER, ARLIN J.**
Scientific and Operational Requirements for TOMS Data
[NASA-CP-2497] p 47 N88-13774
The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-RP-1201] p 49 N88-20714
The 1989 Airborne Arctic Stratospheric Expedition Nimbus-7 TOMS data atlas
[NASA-TP-1227] p 57 N89-27302
The 1988 Antarctic ozone monitoring Nimbus-7 TOMS data atlas
[NASA-RP-1225] p 57 N89-28983
Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989
[NASA-RP-1237] p 58 N90-23837
- KUDLINSKI, ROBERT A.**
Digital enhancement of flow field images
[NASA-TP-2770] p 62 N88-20833

KUHI, LEONARD V.

FGK stars and T Tauri stars: Monograph series on nonthermal phenomena in stellar atmospheres
[NASA-SP-502] p 77 N90-18344

KUMAR, AJAY

Numerical simulation of scramjet inlet flow fields
[NASA-TP-2517] p 8 N88-23735

KUNDE, V. G.

The Cassini mission: Infrared and microwave spectroscopic measurements
[NASA-RP-1213] p 78 N89-16709

KUNDU, MUKUL

Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings
[NASA-CP-2439] p 79 N87-19328

KURKOV, ANATOLE P.

Optical measurement of propeller blade deflections
[NASA-TP-2841] p 39 N88-28286

KURYLO, M. J.

Present state of knowledge of the upper atmosphere 1988: An assessment report
[NASA-RP-1208] p 52 N88-29233

Present state of knowledge of the upper atmosphere 1990: An assessment report
[NASA-RP-1242] p 54 N90-28929

KURZEJA, R. J.

Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid
[NASA-TP-2625] p 51 N87-13022

KURZEJA, ROBERT J.

Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide
[NASA-TP-2761] p 56 N88-14572

KUTLER, PAUL

Supercomputing in Aerospace
[NASA-CP-2454] p 5 N87-25998

KWON, J. H.

Diode laser satellite systems for beamed power transmission
[NASA-TP-2992] p 40 N90-24585

KYLE, H. LEE

Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152

Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
[NASA-RP-1211] p 79 N89-30151

L

LADSON, CHARLES L.

Evolution, calibration, and operational characteristics of the two-dimensional test section of the Langley 0.3-meter transonic cryogenic tunnel
[NASA-TP-2749] p 21 N87-28570

LALA, G. G.

Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585

LALLMAN, FREDERICK J.

A closed-form trim solution yielding minimum trim drag for airplanes with multiple longitudinal-control effectors
[NASA-TP-2907] p 20 N89-23468

LAMAR, JOHN E.

Pressure measurements on a thick cambered and twisted 58 deg delta wing at high subsonic speeds
[NASA-TP-2713] p 6 N87-27643

Sensitivity of F-106B leading-edge-vortex images to flight and vapor-screen parameters
[NASA-TP-2818] p 8 N88-23760

LAMB, MILTON

Aeropropulsive characteristics of isolated combined turbojet/ramjet nozzles at Mach numbers from 0 to 1.20
[NASA-TP-2814] p 8 N88-23757

Integration effects of pylon geometry on a high-wing transport airplane
[NASA-TP-2877] p 9 N89-15888

LAMKIN, S. L.

BRYNTRN: A baryon transport model
[NASA-TP-2887] p 80 N89-17562

LANCE, D. G.

Low velocity instrumented impact testing of four new damage tolerant carbon/epoxy composite systems
[NASA-TP-3029] p 29 N90-25198

An examination of impact damage in glass-phenolic and aluminum honeycomb core composite panels
[NASA-TP-3042] p 29 N90-27876

LANSING, DONALD L.

Quantitative analysis of the reconstruction performance of interpolants
[NASA-TP-2688] p 65 N87-22441

Experiments in encoding multilevel images as quadrees
[NASA-TP-2722] p 65 N87-28367

LARKO, DAVID E.

The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-RP-1201] p 49 N88-20714

The 1989 Airborne Arctic Stratospheric Expedition Nimbus-7 TOMS data atlas
[NASA-RP-1227] p 57 N89-27302

The 1988 Antarctic ozone monitoring Nimbus-7 TOMS data atlas
[NASA-RP-1225] p 57 N89-28983

Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989
[NASA-RP-1237] p 58 N90-23837

LARSON, TERRY J.

Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack
[NASA-TP-2716] p 14 N87-29497

LEATHERWOOD, JACK D.

Annoyance response to simulated advanced turboprop aircraft interior noise containing tonal beats
[NASA-TP-2689] p 66 N87-24161

LEAVITT, L. D.

Static internal performance of single-expansion-ramp nozzles with thrust-vectoring capability up to 60 deg
[NASA-TP-2364] p 3 N87-10839

LEAVITT, LAURENCE D.

Effects of afterbody boattail design and empennage arrangement on aeropropulsive characteristics of a twin-engine fighter model at transonic speeds
[NASA-TP-2704] p 4 N87-21873

Static internal performance of a nonaxisymmetric vaned thrust reverser with flow splay capability
[NASA-TP-2933] p 10 N89-27634

LECROY, STUART R.

Surface bidirectional reflectance properties of two southwestern Arizona deserts for wavelengths between 0.4 and 2.2 micrometers
[NASA-TP-2643] p 48 N87-22281

LEE, G.

Automated Reduction of Data from Images and Holograms
[NASA-CP-2477] p 6 N87-29432

LEE, KAM-PUI

A review of reaction rates and thermodynamic and transport properties for an 11-species air model for chemical and thermal nonequilibrium calculations to 30000 K
[NASA-RP-1232] p 38 N90-27064

LEE, LARRY D.

New methods and results for quantification of lightning-aircraft electrodynamic
[NASA-TP-2737] p 4 N87-21871

LEE, MARK C.

Noncontact Temperature Measurement
[NASA-CP-2503] p 32 N88-23895

LEE, W. S.

Auger electron intensity variations in oxygen-exposed large grain polycrystalline silver
[NASA-TP-2930] p 67 N89-30022

LEHOCZYK, S. L.

Growth of solid solution single crystals
[NASA-TP-2787] p 32 N88-14212

LEISAWITZ, DAVID

Catalog of open clusters and associated interstellar matter
[NASA-RP-1202] p 76 N88-29652

Commentary on interstellar matter associated with 18 open clusters
[NASA-RP-1229] p 77 N89-27612

LERCH, BRADLEY A.

Heat treatment study of the SiC/Ti-15-3 composite system
[NASA-TP-2970] p 29 N90-19302

LESNY, GARY G.

Performance of a small, graphite electrode, multistage depressed collector with a 500-W, continuous wave, 4.8- to 9.6-GHz traveling wave tube
[NASA-TP-2788] p 35 N88-15146

LEVIN, ALAN D.

Summary of studies to reduce wing-mounted propfan installation drag on an M = 0.8 transport
[NASA-TP-2678] p 14 N87-20990

LEVINE, JOEL S.

Space Opportunities for Tropospheric Chemistry Research
[NASA-CP-2450] p 51 N87-18248

LEWICKI, DAVID G.

Predicted effect of dynamic load on pitting fatigue life for low-contact-ratio spur gears
[NASA-TP-2610] p 41 N87-18095

Vibration characteristics of OH-58A helicopter main rotor transmission
[NASA-TP-2705] p 41 N87-20555

LIEBERT, CURT H.

Measurement of local high-level, transient surface heat flux
[NASA-TP-2840] p 39 N88-30099

LITVIN, FAYDOR L.

Theory of gearing
[NASA-RP-1212] p 42 N90-19593

LOHR, GARY W.

A simulator investigation of the use of digital data link for pilot/ATC communications in a single pilot operation
[NASA-TP-2837] p 13 N89-11726

A piloted simulation study of data link ATC message exchange
[NASA-TP-2859] p 13 N89-15900

Delivery performance of conventional aircraft by terminal-area, time-based air traffic control: A real-time simulation evaluation
[NASA-TP-2978] p 13 N90-18378

LONG, EDWARD R., JR.

Spectroscopic comparison of effects of electron radiation on mechanical properties of two polyimides
[NASA-TP-2663] p 27 N87-18611

Absorbed dose thresholds and absorbed dose rate limitations for studies of electron radiation effects on polyetherimides
[NASA-TP-2928] p 31 N89-25332

LONG, SHEILA ANN T.

Spectroscopic comparison of effects of electron radiation on mechanical properties of two polyimides
[NASA-TP-2663] p 27 N87-18611

Absorbed dose thresholds and absorbed dose rate limitations for studies of electron radiation effects on polyetherimides
[NASA-TP-2928] p 31 N89-25332

LONG, W. RUSS

Workshop on Two-Phase Fluid Behavior in a Space Environment
[NASA-CP-3043] p 38 N89-26184

LOPEZ, MERCEDES C.

Static mechanical properties of 30 x 11.5 - 14.5, type 8 aircraft tires of bias-ply and radial-belted design
[NASA-TP-2810] p 15 N88-21157

LORD, DOUGLAS R.

Spacelab: An international success story
[NASA-SP-487] p 72 N88-19375

LOWRY, S. A.

Space shuttle main engine high pressure fuel pump aft platform seal cavity flow analysis
[NASA-TP-2685] p 36 N87-17000

LUERS, J. K.

Preliminary estimates of radiosonde thermistor errors
[NASA-TP-2637] p 55 N87-12086

LYONS, VALERIE J.

Velocity profiles in laminar diffusion flames
[NASA-TP-2596] p 36 N87-18035

Determination of combustion gas temperatures by infrared radiometry in sooting and nonsooting flames
[NASA-TP-2900] p 38 N89-25409

M

MACARAEG, MICHELE G.

A spectral collocation solution to the compressible stability eigenvalue problem
[NASA-TP-2858] p 9 N89-12543

MACELROY, ROBERT D.

Controlled Ecological Life Support System: Regenerative Life Support Systems in Space
[NASA-CP-2480] p 60 N88-12251

Controlled Ecological Life Support System. Design, Development, and Use of a Ground-Based Plant Growth Module
[NASA-CP-2479] p 60 N88-13852

Report of the 1st Planning Workshop for CELSS Flight Experimentation
[NASA-CP-10020] p 60 N89-13898

MACK, ROBERT J.

Aerodynamic characteristics of wings designed with a combined-theory method to cruise at a Mach number of 4.5
[NASA-TP-2799] p 7 N88-19420

MACKALL, DALE A.

Development and flight test experiences with a flight-critical digital control system
[NASA-TP-2857] p 20 N89-24327

MACKAY, REBECCA A.

Heat treatment study of the SiC/Ti-15-3 composite system
[NASA-TP-2970] p 29 N90-19302

MACPHERSON, GLENN

Planetary geosciences, 1988
[NASA-SP-498] p 48 N89-26274

- MADDALON, DAL V.**
Simulated-airline-service flight tests of laminar-flow control with perforated-surface suction system
[NASA-TP-2966] p 16 N90-17627
- MAINE, RICHARD E.**
Application of parameter estimation to aircraft stability and control: The output-error approach
[NASA-RP-1168] p 14 N87-29499
- MAINE, TRINDEL A.**
A piloted evaluation of an oblique-wing research aircraft motion simulation with decoupling control laws
[NASA-TP-2874] p 20 N89-15930
- MAINS, RICHARD**
Proceedings of a conference on Cardiovascular Bioinstrumentation
[NASA-CP-10022] p 59 N89-17997
- MAINS, RICHARD C.**
Cells in Space
[NASA-CP-10034] p 61 N90-13939
- MAJOR, EUGENE**
Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
[NASA-RP-1211] p 79 N89-30151
- MAJOR, JUDITH A.**
Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-RP-1233-VOL-1] p 54 N90-20562
Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
[NASA-RP-1233-VOL-2] p 54 N90-20563
Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
[NASA-RP-1233-VOL-4] p 54 N90-20564
Surface topography of the Greenland Ice Sheet from satellite radar altimetry
[NASA-SP-503] p 54 N90-22850
- MALL, GERALD H.**
A simplified method for determining heat of combustion of natural gas
[NASA-TP-2682] p 39 N87-20514
Finite-rate water condensation in combustion-heated wind tunnels
[NASA-TP-2833] p 22 N88-28075
Analysis of positron lifetime spectra in polymers
[NASA-TP-2853] p 63 N89-12237
- MANALO, NATIVIDAD**
Limb-darkening functions as derived from along-track operation of the ERBE scanning radiometer for January 1985
[NASA-RP-1214] p 56 N89-17374
- MANDERSCHIED, JANE M.**
Ceramics Analysis and Reliability Evaluation of Structures (CARES). Users and programmers manual
[NASA-TP-2916] p 47 N90-28099
- MANN, M. J.**
Forward-swept wing configuration designed for high maneuverability by use of a transonic computational method
[NASA-TP-2628] p 3 N87-11702
- MANN, MICHAEL J.**
Subsonic longitudinal and lateral-directional characteristics of a forward-swept-wing fighter configuration at angles of attack up to 47 deg
[NASA-TP-2727] p 6 N87-26874
Validation of a computer code for analysis of subsonic aerodynamic performance of wings with flaps in combination with a canard or horizontal tail and an application to optimization
[NASA-TP-2961] p 11 N90-14187
- MANUEL, GREGORY S.**
Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462
- MARCOLINI, MICHAEL A.**
Helicopter main-rotor noise: Determination of source contributions using scaled model data
[NASA-TP-2825] p 67 N88-26907
Airfoil self-noise and prediction
[NASA-RP-1218] p 67 N89-25673
- MARCUM, DON C., JR.**
Effect of Reynolds number variation on aerodynamics of a hydrogen-fueled transport concept at Mach 6
[NASA-TP-2728] p 5 N87-26031
- MARGASON, RICHARD J.**
The 1987 Ground Vortex Workshop
[NASA-CP-10008] p 9 N89-10849
- MARGLE, JANICE M.**
Velocity profiles in laminar diffusion flames
[NASA-TP-2596] p 36 N87-18035
Spacecraft Fire Safety
[NASA-CP-2476] p 24 N88-12520
- MARRIOTT, RICHARD S.**
Outgassing data for selecting spacecraft materials
[NASA-RP-1124] p 28 N88-10117
- MARSHALL, B. T.**
Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide
[NASA-TP-2761] p 56 N88-14572
- MARTENSEN, ANNA L.**
The Fault Tree Compiler (FTC): Program and mathematics
[NASA-TP-2915] p 64 N89-24815
- MARTIN, COLIN A.**
Measurements of pressures on the tail and aft fuselage of an airplane model during rotary motions at spin attitudes
[NASA-TP-2939] p 10 N90-10829
- MARTIN, GARY L.**
Conceptual design of a synchronous Mars telecommunications satellite
[NASA-TP-2942] p 78 N90-10814
- MARTIN, R. M.**
Power cepstrum technique with application to model helicopter acoustic data
[NASA-TP-2586] p 66 N87-17479
Correlation of helicopter impulsive noise from blade-vortex interaction with rotor mean inflow
[NASA-TP-2650] p 66 N87-18399
Advancing-side directivity and retreating-side interactions of model rotor blade-vortex interaction noise
[NASA-TP-2784] p 67 N88-22710
- MARTIN, THOMAS V.**
Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-RP-1233-VOL-1] p 54 N90-20562
Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
[NASA-RP-1233-VOL-2] p 54 N90-20563
Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
[NASA-RP-1233-VOL-4] p 54 N90-20564
- MASON, M. L.**
Interference effects of thrust reversing on horizontal tail effectiveness of twin-engine fighter aircraft at Mach numbers from 0.15 to 0.90
[NASA-TP-2350] p 19 N87-10870
- MASON, MARY L.**
Static performance of an axisymmetric nozzle with post-exit vanes for multi-axis thrust vectoring
[NASA-TP-2800] p 8 N88-20280
Static performance of nonaxisymmetric nozzles with yaw thrust-vectoring vanes
[NASA-TP-2813] p 8 N88-21118
- MASON, W. H.**
Supersonic, nonlinear, attached-flow wing design for high lift with experimental validation
[NASA-TP-2336] p 3 N87-10042
- MASSEY, D. E.**
Pulse Code Modulation (PCM) data storage and analysis using a microcomputer
[NASA-TP-2629] p 33 N87-12718
- MASTERS, PHILIP A.**
High-pressure calorimeter chamber tests for liquid oxygen/kerosene (LOX/RP-1) rocket combustion
[NASA-TP-2862] p 27 N89-15979
- MASTERS, ROBERT M.**
Technique for temperature compensation of eddy-current proximity probes
[NASA-TP-2880] p 39 N89-15380
- MAUNG, KHIN M.**
Eikonal solutions to optical model coupled-channel equations
[NASA-TP-2830] p 68 N88-30402
- MAUNG, KHIN MAUNG**
Kaon-nucleus scattering
[NASA-TP-2920] p 60 N89-25103
- MCANINCH, GERRY L.**
Evaluation of a scale-model experiment to investigate long-range acoustic propagation
[NASA-TP-2748] p 66 N88-11450
- MCCASKILL, MARY K.**
Grammar, punctuation, and capitalization: A handbook for technical writers and editors
[NASA-SP-7084] p 71 N90-26710
- MCCLELLAN, V. A.**
Doppler Radar Detection of Wind Shear
[NASA-CP-2435] p 12 N87-10054
- MCCORD, THOMAS B.**
Reflectance spectroscopy in planetary science: Review and strategy for the future
[NASA-SP-493] p 78 N88-24564
- MCCORMICK, M. P.**
Airborne lidar measurements of El Chichon stratospheric aerosols, May 1983
[NASA-RP-1172] p 51 N87-11358
- MCCORMICK, M. PATRICK**
SAGE aerosol measurements. Volume 3: January 1, 1981 to November 18, 1981
[NASA-RP-1173] p 51 N87-17417
- Airborne lidar measurements of El Chichon stratospheric aerosols, January 1984
[NASA-RP-1175] p 51 N87-20663
- MCCURDY, DAVID A.**
Annoyance caused by advanced turboprop aircraft flyover noise: Single-rotating propeller configuration
[NASA-TP-2782] p 67 N88-17441
Annoyance caused by advanced turboprop aircraft flyover noise: Counter-rotating-propeller configuration
[NASA-TP-3027] p 67 N90-29166
- MCDANELS, DAVID L.**
Tungsten fiber reinforced copper matrix composites: A review
[NASA-TP-2924] p 29 N89-27796
- MCDUGAL, DAVID S.**
FIRE Science Results 1989
[NASA-CP-3079] p 58 N90-28224
- MCKAY, CHRISTOPHER P.**
Microgravity Particle Research on the Space Station
[NASA-CP-2496] p 58 N88-15354
Exobiology and Future Mars Missions
[NASA-CP-10027] p 59 N89-26334
- MCKINNEY, WILLIAM S., JR.**
Optimized resolved rate control of seven-degree-of-freedom Laboratory Telerobotic Manipulator (LTM) with application to three-dimensional graphics simulation
[NASA-TP-2938] p 64 N90-10618
- MCMASTER, L. R.**
SAM 2 data user's guide
[NASA-RP-1200] p 52 N88-25094
- MCMILLIN, NAOMI**
Planform effects on the supersonic aerodynamics of multibody configurations
[NASA-TP-2762] p 6 N88-12454
- MCNEILL, WALTER E.**
A piloted evaluation of an oblique-wing research aircraft motion simulation with decoupling control laws
[NASA-TP-2874] p 20 N89-15930
- MCNULTY, MICHAEL J.**
Integrated Technology Rotor Methodology Assessment Workshop
[NASA-CP-10007] p 2 N88-27148
- MCPETERS, R. D.**
Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227
- MEAD, JAYLEE M.**
Infrared source cross-index, first edition
[NASA-RP-1182] p 73 N87-22573
Catalog of infrared observations. Part 1: Data
[NASA-RP-1196-PT-1-ED-2] p 73 N88-15738
Catalog of infrared observations. Part 2: Appendixes
[NASA-RP-1196-PT-2-ED-2] p 74 N88-16615
Far infrared supplement: Catalog of infrared observations, second edition
[NASA-RP-1205] p 74 N88-30545
- MEADOR, MICHAEL A.**
Ester oxidation on an aluminum surface using chemiluminescence
[NASA-TP-2611] p 31 N87-18666
- MEITNER, PETER L.**
Computer code for predicting coolant flow and heat transfer in turbomachinery
[NASA-TP-2985] p 18 N90-27722
- MENDELL, WENDELL W.**
Report of the In Situ Resources Utilization Workshop
[NASA-CP-3017] p 72 N89-14188
Future Astronomical Observatories on the Moon
[NASA-CP-2489] p 74 N88-15810
- MENDREK, M. J.**
An electrochemical study of corrosion protection by primer-topcoat systems on 4130 steel with ac impedance and dc methods
[NASA-TP-2820] p 30 N89-19406
- MERCER, C. E.**
Forward-swept wing configuration designed for high maneuverability by use of a transonic computational method
[NASA-TP-2628] p 3 N87-11702
- MERRILL, WALTER C.**
Advanced detection, isolation and accommodation of sensor failures: Real-time evaluation
[NASA-TP-2740] p 19 N87-25331
Advanced detection, isolation, and accommodation of sensor failures in turbolan engines: Real-time microcomputer implementation
[NASA-TP-2925] p 20 N90-15112
- MEYER, M. B.**
Development testing of large volume water sprays for warm fog dispersal
[NASA-TP-2607] p 24 N87-12585
- MEYER, ROBERT R., JR.**
In-flight surface oil-flow photographs with comparisons to pressure distribution and boundary-layer data
[NASA-TP-2395] p 4 N87-20966

