FY 2005 Scientific and Technical Reports, Articles, Papers, and Presentations

Compiled by
K.A. Narmore
Marshall Space Flight Center, Marshall Space Flight Center, Alabama

June 2007
The NASA STI Program…in Profile

Since its founding, NASA has been dedicated to the advancement of aeronautics and space science. The NASA Scientific and Technical Information (STI) Program Office plays a key part in helping NASA maintain this important role.

The NASA STI program operates under the auspices of the Agency Chief Information Officer. It collects, organizes, provides for archiving, and disseminates NASA’s STI. The NASA STI program provides access to the NASA Aeronautics and Space Database and its public interface, the NASA Technical Report Server, thus providing one of the largest collections of aeronautical and space science STI in the world. Results are published in both non-NASA channels and by NASA in the NASA STI Report Series, which includes the following report types:

- **TECHNICAL PUBLICATION.** Reports of completed research or a major significant phase of research that present the results of NASA programs and include extensive data or theoretical analysis. Includes compilations of significant scientific and technical data and information deemed to be of continuing reference value. NASA's counterpart of peer-reviewed formal professional papers but has less stringent limitations on manuscript length and extent of graphic presentations.

- **TECHNICAL MEMORANDUM.** Scientific and technical findings that are preliminary or of specialized interest, e.g., quick release reports, working papers, and bibliographies that contain minimal annotation. Does not contain extensive analysis.

- **CONTRACTOR REPORT.** Scientific and technical findings by NASA-sponsored contractors and grantees.

- **CONFERENCE PUBLICATION.** Collected papers from scientific and technical conferences, symposia, seminars, or other meetings sponsored or cosponsored by NASA.

- **SPECIAL PUBLICATION.** Scientific, technical, or historical information from NASA programs, projects, and missions, often concerned with subjects having substantial public interest.

- **TECHNICAL TRANSLATION.** English-language translations of foreign scientific and technical material pertinent to NASA’s mission.

Specialized services also include creating custom thesauri, building customized databases, and organizing and publishing research results.

For more information about the NASA STI program, see the following:

- Access the NASA STI program home page at [http://www.sti.nasa.gov](http://www.sti.nasa.gov)
- E-mail your question via the Internet to [help@sti.nasa.gov](mailto:help@sti.nasa.gov)
- Fax your question to the NASA STI Help Desk at 301–621–0134
- Phone the NASA STI Help Desk at 301–621–0390
- Write to:
  NASA STI Help Desk
  NASA Center for AeroSpace Information
  7115 Standard Drive
  Hanover, MD 21076–1320
In accordance with the NASA Space Act of 1958, the George C. Marshall Space Flight Center (MSFC) has provided for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof.

Since July 1, 1960, when MSFC was organized, the reporting of scientific and engineering information has been considered a prime responsibility of the Center. Our credo has been that “research and development work is valuable, but only if its results can be communicated and made understandable to others.”
GEORGE C. MARSHALL SPACE FLIGHT CENTER
Marshall Space Flight Center, Alabama

FY 2005 SCIENTIFIC AND TECHNICAL REPORTS,
ARTICLES, PAPERS, AND PRESENTATIONS

TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASA TECHNICAL MEMORANDUMS</td>
<td>1</td>
</tr>
<tr>
<td>NASA TECHNICAL PUBLICATIONS</td>
<td>5</td>
</tr>
<tr>
<td>NASA CONFERENCE PUBLICATIONS</td>
<td>6</td>
</tr>
<tr>
<td>NASA CONTRACTOR REPORTS</td>
<td>7</td>
</tr>
<tr>
<td>MSFC ABSTRACTS, ARTICLES, PAPERS, AND PRESENTATIONS CLEARED FOR DISSEMINATION</td>
<td>8</td>
</tr>
<tr>
<td>INDEX</td>
<td>59</td>
</tr>
</tbody>
</table>

Monitoring the atmospheric composition of a crewed spacecraft cabin is central to successfully expanding the breadth and depth of first-hand human knowledge and understanding of space. Highly reliable technologies must be identified and developed to monitor atmospheric composition. This will enable crewed space missions that last weeks, months, and eventually years. Atmospheric composition monitoring is a primary component of any environmental control and life support system. Instrumentation employed to monitor atmospheric composition must be inexpensive, simple, and lightweight and provide robust performance. Such a system will ensure an environment that promotes human safety and health, and that the environment can be maintained with a high degree of confidence. Key to this confidence is the capability for any technology to operate autonomously, with little intervention from the crew or mission control personnel. A study has been conducted using technologies that, with further development, may reach these goals.


Launch vehicles consume large quantities of propellant quickly, causing the mass properties and structural dynamics of the vehicle to change dramatically. Currently, structural load assessments account for this change with a large collection of structural models representing various propellant fill levels. This creates a large database of models complicating the delivery of reduced models and requiring extensive work for model changes. Presented here is a method to account for these mass changes in a more efficient manner. The method allows for the subtraction of propellant mass as the propellant is used in the simulation. This subtraction is done in the modal domain of the vehicle generalized model. Additional computation required is primarily for constructing the used propellant mass matrix from an initial propellant model and further matrix multiplications and subtractions. An additional eigenvalue solution is required to uncouple the new equations of motion; however, this is a much simpler calculation starting from a system that is already substantially uncoupled. The method was successfully tested in a simulation of Saturn V loads. Results from the method are compared to results from separate structural models for several propellant levels, showing excellent agreement. Further development to encompass more complicated propellant models, including slosh dynamics, is possible.


Quartz crystal microbalances (QCMs) are commonly used to measure the rate of deposition of molecular species on a surface. The measurement is often used to select materials with a low outgassing rate for applications where the material has a line of sight to a contamination-sensitive surface. A quantitative, in situ calibration of the balance, or balances, using a pure material for which the enthalpy of sublimation is known, is described in this Technical Memorandum. Supporting calculations for surface dwell times of deposited materials and the effusion cell Claisius factor are presented along with examples of multiple QCM measurements of outgassing from a common source.


Many microgravity space-science experiments require vibratory acceleration levels that are unachievable without active isolation. The Boeing Corporation’s active rack isolation system (ARIS) employs a novel combination of magnetic actuation and mechanical linkages to address these isolation requirements on the International Space Station.

Effective model-based vibration isolation requires: (1) an isolation device, (2) an adequate dynamic; i.e., mathematical, model of that isolator, and (3) a suitable, corresponding controller. This Technical Memorandum documents the validation of that high-fidelity dynamic model of ARIS.

The verification of this dynamics model was achieved by utilizing two commercial off-the-shelf (COTS) software tools: Denby’s ENVISION®, and Online Dynamics’ AutoTole™. ENVISION is a robotics software package developed for the automotive industry that employs three-dimensional computer-aided design models to facilitate both forward and inverse kinematics analyses. AutoTole is a DOS-based interpreter designed, in general, to solve vector-based mathematical problems and specifically to solve dynamics problems using Kane’s method.

The simplification of this model was achieved using the small-angle theorem for the joint angle of the ARIS actuators. This simplification has a profound effect on the overall complexity of the closed-form solution while yielding a closed-form solution easily employed using COTS control hardware.
Decompose the highly concentrated 90 percent H\textsubscript{2}O\textsubscript{2} propellant, which will not act as catalysts, to with hydrogen peroxide (H\textsubscript{2}O\textsubscript{2}).

While maintaining excellent H\textsubscript{2}O\textsubscript{2} compatibility similar to class 1 5254 alloy, the alloy development strategy is to add scandium, zirconium, and other transitional metals with unique electrochemical properties, which will not act as catalysts, to decompose the highly concentrated 90 percent H\textsubscript{2}O\textsubscript{2}. Test coupons are machined from sheet metals for H\textsubscript{2}O\textsubscript{2} long-term exposure testing and mechanical properties testing. In addition, the ability to weld the new alloys using friction stir welding has also been explored. The new high-strength alloys could represent an enabling material technology for Hyper-X vehicles, where flight weight reduction is a critical requirement.

This Technical Memorandum presents formal NASA technical reports, papers published in technical journals, and presentations by Marshall Space Flight Center (MSFC) personnel in FY 2003. It also includes papers of MSFC contractors. After being announced in STAR, all NASA series reports may be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

The information in this TM may be of value to the scientific and engineering community in determining what information has been published and what is available.

A potential fission power system for in-space missions is a heat pipe-cooled reactor using electrical resistance heaters on the ground. This Technical Memorandum documents the thermal and structural assessment of the HX used in the SAFE-100a program.


This Technical Memorandum covers revolutionary ideas for space radiation shielding that would mitigate mission costs while limiting human exposure, as studied in a workshop held at Marshall Space Flight Center at the request of NASA Headquarters. None of the revolutionary new ideas examined for the first time in this workshop showed clear promise. The workshop attendees felt that some previously examined concepts were definitely useful and should be pursued. The workshop attendees also concluded that several of the new concepts warranted further investigation to clarify their value.

The International Space Station (ISS) uses high-efficiency particulate air filters to remove particulate matter from the cabin atmosphere. Known as bacteria filter elements (BFEs), there are 13 elements deployed on board the ISS’s U.S. segment in the flight 4R assembly level. The preflight service life prediction of 1 yr for the BFEs is based upon engineering analysis of data collected during developmental testing that used a synthetic dust challenge. While this challenge is considered reasonable and conservative from a design perspective, an understanding of the actual filter loading is required to best manage the critical ISS program resources. Testing was conducted on BFEs returned from the ISS to refine the service life prediction. Results from this testing and implications to ISS resource management are provided.