- Effects of winglets on a first-generation jet transport wing. 7: Sideslip effects on winglet loads and selected wing loads at subsonic speeds for a full-span model [NASA-TP-2619] p 7 N88-18567
- MEYER, ROBERT T.**
Piloted simulator study of allowable time delays in large-airplane response [NASA-TP-2652] p 19 N87-16849
- MEYER, WILLIAM V.**
NASA Laser Light Scattering Advanced Technology Development Workshop, 1988 [NASA-CP-10033] p 40 N90-17085
- MEYERS, JAMES F.**
Frequency domain laser velocimeter signal processor: A new signal processing scheme [NASA-TP-2735] p 40 N87-27994
- MIDDEN, RAYMOND E.**
Description and calibration of the Langley Hypersonic CF4 tunnel: A facility for simulating low gamma flow as occurs for a real gas [NASA-TP-2384] p 37 N87-29778
- MIDDLETON, DAVID B.**
Simulator evaluation of a display for a Takeoff Performance Monitoring System [NASA-TP-2908] p 20 N89-23469
- MIHALOE, JAMES R.**
Rotorcraft flight-propulsion control integration: An eclectic design concept [NASA-TP-2815] p 19 N88-19475
- MIKULAS, MARTIN M., JR.**
Continuum modeling of large lattice structures: Status and projections [NASA-TP-2767] p 25 N88-14115
- MILES, THOMAS**
Comparison of satellite-derived dynamical quantities for the stratosphere of the Southern Hemisphere [NASA-CP-3044] p 53 N89-25540
- MILLER, CHARLES G., III**
Description and calibration of the Langley Hypersonic CF4 tunnel: A facility for simulating low gamma flow as occurs for a real gas [NASA-TP-2384] p 37 N87-29778
- MILLER, D. S.**
Supersonic, nonlinear, attached-flow wing design for high lift with experimental validation [NASA-TP-2336] p 3 N87-10042
- MILLER, DAVID S.**
Investigation of leading-edge flap performance on delta and double-delta wings at supersonic speeds [NASA-TP-2656] p 4 N87-20233
- MILLER, IRVIN M.**
Closed-Cycle, Frequency-Stable CO2 Laser Technology [NASA-CP-2456] p 40 N87-20522
- MILLER, TERESA Y.**
Continuous flow electrophoresis system experiments on shuttle flights STS-6 and STS-7 [NASA-TP-2778] p 32 N88-10978
- MIN, BYUNG-JIN**
Mixed finite element models for free vibrations of thin-walled beams [NASA-TP-2868] p 45 N89-19579
- MINNIS, P.**
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation [NASA-RP-1184] p 56 N88-27677
- MITCHELL, A. M.**
Testing of UH-60A helicopter transmission in NASA Lewis 2240-kW (3000-hp) facility [NASA-TP-2626] p 41 N87-10391
- MITCHELL, KERRY**
Proceedings of the 1985 NASA Ames Research Center's Ground-Effects Workshop [NASA-CP-2462] p 5 N87-24410
- MOITRA, ANUTOSH**
On minimizing the number of calculations in design-by-analysis codes [NASA-TP-2706] p 5 N87-23586
A performance index approach to aerodynamic design with the use of analysis codes only [NASA-TP-2805] p 7 N88-18552
- MONTGOMERY, H. E.**
Sensor performance analysis [NASA-RP-1241] p 50 N90-23780
- MOORE, CARLETON J.**
Space station structures and dynamics test program [NASA-TP-2710] p 43 N87-20568
SRM propellant and polymer materials structural test program [NASA-TP-2821] p 44 N88-25013
SRM (Solid Rocket Motor) propellant and polymer materials structural modeling [NASA-TP-2824] p 45 N88-28343

- MOORE, ROYCE D.**
Experimental evaluation of two turning vane designs for fan drive corner of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel [NASA-TP-2646] p 21 N87-18576
Detailed flow surveys of turning vanes designed for a 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel [NASA-TP-2680] p 21 N87-20295
Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel [NASA-TP-2681] p 21 N88-17686
- MOOREHEAD, ROBERT W.**
Space shuttle avionics system [NASA-SP-504] p 24 N90-25160
- MOOREHEAD, T. W.**
A Study of Space Station Contamination Effects [NASA-CP-3002] p 72 N88-25390
- MOOREHEAD, TAUNA W.**
Double Layers in Astrophysics [NASA-CP-2469] p 72 N87-23313
- MORALES, WILFREDO**
Ester oxidation on an aluminum surface using chemiluminescence [NASA-TP-2611] p 31 N87-18666
Surface catalytic degradation study of two linear perfluoropolyalkylethers at 345 C [NASA-TP-2774] p 27 N88-12543
Degradation and crosslinking of perfluoroalkyl polyethers under X-ray irradiation in ultrahigh vacuum [NASA-TP-2910] p 31 N89-21103
Reaction of perfluoroalkylpolyethers (PFPE) with 440C steel in vacuum under sliding conditions at room temperature [NASA-TP-2883] p 31 N89-26091
- MORI, SHIGEYUKI**
Degradation and crosslinking of perfluoroalkyl polyethers under X-ray irradiation in ultrahigh vacuum [NASA-TP-2910] p 31 N89-21103
Reaction of perfluoroalkylpolyethers (PFPE) with 440C steel in vacuum under sliding conditions at room temperature [NASA-TP-2883] p 31 N89-26091
- MORRELL, FREDERICK R.**
Joint University Program for Air Transportation Research, 1983 [NASA-CP-2451] p 1 N87-18520
Joint University Program for Air Transportation Research, 1984 [NASA-CP-2452] p 1 N87-22604
Joint University Program for Air Transportation Research, 1985 [NASA-CP-2453] p 1 N87-27596
Joint University Program for Air Transportation Research, 1986 [NASA-CP-2502] p 2 N88-23715
Joint University Program for Air Transportation Research, 1987 [NASA-CP-3028] p 2 N89-19230
Joint University Program for Air Transportation Research, 1988-1989 [NASA-CP-3063] p 2 N90-20921
- MORRISON, DENNIS R.**
Space Bioreactor Science Workshop [NASA-CP-2485] p 58 N89-17168
- MORROW, G.**
The 1985 Goddard Space Flight Center Battery Workshop [NASA-CP-2434] p 34 N87-11072
- MORROW, GEORGE W.**
The 1986 Goddard Space Flight Center Battery Workshop [NASA-CP-2486] p 35 N88-11021
- MOSIER, FRANCES L.**
The 1986 Get Away Special Experimenter's Symposium [NASA-CP-2438] p 22 N87-20302
The 1987 Get Away Special Experimenter's Symposium [NASA-CP-2500] p 22 N88-17691
The 1988 Get Away Special Experimenter's Symposium [NASA-CP-3008] p 22 N89-10902
- MURRI, DANIEL G.**
Wind-tunnel investigation of a full-scale general aviation airplane equipped with an advanced natural laminar flow wing [NASA-TP-2772] p 6 N88-10009

N

- NAGARAJA, K. S.**
Effects of winglet on transonic flutter characteristics of a cantilevered twin-engine-transport wing model [NASA-TP-2627] p 43 N87-13789
- NAGY, LAWRENCE A.**
Satellite-matrix-switched, time-division-multiple-access network simulator [NASA-TP-2944] p 34 N90-11915
- NAIDU, DESINENI S.**
Singular perturbations and time scales in the design of digital flight control systems [NASA-TP-2844] p 19 N89-12569
- NAMKUNG, J. S.**
Atlas of absorption lines from 0 to 17900 cm (sup)-1 [NASA-RP-1188] p 49 N87-28955
- NATAUPSKY, MARK**
Effects of combining vertical and horizontal information into a primary flight display [NASA-TP-2783] p 17 N88-12487
- NATHAL, MICHAEL V.**
Compatibility of dispersion-strengthened platinum with resistojet propellants [NASA-TP-2765] p 27 N88-12538
- NEALY, JOHN E.**
Solar-flare shielding with Regolith at a lunar-base site [NASA-TP-2869] p 79 N89-14210
BRYNTRN: A baryon transport model [NASA-TP-2887] p 80 N89-17562
Radiation exposure for manned Mars surface missions [NASA-TP-2979] p 80 N90-18357
Improved model for solar cosmic ray exposure in manned Earth orbital flights [NASA-TP-2987] p 80 N90-25031
Comparison of dose estimates using the buildup-factor method and a Baryon transport code (BRYNTRN) with Monte Carlo results [NASA-TP-3021] p 80 N90-29290
- NEMETH, MICHAEL P.**
Buckling and postbuckling behavior of square compression-loaded graphite-epoxy plates with circular cutouts [NASA-TP-3007] p 29 N90-26077
Buckling and postbuckling behavior of compression-loaded isotropic plates with cutouts [NASA-TP-3024] p 47 N90-28859
- NEMETH, NOEL N.**
Ceramics Analysis and Reliability Evaluation of Structures (CARES). Users and programmers manual [NASA-TP-2916] p 47 N90-28099
- NETTLES, A. T.**
Instrumented impact and residual tensile strength testing of eight-ply carbon epoxy specimens [NASA-TP-2981] p 29 N90-16007
Low velocity instrumented impact testing of four new damage tolerant carbon/epoxy composite systems [NASA-TP-3029] p 29 N90-25198
An examination of impact damage in glass-phenolic and aluminum honeycomb core composite panels [NASA-TP-3042] p 29 N90-27876
- NEUGEBAUER, G.**
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 1: Explanatory supplement [NASA-RP-1190-VOL-1] p 76 N89-14194
- NEUMAN, HARVEY E.**
Laser-velocimeter-measured flow field around an advanced, swept, eight-blade propeller at Mach 0.8 [NASA-TP-2462] p 2 N90-20942
- NEWSOM, JERRY R.**
NASA/DOD Controls-Structures Interaction Technology 1989 [NASA-CP-3041] p 26 N90-21062
- NGO, KIM CHI**
Contamination of liquid oxygen by pressurized gaseous nitrogen [NASA-TP-2894] p 38 N89-19499
- NICHOLS, J. H., JR.**
Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft [NASA-TP-2684] p 13 N87-15959
- NICHOLSBOHLIN, JOY**
International ultraviolet explorer spectral atlas of planetary nebulae, central stars, and related objects [NASA-RP-1203] p 76 N88-28843
- NIELSEN, JACK N.**
Proceedings of the Circulation-Control Workshop, 1986 [NASA-CP-2432] p 7 N88-17586
- NISHIOKA, KENJI**
Workshop on Technology Development Issues for the Large Deployable Reflector (LDR) [NASA-CP-2407] p 75 N88-20235

NISSIM, E.

- Control surface spanwise placement in active flutter suppression systems
[NASA-TP-2873] p 45 N89-16196
- Method for experimental determination of flutter speed by parameter identification
[NASA-TP-2923] p 15 N89-26844
- Effect of control surface mass unbalance on the stability of a closed-loop active control system
[NASA-TP-2952] p 47 N90-12042

NISSIM, ELI

- The effectiveness of vane-aileron excitation in the experimental determination of flutter speed by parameter identification
[NASA-TP-2971] p 16 N90-15100

NIXON, MARK W.

- Preliminary structural design of composite main rotor blades for minimum weight
[NASA-TP-2730] p 28 N87-25435

NOLL, CAREY E.

- Crustal Dynamics Project: Catalogue of site information
[NASA-RP-1198] p 52 N88-19037

NOONAN, KEVIN W.

- Aerodynamic characteristics of two rotorcraft airfoils designed for application to the inboard region of a main rotor blade
[NASA-TP-3009] p 11 N90-24239

NOOR, AHMED K.

- Exploiting symmetries in the modeling and analysis of tires
[NASA-TP-2649] p 13 N87-17690
- Continuum modeling of large lattice structures: Status and projections
[NASA-TP-2767] p 25 N88-14115
- Advances in contact algorithms and their application to tires
[NASA-TP-2781] p 44 N88-21456
- Partitioning strategy for efficient nonlinear finite element dynamic analysis on multiprocessor computers
[NASA-TP-2850] p 45 N89-16170
- Mixed finite element models for free vibrations of thin-walled beams
[NASA-TP-2868] p 45 N89-19579
- Mixed formulation for frictionless contact problems
[NASA-TP-2897] p 45 N89-19580
- Research in structures, structural dynamics and materials, 1989
[NASA-CP-10024] p 46 N89-24626
- Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
[NASA-TP-2977] p 42 N90-19595

NORBURY, JOHN W.

- Doubly differential cross sections for galactic heavy-ion fragmentation
[NASA-TP-2659] p 68 N87-17487
- Possible complementary cosmic-ray systems: Nuclei and antinuclei
[NASA-TP-2741] p 68 N87-24977
- A general formalism for phase space calculations
[NASA-TP-2843] p 66 N89-14053
- Calculation of two-neutron multiplicity in photonuclear reactions
[NASA-TP-2968] p 68 N90-14890

NORMAN, SUSAN D.

- Flight deck automation: Promises and realities
[NASA-CP-10036] p 17 N90-13384

NORTON, ROBERT H.

- A high-resolution atlas of the infrared spectrum of the sun and the earth atmosphere from space. A compilation of ATMOS spectra of the region from 650 to 4800 cm⁻¹ (2.3 to 16 microns). Volume 2: Stratosphere and mesosphere, 650 to 3350 cm⁻¹
[NASA-RP-1224-VOL-2] p 53 N89-28969
- A high-resolution atlas of the infrared spectrum of the Sun and the Earth atmosphere from space. A compilation of ATMOS spectra of the region from 650 to 4800 cm⁻¹ (2.3 to 16 micron). Volume 1: The Sun
[NASA-RP-1224-VOL-1] p 53 N90-13893

NORUM, THOMAS D.

- Shock structure and noise of supersonic jets in simulated flight to Mach 0.4
[NASA-TP-2785] p 67 N88-16510

NOTESTINE, KRISTOPHER K.

- Aerodynamic pressure and heating-rate distributions in tile gaps around chine regions with pressure gradients at a Mach number of 6.6
[NASA-TP-2988] p 38 N90-23670

NOWAK, ROBERT J.

- Gas-jet and tangent-slot film cooling tests of a 12.5 deg cone at Mach number of 6.7
[NASA-TP-2786] p 39 N90-28806

NUGENT, JACK

- Comparison of wind tunnel and flight test afterbody and nozzle pressures for a twin-jet fighter aircraft at transonic speeds
[NASA-TP-2588] p 6 N88-10765

NUTTER, S. T.

- Nimbus-7 Stratospheric and Mesospheric Sounder (SAMS) experiment data user's guide
[NASA-RP-1221] p 53 N89-26304

O

OAKES, ARNOLD G.

- Nimbus-7 data product summary
[NASA-RP-1215] p 48 N89-22152

ODELL, STEPHEN L.

- Fourth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3013] p 63 N89-15549

ODELL, STEVE L.

- Fifth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3073] p 63 N90-27275

OLIVERSEN, NANCY A.

- International ultraviolet explorer spectral atlas of planetary nebulae, central stars, and related objects
[NASA-RP-1203] p 76 N88-28843

OLSEN, GEORGE C.

- Effects of continuous and cyclic thermal exposures on boron- and borisic-reinforced 6061 aluminum composites
[NASA-TP-1063] p 28 N88-70029

ONEILL, ALAN

- Comparison of satellite-derived dynamical quantities for the stratosphere of the Southern Hemisphere
[NASA-CP-3044] p 53 N89-25540

ORANGE, THOMAS W.

- Stress intensity and crack displacement for small edge cracks
[NASA-TP-2801] p 44 N88-17095

ORLADY, HARRY W.

- Cockpit Resource Management Training
[NASA-CP-2455] p 12 N87-22634
- Flight deck automation: Promises and realities
[NASA-CP-10036] p 17 N90-13384

ORMES, JONATHAN F.

- Essays in Space Science
[NASA-CP-2464] p 72 N87-24247

ORMOND, F. M.

- Present state of knowledge of the upper atmosphere 1990: An assessment report
[NASA-RP-1242] p 54 N90-28929

ORWIG, LARRY E.

- Rapid Fluctuations in Solar Flares
[NASA-CP-2449] p 79 N87-21785

OSBORN, M. T.

- Airborne lidar measurements of El Chichon stratospheric aerosols, May 1983
[NASA-RP-1172] p 51 N87-11358
- Airborne lidar measurements of El Chichon stratospheric aerosols, January 1984
[NASA-RP-1175] p 51 N87-20663
- SAM 2 data user's guide
[NASA-RP-1200] p 52 N88-25094
- Forty-eight-inch lidar aerosol measurements taken at the Langley Research Center, May 1974 to December 1987
[NASA-RP-1209] p 52 N88-29234

OSLIK, N.

- Nimbus-7 Stratospheric and Mesospheric Sounder (SAMS) experiment data user's guide
[NASA-RP-1221] p 53 N89-26304

OSSA, WILLIAM A.

- Material characterization of superplastically formed titanium (Ti-6Al-2Sn-4Zr-2Mo) sheet
[NASA-TP-2674] p 30 N87-20407

OSTROFF, AARON J.

- Integrated tools for control-system analysis
[NASA-TP-2885] p 20 N89-19309

OSTROW, H.

- Sensor performance analysis
[NASA-RP-1241] p 50 N90-23780

OSWALD, F. B.

- Testing of UH-60A helicopter transmission in NASA Lewis 2240-kW (3000-hp) facility
[NASA-TP-2626] p 41 N87-10391

OSWALD, FRED B.

- Gear tooth stress measurements on the UH-60A helicopter transmission
[NASA-TP-2698] p 41 N87-22235

- Dynamic analysis of multimesh-gear helicopter transmissions
[NASA-TP-2789] p 41 N88-17045

OTTENSTEIN, LAURA

- Workshop on Two-Phase Fluid Behavior in a Space Environment
[NASA-CP-3043] p 38 N89-26184

OUTLAW, R. A.