In the late 1980s, microgravity researchers began to voice their concern that umbilical-transmitted energy could significantly degrade the acceleration environment of microgravity...
space science experiments onboard manned spacecraft. Since umbilicals are necessary for many experiments, control designers began to seek ways to compensate for these “indirect” disturbances.

Hampton et al. used the Kane’s method to develop a model of the active rack isolation system (ARIS) that includes (1) actuator control forces, (2) direct disturbance forces, and (3) indirect, actuator-transmitted disturbances. Their model does not, however, include the indirect, umbilical-transmitted disturbances. Since the umbilical stiffnesses are not negligible, these indirect disturbances must be included in the model. Until the umbilicals have been appropriately included, the model will be incomplete.

This Technical Memorandum presents a nonlinear model of ARIS with umbilicals included. Model verification was achieved by utilizing two commercial-off-the-shelf software tools. Various forces and moments were applied to the model to yield simulated responses of the system. Plots of the simulation results show how various critical points on an ARIS-outfitted international standard payload rack behave under the application of direct disturbances, indirect disturbances, and control forces. Simulations also show system response to a variety of initial conditions.

TM—2005–213902
Method for Determination of <5 ppm Oxygen in Sodium Samples. R.S. Reid, J.J. Martin, and G.L. Schmidt*. Propulsion Research Center, Space Transportation Directorate and *New Mexico Institute of Mining and Technology.

Alkali metals used in pumped loops or heat pipes must be sufficiently free of nonmetallic impurities to ensure long heat rejection system life. Life issues are well established for alkali metal systems. Impurities can form ternary compounds between the container and working fluid, leading to corrosion. This Technical Memorandum discusses the consequences of impurities and candidate measurement techniques to determine whether impurities have been reduced to sufficiently low levels within a single-phase liquid metal loop or a closed two-phase heat transfer system, such as a heat pipe. These techniques include the vanadium wire equilibration, neutron activation analysis, plug traps, distillation, and chemical analysis. Conceptual procedures for performing vanadium wire equilibration purity measurements on sodium contained in a heat pipe are discussed in detail.

TM—2005–214007

Human exploration and utilization of space requires habitats to provide appropriate conditions for working and living. These conditions are provided by environmental control and life support systems (ECLSS) that ensure appropriate atmosphere composition, pressure, and temperature; manage and distribute water, process waste matter, provide fire detection and suppression; and other functions as necessary.

The tables in appendix I of NASA RP–1324 “Designing for Human Presence in Space” summarize the life support functions and processes used onboard U.S. and U.S.S.R/Russian space habitats. These tables have been updated to include information on thermal control methods and to provide additional information on the ECLS systems.

TM—2005–214008
August 2005
An Assessment of the International Space Station’s Trace Contaminant Control Subassembly Process Economics. J.L. Perry, H.E. Cole,* and H.N. El-Lessy**. Spacecraft and Vehicle Systems Department, Engineering Directorate *The Boeing Company, Huntsville, AL, and **The Boeing Company, Houston, TX.

The International Space Station (ISS) Environmental Control and Life Support System includes equipment specifically designed to actively remove trace chemical contamination from the cabin atmosphere. In the U.S. on-orbit segment, this function is provided by the trace contaminant control subassembly (TCCS) located in the atmosphere revitalization subsystem rack housed in the laboratory module, Destiny. The TCCS employs expendable adsorbent beds to accomplish its function leading to a potentially significant life cycle cost over the life of the ISS. Because maintaining the TCCSs proper can be logistically intensive, its performance in flight has been studied in detail to determine where savings may be achieved. Details of these studies and recommendations for improving the TCCS’s process economics without compromising its performance or crew health and safety are presented and discussed.

TM—2005–214061
September 2005

Contaminated air, whether in a crewed spacecraft cabin or terrestrial work and living spaces, is a pervasive problem affecting human health, performance, and well-being. The need for highly effective, economical air quality processes spans a wide range of terrestrial and space flight applications. Typically, air quality control processes rely on absorption-based processes. Most industrial packed-bed adsorption processes use activated
carbon. Once saturated, the carbon is either dumped or regener-
ated. In either case, the dumped carbon and concentrated waste
streams constitute a hazardous waste that must be handled safely
while minimizing environmental impact. Thermal catalytic
oxidation processes designed to address waste handling issues
are moving to the forefront of cleaner air quality control and
process gas decontamination processes. Careful consideration
in designing the catalyst substrate and reactor can lead to more
complete contaminant destruction and poisoning resistance.
Maintenance improvements leading to reduced waste handling
and process downtime can also be realized. Performance of a
prototype thermal catalytic reaction based on ultrashort waste
channel, monolith catalyst substrate design, under a variety
of process flow and contaminant loading conditions, is dis-
cussed.

TM—2005–214184 September 2005
In-Space Propulsion: Connectivity to In-Space Fabrication
and Repair. L. Johnson, D. Harris, A. Trausch, G.L.
Matloff,* T. Taylor,** and K. Cutting***. In-Space propulsion
Technology Office, Space Transportation Programs/
Projects Office, *New York City College of Technology,
**BAE Systems, and ***Gray Research.

The connectivity between new in-space propulsion tech-
nologies and the ultimate development of an in-space fabrica-
tion and repair infrastructure are described in this Technical
Memorandum. A number of advanced in-space propulsion
technologies are being developed by NASA, many of which
are directly relevant to the establishment of such an in-space
infrastructure. These include aerocapture, advanced solar-elec-
tric propulsion, solar-thermal propulsion, advanced chemical
propulsion, tethers, and solar photon sails. Other, further term
technologies have also been studied to assess their utility to the
development of such an infrastructure.

TM—2005–214186 September 2005
Advanced Sensor Concepts (MSFC Director’s Fund Final
Report, Project No. 03-11). D.C. Alhorn, D.E. Howard, and
D.A. Smith. Instrument and Payload Systems Department,
Engineering Directorate.

The Advanced Sensor Concepts project was conducted
under the Center Director’s Discretionary Fund at the Marshall
Space Flight Center. Its objective was to advance the technology
originally developed for the Glovebox Integrated Microgravity
Isolation Technology project. The objective of this effort was
to develop and test several new motion sensors. To date, the
investigators have invented seven new technologies during this
endeavor and have conceived several others. The innovative ba-
sic sensor technology is an absolute position sensor. It employs
only two active components, and it is simple, inexpensive, reli-
able, repeatable, lightweight, and relatively unobtrusive. Two
sensors can be utilized in the same physical space to achieve
redundancy. The sensor has micrometer positional accuracy and
can be configured as a two- or three-dimensional sensor. The
sensor technology has the potential to pioneer a new class of
linear and rotary sensors. This sensor is the enabling technology
for autonomous assembly of modular structures in space and
on extraterrestrial locations.

During the 113 missions of the Space Transportation Sys-
tem (STS) to date, the Space Shuttle fleet has been exposed to
the elements on the launch pad for \( \approx 4,195 \) days. The Natural
Environments Branch at Marshall Space Flight Center archives
atmospheric environments to which the Space Shuttle vehicles
are exposed. This Technical Memorandum (TM) provides a
summary of the historical record of the meteorological condi-
tions encountered by the Space Shuttle fleet during the pad
exposure period. Parameters included in this TM are tem-
perature, relative humidity, wind speed, wind direction, sea
level pressure, and precipitation. Extremes for each of these
parameters for each mission are also summarized. Sources
for the data include meteorological towers and hourly surface
observations. Data are provided from the first launch of the

Spotless days are examined as a predictor for the size and timing of a sunspot cycle. For cycles 16–23 the first spotless day for a new cycle, which occurs during the decline of the old cycle, is found to precede minimum amplitude for the new cycle by about \(\approx 34\) mo, having a range of 25–40 mo. Reports indicate that the first spotless day for cycle 24 occurred in January 2004, suggesting that minimum amplitude for cycle 24 should be expected before April 2007, probably sometime during the latter half of 2006. If true, then cycle 23 will be classified as a cycle of shorter period, inferring further that cycle 24 likely will be a cycle of longer than average minimum and maximum amplitudes and faster than average rise, peaking sometime in 2010.


A multimegawatt-class nuclear fission powered closed cycle magnetohydrodynamic space power plant using a helium/xenon working gas has been studied, to include a comprehensive system analysis. Total plant efficiency was expected to be 55.2 percent including preionization power. The effects of compressor stage number, regenerator efficiency, and radiation cooler temperature on plant efficiency were investigated. The specific mass of the power generation plant was also examined. System specific mass was estimated to be 3 kg/kWe for a net electrical output power of 1 MWe, 2–3 kg/kWe at 2 MWe, and \(\approx 2\) kg/kWe at \(>3\) MWe. Three phases of research and development plan were proposed: (1) Phase I—proof of principle, (2) Phase II—demonstration of power generation, and (3) Phase III—prototypical closed loop test.