- Electron stimulated desorption of atomic oxygen from silver
[NASA-TP-2668] p 29 N87-18629
- Permeation of oxygen through high purity, large grain silver
[NASA-TP-2755] p 30 N87-27024
- Auger electron intensity variations in oxygen-exposed large grain polycrystalline silver
[NASA-TP-2930] p 67 N89-30022
- Introduction to total- and partial-pressure measurements in vacuum systems
[NASA-RP-1219] p 40 N90-10412
- An Auger electron spectroscopy study of surface-preparation contaminants
[NASA-TP-2972] p 33 N90-16968

OWEN, ROBERT B.

- Liquid drop stability for protein crystal growth in microgravity
[NASA-TP-2724] p 58 N87-20727

OWENS, D. BRUCE

- Low-speed wind-tunnel investigation of the flight dynamic characteristics of an advanced turboprop business/commuter aircraft configuration
[NASA-TP-2982] p 20 N90-19239

P

PACK, HOMER C., JR.

- Solar array flight experiment/dynamic augmentation experiment
[NASA-TP-2690] p 26 N87-20380

PALUMBO, DANIEL L.

- A technique for evaluating the application of the pin-level stuck-at fault model to VLSI circuits
[NASA-TP-2738] p 42 N87-28025

PARK, J. H.

- Atlas of absorption lines from 0 to 17900 cm (sup)-1
[NASA-RP-1188] p 49 N87-28955

PARK, STEPHEN K.

- Quantitative analysis of the reconstruction performance of interpolants
[NASA-TP-2688] p 65 N87-22441
- Digital enhancement of flow field images
[NASA-TP-2770] p 62 N88-20833
- Visual Information Processing for Television and Telerobotics
[NASA-CP-3053] p 40 N90-16204

PARKINSON, CLAIRE L.

- Arctic Sea ice, 1973-1976: Satellite passive-microwave observations
[NASA-SP-489] p 58 N87-24870

PARRISH, RUSSELL V.

- Stereopsis cueing effects on hover-in-turbulence performance in a simulated rotorcraft
[NASA-TP-2980] p 17 N90-21004
- Determination of depth-viewing volumes for stereo three-dimensional graphic displays
[NASA-TP-2999] p 61 N90-22965

PARROTT, TONY L.

- Experimental validation of a two-dimensional shear-flow model for determining acoustic impedance
[NASA-TP-2679] p 66 N87-20798
- Evaluation of a scale-model experiment to investigate long-range acoustic propagation
[NASA-TP-2748] p 66 N88-11450
- Measured and calculated acoustic attenuation rates of tuned resonator arrays for two surface impedance distribution models with flow
[NASA-TP-2766] p 67 N88-17440
- Fluctuating pressures measured beneath a high-temperature, turbulent boundary layer on a flat plate at Mach number of 5
[NASA-TP-2947] p 67 N90-10680

PARSONS, C. L.

- MARA (Multimode Airborne Radar Altimeter) system documentation. Volume 1: MARA system requirements document
[NASA-RP-1226] p 39 N89-26209

PATNAIK, SURYA N.

- Integrated force method versus displacement method for finite element analysis
[NASA-TP-2937] p 47 N90-18081

PATTERSON, BRIAN P.

- User's manual for LINEAR, a FORTRAN program to derive linear aircraft models
[NASA-TP-2768] p 65 N88-21740
- User's manual for interactive LINEAR: A FORTRAN program to derive linear aircraft models
[NASA-TP-2835] p 65 N89-16437

PATTERSON, JAMES C., JR.

- Evaluation of installed performance of a wing-tip-mounted pusher turboprop on a semispan wing
[NASA-TP-2739] p 14 N87-26041

- PATTON, JAMES M., JR.**
Flight investigation of the effect of tail configuration on stall, spin, and recovery characteristics of a low-wing general aviation research airplane
[NASA-TP-2644] p 13 N87-16815
Flight investigation of the effects of an outboard wing-leading-edge modification on stall/spin characteristics of a low-wing, single-engine, T-tail light airplane
[NASA-TP-2691] p 14 N87-23614
- PAULSON, JOHN W., JR.**
A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel
[NASA-TP-2796] p 7 N88-20264
- PAVLI, ALBERT J.**
Experimental thrust performance of a high-area-ratio rocket nozzle
[NASA-TP-2720] p 26 N87-20381
Comparison of theoretical and experimental thrust performance of a 1030:1 area ratio rocket nozzle at a chamber pressure of 2413 kN/m² (350 psia)
[NASA-TP-2725] p 26 N87-25423
Experimental evaluation of heat transfer on a 1030:1 area ratio rocket nozzle
[NASA-TP-2726] p 27 N87-25424
- PECKER, JEAN-CLAUDE**
The M-type stars
[NASA-SP-492] p 75 N88-11592
- PEET, SHELLEY**
Traveling-wave-tube efficiency improvement by a low-cost technique for deposition of carbon on multistage depressed collector
[NASA-TP-2719] p 35 N87-21239
Performance of a small, graphite electrode, multistage depressed collector with a 500-W, continuous wave, 4.8- to 9.6-GHz traveling wave tube
[NASA-TP-2788] p 35 N88-15146
- PENARANDA, F. E.**
Aeronautical facilities assessment
[NASA-TP-1146] p 21 N87-10876
- PENDERGRAFT, ODIS C., JR.**
An experimental investigation of an advanced turboprop installation on a swept wing at subsonic and transonic speeds
[NASA-TP-2729] p 6 N87-26883
Comparison of wind tunnel and flight test afterbody and nozzle pressures for a twin-jet fighter aircraft at transonic speeds
[NASA-TP-2588] p 6 N88-10765
- PENLAND, JIM A.**
Effect of Reynolds number variation on aerodynamics of a hydrogen-fueled transport concept at Mach 6
[NASA-TP-2728] p 5 N87-26031
- PENN, LANNING M.**
The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-TP-1201] p 49 N88-20714
The 1989 Airborne Arctic Stratospheric Expedition Nimbus-7 TOMS data atlas
[NASA-TP-1227] p 57 N89-27302
The 1988 Antarctic ozone monitoring Nimbus-7 TOMS data atlas
[NASA-TP-1225] p 57 N89-28983
Nimbus-7 TOMS Antarctic ozone atlas: August through November, 1989
[NASA-TP-1237] p 58 N90-23837
- PERALA, RODNEY A.**
New methods and results for quantification of lightning-aircraft electrodynamic
[NASA-TP-2737] p 4 N87-21871
- PEREGOY, W. K.**
Electron stimulated desorption of atomic oxygen from silver
[NASA-TP-2668] p 29 N87-18629
Permeation of oxygen through high purity, large grain silver
[NASA-TP-2755] p 30 N87-27024
- PEREYDA, MARGARITA**
Time-Variable Phenomena in the Jovian System
[NASA-SP-494] p 78 N89-28474
- PERSON, LEE H., JR.**
Piloted simulator study of allowable time delays in large-airplane response
[NASA-TP-2652] p 19 N87-16849
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application
[NASA-TP-2482] p 19 N88-14987
Simulator evaluation of a display for a Takeoff Performance Monitoring System
[NASA-TP-2908] p 20 N89-23469
- PETERS, JEANNE M.**
Partitioning strategy for efficient nonlinear finite element dynamic analysis on multiprocessor computers
[NASA-TP-2850] p 45 N89-16170
- Mixed finite element models for free vibrations of thin-walled beams
[NASA-TP-2868] p 45 N89-19579
- PHILLIPS, JAMES D.**
Modal control of an oblique wing aircraft
[NASA-TP-2898] p 20 N89-16845
- PHILLIPS, PAMELA S.**
A transonic-small-disturbance wing design methodology
[NASA-TP-2806] p 7 N88-17614
- PICKETT, H. M.**
Atlas of absorption lines from 0 to 17900 cm (sup)-1
[NASA-TP-1188] p 49 N87-28955
- PIERCE, ALLAN D.**
Status of sonic boom methodology and understanding
[NASA-CP-3027] p 9 N89-23415
- PILKEY, BARBARA F.**
The 58th Shock and Vibration Symposium, volume 1
[NASA-CP-2488-VOL-1] p 43 N88-13609
The 58th Shock and Vibration Symposium, volume 2
[NASA-CP-2488-VOL-2] p 44 N88-18948
- PILKEY, WALTER D.**
The 58th Shock and Vibration Symposium, volume 1
[NASA-CP-2488-VOL-1] p 43 N88-13609
The 58th Shock and Vibration Symposium, volume 2
[NASA-CP-2488-VOL-2] p 44 N88-18948
- PILTCH, NANCY D.**
Microgravity Combustion Diagnostics Workshop
[NASA-CP-10017] p 32 N89-17682
- PIROUZ, P.**
Indentation plasticity and fracture in silicon
[NASA-TP-2863] p 30 N89-10996
- PITTMAN, J. L.**
Supersonic, nonlinear, attached-flow wing design for high lift with experimental validation
[NASA-TP-2336] p 3 N87-10042
- PITTS, FELIX L.**
New methods and results for quantification of lightning-aircraft electrodynamic
[NASA-TP-2737] p 4 N87-21871
- PLESCIA, JEFF L.**
Planetary geosciences, 1988
[NASA-SP-498] p 48 N89-26274
- POLAND, ARTHUR I.**
Coronal and Prominence Plasmas
[NASA-CP-2442] p 79 N87-20871
- POLITES, M. E.**
A general-purpose balloon-borne pointing system for solar scientific instruments
[NASA-TP-3013] p 33 N90-21219
- POLITES, MICHAEL E.**
Modeling digital control systems with MA-prefiltered measurements
[NASA-TP-2732] p 32 N87-22870
A new approach to state estimation in deterministic digital control systems
[NASA-TP-2745] p 32 N87-24585
Exact state reconstruction in deterministic digital control systems
[NASA-TP-2757] p 32 N87-27067
Further developments in exact state reconstruction in deterministic digital control systems
[NASA-TP-2812] p 32 N88-18751
More on exact state reconstruction in deterministic digital control systems
[NASA-TP-2847] p 33 N88-28177
The estimation error covariance matrix for the ideal state reconstructor with measurement noise
[NASA-TP-2881] p 63 N89-13994
Further developments in modeling digital control systems with MA-prefiltered measurements
[NASA-TP-2909] p 33 N89-24507
A new state reconstructor for digital controls systems using weighted-average measurements
[NASA-TP-2936] p 33 N89-27039
Rotating-unbalanced-mass devices for scanning balloon-borne experiments, free-flying spacecraft, and space shuttle/space station experiments
[NASA-TP-3030] p 33 N90-25255
- POPE, D. STUART**
Airfoil self-noise and prediction
[NASA-TP-1218] p 67 N89-25673
- PORTER, F.**
NASA/MSFC FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043
- POWELL, CLEMENS A.**
Status of sonic boom methodology and understanding
[NASA-CP-3027] p 9 N89-23415
FAA/NASA En Route Noise Symposium
[NASA-CP-3067] p 67 N90-24853
- POWELL, RICHARD W.**
The effect of interplanetary trajectory options on a manned Mars aerobrake configuration
[NASA-TP-3019] p 24 N90-26036
- POWELL, W. R.**
Pulse Code Modulation (PCM) encoder handbook for Aydin Vector MMP-600 series system
[NASA-TP-1171] p 33 N87-11916
- POWERS, SHERYLL GOECKE**
Flight and wind-tunnel measurements showing base drag reduction provided by a trailing disk for high Reynolds number turbulent flow for subsonic and transonic Mach numbers
[NASA-TP-2638] p 37 N88-14299
Influence of base modifications on in-flight base drag in the presence of jet exhaust for Mach numbers from 0.7 to 1.5
[NASA-TP-2802] p 37 N88-18881
- PRABHU, RAMADAS K.**
A rapid method for the computation of equilibrium chemical composition of air to 15000 K
[NASA-TP-2792] p 30 N88-16830
Finite-rate water condensation in combustion-heated wind tunnels
[NASA-TP-2833] p 22 N88-28075
- PRASAD, CHUNCHU B.**
A Protection And Detection Surface (PADS) for damage tolerance
[NASA-TP-3011] p 29 N90-27788
- PRATHER, M. J.**
Present state of knowledge of the upper atmosphere 1988: An assessment report
[NASA-TP-1208] p 52 N88-29233
Present state of knowledge of the upper atmosphere 1990: An assessment report
[NASA-TP-1242] p 54 N90-28929
- PRATHER, MICHAEL J.**
An assessment model for atmospheric composition
[NASA-CP-3023] p 57 N89-20588
Two-Dimensional Intercomparison of Stratospheric Models
[NASA-CP-3042] p 53 N90-11405
- PRICE, DOUGLAS B.**
Singular perturbations and time scales in the design of digital flight control systems
[NASA-TP-2844] p 19 N89-12569
- PRICE, HAROLD G.**
High-pressure calorimeter chamber tests for liquid oxygen/kerosene (LOX/RP-1) rocket combustion
[NASA-TP-2862] p 27 N89-15979
- PROFFITT, MELISSA S.**
Integrated tools for control-system analysis
[NASA-TP-2885] p 20 N89-19309
- PURGOLD, G. CARLTON**
Surface bidirectional reflectance properties of two southwestern Arizona deserts for wavelengths between 0.4 and 2.2 micrometers
[NASA-TP-2643] p 48 N87-22281

Q

- QUERCI, FRANCOIS R.**
The M-type stars
[NASA-SP-492] p 75 N88-11592
- QUILLEN, DIANA T.**
First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744
- QUINN, ROBERT D.**
Finite-element reentry heat-transfer analysis of space shuttle Orbiter
[NASA-TP-2657] p 37 N87-29795
- QUINTO, P. FRANK**
Low-speed aerodynamic characteristics of a twin-engine general aviation configuration with aft-fuselage-mounted pusher propellers
[NASA-TP-2763] p 6 N87-29462
A review of technologies applicable to low-speed flight of high-performance aircraft investigated in the Langley 14- x 22-foot subsonic tunnel
[NASA-TP-2796] p 7 N88-20264
Thrust-reverser flow investigation on a twin-engine transport
[NASA-TP-2856] p 9 N89-14213
The Langley 14- by 22-foot subsonic tunnel: Description, flow characteristics, and guide for users
[NASA-TP-3008] p 12 N90-27649

R

- RAHE, JUERGEN**
Atlas of Comet Halley 1910 II
[NASA-SP-488] p 75 N87-30235
- RAHE, JURGEN**
Time-Variable Phenomena in the Jovian System
[NASA-SP-494] p 78 N89-28474

- RAMAPRIYAN, H. K.**
Proceedings of the Scientific Data Compression Workshop [NASA-CP-3025] p 63 N89-22332
- RAMATY, REUVEN**
Essays in Space Science [NASA-CP-2464] p 72 N87-24247
- RAMINS, PETER**
Performance of textured carbon on copper electrode multistage depressed collectors with medium-power traveling wave tubes [NASA-TP-2665] p 34 N87-17990
Design, fabrication and performance of small, graphite electrode, multistage depressed collectors with 200-W, CW, 8- to 18-GHz traveling-wave tubes [NASA-TP-2693] p 35 N87-20474
Traveling-wave-tube efficiency improvement by a low-cost technique for deposition of carbon on multistage depressed collector [NASA-TP-2719] p 35 N87-21239
Analytical and experimental performance of a dual-mode traveling wave tube and multistage depressed collector [NASA-TP-2752] p 35 N87-25532
Performance of a small, graphite electrode, multistage depressed collector with a 500-W, continuous wave, 4.8- to 9.6-GHz traveling wave tube [NASA-TP-2788] p 35 N88-15146
Performance of a multistage depressed collector with machined titanium electrodes [NASA-TP-2891] p 35 N89-15337
Design, fabrication, and performance of brazed, graphite electrode, multistage depressed collectors with 500-W, continuous wave, 4.8- to 9.6-GHz traveling-wave tubes [NASA-TP-2904] p 35 N89-21171
Spent-beam refocusing analysis and multistage depressed collector design for a 75-W, 59- to 64-GHz coupled-cavity traveling-wave tube [NASA-TP-3039] p 35 N90-27965
- RAPP, DOUGLAS C.**
Analysis of quasi-hybrid solid rocket booster concepts for advanced earth-to-orbit vehicles [NASA-TP-2751] p 27 N87-25425
- RASH, JAMES**
The 1988 Goddard Conference on Space Applications of Artificial Intelligence [NASA-CP-3009] p 64 N88-30330
The 1989 Goddard Conference on Space Applications of Artificial Intelligence [NASA-CP-3033] p 64 N89-26578
- RASH, JAMES L.**
The 1990 Goddard Conference on Space Applications of Artificial Intelligence [NASA-CP-3068] p 64 N90-22294
- RAY, EDWARD J.**
Evolution, calibration, and operational characteristics of the two-dimensional test section of the Langley 0.3-meter transonic cryogenic tunnel [NASA-TP-2749] p 21 N87-28570
CAST-10-2/DOA 2 Airfoil Studies Workshop Results [NASA-CP-3052] p 22 N90-17647
- RAY, RONALD J.**
Evaluation of various thrust calculation techniques on an F404 engine [NASA-TP-3001] p 16 N90-25134
- REARDON, LAWRENCE F.**
Evaluation of a strain-gage load calibration on a low-aspect-ratio wing structure at elevated temperature [NASA-TP-2921] p 46 N89-28034
- REMSBERG, E. E.**
Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid [NASA-TP-2625] p 51 N87-13022
- REMSBERG, ELLIS E.**
Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide [NASA-TP-2761] p 56 N88-14572
- REPAS, GEORGE A.**
Conventionally cast and forged copper alloy for high-heat-flux thrust chambers [NASA-TP-2694] p 30 N87-16902
- RESSLER, G. M.**
Sensor performance analysis [NASA-RP-1241] p 50 N90-23780
- REUBUSH, DAVID E.**
Effects of afterbody boattail design and empennage arrangement on aeropropulsive characteristics of a twin-engine fighter model at transonic speeds [NASA-TP-2704] p 4 N87-21873
Static internal performance of a two-dimensional convergent-divergent nozzle with thrust vectoring [NASA-TP-2721] p 5 N87-24432
Effects of the installation and operation of jet-exhaust yaw vanes on the longitudinal and lateral-directional characteristics of the F-14 airplane [NASA-TP-2769] p 6 N88-12455
- RHODES, PERCY H.**
Preparative electrophoresis for space [NASA-TP-2777] p 32 N88-10977
Continuous flow electrophoresis system experiments on shuttle flights STS-6 and STS-7 [NASA-TP-2778] p 32 N88-10978
- RICHARDS, W. B.**
Propagation of sound waves in tubes of noncircular cross section [NASA-TP-2601] p 3 N87-14284
- RICHARDSON, D. J.**
Atlas of absorption lines from 0 to 17900 cm (sup)-1 [NASA-RP-1188] p 49 N87-28955
- RICHMOND, R. J.**
Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2 [NASA-CP-2437-VOL-2] p 27 N89-12626
- RICHMOND, ROBERT J.**
Advanced Earth-to-Orbit Propulsion Technology 1988, volume 1 [NASA-CP-3012-VOL-1] p 27 N90-28611
- RIEBE, GREGORY D.**
Subsonic maneuver capability of a supersonic cruise fighter wing concept [NASA-TP-2642] p 3 N87-15184
- RILEY, CHRISTOPHER J.**
An approximate method for calculating three-dimensional inviscid hypersonic flow fields [NASA-TP-3018] p 39 N90-27066
- RINSLAND, C. P.**
Atlas of absorption lines from 0 to 17900 cm (sup)-1 [NASA-RP-1188] p 49 N87-28955
- RISING, J. J.**
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application [NASA-TP-2482] p 19 N88-14987
- RITCHIE, ELEANOR H.**
Astronautics and Aeronautics, 1979-1984: A chronology [NASA-SP-4024] p 81 N90-25928
- ROBERTS, WILLIAM T.**
Solar-Terrestrial Science Strategy Workshop [NASA-CP-3048] p 73 N90-18329
- ROBINSON, MARTHA P.**
Cornering characteristics of the main-gear tire of the space shuttle orbiter [NASA-TP-2790] p 14 N88-18583
- RODDIER, CLAUDE**
Spatial interferometry in optical astronomy [NASA-RP-1245] p 75 N90-28470
- RODDIER, FRANCOIS**
Spatial interferometry in optical astronomy [NASA-RP-1245] p 75 N90-28470
- RODGERS, C. D.**
Nimbus-7 Stratospheric and Mesospheric Sounder (SAMS) experiment data user's guide [NASA-RP-1221] p 53 N89-26304
- ROGERS, JAMES L.**
A knowledge-based tool for multilevel decomposition of a complex design problem [NASA-TP-2903] p 63 N89-23181
- ROHN, DOUGLAS A.**
Efficiency testing of a helicopter transmission planetary reduction stage [NASA-TP-2795] p 41 N88-15224
- ROMAN, ROBERT F.**
Secondary electron emission characteristics of molybdenum-masked, ion-textured OFHC copper [NASA-TP-2967] p 31 N90-15211
- ROMANOVSKY, ROBERT R.**
Universal test fixture for monolithic mm-wave integrated circuits calibrated with an augmented TRD algorithm [NASA-TP-2875] p 34 N89-17767
Analytical and experimental procedures for determining propagation characteristics of millimeter-wave gallium arsenide microstrip lines [NASA-TP-2899] p 35 N89-21169
- RONCOLI, RALPH B.**
Development and flight test of an experimental maneuver autopilot for a highly maneuverable aircraft [NASA-TP-2618] p 15 N88-21153
- ROSHOLT, ROBERT L.**
NASA historical data book. Volume 1: NASA resources 1958-1968 [NASA-SP-4012-VOL-1] p 80 N88-25428
- ROTHMAN, L. S.**
Atlas of absorption lines from 0 to 17900 cm (sup)-1 [NASA-RP-1188] p 49 N87-28955
- ROTHMANN, BETH**
Applications of the hybrid automated reliability predictor: Revised edition [NASA-TP-2760-REV] p 63 N90-11454
- ROYSTER, DICK M.**
Material characterization of superplastically formed titanium (Ti-6Al-2Sn-4Zr-2Mo) sheet [NASA-TP-2674] p 30 N87-20407
- RUDOLPH, TERENCE H.**
New methods and results for quantification of lightning-aircraft electrodynamic [NASA-TP-2737] p 4 N87-21871
- RUHLIN, C. L.**
Effects of winglet on transonic flutter characteristics of a cantilevered twin-engine-transport wing model [NASA-TP-2625] p 43 N87-13789
- RUMMEL, JOHN D.**
Controlled Ecological Life Support System. Design, Development, and Use of a Ground-Based Plant Growth Module [NASA-CP-2479] p 60 N88-13852
- RUSSELL, J. M., III**
Description of data on the Nimbus 7 LIMS map archive tape: Ozone and nitric acid [NASA-TP-2625] p 51 N87-13022
- RUSSELL, JAMES M., III**
Description of data on the Nimbus 7 LIMS map archive tape: Water vapor and nitrogen dioxide [NASA-TP-2761] p 56 N88-14572
- RUTAN, DAVID**
Atlas of albedo and absorbed solar radiation derived from Nimbus 6 earth radiation budget data set, July 1975 to May 1978 [NASA-RP-1230] p 57 N90-14741
Atlas of albedo and absorbed solar radiation derived from Nimbus 7 Earth radiation budget data set, November 1978 to October 1985 [NASA-RP-1231] p 57 N90-17233
- RUTTLEDGE, D. C. G.**
Rotorcraft flight-propulsion control integration: An eclectic design concept [NASA-TP-2815] p 19 N88-19475
- RYAN, ROBERT S.**
Structural Dynamics and Control Interaction of Flexible Structures [NASA-CP-2467-PT-1] p 23 N87-22702
Structural Dynamics and Control Interaction of Flexible Structures [NASA-CP-2467-PT-2] p 23 N87-22729
Practices in adequate structural design [NASA-TP-2893] p 24 N89-18504
- RYBICKI, GEORGE C.**
Indentation plasticity and fracture in silicon [NASA-TP-2863] p 30 N89-10996