A computational method for the analysis of longitudinal-mode liquid rocket combustion instability has been developed based on the unsteady, quasi-one-dimensional Euler equations where the combustion process source terms were introduced through the incorporation of a two-zone, linearized representation: (1) A two-parameter collapsed combustion zone at the injector face, and (2) a two-parameter distributed combustion zone based on a Lagrangian treatment of the propellant spray. The unsteady Euler equations in inhomogeneous form retain full hyperbolicity and are integrated implicitly in time using second-order, high-resolution, characteristic-based, flux-differencing spatial discretization with Roe-averaging of the Jacobian matrix. This method was initially validated against an analytical solution for nonreacting, isentropic duct acoustics with specified admittances at the inflow and outflow boundaries. For small amplitude perturbations, numerical predictions for the amplification coefficient and oscillation period were found to compare favorably with predictions from linearized small-disturbance theory as long as the grid exceeded a critical density \((\approx 100\) nodes/wavelength). The numerical methodology was then exercised on a generic combustor configuration using both collapsed and distributed combustion zone models with a short nozzle admittance approximation for the outflow boundary. In these cases, the response parameters were varied to determine stability limits defining resonant coupling onset.
This document contains the proceedings of the Fifth International Symposium on Liquid Space Propulsion, held October 27–30, 2003, in Chattanooga, TN. The International Liquid Space Propulsion Symposia provide the principal forum for all aspects of liquid rocket propulsion. The aim of the symposium series is to gather international experts in the field of liquid rocket engines on a regular basis for presentations and discussions of the current status of research and development. Besides an exchange of information about future trends, it also fortifies existing cooperation and acts as a nucleus to establish networks to enhance international scientific collaboration in the liquid rocket propulsion area.

As a space faring nation, we are at a critical juncture in the evolution of space exploration. NASA has announced its Vision for Space Exploration, a vision of returning humans to the Moon, sending robots and eventually humans to Mars, and exploring the outer solar system via automated spacecraft. However, mission concepts have become increasingly complex, with the potential to yield a wealth of scientific knowledge. Meanwhile, there are significant resource challenges to be met. Launch costs remain a barrier to routine space flight; the ever-changing fiscal and political environments can wreak havoc on mission planning; and technologies are constantly improving, and systems that were state of the art when a program began can quickly become outmoded before a mission is even launched. This Conference Publication describes the workshop and featured presentations by world-class experts presenting leading-edge technologies and applications in the areas of power and propulsion; communications; automation, robotics, computing, and intelligent systems; and transformational techniques for space activities. Workshops such as this one provide an excellent medium for capturing the broadest possible array of insights and expertise, learning from researchers in universities, national laboratories, NASA field Centers, and industry to help better our future in space.

The objective of this Technical Interchange Meeting was to increase the quantity and quality of technical, cost, and programmatic data used to model the impact of investing in different technologies. The focus of this meeting was the Technology Tool Box (TTB), a database of performance, operations, and programmatic parameters provided by technologists and used by systems engineers. The TTB is the data repository used by a system of models known as the Advanced Technology Lifecycle Analysis System (ATLAS). This report describes the result of the November meeting, and also provides background information on ATLAS and the TTB.
This report presents an overview of a Mobile Lunar Habitat (MLH) structural design consisting of advanced composite materials. The habitat design is derived from the cylindrical-shaped U.S. Lab module aboard the International Space Station (ISS) and includes two lateral ports and a hatch at each end that geometrically match those of the ISS Nodes. Thus, several MLH units can be connected together to form a larger lunar outpost of various architectures. For enhanced mobility over the lunar terrain, the MLH uses six articulated insect-like robotic, retractable legs enabling the habitat to fit aboard a launch vehicle. The carbon-composite shell is sandwiched between two layers of hydrogen-rich polyethylene for enhanced radiation shielding. The pressure vessel is covered by modular double-wall panels for meteoroid impact shielding supported by externally mounted stiffeners. The habitat’s structure is an assembly of multiple parts manufactured separately and bonded together. Based on the geometric complexity of a part and its material system, an appropriate fabrication process is proposed.

Single-crystal super alloys are commonly used for components in the hot sections of contemporary jet and rocket engines. Due to the anisotropic nature of single-crystal materials, the use of existing isotropic fracture mechanics calculations leads to errors in stress intensity factors. The difference can be substantial. Presented in this report is the solution for calculating stress intensity factors in generally anisotropic materials using the M-integral. Included are examples of this solution applied to Brazilian disk crack growth specimens.
ABBAS, M.M. XD12
TANKOSIC, D. UAH
CRAVEN, P.D. XD12
SPANN, J.F. XD12
LECLAIR, A. UAH
WEST, E.A. XD12

ABBAS, M.M. XD12
TANKOSIC, D. UAH
CRAVEN, P.D. XD12
SPANN, J.F. XD12
LECLAIR, A. UAH
WEST, E.A. XD12
ADAMS, J.H. XD12
BARGHOUTY, A.F. XD12
BHATTACHARYA, M. XD12/UAH
LIN, Z-W. XD12

ABBAS, M.M. XD12
TANKOSIC, D. UAH
CRAVEN, P.D. XD12
SPANN, J.F. XD12
LECLAIR, A. UAH
WEST, E.A. XD12
WEINGARTNER, J.C. George Mason University
TIELENS, A.G.G.M. Kapteyn Astronomical Institute
NUTH, J.A. UAB
ET AL.

ABYZOV, S.S. Winogradsky Institute of Microbiology RAS
GERASIMENKO, L.M. Winogradsky Institute of Microbiology RAS
HOOVER, R.B. XD12
MITSKEVICH, I.N. Winogradsky Institute of Microbiology RAS
MULYUKIN, A.L. Winogradsky Institute of Microbiology RAS
POGLAZOVA, M.N. Winogradsky Institute of Microbiology RAS
RAZANOV, A.Y. Paleontological Institute RAS

AHN, H.S. University of Maryland
ADAMS, J.H. XD12
BASHINGZHAGYAN, G.L. Moscow State University
BATCHOV, K.E. Moscow State University
CHANG, J. Max-Planck Institute for Solar Systems
CHRISTL, M. XD12
FAZELY, A.R. Southern University
GANEL, O. University of Maryland
GUNASINGHA, R.M. Southern University
ET AL.
ALEXANDER, L.A. TD50
BISHOP-BEHEL, K. NP40
BENFIELD, M.P.J. SAIC
KELLEY, A. EV23
WOODCOCK, G.R. Gray Research, Inc.


AMAND, A. Phyco Tech, Inc.
HOOVER, R.B. XD12
JERMAN, G. XD12
ROZANOV, A.Y. Paleontological Institute of Russian Academy of Sciences


ARRANZ, A.C. GACE
WILSON, C.A. XD12
CONNELL, P. GACE
NUNEZ, S.M. GACE
BLAY, P. GACE
BECKMANN, V. Goddard Space Flight Center (GSFC)
REGLERO, V. GACE


ASTAFIEVA, M.M. Paleontological Institute of Russian Academy of Sciences

HOOVER, R.B. XD12
ROZANOV, A.Y. Paleontological Institute of Russian Academy of Sciences


BAGDIGIAN, R.M. SV10
CLOUD, D. Hamilton Sundstrand Space Systems Intl.


BAILEY, M.D. NP22

Template for Systems Engineering Tools Trade Study—Abstract Only. For presentation at the 1st International Conference on Innovation and Integration in Aerospace Sciences, Queen’s University Belfast, Northern Ireland, August 4–5, 2005.

BAIZE, D. Langley Research Center
BARANEK, M. U.S. Navy
CRONIN, M. ZIN Technologies Inc.
GONDA, J. Mitre Corp.
KOELBL, T. ED13
NARINS, M. FAA
SMITH, A. Rannoch Corp.


BALDRIDGE, T. IS05


BALLANCE, J.L. NP40
YOUNG, R.M. NP23
ADAMS, C.L. Gray Research, Inc.


BALLARD, R.O. ER11


BALLARD, R.O. ER11
BROWN, K.K. ER21


BARTHELMY, S.D. GSFC
CHINCARINI, G. INAF
BURROWS, D. University Degl Studi Di
GEHRELS, N. Pennsylvania State University
COVINO, S. INAF
MORETTI, A. INAF
ROMANO, P. INAF
O’BRIEN, P. University of Leicester
KOUVELIOTOU, C. XD12 ET AL.

BARTHELMY, S.D. GSFC
CANNIZZO, J.K. GSFC/University of Maryland
GEHrels, N. GSFC
O’BRIEN, P. University of Leicester
VAUGHAN, S. University of Leicester
ZHANG, B. University of Nevada Las Vegas
BURROWS, D.N. Pennsylvania State University
KOUVELIOTOU, C. XD12 ET AL.

BASSLER, J.A. SD40
GRUGEL, R.N. SD40
BODIFORD, M.P. SD40
FISKE, M.R. Morgan Research Corp.
GILLEY, S.D. Tec-Masters, Inc.
EVANS, B.W. Teledyne Brown Eng.

BERGERON, N.P. University of Louisiana
HOLLERMAN, W.A. University of Louisiana
GOEDEKE, S.M. Oak Ridge
HOVATER, M. EM50
HUBBS, W. EM50
FINCHUM, A. EM50
MOORE, R.J. University of Louisiana
ALLISON, S.W. Oak Ridge
EDWARDS, D.L. EM50

BEMPORAD, A. Universita’ di Firenze
POLETTO, G. INAF
SUSS, S.T. XD12
KO, Y.-K. Harvard-Smithsonian Center for Astrophysics
SCHWARDRON, N.A. Southwest Research Institute (SWRI)
ELLIOTT, H.A. SWRI
RAYMOND, J.C. Harvard-Smithsonian Center for Astrophysics


BATKOV, K.E. Moscow State University
PANOV, A.D. Moscow State University
ADAMS, J.H. XD12
AHN, H.S. University of Maryland
BASHINDZHAGYAN, G.L. Moscow State University
CHANG, J. Max Plank Institute for Solar Systems/ Purple Mountain Observatory
CHRISTL, M. XD12 ET AL.