S

- SABO, FRANCES E.**
Research in Natural Laminar Flow and Laminar-Flow Control, part 1 [NASA-CP-2487-PT-1] p 10 N90-12503
Research in Natural Laminar Flow and Laminar-Flow Control, part 2 [NASA-CP-2487-PT-2] p 10 N90-12519
Research in Natural Laminar Flow and Laminar-Flow Control, part 3 [NASA-CP-2487-PT-3] p 10 N90-12539
- SALTSMAN, JAMES F.**
Life prediction of thermomechanical fatigue using total strain version of strainrange partitioning (SRP): A proposal [NASA-TP-2779] p 44 N88-15263
- SANDAGE, ALLAN**
Atlas of galaxies useful for measuring the cosmological distance scale [NASA-SP-496] p 74 N89-12513
- SANDLER, HAROLD**
Joint US/USSR study: Comparison of effects of horizontal and head-down bed rest [NASA-TP-3037] p 60 N90-28965
- SANKARAN, S. N.**
Emission, catalysis, and dynamic oxidation of Ti-14Al-21Nb [NASA-TP-2955] p 31 N90-10248
- SANKARAN, SANKARA N.**
Oxidation characteristics of Ti-14Al-21Nb ingot alloy [NASA-TP-3012] p 31 N90-25206
- SANTORO, GILBERT J.**
Microgravity Combustion Diagnostics Workshop [NASA-CP-10017] p 32 N89-17682
- SANZ, JOSE M.**
Lewis inverse design code (LINDEX): Users manual [NASA-TP-2676] p 4 N87-20238
- SATRAN, D. R.**
Wind-tunnel investigation of the flight characteristics of a canard general-aviation airplane configuration [NASA-TP-2623] p 3 N87-10039

SCANLON, CHARLES H.

Effect of motion cues during complex curved approach and landing tasks: A piloted simulation study
[NASA-TP-2773] p 14 N88-12480

SCHAFER, CHARLES F.

Mixing and Demixing Processes in Multiphase Flows With Application to Propulsion Systems
[NASA-CP-3006] p 37 N89-11153

SCHIESS, JAMES R.

An algorithm for surface smoothing with rational splines
[NASA-TP-2708] p 65 N87-22447

SCHLESINGER, BARRY M.

Nimbus 7 Solar Backscatter Ultraviolet (SBUV) spectral scan solar irradiance and Earth radiance product user's guide
[NASA-RP-1199] p 48 N88-17096

Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227

SCHLICKENMAIER, HERBERT

Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference
[NASA-CP-10006] p 12 N88-17616

SCHMIDLIN, F. J.

Preliminary estimates of radiosonde thermistor errors
[NASA-TP-2637] p 55 N87-12086

SCHMITZ, MARION

Infrared source cross-index, first edition
[NASA-RP-1182] p 73 N87-22573

Catalog of infrared observations. Part 1: Data
[NASA-RP-1196-PT-1-ED-2] p 73 N88-15738

Catalog of infrared observations. Part 2: Appendixes
[NASA-RP-1196-PT-2-ED-2] p 74 N88-16615

Far infrared supplement: Catalog of infrared observations, second edition
[NASA-RP-1205] p 74 N88-30545

SCHOCK, R. W.

Solar array flight dynamic experiment
[NASA-TP-2598] p 23 N87-12581

SCHRYER, DAVID R.

Low-Temperature CO-Oxidation Catalysts for Long-Life CO₂ Lasers
[NASA-CP-3076] p 40 N90-24586

SCHULTZ, K.-J.

Advancing-side directivity and retreating-side interactions of model rotor blade-vortex interaction noise
[NASA-TP-2784] p 67 N88-22710

SCHWARTZ, DEBORAH E.

Microgravity Particle Research on the Space Station
[NASA-CP-2496] p 58 N88-15354

Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 1: Executive summary and overview
[NASA-CP-10026-VOL-1] p 59 N89-24022

Gas-Grain Simulation Facility: Fundamental studies of particle formation and interactions. Volume 2: Abstracts, candidate experiments and feasibility study
[NASA-CP-10026-VOL-2] p 59 N89-24023

SCOFIELD, HAROLD N.

Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-1] p 23 N87-22702

Structural Dynamics and Control Interaction of Flexible Structures
[NASA-CP-2467-PT-2] p 23 N87-22729

SCOTT, J. HOLLAND, JR.

Investigation of the misfueling of reciprocating piston aircraft engines
[NASA-TP-2803] p 12 N88-21144

SEALS, ROBERT K., JR.

Two-Dimensional Intercomparison of Stratospheric Models
[NASA-CP-3042] p 53 N90-11405

SEASHOLTZ, RICHARD G.

Three component laser anemometer measurements in an annular cascade of core turbine vanes with contoured end wall
[NASA-TP-2846] p 8 N89-10844

SECHRIST, FRANK S.

The 1987 Airborne Antarctic Ozone Experiment: The Nimbus-7 TOMS data atlas
[NASA-RP-1201] p 49 N88-20714

SELF, MATTHEW

Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807

SERAFINI, JOHN A.

Laser-velocimeter-measured flow field around an advanced, swept, eight-blade propeller at Mach 0.8
[NASA-TP-2462] p 2 N90-20942

SHALKHAUSER, KURT A.

Bit-error-rate testing of high-power 30-GHz traveling wave tubes for ground-terminal applications
[NASA-TP-2635] p 33 N87-17971

Universal test fixture for monolithic mm-wave integrated circuits calibrated with an augmented TRD algorithm
[NASA-TP-2875] p 34 N89-17767

SHALKHAUSER, MARY JO

Satellite-matrix-switched, time-division-multiple-access network simulator
[NASA-TP-2944] p 34 N90-11915

SHALKHAUSER, MARY JO W.

Digitally modulated bit error rate measurement system for microwave component evaluation
[NASA-TP-2912] p 23 N89-28545

SHARPE, DAVID L.

An experimental investigation of the flap-lag-torsion aeroelastic stability of a small-scale hingeless helicopter rotor in hover
[NASA-TP-2546] p 7 N88-20257

SHEARIN, JOHN G.

Shock structure and noise of supersonic jets in simulated flight to Mach 0.4
[NASA-TP-2785] p 67 N88-16510

SHEN, CHIH-PING

Low-energy gamma ray attenuation characteristics of aviation fuels
[NASA-TP-2974] p 63 N90-18882

SHINN, JUDY L.

Conservation equations and physical models for hypersonic air flows in thermal and chemical nonequilibrium
[NASA-TP-2867] p 38 N89-16115

Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031

Comparison of dose estimates using the buildup-factor method and a Baryon transport code (BRYNTRN) with Monte Carlo results
[NASA-TP-3021] p 80 N90-29290

SHORT, NICHOLAS M.

Geomorphology from space: A global overview of regional landforms
[NASA-SP-486] p 47 N87-18139

SHOVLIN, M. D.

Large-scale static investigation of circulation-control-wing concepts applied to upper surface-blowing aircraft
[NASA-TP-2684] p 13 N87-15959

SHUART, MARK J.

A Protection And Detection Surface (PADS) for damage tolerance
[NASA-TP-3011] p 29 N90-27788

SHYNE, RICKEY J.

Experimental evaluation of two turning vane designs for fan drive corner of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2646] p 21 N87-18576

Detailed flow surveys of turning vanes designed for a 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2680] p 21 N87-20295

Experimental evaluation of turning vane designs for high-speed and coupled fan-drive corners of 0.1-scale model of NASA Lewis Research Center's proposed altitude wind tunnel
[NASA-TP-2681] p 21 N88-17686

SIBONGA, JEAN D.

Cells in Space
[NASA-CP-10034] p 61 N90-13939

SIEMERS, PAUL M., III

Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack
[NASA-TP-2716] p 14 N87-29497

SIM, A. G.

In-flight total forces, moments and static aeroelastic characteristics of an oblique-wing research airplane
[NASA-TP-2224] p 19 N87-10103

Flight-determined aerodynamic derivatives of the AD-1 oblique-wing research airplane
[NASA-TP-2222] p 19 N87-10871

SIM, ALEX G.

Flight characteristics of the AD-1 oblique-wing research aircraft
[NASA-TP-2223] p 19 N87-18570

SIMON, FREDERICK F.

Jet model for slot film cooling with effect of free-stream and coolant turbulence
[NASA-TP-2655] p 36 N87-18034

SIMONSEN, LISA C.

Radiation exposure for manned Mars surface missions
[NASA-TP-2979] p 80 N90-18357

SINGER, BART A.

Interactions of Tollmien-Schlichting waves and Dean vortices. Comparison of direct numerical simulation and a weakly nonlinear theory
[NASA-TP-2919] p 10 N89-25118

SINGH, J. J.

Investigation of the effects of cobalt ions on epoxy properties
[NASA-TP-2639] p 31 N87-12680

SINGH, JAG J.

A simplified method for determining heat of combustion of natural gas
[NASA-TP-2682] p 39 N87-20514

Nuclear techniques in studies of condensed matter
[NASA-RP-1195] p 68 N88-13015

Analysis of positron lifetime spectra in polymers
[NASA-TP-2853] p 63 N89-12237

Low-energy gamma ray attenuation characteristics of aviation fuels
[NASA-TP-2974] p 63 N90-18882

SINHA, SUJIT

A study to evaluate STS heads-up ascent trajectory performance employing a minimum-Hamiltonian optimization strategy
[NASA-TP-2793] p 23 N88-15820

SLEEPER, ROBERT K.

Spanwise measurements of vertical components of atmospheric turbulence
[NASA-TP-2963] p 58 N90-19718

SLIWA, STEVEN M.

Flight investigation of the effect of tail configuration on stall, spin, and recovery characteristics of a low-wing general aviation research airplane
[NASA-TP-2644] p 13 N87-16815

A closed-form trim solution yielding minimum trim drag for airplanes with multiple longitudinal-control effectors
[NASA-TP-2907] p 20 N89-23468

SMERNOFF, DAVID T.

Controlled Ecological Life Support System: Regenerative Life Support Systems in Space
[NASA-CP-2480] p 60 N88-12251

Controlled Ecological Life Support System. Design, Development, and Use of a Ground-Based Plant Growth Module
[NASA-CP-2479] p 60 N88-13852

SMITH, DONALD L.

Properties of two composite materials made of toughened epoxy resin and high-strain graphite fiber
[NASA-TP-2826] p 28 N88-25480

SMITH, G. L.

Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677

Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation
[NASA-RP-1184-VOL-2] p 57 N89-20587

SMITH, G. LOUIS

Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 6 Earth radiation budget data set, July 1975 to June 1978
[NASA-RP-1185] p 55 N87-26489

Atlas of wide-field-of-view outgoing longwave radiation derived from Nimbus 7 Earth radiation budget data set - November 1978 to October 1985
[NASA-RP-1186] p 55 N88-10451

Limb-darkening functions as derived from along-track operation of the ERBE scanning radiometer for January 1985
[NASA-RP-1214] p 56 N89-17374

Atlas of albedo and absorbed solar radiation derived from Nimbus 6 earth radiation budget data set, July 1975 to May 1978
[NASA-RP-1230] p 57 N90-14741

Atlas of albedo and absorbed solar radiation derived from Nimbus 7 Earth radiation budget data set, November 1978 to October 1985
[NASA-RP-1231] p 57 N90-17233

SMITH, J. L.

Effects of variables upon pyrotechnically induced shock response spectra
[NASA-TP-2603] p 43 N87-12921

SMITH, JAMES LEE

Effects of variables upon pyrotechnically induced shock response spectra, part 2
[NASA-TP-2872] p 45 N89-13814

SMITH, KATHRYN A.

Software Reuse Issues
[NASA-CP-3057] p 63 N90-14789

SMITH, PAUL M.

Piloted simulator study of allowable time delays in large-airplane response
[NASA-TP-2652] p 19 N87-16849

SMITH, R. E.

Upper and Middle Atmospheric Density Modeling Requirements for Spacecraft Design and Operations
[NASA-CP-2460] p 52 N87-20665

SMITH, RONALD C.