BEST, J. FD41
SORGE, L. USA
SIDERS, J. USA
SIAS, D. SGT

BEST, P.J. NP60
UNGER, R.J. NP60
WAITS, D.A. NP60


BHARDWAJ, A. National Research Council (NRC)
ELSNER, R.F. XD12
GLADSTONE, G.R. SWRI
WAITE, JR., J.H. University of Michigan
LUGAZ, N. University of Michigan
CRAVENS, T.E. University Of Kansas
BRANDUARDI-RAYMONT, G. UCL, MSSL
RAMSAY, G. University College London
SORIA, R. University College London
ET AL.


BHARDWAJ, A. National Research Council (NRC)
ELSNER, R.F. XD12
GLADSTONE, G.R. SWRI
WAITE, JR., J.H. University of Michigan
CRAVENS, T.E. University Of Kansas
OSTGAARD, N. University of Bergen
CHANG, S-W. UAH/SD50
METZGER, A.E. Jet Propulsion Laboratory (JPL)
MAJEED, T. University of Michigan


BHARDWAJ, A. National Research Council (NRC)
ELSNER, R.F. XD12
GLADSTONE, G.R. SWRI
WAITE, JR., J.H. University of Michigan
CRAVENS, T.E. University Of Kansas
OSTGAARD, N. University of Bergen
CHANG, S-W. UAH/SD50
METZGER, A.E. Jet Propulsion Laboratory (JPL)
MAJEED, T. University of Michigan


BHARDWAJ, A. National Research Council (NRC)
ELSNER, R.F. XD12
GLADSTONE, G.R. SWRI
WAITE, JR., J.H. University of Michigan
CRAVENS, T.E. University Of Kansas
FORD, P.G. Center for Space Research


BHARDWAJ, A. National Research Council (NRC)
ELSNER, R.F. XD12
GLADSTONE, G.R. SWRI
WAITE, JR., J.H. University of Michigan
CRAVENS, T.E. University Of Kansas
MAJEED, T. University of Michigan/American University
METZGER, A.E. Jet Propulsion Laboratory (JPL)

Development of Ionic Liquid Monopropellants for In-Space Propulsion—Abstract Only. For presentation at the 53rd JPM/2nd LPS/SP Joint Meeting, Monterey, CA, December 5–8, 2005.

BODIFORD, M.P. SD40
BURKS, K.H. SD40
FISKE, M.R. Morgan Research Corp.
STRONG, J.D. Morgan Research Corp.
MCGRIGOR, W.L. Morgan Research Corp.


BODIFORD, M.P. SD40
FISKE, M.R. Morgan Research Corp.
MCGRIGOR, W. Morgan Research Corp.
POPE, R.D. Qualis Corp.


BODIFORD, M.P. SD40
GILLEY, S.D. Tec-Masters, Inc.
HOWARD, R.W. Teledyne Brown Engineering
KENNEDY, J.P. Teledyne Brown Engineering
RAY, J.A. Teledyne Brown Engineering

Are We There Yet? Developing In Situ Fabrication and Repair (ISFR) Technologies to Explore and Live on the Moon and Mars—Final Paper. For presentation at the AIAA 1st Exploration Conference, Orlando, FL, January 31–February 1, 2005.

BODIFORD, M.P. SD40
BROWN, G.N. SY10
MCGRIGOR, W.L. Morgan Research Corp.


BODIFORD, M.P. SD40
FISKE, M.R. Morgan Research Corp.
OSBORNE, R.J. ERC, Inc.
MCGRIGOR, W.L. Morgan Research Corp.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Institution</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIEU, R.</td>
<td>UAH</td>
<td></td>
</tr>
<tr>
<td>MITTAZ, P.D.</td>
<td>UAH</td>
<td></td>
</tr>
<tr>
<td>KAASTRA, J.S.</td>
<td>SRON Utrecht</td>
<td></td>
</tr>
<tr>
<td>BONOMETTI, J.A.</td>
<td>NP40</td>
<td></td>
</tr>
<tr>
<td>SORENSEN, K.F.</td>
<td>NP23</td>
<td></td>
</tr>
<tr>
<td>JANSEN, R.</td>
<td>University of Toledo</td>
<td></td>
</tr>
<tr>
<td>DANKANICH, J.W.</td>
<td>Gray Research, Inc.</td>
<td></td>
</tr>
<tr>
<td>BRADSHAW, R.C.</td>
<td>University of Massachusetts</td>
<td></td>
</tr>
<tr>
<td>SCHMIDT, D.P.</td>
<td>University of Massachusetts</td>
<td></td>
</tr>
<tr>
<td>ROGERS, J.R.</td>
<td>XD42</td>
<td></td>
</tr>
<tr>
<td>KELTON, K.F.</td>
<td>Washington University</td>
<td></td>
</tr>
<tr>
<td>BROWN, K.K.</td>
<td>TD51</td>
<td></td>
</tr>
<tr>
<td>BURNS, L.</td>
<td>RAYTHEON</td>
<td></td>
</tr>
<tr>
<td>CARPENTER, P.K.</td>
<td>XD42/BAE Systems</td>
<td></td>
</tr>
</tbody>
</table>
CARRASQUILLO, R.L. EV50