Summary of studies to reduce wing-mounted propfan installation drag on an M = 0.8 transport
[NASA-TP-2678] p 14 N87-20990

- SMITH, TAMARA A.**
Experimental thrust performance of a high-area-ratio rocket nozzle
[NASA-TP-2720] p 26 N87-20381
Comparison of theoretical and experimental thrust performance of a 1030:1 area ratio rocket nozzle at a chamber pressure of 2413 kN/m² (350 psia)
[NASA-TP-2725] p 26 N87-25423
Experimental evaluation of heat transfer on a 1030:1 area ratio rocket nozzle
[NASA-TP-2726] p 27 N87-25424
- SNYDER, ROBERT S.**
Liquid drop stability for protein crystal growth in microgravity
[NASA-TP-2724] p 58 N87-20727
Preparative electrophoresis for space
[NASA-TP-2777] p 32 N88-10977
Continuous flow electrophoresis system experiments on shuttle flights STS-6 and STS-7
[NASA-TP-2778] p 32 N88-10978
- SOBIESKI, J.**
Recent Experiences in Multidisciplinary Analysis and Optimization, part 1
[NASA-CP-2327-PT-1] p 13 N87-11717
Recent Experiences in Multidisciplinary Analysis and Optimization, part 2
[NASA-CP-2327-PT-2] p 13 N87-11750
- SPADY, AMOS A., JR.**
Airborne Wind Shear Detection and Warning Systems: First Combined Manufacturers' and Technologists' Conference
[NASA-CP-10006] p 12 N88-17616
- SPALVINS, TALIVALDIS**
Influence of the deposition conditions on radiofrequency magnetron sputtered MoS₂ films
[NASA-TP-2994] p 33 N90-21210
- SPANN, J. F.**
A Study of Space Station Contamination Effects
[NASA-CP-3002] p 72 N88-25390
- SPANN, JAMES F.**
Space Station Induced Monitoring
[NASA-CP-3021] p 73 N89-15790
- SPICER, D. S.**
Theoretical Problems in High Resolution Solar Physics, 2
[NASA-CP-2483] p 79 N88-11609
- SPLETTSTOEISSER, W. R.**
Advancing-side directivity and retreating-side interactions of model rotor blade-vortex interaction noise
[NASA-TP-2784] p 67 N88-22710
- SPRINKLE, DANNY R.**
Analysis of positron lifetime spectra in polymers
[NASA-TP-2853] p 63 N89-12237
Low-energy gamma ray attenuation characteristics of aviation fuels
[NASA-TP-2974] p 63 N90-18882
- SPUDIS, PAUL D.**
Geoscience and a Lunar Base: A Comprehensive Plan for Lunar Exploration
[NASA-CP-3070] p 78 N90-25030
- SOUYRES, STEVEN W.**
Microgravity Particle Research on the Space Station
[NASA-CP-2496] p 58 N88-15354
- SREEKUMAR, PARAMESWARAN**
The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
[NASA-CP-3071] p 77 N90-23294
- SRINIVASAN, S.**
Simplified curve fits for the thermodynamic properties of equilibrium air
[NASA-RP-1181] p 36 N87-26309
- SRIVATSAN, RAGHAVACHARI**
Simulator evaluation of a display for a Takeoff Performance Monitoring System
[NASA-TP-2908] p 20 N89-23469
- STACK, SHARON H.**
Langley Symposium on Aerodynamics, volume 1
[NASA-CP-2397] p 1 N88-14926
- STALLINGS, ROBERT L., JR.**
Experimental cavity pressure distributions at supersonic speeds
[NASA-TP-2683] p 5 N87-22626
- STASSINOPOULOS, E. G.**
Cosmic ray heavy ion LET mapping for aluminum, silicon, and tissue targets
[NASA-RP-1180] p 79 N87-25984
- STAYLOR, W. F.**
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677
- STECHER, JOSEPH**
Fifteenth Space Simulation Conference: Support the Highway to Space Through Testing
[NASA-CP-3015] p 25 N89-12582
- STECHER, JOSEPH L., III**
Fourteenth Space Simulation Conference: Testing for a Permanent Presence in Space
[NASA-CP-2446] p 25 N88-10829
- STECKER, FLOYD W.**
The Energetic Gamma-Ray Experiment Telescope (EGRET) Science Symposium
[NASA-CP-3071] p 77 N90-23294
- STEIN, BLAND A.**
NASA/SDIO Space Environmental Effects on Materials Workshop, part 1
[NASA-CP-3035-PT-1] p 27 N89-23528
NASA/SDIO Space Environmental Effects on Materials Workshop, part 2
[NASA-CP-3035-PT-2] p 28 N89-23547
Proceedings of the LDEF Materials Data Analysis Workshop
[NASA-CP-10046] p 28 N90-26075
- STEIN, PETER A.**
Lightweight structural design of a bolted case joint for the space shuttle solid rocket motor
[NASA-TP-2851] p 25 N89-12580
- STEINKE, RONALD J.**
Design of 9.271-pressure-ratio 5-stage core compressor and overall performance for first 3 stages
[NASA-TP-2597] p 17 N87-17699
- STEINMANN, PIERRE A.**
Influence of the deposition conditions on radiofrequency magnetron sputtered MoS₂ films
[NASA-TP-2994] p 33 N90-21210
- STEINMETZ, G. G.**
Development and evaluation of an airplane electronic display format aligned with the inertial velocity vector
[NASA-TP-2648] p 16 N87-13438
- STEINMETZ, GEORGE G.**
Effects of combining vertical and horizontal information into a primary flight display
[NASA-TP-2783] p 17 N88-12487
- STENGLE, THOMAS**
Flight Mechanics/Estimation Theory Symposium 1988
[NASA-CP-3011] p 23 N89-15934
Flight Mechanics/Estimation Theory Symposium, 1989
[NASA-CP-3050] p 23 N90-13413
- STEPHENS, J. BRISCOE**
System study of the carbon dioxide observational platform system (CO-OPS): Project overview
[NASA-TP-2696] p 23 N87-18588
- STEPHENS, R. M.**
An Auger electron spectroscopy study of surface-preparation contaminants
[NASA-TP-2972] p 33 N90-16968
- STEPHENSON, JACK D.**
Longitudinal stability and control characteristics of the Quiet Short-Haul Research Aircraft (QSRA)
[NASA-TP-2965] p 20 N90-17639
- STEWART, E. C.**
Piloted simulation study of the effects of an automated trim system on flight characteristics of a light twin-engine airplane with one engine inoperative
[NASA-TP-2633] p 3 N87-10843
- STEWART, ERIC C.**
Evaluation of the ride quality of a light twin engine airplane using a ride quality meter
[NASA-TP-2913] p 2 N89-22568
- STIEF, LOUIS J.**
First International Conference on Laboratory Research for Planetary Atmospheres
[NASA-CP-3077] p 78 N90-26744
- STITT, LEONARD E.**
Exhaust nozzles for propulsion systems with emphasis on supersonic cruise aircraft
[NASA-RP-1235] p 18 N90-21037
- STOAKLEY, D. M.**
Investigation of the effects of cobalt ions on epoxy properties
[NASA-TP-2639] p 31 N87-12680
- STOUGH, H. PAUL, III**
Flight investigation of the effect of tail configuration on stall, spin, and recovery characteristics of a low-wing general aviation research airplane
[NASA-TP-2644] p 13 N87-16815
Flight investigation of the effects of an outboard wing-leading-edge modification on stall/spin characteristics of a low-wing, single-engine, T-tail light airplane
[NASA-TP-2691] p 14 N87-23614
- STOWE, L. L.**
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677
Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation
[NASA-RP-1184-VOL-2] p 57 N89-20587
- STRAUS, DAVID**
Five year global dataset: NMC operational analyses (1978 to 1982)
[NASA-RP-1194] p 55 N87-29996
- STRAZISAR, ANTHONY J.**
Laser anemometer measurements in a transonic axial-flow fan rotor
[NASA-TP-2879] p 38 N90-11245
- STREET, CRAIG L.**
A spectral collocation solution to the compressible stability eigenvalue problem
[NASA-TP-2858] p 9 N89-12543
- STROUD, W. JEFFERSON**
Computational Methods for Structural Mechanics and Dynamics, part 1
[NASA-CP-3034-PT-1] p 46 N89-24638
Computational Methods for Structural Mechanics and Dynamics
[NASA-CP-3034-PT-2] p 46 N89-24654
- STUBBS, SANDY M.**
Measurements of flow rate and trajectory of aircraft tire-generated water spray
[NASA-TP-2718] p 14 N87-24458
Langley Aircraft Landing Dynamics Facility
[NASA-RP-1189] p 21 N87-29544
Cornering characteristics of the main-gear tire of the space shuttle orbiter
[NASA-TP-2790] p 14 N88-18583
- STUTZ, JOHN**
Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807
- SUDER, KENNETH L.**
Laser anemometer measurements in a transonic axial-flow fan rotor
[NASA-TP-2879] p 38 N90-11245
- SULLIVAN, ROY M.**
Hydroburst test of a carbon-carbon involute exit cone
[NASA-TP-2556] p 24 N88-14112
- SUNG, C. C.**
Mode-medium instability and its correction with a Gaussian reflectivity mirror
[NASA-TP-3023] p 68 N90-25673
- SUTTLES, J. T.**
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677
Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation
[NASA-RP-1184-VOL-2] p 57 N89-20587
- SUTTLES, JOHN T.**
Limb-darkening functions as derived from along-track operation of the ERBE scanning radiometer for January 1985
[NASA-RP-1214] p 56 N89-17374
- SWANSON, THEODORE D.**
Workshop on Two-Phase Fluid Behavior in a Space Environment
[NASA-CP-3043] p 38 N89-26184
- SYKES, GEORGE F., JR.**
The effects of simulated space environmental parameters on six commercially available composite materials
[NASA-TP-2906] p 29 N89-19385
- SYKES, NANCY P.**
NASA Workshop on Computational Structural Mechanics 1987, part 1
[NASA-CP-10012-PT-1] p 46 N89-29773
NASA Workshop on Computational Structural Mechanics 1987, part 2
[NASA-CP-10012-PT-2] p 46 N89-29789
NASA Workshop on Computational Structural Mechanics 1987, part 3
[NASA-CP-10012-PT-3] p 46 N89-29799
- SZCZUR, M.**
Proceedings of the 5th Annual Users' Conference
[NASA-CP-2399] p 62 N87-10720
- SZCZUR, MARTHA**
Sixth Annual Users' Conference
[NASA-CP-2463] p 62 N87-23156
- SZOFFRAN, F. R.**
Growth of solid solution single crystals
[NASA-TP-2787] p 32 N88-14212

T

- TANNEHILL, J. C.**
Simplified curve fits for the thermodynamic properties of equilibrium air
[NASA-RP-1181] p 36 N87-26309
- TANNER, JOHN A.**
Exploiting symmetries in the modeling and analysis of tires
[NASA-TP-2649] p 13 N87-17690

- Langley Aircraft Landing Dynamics Facility
[NASA-RP-1189] p 21 N87-29544
Advances in contact algorithms and their application to tires
[NASA-TP-2781] p 44 N88-21456
Computational Methods for Structural Mechanics and Dynamics, part 1
[NASA-CP-3034-PT-1] p 46 N89-24638
Computational Methods for Structural Mechanics and Dynamics
[NASA-CP-3034-PT-2] p 46 N89-24654
Modeling and analysis of the space shuttle nose-gear tire with semianalytic finite elements
[NASA-TP-2977] p 42 N90-19595
- TANNER, TRIEVE**
Space Station Human Factors Research Review. Volume 4: Inhouse Advanced Development and Research
[NASA-CP-2426-VOL-4] p 59 N88-24148
- TARTER, JILL C.**
Carbon in the Galaxy: Studies from Earth and Space
[NASA-CP-3061] p 73 N90-27562
- TAUBER, MICHAEL E.**
Trajectory characteristics and heating of hypervelocity projectiles having large ballistic coefficients
[NASA-TP-2614] p 7 N88-19412
A review of high-speed, convective, heat-transfer computation methods
[NASA-TP-2914] p 38 N89-27116
- TAYLOR, F. W.**
Nimbus-7 Stratospheric and Mesospheric Sounder (SAMS) experiment data user's guide
[NASA-RP-1221] p 53 N89-26304
- TAYLOR, G. JEFFREY**
A lunar far-side very low frequency array
[NASA-CP-3039] p 75 N90-10805
Geoscience and a Lunar Base: A Comprehensive Plan for Lunar Exploration
[NASA-CP-3070] p 78 N90-25030
- TAYLOR, JOHN G.**
Static investigation of a two-dimensional convergent-divergent exhaust nozzle with multiaxis thrust-vectoring capability
[NASA-TP-2973] p 11 N90-19193
Internal performance of two nozzles utilizing gimbal concepts for thrust vectoring
[NASA-TP-2991] p 11 N90-19200
- TAYLOR, STEVEN L.**
Nimbus 7 solar backscatter ultraviolet (SBUV) ozone products user's guide
[NASA-RP-1234] p 53 N90-17227
- TAYLOR, V. R.**
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677
Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation
[NASA-RP-1184-VOL-2] p 57 N89-20587
- TAYLOR, WILLIAM**
Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807
- TEICHMAN, LOUIS A.**
NASA/SDIO Space Environmental Effects on Materials Workshop, part 1
[NASA-CP-3035-PT-1] p 27 N89-23528
NASA/SDIO Space Environmental Effects on Materials Workshop, part 2
[NASA-CP-3035-PT-2] p 28 N89-23547
- THEON, JOHN S.**
Spacelab 3 Mission Science Review
[NASA-CP-2429] p 36 N87-22103
- THIELE, OTTO W.**
On requirements for a satellite mission to measure tropical rainfall
[NASA-RP-1183] p 55 N87-20701
- THOMAS, JAMES L.**
Three-dimensional multigrid algorithms for the flux-split Euler equations
[NASA-TP-2829] p 65 N89-12316
- THOMAS, LAWRENCE R.**
The 1986 Get Away Special Experimenter's Symposium
[NASA-CP-2438] p 22 N87-20302
The 1988 Get Away Special Experimenter's Symposium
[NASA-CP-3008] p 22 N89-10902
- THOMAS, RICHARD**
The M-type stars
[NASA-SP-492] p 75 N88-11592
O stars and Wolf-Rayet stars
[NASA-SP-497] p 74 N89-11657
- THOMPSON, RICHARD A.**
A review of reaction rates and thermodynamic and transport properties for an 11-species air model for chemical and thermal nonequilibrium calculations to 30000 K
[NASA-RP-1232] p 38 N90-27064
- THOMPSON, WILBUR E.**
System study of the carbon dioxide observational platform system (CO-OPS): Project overview
[NASA-TP-2696] p 23 N87-18588
- THURSTON, GAYLEN A.**
Application of Newton's method to the postbuckling of rings under pressure loadings
[NASA-TP-2941] p 46 N89-29811
Modal interaction in postbuckled plates. Theory
[NASA-TP-2943] p 47 N90-27121
- TIFFANY, SHERWOOD H.**
Nonlinear programming extensions to rational function approximation methods for unsteady aerodynamic forces
[NASA-TP-2776] p 15 N88-24623
- TILTON, JAMES C.**
LANDSAT-4 and LANDSAT-5 multispectral scanner coherent noise characterization and removal
[NASA-TP-2595-REV] p 49 N89-12114
- TINGAS, STEPHEN A.**
Piloted simulator study of allowable time delays in large-airplane response
[NASA-TP-2652] p 19 N87-16849
- TOMPKINS, S. S.**
Effects of thermal cycling on graphite-fiber-reinforced 6061 aluminum
[NASA-TP-2612] p 28 N87-10184
- TOMPKINS, STEPHEN S.**
Effects of continuous and cyclic thermal exposures on boron- and boron-reinforced 6061 aluminum composites
[NASA-TP-1063] p 28 N88-70029
- TORR, DOUGLASS**
Into the thermosphere: The atmosphere explorers
[NASA-SP-490] p 52 N88-18084
- TORR, M. R.**
A Study of Space Station Contamination Effects
[NASA-CP-3002] p 72 N88-25390
- TORR, MARSHA R.**
Space Station Induced Monitoring
[NASA-CP-3021] p 73 N89-15790
- TORRES, PABLO D.**
Stress corrosion study of PH13-8Mo stainless steel using the Slow Strain Rate Technique
[NASA-TP-2934] p 30 N89-26976
- TOWNSEND, DENNIS P.**
Dynamic analysis of multimesh-gear helicopter transmissions
[NASA-TP-2789] p 41 N88-17045
- TOWNSEND, JOHN S.**
Space station structures and dynamics test program
[NASA-TP-2710] p 43 N87-20568
Dynamic characteristics of a vibrating beam with periodic variation in bending stiffness
[NASA-TP-2697] p 44 N88-23988
- TOWNSEND, LAWRENCE W.**
Doubly differential cross sections for galactic heavy-ion fragmentation
[NASA-TP-2659] p 68 N87-17487
Possible complementary cosmic-ray systems: Nuclei and antinuclei
[NASA-TP-2741] p 68 N87-24977
Eikonal solutions to optical model coupled-channel equations
[NASA-TP-2830] p 68 N88-30402
A general formalism for phase space calculations
[NASA-TP-2843] p 66 N89-14053
Solar-flare shielding with Regolith at a lunar-base site
[NASA-TP-2869] p 79 N89-14210
Benchmark solutions for the galactic ion transport equations: Energy and spatially dependent problems
[NASA-TP-2878] p 79 N89-16714
BRYNTRN: A baryon transport model
[NASA-TP-2887] p 80 N89-17562
Calculation of two-neutron multiplicity in photonuclear reactions
[NASA-TP-2968] p 68 N90-14890
Radiation exposure for manned Mars surface missions
[NASA-TP-2979] p 80 N90-18357
Improved model for solar cosmic ray exposure in manned Earth orbital flights
[NASA-TP-2987] p 80 N90-25031
- TRAVIS, LARRY D.**
The Jovian Atmospheres
[NASA-CP-2441] p 77 N87-17598
- TREMOR, JOHN W.**
Report of the 1st Planning Workshop for CELSS Flight Experimentation
[NASA-CP-10020] p 60 N89-13898
- TRIVEDI, KISHOR**
Applications of the hybrid automated reliability predictor: Revised edition
[NASA-TP-2760-REV] p 63 N90-11454
- TROLINGER, JAMES D.**
Automated Reduction of Data from Images and Holograms
[NASA-CP-2477] p 6 N87-29432
- TURNER, STEVEN G.**
Low-speed wind-tunnel investigation of the flight dynamic characteristics of an advanced turboprop business/commuter aircraft configuration
[NASA-TP-2982] p 20 N90-19239
- U**
- UNDERHILL, ANNE B.**
O stars and Wolf-Rayet stars
[NASA-SP-497] p 74 N89-11657
- UNNAM, JALALIAH**
Oxidation characteristics of Ti-14Al-21Nb ingot alloy
[NASA-TP-3012] p 31 N90-25206
- V**
- VALLETTE, BRENDA J.**
Nimbus-7 ERB Solar Analysis Tape (ESAT) user's guide
[NASA-RP-1211] p 79 N89-30151
- VANNIMMEN, JANE**
NASA historical data book. Volume 1: NASA resources 1958-1968
[NASA-SP-4012-VOL-1] p 80 N88-25428
- VAUGHAN, OTHA H.**
Spacelab 3 Mission Science Review
[NASA-CP-2429] p 36 N87-22103
- VAUGHAN, W. W.**
NASA/MSFC FY-85 Atmospheric Processes Research Review
[NASA-CP-2402] p 55 N87-13043
- VEATCH, DONALD W.**
Analog signal conditioning for flight-test instrumentation
[NASA-RP-1159] p 17 N87-29533
- VERDERAIME, V.**
Weld stresses beyond elastic limit: Materials discontinuity
[NASA-TP-2935] p 46 N89-27214
- VEREEN, MARY**
Third Conference on Artificial Intelligence for Space Applications, part 1
[NASA-CP-2492-Pt-1] p 62 N88-16360
Third Conference on Artificial Intelligence for Space Applications, part 2
[NASA-CP-2492-PT-2] p 63 N88-24188
Fourth Conference on Artificial Intelligence for Space Applications
[NASA-CP-3013] p 63 N89-15549
- VICROY, DAN D.**
Influence of wind shear on the aerodynamic characteristics of airplanes
[NASA-TP-2827] p 12 N88-26344
- VOGLER, WILLIAM A.**
Evaluation of two transport aircraft and several ground test vehicle friction measurements obtained for various runway surface types and conditions. A summary of test results from joint FAA/NASA Runway Friction Program
[NASA-TP-2917] p 16 N90-15902
- VOIGT, SUSAN J.**
Software Reuse Issues
[NASA-CP-3057] p 63 N90-14789
- VOLK, KEVIN**
Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS)
[NASA-RP-1217] p 75 N90-10807
- VRABEL, DEBORAH**
Advanced turboprop project
[NASA-SP-495] p 18 N89-12565
- VYKUKAL, H. C.**
Space Station Human Factors Research Review. Volume 1: EVA Research and Development
[NASA-CP-2426-VOL-1] p 59 N88-24145
- W**
- WAGGONER, EDGAR G.**
A transonic-small-disturbance wing design methodology
[NASA-TP-2806] p 7 N88-17614
- WAHLS, DEBORAH M.**
Thermal-distortion analysis of an antenna strongback for geostationary high-frequency microwave applications
[NASA-TP-3016] p 26 N90-27738

- WALKER, D. W.**
Infrared astronomical satellite (IRAS) catalogs and atlases. Volume 7: The small scale structure catalog [NASA-RP-1190-VOL-7] p 76 N89-14199
- WALKER, G. H.**
Diode laser satellite systems for beamed power transmission [NASA-TP-2992] p 40 N90-24585
- WALKER, HELEN**
Automatic classification of spectra from the Infrared Astronomical Satellite (IRAS) [NASA-RP-1217] p 75 N90-10807
- WALKER, I. J.**
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation [NASA-RP-1184] p 56 N88-27677
Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation [NASA-RP-1184-VOL-2] p 57 N89-20587
- WALKER, IRA**
Limb-darkening functions as derived from along-track operation of the ERBE scanning radiometer for January 1985 [NASA-RP-1214] p 56 N89-17374
- WALLER, MARVIN C.**
A piloted simulation study of data link ATC message exchange [NASA-TP-2859] p 13 N89-15900
- WALTERS, R. W.**
Some path-following techniques for solution of nonlinear equations and comparison with parametric differentiation [NASA-TP-2654] p 64 N87-14054
- WALTERS, ROBERT W.**
Efficient solutions to the Euler equations for supersonic flow with embedded subsonic regions [NASA-TP-2523] p 3 N87-15183
- WANG, CHI R.**
Application of turbulence modeling to predict surface heat transfer in stagnation flow region of circular cylinder [NASA-TP-2758] p 37 N87-27161
- WARSHAWSKY, ISIDORE**
Foundations of measurement and instrumentation [NASA-RP-1222] p 40 N90-21351
- WATSON, CAROLYN B.**
Study of lee-side flows over conically cambered delta wings at supersonic speeds, part 1 [NASA-TP-2660-PT-1] p 5 N87-23597
Study of lee-side flows over conically cambered Delta wings at supersonic speeds, part 2 [NASA-TP-2660-PT-2] p 5 N87-25301
- WATSON, R. T.**
Present state of knowledge of the upper atmosphere 1988: An assessment report [NASA-RP-1208] p 52 N88-29233
Present state of knowledge of the upper atmosphere 1990: An assessment report [NASA-RP-1242] p 54 N90-28929
- WATSON, WILLIE R.**
Experimental validation of a two-dimensional shear-flow model for determining acoustic impedance [NASA-TP-2679] p 66 N87-20798
- WATTS, MICHAEL E.**
Tip aerodynamics and acoustics test: A report and data survey [NASA-RP-1179] p 9 N89-17579
- WEAVER, W. A.**
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application [NASA-TP-2482] p 19 N88-14987
- WEAVER, WILLIAM L.**
Calculation and accuracy of ERBE scanner measurement locations [NASA-TP-2670] p 72 N87-28471
- WEBSTER, K. L.**
Mode-medium instability and its correction with a Gaussian reflectivity mirror [NASA-TP-3023] p 68 N90-25673
- WEILER, J. D.**
Payload crew utilization for spacelab missions [NASA-TP-2976] p 24 N90-14256
- WEILMUNSTER, K. J.**
Simplified curve fits for the thermodynamic properties of equilibrium air [NASA-RP-1181] p 36 N87-26309
- WELLS, DOUGLAS C.**
Jet transport flight operations using cockpit display of traffic information during instrument meteorological conditions: Simulation evaluation [NASA-TP-2567] p 12 N87-29469
- WELLS, WILLIAM L.**
Measured and predicted aerodynamic coefficients and shock shapes for Aeroassist Flight Experiment (AFE) configuration [NASA-TP-2956] p 11 N90-14185
- Surface flow and heating distributions on a cylinder in near wake of Aeroassist Flight Experiment (AFE) configuration at incidence in Mach 10 Air [NASA-TP-2954] p 38 N90-14493
- WEST, ROBERT A.**
Time-Variable Phenomena in the Jovian System [NASA-SP-494] p 78 N89-28474
- WHALEN, MARGARET V.**
Compatibility of dispersion-strengthened platinum with resistojel propellants [NASA-TP-2765] p 27 N88-12538
- WHIPPLE, DANIEL Y.**
Laser-velocimeter-measured flow field around an advanced, swept, eight-blade propeller at Mach 0.8 [NASA-TP-2462] p 2 N90-20942
- WHITCOMB, JOHN D.**
Three-dimensional analysis of a postbuckled embedded delamination [NASA-TP-2823] p 44 N88-26684
- WHITE, ALLAN L.**
SURE reliability analysis: Program and mathematics [NASA-TP-2764] p 65 N88-17380
- WHITEHEAD, VICTOR S.**
Remote Sensing in Polarized Light [NASA-CP-3014] p 72 N89-14189
- WHITFIELD, DAVID L.**
Three-dimensional multigrid algorithms for the flux-split Euler equations [NASA-TP-2829] p 65 N89-12316
- WHITLOCK, CHARLES H.**
Surface bidirectional reflectance properties of two southwestern Arizona deserts for wavelengths between 0.4 and 2.2 micrometers [NASA-TP-2843] p 48 N87-22281
- WHITMORE, STEPHEN A.**
Qualitative evaluation of a flush air data system at transonic speeds and high angles of attack [NASA-TP-2716] p 14 N87-29497
- WIEDEMANN, K. E.**
Emission, catalysis, and dynamic oxidation of Ti-14Al-21Nb [NASA-TP-2955] p 31 N90-10248
- WIEDEMANN, KARL E.**
Oxidation characteristics of Ti-14Al-21Nb ingot alloy [NASA-TP-3012] p 31 N90-25206
- WIELICKI, B. A.**
Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation [NASA-RP-1184] p 56 N88-27677
Angular radiation models for earth-atmosphere system. Volume 2: Longwave radiation [NASA-RP-1184-VOL-2] p 57 N89-20587
- WILCOX, FLOYD J., JR.**
Experimental cavity pressure distributions at supersonic speeds [NASA-TP-2683] p 5 N87-22626
Drag measurements of blunt stores tangentially mounted on a flat plate at supersonic speeds [NASA-TP-2742] p 6 N87-27626
- WILKINSON, R. ALLEN**
Raman intensity as a probe of concentration near a crystal growing in solution [NASA-TP-2865] p 39 N89-16139
- WILLETTS, DAVID V.**
Closed-Cycle, Frequency-Stable CO₂ Laser Technology [NASA-CP-2456] p 40 N87-20522
- WILLEY, C. S.**
Handling qualities of a wide-body transport airplane utilizing Pitch Active Control Systems (PACS) for relaxed static stability application [NASA-TP-2482] p 19 N88-14987
- WILLIAMS, ALTON C.**
Double Layers in Astrophysics [NASA-CP-2469] p 72 N87-23313
- WILLIAMS, DAVID H.**
Jet transport flight operations using cockpit display of traffic information during instrument meteorological conditions: Simulation evaluation [NASA-TP-2567] p 12 N87-29469
- WILLIAMS, LOUIS J.**
Laminar Flow Aircraft Certification [NASA-CP-2413] p 8 N88-23737
- WILLIAMS, M. D.**
Analysis of Nd³⁺:glass, solar-pumped, high-power laser systems [NASA-TP-2905] p 40 N89-17855
Diode laser satellite systems for beamed power transmission [NASA-TP-2992] p 40 N90-24585
- WILLIAMS, RICHARD J.**
Experiments in Planetary and Related Sciences and the Space Station [NASA-CP-2494] p 72 N89-14998
- WILLIAMS, STEVEN P.**
Stereopsis cueing effects on hover-in-turbulence performance in a simulated rotorcraft [NASA-TP-2980] p 17 N90-21004
Determination of depth-viewing volumes for stereo three-dimensional graphic displays [NASA-TP-2999] p 61 N90-22965
- WILLSHIRE, K. F.**
Effects of background noise on total noise annoyance [NASA-TP-2630] p 66 N87-14120
- WILMOTH, RICHARD G.**
Multiscale turbulence effects in supersonic jets exhausting into still air [NASA-TP-2707] p 36 N87-24672
- WILSON, JEFFREY D.**
Revised NASA axially symmetric ring model for coupled-cavity traveling-wave tubes [NASA-TP-2675] p 35 N87-22923
Spent-beam refocusing analysis and multistage depressed collector design for a 75-W, 59- to 64-GHz coupled-cavity traveling-wave tube [NASA-TP-3039] p 35 N90-27965
- WILSON, JOHN W.**
Possible complementary cosmic-ray systems: Nuclei and antinuclei [NASA-TP-2741] p 68 N87-24977
Eikonal solutions to optical model coupled-channel equations [NASA-TP-2830] p 68 N88-30402
Solar-flare shielding with Regolith at a lunar-base site [NASA-TP-2869] p 79 N89-14210
Benchmark solutions for the galactic ion transport equations: Energy and spatially dependent problems [NASA-TP-2878] p 79 N89-16714
BRYNTRN: A baryon transport model [NASA-TP-2887] p 80 N89-17562
Kaon-nucleus scattering [NASA-TP-2920] p 80 N89-25103
Radiation exposure for manned Mars surface missions [NASA-TP-2979] p 80 N90-18357
Improved model for solar cosmic ray exposure in manned Earth orbital flights [NASA-TP-2987] p 80 N90-25031
Comparison of dose estimates using the buildup-factor method and a Baryon transport code (BRYNTRN) with Monte Carlo results [NASA-TP-3021] p 80 N90-29290
- WILSON, R. GALE**
Earth Sciences Requirements for the Information-Sciences Experiment System [NASA-CP-3072] p 50 N90-27140
- WILSON, ROBERT M.**
Statistical aspects of solar flares [NASA-TP-2714] p 79 N87-20947
On the statistics of El Nino occurrences and the relationship of El Nino to volcanic and solar/geomagnetic activity [NASA-TP-2948] p 79 N90-12456
- WINDMILLER, MARY JO**
Unique bit-error-rate measurement system for satellite communication systems [NASA-TP-2699] p 33 N87-20448
- WINGET, CHARLES M.**
Cells in Space [NASA-CP-10034] p 61 N90-13939
- WISLICENUS, GEORGE F.**
Preliminary design of turbopumps and related machinery [NASA-RP-1170] p 3 N87-17665
- WOOD, GEORGE M., JR.**
Closed-Cycle, Frequency-Stable CO₂ Laser Technology [NASA-CP-2456] p 40 N87-20522
- WOOD, JERRY R.**
Laser anemometer measurements in a transonic axial-flow fan rotor [NASA-TP-2879] p 38 N90-11245
- WOOD, RICHARD D.**
Summary of studies to reduce wing-mounted proplan installation drag on an M = 0.8 transport [NASA-TP-2678] p 14 N87-20990
- WOOD, RICHARD M.**
Investigation of leading-edge flap performance on delta and double-delta wings at supersonic speeds [NASA-TP-2656] p 4 N87-20233
Study of lee-side flows over conically cambered delta wings at supersonic speeds, part 1 [NASA-TP-2660-PT-1] p 5 N87-23597
Study of lee-side flows over conically cambered Delta wings at supersonic speeds, part 2 [NASA-TP-2660-PT-2] p 5 N87-25301
Planform effects on the supersonic aerodynamics of multibody configurations [NASA-TP-2762] p 6 N88-12454
Supersonic aerodynamics of delta wings [NASA-TP-2771] p 7 N88-17615

WOODGATE, BRUCE

WOODGATE, BRUCE

Energetic Phenomena on the Sun: The Solar Maximum Mission Flare Workshop. Proceedings
[NASA-CP-2439] p 79 N87-19328

WOODS, CLAUDIA M.

Modification of the SHABERTH bearing code to incorporate RP-1 and a discussion of the traction model
[NASA-TP-3017] p 42 N90-28066

WOODWARD, RICHARD P.

Comparison between design and installed acoustic characteristics of NASA Lewis 9- by 15-foot low-speed wind tunnel acoustic treatment
[NASA-TP-2996] p 22 N90-19242

WRIGHT, ROBERT L.

NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-1] p 24 N87-16014

NASA/DOD Control/Structures Interaction Technology, 1986
[NASA-CP-2447-PT-2] p 25 N87-24495

OEXP Analysis Tools Workshop
[NASA-CP-10013] p 63 N89-11407

Earth Science Geostationary Platform Technology
[NASA-CP-3040] p 24 N90-19249

Thermal-distortion analysis of an antenna strongback for geostationary high-frequency microwave applications
[NASA-TP-3016] p 26 N90-27738

WU, D.

An Auger electron spectroscopy study of surface-preparation contaminants
[NASA-TP-2972] p 33 N90-16968

WU, S. T.

Advanced Earth-to-Orbit Propulsion Technology 1986, volume 2
[NASA-CP-2437-VOL-2] p 27 N89-12626

Advanced Earth-to-Orbit Propulsion Technology 1988, volume 1
[NASA-CP-3012-VOL-1] p 27 N90-28611

WUNSCH, ALFRED J.

Piloted-simulation study of effects of vortex flaps on low-speed handling qualities of a Delta-wing airplane
[NASA-TP-2747] p 19 N87-26922

WYNNE, ELEANOR C.

Steady and unsteady transonic pressure measurements on a clipped delta wing for pitching and control-surface oscillations
[NASA-TP-2594] p 8 N88-28895

Y

YAGER, THOMAS J.

Evaluation of two transport aircraft and several ground test vehicle friction measurements obtained for various runway surface types and conditions. A summary of test results from joint FAA/NASA Runway Friction Program
[NASA-TP-2917] p 16 N90-15902

YEE, HELEN

Supercomputing in Aerospace
[NASA-CP-2454] p 5 N87-25998

YEH, FREDERICK C.

Application of turbulence modeling to predict surface heat transfer in stagnation flow region of circular cylinder
[NASA-TP-2758] p 37 N87-27161

YENNI, K. R.

Piloted simulation study of the effects of an automated trim system on flight characteristics of a light twin-engine airplane with one engine inoperative
[NASA-TP-2633] p 3 N87-10843

YI, THOMAS Y.

The 1986 Goddard Space Flight Center Battery Workshop
[NASA-CP-2486] p 35 N88-11021

YIP, LONG P.

Wind-tunnel free-flight investigation of a 0.15-scale model of the F-106B airplane with vortex flaps
[NASA-TP-2700] p 4 N87-21855

YOS, JERROLD M.

A review of reaction rates and thermodynamic and transport properties for an 11-species air model for chemical and thermal nonequilibrium calculations to 30000 K
[NASA-RP-1232] p 38 N90-27064

YOUNG, D. F.

Angular radiation models for Earth-atmosphere system. Volume 1: Shortwave radiation
[NASA-RP-1184] p 56 N88-27677

YOUNG, DAVID F.

Calibration of the spin-scan ozone imager aboard the dynamics Explorer 1 satellite
[NASA-TP-2723] p 55 N87-26491

YOUNG, LEIGHTON E.

Solar array flight experiment/dynamic augmentation experiment
[NASA-TP-2690] p 26 N87-20380

YOUNG, PHILIP R.

Proceedings of the LDEF Materials Data Analysis Workshop
[NASA-CP-10046] p 28 N90-26075

YU, Y. H.

Automated Reduction of Data from Images and Holograms
[NASA-CP-2477] p 6 N87-29432

Z

ZAKRAJSEK, JAMES J.

Comparison study of gear dynamic computer programs at NASA Lewis Research Center
[NASA-TP-2901] p 41 N89-21243

ZANG, THOMAS A.

Numerical simulation of channel flow transition, resolution requirements and structure of the hairpin vortex
[NASA-TP-2667] p 4 N87-19351

Interactions of Tollmien-Schlichting waves and Dean vortices. Comparison of direct numerical simulation and a weakly nonlinear theory
[NASA-TP-2919] p 10 N89-25118

ZAPATA, L. E.

Analysis of Nd3+ :glass, solar-pumped, high-power laser systems
[NASA-TP-2905] p 40 N89-17855

ZARETSKY, ERWIN V.

Liquid lubrication in space
[NASA-RP-1240] p 42 N90-28063

ZUBER, MARIA T.

Planetary geosciences, 1988
[NASA-SP-498] p 48 N89-26274

ZUCKERWAR, ALLAN J.

Contamination of liquid oxygen by pressurized gaseous nitrogen
[NASA-TP-2894] p 38 N89-19499

ZURAWSKI, ROBERT L.

Analysis of quasi-hybrid solid rocket booster concepts for advanced earth-to-orbit vehicles
[NASA-TP-2751] p 27 N87-25425

ZWALLY, H. JAY

Arctic Sea ice, 1973-1976: Satellite passive-microwave observations
[NASA-SP-489] p 58 N87-24870

Polar microwave brightness temperatures from Nimbus-7 SMMR: Time series of daily and monthly maps from 1978 to 1987
[NASA-RP-1223] p 48 N89-26275

Satellite radar altimetry over ice. Volume 1: Processing and corrections of Seasat data over Greenland
[NASA-RP-1233-VOL-1] p 54 N90-20562

Satellite radar altimetry over ice. Volume 2: Users' guide for Greenland elevation data from Seasat
[NASA-RP-1233-VOL-2] p 54 N90-20563

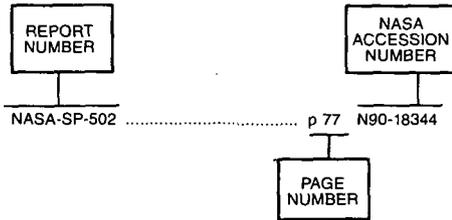
Satellite radar altimetry over ice. Volume 4: Users' guide for Antarctica elevation data from Seasat
[NASA-RP-1233-VOL-4] p 54 N90-20564

Surface topography of the Greenland Ice Sheet from satellite radar altimetry
[NASA-SP-503] p 54 N90-22850

REPORT NUMBER INDEX

NASA Scientific and Technical Publications 1987-1990

Typical Report Number Index Listing



Listings in this index are arranged alphanumerically by report number. The page number indicates the page on which the citation is located. The accession number denotes the number by which the citation is identified.

NASA-CP-10001	p 37	N88-15924	NASA-CP-3003-VOL-3	p 44	N88-22408
NASA-CP-10003-SESS-1	p 18	N88-16697	NASA-CP-3004	p 74	N89-13330
NASA-CP-10003-SESS-2	p 18	N88-15785	NASA-CP-3005	p 78	N88-26279
NASA-CP-10003-SESS-3	p 18	N88-15790	NASA-CP-3006	p 37	N89-11153
NASA-CP-10003-SESS-4	p 18	N88-15794	NASA-CP-3007	p 63	N88-29351
NASA-CP-10003-SESS-5	p 18	N88-15800	NASA-CP-3008	p 22	N89-10902
NASA-CP-10003-SESS-6	p 18	N88-15807	NASA-CP-3009	p 64	N88-30330
NASA-CP-10004	p 12	N88-14970	NASA-CP-3011	p 23	N89-15934
NASA-CP-10006	p 12	N88-17616	NASA-CP-3012-VOL-1	p 27	N90-28611
NASA-CP-10007	p 2	N88-27148	NASA-CP-3013	p 63	N89-15549
NASA-CP-10008	p 9	N89-10849	NASA-CP-3014	p 72	N89-14189
NASA-CP-10009	p 37	N88-20599	NASA-CP-3015	p 25	N89-12582
NASA-CP-10010	p 44	N88-21498	NASA-CP-3016	p 22	N89-11760
NASA-CP-10011	p 61	N88-21646	NASA-CP-3017	p 72	N89-14188
NASA-CP-10012-PT-1	p 46	N89-29773	NASA-CP-3019	p 61	N89-19817
NASA-CP-10012-PT-2	p 46	N89-29789	NASA-CP-3020-VOL-1-PT-1	p 9	N89-20925
NASA-CP-10012-PT-3	p 46	N89-29799	NASA-CP-3020-VOL-1-PT-2	p 9	N89-20942
NASA-CP-10013	p 63	N89-11407	NASA-CP-3021	p 73	N89-15790
NASA-CP-10014	p 51	N89-14503	NASA-CP-3022-PT-1	p 9	N89-19234
NASA-CP-10015	p 74	N89-13310	NASA-CP-3022-PT-2	p 9	N89-19247
NASA-CP-10016	p 27	N90-21795	NASA-CP-3023	p 57	N89-20588
NASA-CP-10017	p 32	N89-17682	NASA-CP-3025	p 63	N89-22332
NASA-CP-10018	p 69	N89-14842	NASA-CP-3026	p 41	N89-22891
NASA-CP-10019	p 31	N89-13642	NASA-CP-3027	p 9	N89-23415
NASA-CP-10020	p 60	N89-13898	NASA-CP-3028	p 2	N89-19230
NASA-CP-10021	p 78	N89-18373	NASA-CP-3029	p 45	N89-22940
NASA-CP-10022	p 59	N89-17997	NASA-CP-3030	p 50	N89-24704
NASA-CP-10024	p 46	N89-24626	NASA-CP-3031-PT-1	p 15	N89-25146
NASA-CP-10026-VOL-1	p 59	N89-24022	NASA-CP-3031-PT-2	p 15	N89-25173
NASA-CP-10026-VOL-2	p 59	N89-24023	NASA-CP-3031-PT-3	p 15	N89-25201
NASA-CP-10027	p 59	N89-26334	NASA-CP-3032	p 46	N89-23892
NASA-CP-10029	p 50	N89-22982	NASA-CP-3033	p 64	N89-26578
NASA-CP-10032	p 61	N90-22918	NASA-CP-3034-PT-1	p 46	N89-24638
NASA-CP-10033	p 40	N90-17085	NASA-CP-3034-PT-2	p 46	N89-24654
NASA-CP-10034	p 61	N90-13939	NASA-CP-3035-PT-1	p 27	N89-23528
NASA-CP-10036	p 17	N90-13384	NASA-CP-3035-PT-2	p 28	N89-23547
NASA-CP-10041	p 16	N90-14220	NASA-CP-3037	p 27	N90-10140
NASA-CP-10043	p 29	N90-27792	NASA-CP-3039	p 75	N90-10805
NASA-CP-10046	p 28	N90-26075	NASA-CP-3040	p 24	N90-19249
NASA-CP-2002	p 22	N78-78855	NASA-CP-3041	p 26	N90-21062
NASA-CP-2040	p 62	N78-74659	NASA-CP-3042	p 53	N90-11405
NASA-CP-2327-PT-1	p 13	N87-11717	NASA-CP-3043	p 38	N89-26184
NASA-CP-2327-PT-2	p 13	N87-11750	NASA-CP-3044	p 53	N89-25540
NASA-CP-2339	p 43	N87-11180	NASA-CP-3045	p 62	N90-20651
NASA-CP-2397	p 1	N88-14926	NASA-CP-3046	p 77	N90-19940
NASA-CP-2399	p 62	N87-10720	NASA-CP-3047	p 38	N90-10385
NASA-CP-2402	p 55	N87-13043	NASA-CP-3048	p 73	N90-18329
NASA-CP-2405	p 43	N88-11140	NASA-CP-3050	p 23	N90-13413
NASA-CP-2407	p 75	N88-20235	NASA-CP-3052	p 22	N90-17647
NASA-CP-2413	p 8	N88-23737	NASA-CP-3053	p 40	N90-16204
NASA-CP-2423-REV	p 43	N87-16321	NASA-CP-3056	p 50	N90-20454
NASA-CP-2426-VOL-1	p 59	N88-24145	NASA-CP-3057	p 63	N90-14789
NASA-CP-2426-VOL-3	p 59	N88-19883	NASA-CP-3058	p 66	N90-18957
NASA-CP-2426-VOL-4	p 59	N88-24148	NASA-CP-3059	p 62	N90-25503
NASA-CP-2427	p 31	N88-23872	NASA-CP-3061	p 73	N90-27562
NASA-CP-2429	p 36	N87-22103	NASA-CP-3062	p 47	N90-22079
NASA-CP-2431	p 39	N87-10263	NASA-CP-3063	p 2	N90-20921
NASA-CP-2432	p 7	N88-17586	NASA-CP-3067	p 67	N90-24853
NASA-CP-2433	p 17	N87-20267	NASA-CP-3068	p 64	N90-22294
NASA-CP-2434	p 34	N87-11072	NASA-CP-3069	p 47	N90-24637
NASA-CP-2435	p 27	N87-10054	NASA-CP-3070	p 78	N90-25030
NASA-CP-2437-VOL-2	p 12	N89-12626	NASA-CP-3071	p 77	N90-23294
NASA-CP-2438	p 22	N87-20302	NASA-CP-3072	p 50	N90-27140
NASA-CP-2439	p 79	N87-19328	NASA-CP-3073	p 63	N90-27275
NASA-CP-2441	p 77	N87-17598	NASA-CP-3074	p 28	N90-24350
NASA-CP-2442	p 79	N87-20871	NASA-CP-3075	p 48	N90-22824
NASA-CP-2443	p 41	N87-22199	NASA-CP-3076	p 40	N90-24586
NASA-CP-2444	p 45	N89-12876	NASA-CP-3077	p 78	N90-26744
NASA-CP-2446	p 25	N88-10829	NASA-CP-3079	p 58	N90-28224
NASA-CP-2447-PT-1	p 24	N87-16014	NASA-CP-3081-VOL-1	p 17	N90-25980
NASA-CP-2447-PT-2	p 25	N87-24495			
NASA-CP-2448	p 51	N87-15528			
NASA-CP-2449	p 79	N87-21785			
NASA-CP-2450	p 51	N87-18248			
NASA-CP-2451	p 1	N87-18520			
NASA-CP-2452	p 1	N87-22604			
NASA-CP-2453	p 1	N87-27596			
NASA-CP-2454	p 5	N87-25998			
NASA-CP-2455	p 12	N87-22634			
NASA-CP-2456	p 40	N87-20522			
NASA-CP-2457	p 43	N87-18855			
NASA-CP-2458	p 41	N87-18821			
NASA-CP-2459-VOL-1	p 62	N87-19931			
NASA-CP-2459-VOL-2	p 62	N87-19932			
NASA-CP-2460	p 52	N87-20665			
NASA-CP-2462	p 5	N87-24410			
NASA-CP-2463	p 62	N87-23156			
NASA-CP-2464	p 72	N87-24247			
NASA-CP-2465	p 32	N87-21141			
NASA-CP-2466	p 73	N87-24266			
NASA-CP-2467-PT-1	p 23	N87-22702			
NASA-CP-2467-PT-2	p 23	N87-22729			
NASA-CP-2468	p 55	N87-22341			
NASA-CP-2469	p 72	N87-23313			
NASA-CP-2470	p 43	N87-29858			
NASA-CP-2471	p 26	N87-22766			
NASA-CP-2472	p 42	N87-27204			
NASA-CP-2473	p 25	N88-10084			
NASA-CP-2474	p 1	N87-25267			
NASA-CP-2475	p 50	N87-26413			
NASA-CP-2476	p 24	N88-12520			
NASA-CP-2477	p 6	N87-29432			
NASA-CP-2478	p 62	N87-26531			
NASA-CP-2479	p 60	N88-13852			
NASA-CP-2480	p 60	N88-12251			
NASA-CP-2481	p 43	N87-27231			
NASA-CP-2483	p 79	N88-11609			
NASA-CP-2484	p 50	N87-29914			
NASA-CP-2485	p 58	N88-17168			
NASA-CP-2486	p 35	N88-11021			
NASA-CP-2487-PT-1	p 10	N90-12503			
NASA-CP-2487-PT-2	p 10	N90-12519			
NASA-CP-2487-PT-3	p 10	N90-12539			
NASA-CP-2488-VOL-1	p 43	N88-13609			
NASA-CP-2488-VOL-2	p 44	N88-18948			
NASA-CP-2489	p 74	N89-15810			
NASA-CP-2490	p 25	N88-10870			
NASA-CP-2491	p 61	N88-17206			
NASA-CP-2492-PT-1	p 62	N88-16360			
NASA-CP-2492-PT-2	p 63	N88-24188			
NASA-CP-2493	p 45	N89-17298			
NASA-CP-2494	p 72	N89-14998			
NASA-CP-2495-VOL-1	p 1	N88-16625			
NASA-CP-2495-VOL-2	p 1	N88-16632			
NASA-CP-2495-VOL-3	p 1	N88-16650			
NASA-CP-2496	p 58	N88-15354			
NASA-CP-2497	p 47	N88-13774			
NASA-CP-2498	p 56	N88-25105			
NASA-CP-2499	p 59	N88-14623			
NASA-CP-2500	p 22	N88-17691			
NASA-CP-2502	p 2	N88-23715			
NASA-CP-2503	p 32	N88-23895			
NASA-CP-2504	p 60	N88-23370			
NASA-CP-2505	p 44	N88-20652			
NASA-CP-2506	p 44	N88-21468			
NASA-CP-3002	p 72	N88-25390			
NASA-CP-3003-VOL-1	p 44	N88-23226			
NASA-CP-3003-VOL-2	p 44	N88-22382			
NASA-RP-1082(04)	p 34	N89-17060			
NASA-RP-1108/2	p 34	N88-14226			
NASA-RP-1124	p 28	N88-10117			
NASA-RP-1130	p 37	N88-18884			
NASA-RP-1146	p 21	N87-10876			
NASA-RP-1159	p 17	N87-29533			
NASA-RP-1168	p 14	N87-29499			
NASA-RP-1170	p 3	N87-17665			
NASA-RP-1171	p 33	N87-11916			
NASA-RP-1172	p 51	N87-11358			
NASA-RP-1173	p 51	N87-17417			
NASA-RP-1175	p 51	N87-20663			

NASA-RP-1176	p 73	N87-14219	NASA-SP-494	p 78	N89-28474	NASA-TP-2610	p 41	N87-18095
NASA-RP-1177	p 28	N87-29612	NASA-SP-495	p 18	N89-12565	NASA-TP-2611	p 31	N87-18666
NASA-RP-1178-REV	p 73	N87-25906	NASA-SP-496	p 74	N89-12513	NASA-TP-2612	p 28	N87-10184
NASA-RP-1179	p 9	N89-17579	NASA-SP-497	p 74	N89-11657	NASA-TP-2613	p 36	N87-18783
NASA-RP-1180	p 79	N87-25984	NASA-SP-498	p 46	N89-26274	NASA-TP-2614	p 7	N88-19412
NASA-RP-1181	p 36	N87-26309	NASA-SP-501	p 15	N90-12589	NASA-TP-2615	p 2	N88-19407
NASA-RP-1182	p 73	N87-22573	NASA-SP-502	p 77	N90-18344	NASA-TP-2616	p 16	N87-10864
NASA-RP-1183	p 55	N87-20701	NASA-SP-503	p 54	N90-22850	NASA-TP-2618	p 15	N88-21153
NASA-RP-1184-VOL-2	p 57	N89-20587	NASA-SP-504	p 24	N90-25160	NASA-TP-2619	p 7	N88-18567
NASA-RP-1184	p 56	N88-27677	NASA-SP-6101(02)	p 69	N90-13277	NASA-TP-2621	p 68	N87-10764
NASA-RP-1185	p 55	N87-26489	NASA-SP-6101	p 69	N89-12479	NASA-TP-2623	p 3	N87-10039
NASA-RP-1186	p 55	N88-10451	NASA-SP-7011(293)	p 59	N87-18976	NASA-TP-2624	p 3	N87-12541
NASA-RP-1187	p 14	N88-19467	NASA-SP-7011(302)	p 59	N87-30041	NASA-TP-2625	p 51	N87-13022
NASA-RP-1188	p 49	N87-28955	NASA-SP-7011(306)	p 60	N88-18180	NASA-TP-2626	p 41	N87-10391
NASA-RP-1189	p 21	N87-29544	NASA-SP-7011(315)	p 60	N88-30281	NASA-TP-2627	p 43	N87-13789
NASA-RP-1190-VOL-1	p 76	N89-14194	NASA-SP-7011(327)	p 60	N89-29951	NASA-TP-2628	p 3	N87-11702
NASA-RP-1190-VOL-2	p 76	N89-14197	NASA-SP-7011(340)	p 60	N90-28963	NASA-TP-2629	p 33	N87-12718
NASA-RP-1190-VOL-3	p 77	N89-14201	NASA-SP-7037(217)	p 1	N87-27613	NASA-TP-2630	p 66	N87-14120
NASA-RP-1190-VOL-4	p 76	N89-14196	NASA-SP-7037(222)	p 7	N88-19416	NASA-TP-2631	p 35	N87-13664
NASA-RP-1190-VOL-5	p 76	N89-14195	NASA-SP-7037(229)	p 2	N88-27163	NASA-TP-2632	p 68	N87-13264
NASA-RP-1190-VOL-6	p 76	N89-14198	NASA-SP-7037(242)	p 2	N89-29304	NASA-TP-2633	p 3	N87-10843
NASA-RP-1190-VOL-7	p 76	N89-14199	NASA-SP-7037(255)	p 2	N90-27648	NASA-TP-2635	p 33	N87-17971
NASA-RP-1194	p 55	N87-29996	NASA-SP-7038(04)	p 72	N87-70425	NASA-TP-2637	p 55	N87-12086
NASA-RP-1195	p 68	N88-13015	NASA-SP-7039(31)-SECT-1	p 70	N87-25023	NASA-TP-2638	p 37	N88-14299
NASA-RP-1196-PT-1-ED-2	p 73	N88-15738	NASA-SP-7039(31)-SECT-2	p 70	N87-26689	NASA-TP-2639	p 31	N87-12680
NASA-RP-1196-PT-2-ED-2	p 74	N88-16615	NASA-SP-7039(32)-SECT-1	p 70	N88-15732	NASA-TP-2641	p 36	N87-18782
NASA-RP-1197	p 56	N88-20772	NASA-SP-7039(32)-SECT-2	p 70	N88-18511	NASA-TP-2642	p 3	N87-15184
NASA-RP-1198	p 52	N88-19037	NASA-SP-7039(35)-SECT-1	p 71	N89-25775	NASA-TP-2643	p 48	N87-22281
NASA-RP-1199	p 48	N88-17096	NASA-SP-7039(35)-SECT-2	p 71	N89-29264	NASA-TP-2644	p 13	N87-16815
NASA-RP-1200	p 52	N88-25094	NASA-SP-7039(37)-SECT-1	p 71	N90-25698	NASA-TP-2645	p 68	N87-14998
NASA-RP-1201	p 49	N88-20714	NASA-SP-7039(37)-SECT-2	p 71	N90-26700	NASA-TP-2646	p 21	N87-18576
NASA-RP-1202	p 76	N88-29652	NASA-SP-7041(54)	p 49	N87-27315	NASA-TP-2648	p 16	N87-13438
NASA-RP-1203	p 76	N88-28843	NASA-SP-7041(57)	p 49	N88-23314	NASA-TP-2649	p 13	N87-17690
NASA-RP-1204	p 52	N89-10420	NASA-SP-7041(62)	p 50	N89-29825	NASA-TP-2650	p 66	N87-18399
NASA-RP-1205	p 74	N88-30545	NASA-SP-7041(63)	p 50	N90-12091	NASA-TP-2652	p 19	N87-16849
NASA-RP-1206	p 56	N89-14634	NASA-SP-7046(17)	p 22	N87-29576	NASA-TP-2653	p 3	N87-15174
NASA-RP-1207	p 19	N89-15123	NASA-SP-7046(18)	p 22	N88-27214	NASA-TP-2654	p 64	N87-14054
NASA-RP-1208	p 52	N88-29233	NASA-SP-7046(20)	p 26	N89-26037	NASA-TP-2655	p 36	N87-18034
NASA-RP-1209	p 52	N88-29234	NASA-SP-7046(22)	p 26	N90-26056	NASA-TP-2656	p 4	N87-20233
NASA-RP-1210	p 56	N89-14648	NASA-SP-7053-SUPPL-3	p 70	N87-27557	NASA-TP-2657	p 37	N87-29795
NASA-RP-1211	p 79	N89-30151	NASA-SP-7056(04)	p 25	N87-26073	NASA-TP-2658	p 4	N87-18537
NASA-RP-1212	p 42	N90-19593	NASA-SP-7056(05)	p 25	N88-13382	NASA-TP-2659	p 68	N87-17487
NASA-RP-1213	p 78	N89-16709	NASA-SP-7056(07)	p 25	N89-18522	NASA-TP-2660-PT-1	p 5	N87-23597
NASA-RP-1214	p 56	N89-17374	NASA-SP-7056(10)	p 26	N90-25171	NASA-TP-2660-PT-2	p 5	N87-25301
NASA-RP-1215	p 48	N89-22152	NASA-SP-7063(01)	p 70	N87-30218	NASA-TP-2661	p 43	N87-20567
NASA-RP-1216	p 75	N90-18342	NASA-SP-7063(02)	p 70	N88-22830	NASA-TP-2663	p 27	N87-18611
NASA-RP-1217	p 75	N90-10807	NASA-SP-7063(03)	p 71	N90-10782	NASA-TP-2664	p 34	N87-17991
NASA-RP-1218	p 67	N89-25673	NASA-SP-7064-SUPPL-3	p 71	N90-22438	NASA-TP-2665	p 34	N87-17990
NASA-RP-1219	p 40	N90-10412	NASA-SP-7064-VOL-3	p 70	N89-13301	NASA-TP-2666	p 21	N87-17717
NASA-RP-1220	p 15	N89-23448	NASA-SP-7065	p 71	N89-15779	NASA-TP-2667	p 4	N87-19351
NASA-RP-1221	p 53	N89-26304	NASA-SP-7069	p 74	N88-24553	NASA-TP-2668	p 29	N87-18629
NASA-RP-1222	p 40	N90-21351	NASA-SP-7078	p 69	N90-12385	NASA-TP-2669	p 16	N87-19393
NASA-RP-1223	p 48	N89-26275	NASA-SP-7079	p 71	N90-27548	NASA-TP-2670	p 72	N87-28471
NASA-RP-1224-VOL-1	p 53	N90-13893	NASA-SP-7084	p 71	N90-26710	NASA-TP-2671	p 31	N87-20423
NASA-RP-1224-VOL-2	p 53	N89-28969	NASA-SP-7500(21)	p 69	N87-20833	NASA-TP-2672	p 64	N87-23202
NASA-RP-1225	p 57	N89-28983	NASA-SP-7500(22)	p 69	N88-21867	NASA-TP-2674	p 30	N87-20407
NASA-RP-1226	p 39	N89-26209	NASA-SP-7500(23)	p 69	N89-26766	NASA-TP-2675	p 35	N87-22923
NASA-RP-1227	p 57	N89-27302	NASA-SP-7500(24)	p 69	N90-24174	NASA-TP-2676	p 4	N87-20238
NASA-RP-1228	p 42	N90-18740	NASA-TP-1063	p 28	N88-70029	NASA-TP-2677	p 30	N87-18544
NASA-RP-1229	p 77	N89-27612	NASA-TP-1848	p 36	N87-23921	NASA-TP-2678	p 14	N87-20990
NASA-RP-1230	p 57	N90-14741	NASA-TP-1849	p 36	N87-24639	NASA-TP-2679	p 66	N87-20798
NASA-RP-1231	p 57	N90-17233	NASA-TP-1850	p 36	N87-23936	NASA-TP-2680	p 21	N87-20295
NASA-RP-1232	p 38	N90-27064	NASA-TP-2222	p 19	N87-10871	NASA-TP-2681	p 21	N88-17686
NASA-RP-1233-VOL-1	p 54	N90-20562	NASA-TP-2223	p 19	N87-18570	NASA-TP-2682	p 39	N87-20514
NASA-RP-1233-VOL-2	p 54	N90-20563	NASA-TP-2224	p 19	N87-10103	NASA-TP-2683	p 5	N87-22626
NASA-RP-1233-VOL-4	p 54	N90-20564	NASA-TP-2336	p 3	N87-10042	NASA-TP-2684	p 13	N87-15959
NASA-RP-1234	p 53	N90-17227	NASA-TP-2350	p 19	N87-10870	NASA-TP-2685	p 36	N87-17000
NASA-RP-1235	p 18	N90-21037	NASA-TP-2352	p 3	N87-10838	NASA-TP-2688	p 65	N87-22441
NASA-RP-1237	p 58	N90-23837	NASA-TP-2364	p 3	N87-10839	NASA-TP-2689	p 66	N87-24161
NASA-RP-1238	p 78	N90-27607	NASA-TP-2375-PT-2	p 3	N87-10841	NASA-TP-2690	p 26	N87-20380
NASA-RP-1240	p 42	N90-28063	NASA-TP-2384	p 37	N87-29778	NASA-TP-2691	p 14	N87-23614
NASA-RP-1241	p 50	N90-23780	NASA-TP-2392	p 14	N87-17693	NASA-TP-2692	p 21	N87-23662
NASA-RP-1242	p 54	N90-28929	NASA-TP-2395	p 4	N87-20966	NASA-TP-2693	p 35	N87-20474
NASA-RP-1245	p 75	N90-28470	NASA-TP-2401	p 4	N87-17668	NASA-TP-2694	p 30	N87-16902
NASA-SP-223(05)	p 42	N81-71594	NASA-TP-2418	p 4	N87-17669	NASA-TP-2695	p 61	N88-14629
NASA-SP-224(05)	p 42	N81-71592	NASA-TP-2462	p 2	N90-20942	NASA-TP-2696	p 23	N87-18588
NASA-SP-301	p 2	N77-85474	NASA-TP-2482	p 19	N88-14987	NASA-TP-2697	p 44	N88-23988
NASA-SP-4012-VOL-1	p 80	N88-25428	NASA-TP-2517	p 8	N88-23735	NASA-TP-2698	p 41	N87-22235
NASA-SP-4012-VOL-2	p 80	N88-25429	NASA-TP-2523	p 3	N87-15183	NASA-TP-2699	p 33	N87-20448
NASA-SP-4012-VOL-3	p 81	N88-25430	NASA-TP-2530	p 64	N87-14918	NASA-TP-2700	p 4	N87-21855
NASA-SP-4023	p 80	N88-14062	NASA-TP-2546	p 7	N88-20257	NASA-TP-2702	p 21	N87-22694
NASA-SP-4024	p 81	N90-25928	NASA-TP-2556	p 24	N88-14112	NASA-TP-2704	p 4	N87-21873
NASA-SP-4025	p 81	N89-26803	NASA-TP-2567	p 12	N87-29469	NASA-TP-2705	p 41	N87-20555
NASA-SP-4214	p 81	N89-25946	NASA-TP-2583	p 35	N87-11963	NASA-TP-2706	p 5	N87-23586
NASA-SP-4305	p 80	N87-24390	NASA-TP-2586	p 66	N87-17479	NASA-TP-2707	p 36	N87-24672
NASA-SP-4406	p 81	N89-26805	NASA-TP-2588	p 6	N88-10765	NASA-TP-2708	p 65	N87-22447
NASA-SP-484	p 77	N87-19322	NASA-TP-2593	p 39	N87-13731	NASA-TP-2709	p 65	N87-23244
NASA-SP-486	p 47	N87-18139	NASA-TP-2594	p 8	N88-28895	NASA-TP-2710	p 43	N87-20568
NASA-SP-487	p 72	N88-19375	NASA-TP-2595-REV	p 49	N89-12114	NASA-TP-2711	p 43	N87-20566
NASA-SP-488	p 75	N87-30235	NASA-TP-2596	p 36	N87-18035	NASA-TP-2712	p 5	N87-24433
NASA-SP-489	p 58	N87-24870	NASA-TP-2597	p 17	N87-17699	NASA-TP-2713	p 6	N87-27643
NASA-SP-490	p 52	N88-18084	NASA-TP-2598	p 23	N87-12581	NASA-TP-2714	p 79	N87-20947
NASA-SP-491	p 49	N89-10401	NASA-TP-2601	p 3	N87-14284	NASA-TP-2715	p 30	N87-21076
NASA-SP-492	p 75	N88-11592	NASA-TP-2603	p 43	N87-12921	NASA-TP-2716	p 14	N87-29497
NASA-SP-493	p 78	N88-24564	NASA-TP-2607	p 24	N87-12585	NASA-TP-2717	p 5	N87-23593
						NASA-TP-2718	p 14	N87-24458

REPORT NUMBER INDEX

NASA-TP-3042

NASA-TP-2719	p 35	N87-21239	NASA-TP-2821	p 44	N88-25013	NASA-TP-2933	p 10	N89-27634
NASA-TP-2720	p 26	N87-20381	NASA-TP-2822	p 20	N89-15929	NASA-TP-2934	p 30	N89-26976
NASA-TP-2721	p 5	N87-24432	NASA-TP-2823	p 44	N88-26684	NASA-TP-2935	p 46	N89-27214
NASA-TP-2722	p 65	N87-28367	NASA-TP-2824	p 45	N88-28343	NASA-TP-2936	p 33	N89-27039
NASA-TP-2723	p 55	N87-26491	NASA-TP-2825	p 67	N88-26907	NASA-TP-2937	p 47	N90-18081
NASA-TP-2724	p 58	N87-20727	NASA-TP-2826	p 28	N88-25480	NASA-TP-2938	p 64	N90-10618
NASA-TP-2725	p 26	N87-25423	NASA-TP-2827	p 12	N88-26344	NASA-TP-2939	p 10	N90-10829
NASA-TP-2726	p 27	N87-25424	NASA-TP-2828	p 8	N89-10024	NASA-TP-2940	p 20	N90-10074
NASA-TP-2727	p 6	N87-26874	NASA-TP-2829	p 65	N89-12316	NASA-TP-2941	p 46	N89-29811
NASA-TP-2728	p 5	N87-26031	NASA-TP-2830	p 68	N88-30402	NASA-TP-2942	p 78	N90-10814
NASA-TP-2729	p 6	N87-26883	NASA-TP-2832	p 10	N89-24264	NASA-TP-2943	p 47	N90-27121
NASA-TP-2730	p 28	N87-25435	NASA-TP-2833	p 22	N88-28075	NASA-TP-2944	p 34	N90-11915
NASA-TP-2731	p 6	N87-27622	NASA-TP-2834	p 8	N88-29752	NASA-TP-2945	p 10	N90-10830
NASA-TP-2732	p 32	N87-22870	NASA-TP-2835	p 65	N89-16437	NASA-TP-2946	p 11	N90-15882
NASA-TP-2733	p 5	N87-23592	NASA-TP-2837	p 13	N89-11726	NASA-TP-2947	p 67	N90-10680
NASA-TP-2735	p 40	N87-27994	NASA-TP-2838	p 39	N89-13762	NASA-TP-2948	p 79	N90-12456
NASA-TP-2736	p 5	N87-26032	NASA-TP-2839	p 61	N89-18039	NASA-TP-2949	p 66	N90-12282
NASA-TP-2737	p 4	N87-21871	NASA-TP-2840	p 39	N88-30099	NASA-TP-2950	p 29	N90-10179
NASA-TP-2738	p 42	N87-28025	NASA-TP-2841	p 39	N88-28286	NASA-TP-2951	p 16	N90-26823
NASA-TP-2739	p 14	N87-26041	NASA-TP-2843	p 66	N89-14053	NASA-TP-2952	p 47	N90-12042
NASA-TP-2740	p 19	N87-25331	NASA-TP-2844	p 19	N89-12569	NASA-TP-2953	p 38	N90-17042
NASA-TP-2741	p 68	N87-24977	NASA-TP-2845	p 45	N89-16183	NASA-TP-2954	p 38	N90-14493
NASA-TP-2742	p 6	N87-27626	NASA-TP-2846	p 8	N89-10844	NASA-TP-2955	p 31	N90-10248
NASA-TP-2743	p 34	N87-24590	NASA-TP-2847	p 33	N88-28177	NASA-TP-2956	p 11	N90-14185
NASA-TP-2744	p 30	N87-25463	NASA-TP-2848	p 8	N89-10020	NASA-TP-2957	p 69	N90-12348
NASA-TP-2745	p 32	N87-24585	NASA-TP-2850	p 45	N89-16170	NASA-TP-2960	p 17	N90-18393
NASA-TP-2746	p 17	N87-24481	NASA-TP-2851	p 25	N89-12580	NASA-TP-2961	p 11	N90-14187
NASA-TP-2747	p 19	N87-26922	NASA-TP-2853	p 63	N89-12237	NASA-TP-2962	p 20	N90-11757
NASA-TP-2748	p 66	N88-11450	NASA-TP-2855	p 37	N89-12822	NASA-TP-2963	p 58	N90-19718
NASA-TP-2749	p 21	N87-28570	NASA-TP-2856	p 9	N89-14213	NASA-TP-2965	p 20	N90-17639
NASA-TP-2751	p 27	N87-25425	NASA-TP-2857	p 20	N89-24327	NASA-TP-2966	p 16	N90-17627
NASA-TP-2752	p 35	N87-25532	NASA-TP-2858	p 9	N89-12543	NASA-TP-2967	p 31	N90-15211
NASA-TP-2753	p 6	N88-10771	NASA-TP-2859	p 13	N89-15900	NASA-TP-2968	p 68	N90-14890
NASA-TP-2755	p 30	N87-27024	NASA-TP-2862	p 27	N89-15979	NASA-TP-2969	p 11	N90-16710
NASA-TP-2756	p 49	N87-28162	NASA-TP-2863	p 30	N89-10996	NASA-TP-2970	p 29	N90-19302
NASA-TP-2757	p 32	N87-27067	NASA-TP-2865	p 39	N89-16139	NASA-TP-2971	p 16	N90-15100
NASA-TP-2758	p 37	N87-27161	NASA-TP-2866	p 65	N89-16415	NASA-TP-2972	p 33	N90-16968
NASA-TP-2759	p 65	N87-27474	NASA-TP-2867	p 38	N89-16115	NASA-TP-2973	p 11	N90-19183
NASA-TP-2760-REV	p 63	N90-11454	NASA-TP-2868	p 45	N89-19579	NASA-TP-2974	p 63	N90-18882
NASA-TP-2761	p 56	N88-14572	NASA-TP-2869	p 79	N89-14210	NASA-TP-2975	p 16	N90-18385
NASA-TP-2762	p 6	N88-12454	NASA-TP-2870	p 13	N89-15901	NASA-TP-2976	p 24	N90-14256
NASA-TP-2763	p 6	N87-29462	NASA-TP-2872	p 45	N89-13814	NASA-TP-2977	p 42	N90-19595
NASA-TP-2764	p 65	N88-17380	NASA-TP-2873	p 45	N89-16196	NASA-TP-2978	p 13	N90-18378
NASA-TP-2765	p 27	N88-12538	NASA-TP-2874	p 20	N89-15930	NASA-TP-2979	p 80	N90-18357
NASA-TP-2766	p 67	N88-17440	NASA-TP-2875	p 34	N89-17767	NASA-TP-2980	p 17	N90-21004
NASA-TP-2767	p 25	N88-14115	NASA-TP-2877	p 9	N89-15888	NASA-TP-2981	p 29	N90-16007
NASA-TP-2768	p 65	N88-21740	NASA-TP-2878	p 79	N89-16714	NASA-TP-2982	p 20	N90-19239
NASA-TP-2769	p 6	N88-12455	NASA-TP-2879	p 38	N90-11245	NASA-TP-2984	p 33	N90-28754
NASA-TP-2770	p 62	N88-20833	NASA-TP-2880	p 39	N89-15380	NASA-TP-2985	p 18	N90-27722
NASA-TP-2771	p 7	N88-17615	NASA-TP-2881	p 63	N89-13994	NASA-TP-2987	p 80	N90-25031
NASA-TP-2772	p 6	N88-10009	NASA-TP-2883	p 31	N89-26091	NASA-TP-2988	p 38	N90-23670
NASA-TP-2773	p 14	N88-12480	NASA-TP-2884	p 45	N89-16192	NASA-TP-2989	p 11	N90-20946
NASA-TP-2774	p 27	N88-12543	NASA-TP-2885	p 20	N89-19309	NASA-TP-2990	p 11	N90-20046
NASA-TP-2776	p 15	N88-24623	NASA-TP-2886	p 17	N89-16820	NASA-TP-2991	p 11	N90-19200
NASA-TP-2777	p 32	N88-10977	NASA-TP-2887	p 80	N89-17562	NASA-TP-2992	p 40	N90-24585
NASA-TP-2778	p 32	N88-10978	NASA-TP-2890	p 9	N89-17568	NASA-TP-2994	p 33	N90-21210
NASA-TP-2779	p 44	N88-15263	NASA-TP-2891	p 35	N89-15337	NASA-TP-2996	p 22	N90-19242
NASA-TP-2780	p 66	N88-13002	NASA-TP-2892	p 64	N89-17422	NASA-TP-2998	p 61	N90-21524
NASA-TP-2781	p 44	N88-21456	NASA-TP-2893	p 24	N89-18504	NASA-TP-2999	p 61	N90-22965
NASA-TP-2782	p 67	N88-17441	NASA-TP-2894	p 38	N89-19499	NASA-TP-3000	p 11	N90-22531
NASA-TP-2783	p 17	N88-12487	NASA-TP-2895	p 9	N89-19232	NASA-TP-3001	p 16	N90-25134
NASA-TP-2784	p 67	N88-22710	NASA-TP-2896	p 45	N89-17892	NASA-TP-3002	p 12	N90-28503
NASA-TP-2785	p 67	N88-16510	NASA-TP-2897	p 45	N89-19580	NASA-TP-3005	p 18	N90-23403
NASA-TP-2786	p 39	N90-28806	NASA-TP-2898	p 20	N89-16845	NASA-TP-3007	p 29	N90-26077
NASA-TP-2787	p 32	N88-14212	NASA-TP-2899	p 35	N89-21169	NASA-TP-3008	p 12	N90-27649
NASA-TP-2788	p 35	N88-15146	NASA-TP-2900	p 38	N89-25409	NASA-TP-3009	p 11	N90-24239
NASA-TP-2789	p 41	N88-17045	NASA-TP-2901	p 41	N89-21243	NASA-TP-3011	p 29	N90-27788
NASA-TP-2790	p 14	N88-18583	NASA-TP-2902	p 30	N89-17650	NASA-TP-3012	p 31	N90-25206
NASA-TP-2791	p 30	N88-15846	NASA-TP-2903	p 63	N89-23181	NASA-TP-3013	p 33	N90-21219
NASA-TP-2792	p 30	N88-16830	NASA-TP-2904	p 35	N89-21171	NASA-TP-3016	p 26	N90-27738
NASA-TP-2793	p 23	N88-15820	NASA-TP-2905	p 40	N89-17855	NASA-TP-3017	p 42	N90-28066
NASA-TP-2795	p 41	N88-15224	NASA-TP-2906	p 29	N89-19385	NASA-TP-3018	p 39	N90-27066
NASA-TP-2796	p 7	N88-20264	NASA-TP-2907	p 20	N89-23468	NASA-TP-3019	p 24	N90-26036
NASA-TP-2797	p 7	N88-16662	NASA-TP-2908	p 20	N89-23469	NASA-TP-3021	p 80	N90-29290
NASA-TP-2798	p 68	N88-18443	NASA-TP-2909	p 33	N89-24507	NASA-TP-3023	p 68	N90-25673
NASA-TP-2799	p 7	N88-19420	NASA-TP-2910	p 31	N89-21103	NASA-TP-3024	p 47	N90-28859
NASA-TP-2800	p 8	N88-20280	NASA-TP-2911	p 41	N89-24607	NASA-TP-3027	p 67	N90-29166
NASA-TP-2801	p 44	N88-17095	NASA-TP-2912	p 23	N89-28545	NASA-TP-3028	p 47	N90-25366
NASA-TP-2802	p 37	N88-18881	NASA-TP-2913	p 2	N89-22568	NASA-TP-3029	p 29	N90-25198
NASA-TP-2803	p 12	N88-21144	NASA-TP-2914	p 38	N89-27116	NASA-TP-3030	p 33	N90-25255
NASA-TP-2804	p 37	N88-22325	NASA-TP-2915	p 64	N89-24815	NASA-TP-3031	p 23	N90-26028
NASA-TP-2805	p 7	N88-18552	NASA-TP-2916	p 47	N90-28099	NASA-TP-3036	p 11	N90-25938
NASA-TP-2806	p 7	N88-17614	NASA-TP-2917	p 16	N90-15902	NASA-TP-3037	p 60	N90-28965
NASA-TP-2807	p 32	N88-17869	NASA-TP-2918	p 10	N89-25117	NASA-TP-3039	p 35	N90-27965
NASA-TP-2808	p 15	N88-22031	NASA-TP-2919	p 10	N89-25118	NASA-TP-3042	p 29	N90-27876
NASA-TP-2809	p 8	N88-21117	NASA-TP-2920	p 80	N89-25103			
NASA-TP-2810	p 15	N88-21157	NASA-TP-2921	p 46	N89-28034			
NASA-TP-2811	p 66	N89-14052	NASA-TP-2923	p 15	N89-26844			
NASA-TP-2812	p 32	N88-18751	NASA-TP-2924	p 29	N89-27796			
NASA-TP-2813	p 8	N88-21118	NASA-TP-2925	p 20	N90-15112			
NASA-TP-2814	p 8	N88-23757	NASA-TP-2926	p 23	N90-13444			
NASA-TP-2815	p 19	N88-19475	NASA-TP-2928	p 31	N89-25332			
NASA-TP-2816	p 41	N88-18933	NASA-TP-2929	p 10	N89-26811			
NASA-TP-2817	p 65	N88-22653	NASA-TP-2930	p 67	N89-30022			
NASA-TP-2818	p 8	N88-23760	NASA-TP-2931	p 46	N89-26255			
NASA-TP-2820	p 30	N89-19406	NASA-TP-2932	p 10	N89-25951			

1. Report No. NASA SP-7063(05)	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle NASA Scientific and Technical Publications: A Catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1987-1990		5. Report Date February 1991	
		6. Performing Organization Code NTT	
7. Author(s)		8. Performing Organization Report No.	
		10. Work Unit No.	
9. Performing Organization Name and Address Office of Management Scientific and Technical Information Division National Aeronautics and Space Administration Washington, DC 20546		11. Contract or Grant No.	
		13. Type of Report and Period Covered Special Publication	
12. Sponsoring Agency Name and Address National Aeronautics and Space Administration Washington, DC 20546		14. Sponsoring Agency Code	
		15. Supplementary Notes	
16. Abstract This catalog lists 783 citations of all NASA Special Publications, NASA Reference Publications, NASA Conference Publications, and NASA Technical Papers that were entered into the NASA Scientific and Technical Information Database during the accession years 1987 through 1990. The entries are grouped by subject category. Indexes of subject terms, personal authors, and NASA report numbers are provided.			
17. Key Words (Suggested by Authors(s)) Catalogs (Publications)		18. Distribution Statement Unclassified - Unlimited Subject Category 82	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 178	22. Price * Free

National Aeronautics and
Space Administration
Code NTT

Washington, D.C.
20546-0001

Official Business
Penalty for Private Use, \$300

NASA

National Aeronautics and
Space Administration

Washington, D.C.
20546

**SPECIAL FOURTH CLASS MAIL
BOOK**

Postage and Fees Paid
National Aeronautics and
Space Administration
NASA-451

Official Business
Penalty for Private Use \$300



L1 001 SP-7063-05910418S090569A

NASA

SCIEN & TECH INFO FACILITY

ACCESSIONING DEPT

P O BOX 8757 BWI ARPRT

BALTIMORE MD 21240

NASA

POSTMASTER:

If Undeliverable (Section 158
Postal Manual) Do Not Return