CARRINGTON, C.K. SP20

CARTER, D.L. EV50
TABB, D. EV50
TATARA, J.D. Qualis Corp.

CASE, J.T. University of Missouri-Rolla
ROBBINS, J. University of Missouri-Rolla
KHARKOVSKY, S. University of Missouri-Rolla
HEPBURN, F.L. EM20

CASE, J.T. University of Missouri-Rolla
ROBBINS, J. University of Missouri-Rolla
KHARKOVSKY, S. University of Missouri-Rolla
HEPBURN, F.L. EM20

CECIL, D. UAH
GOODMAN, S.J. XD11
BOCCIPPIO, D.J. XP11
ZIPSER, E.J. University of Utah

CHANDLER, F. The Boeing Company
GRAYSON, G. The Boeing Company
MAZURKIVICH, P. NP60

CHANDLER, M.O. XD12
AVANOVA, L.A. XD12

CHANG, H. XD42/UAH
SMITH, D.D. XD42/University of Mexico
FULLER, K.A. National Space Science and Technology Center
DIMMOCK, J.O. UAH
GREGORY, D.A. UAH
FRAZIER, D.O. XD42

CHANG, H. XD42/UAH
SMITH, D.D. XD42/University of New Mexico
FAZELY, A.F. Southern University
GANEL, O. University of Maryland
ET AL.

CHANG, J. Purple Mountain Laboratory
SCHRIMDT, W.K.H. Max-Planck-Institut für Aeronomie
ADAMS, J.H. XD12
AHN, H.S. University of Maryland
BASHINDZHAGYAN, G.L. Moscow State University
BATKOV, K.E. Moscow State University
CHRISTL, M. Louisiana State University
FAZELY, A.F. Southern University
GANEL, O. University of Maryland

CHAVERS, D.G. XD22
BENGTSON, R. University of Texas at Austin
BREIZMAN, B. University of Texas at Austin
CHANG-DIAZ, F. XD22
JONES, J. XD22
DOBSON, C. XD22

Status of Magnetic Nozzle and Plasma Detachment Experiment—Abstract Only. For presentation at the 53rd JPM/2nd LPS/SP Joint Meeting (JANNAF), Monterey, CA, December 5–8, 2005.

CHAVERS, D.G. XD22


CHEN, P-S. EM03
MITCHELL, M.L. EM03

Alloy NASA–HR–1—Final Paper. For publication in Aerospace Structural Metals, Purdue Research Foundation.

CHENG, G.C. UAB
FARBERG, R.C. UAB


CHOW, G. SAIC
PELACCO, D.G. SAIC
CHIROUX, R. SAIC
PERVAN, S. SAIC
RAUWOLF, G.A. SAIC
WHITE, C. ER11

Preliminary Assessment of Thrust Augmentation of NEP Based Missions—Extended Abstract. For presentation at the American Institute of Aeronautics and Astronautics—Space 2005 Space Conference, Long Beach, CA, August 30–September 1, 2005.

CHOU, S.H. XD11
ZAVODSKY, B. XD11
LAPENTA, W.M. XD11
JEDLOVEC, G.J. XD11


CHOWDHARY, D.P. SD50


CHRISTIAN, H.J. XD11

Global Lightning Activity—Abstract Only. For presentation at the Cosmosphere and Space Center, Wichita, KA, April 14–15, 2005, and at The Mexican Meteorological Conference, Cancun, Mexico, February 28–March 4, 2005.

CHRISTIAN, H.J. XD11


CHUNG, Y.T. The Boeing Company
LO, W. The Boeing Company
FOWLER, S.B. XP01
TOWNER, R. Jacobs Sverdrup


CLINTON, R.G. XD40
SZOFRAN, F.R. XD40
BASSLER, J.A. XD40
SCHLAGHECK, R.A. XD40
COOK, M.B. XD40


COFFEY, V.N. XD12
SINGH, N. UAH
AVANOV, L.A. XD12


COFFEY, V.N. XD12
SINGH, N. UAH
MILLER, J. UAH


CHOWDHARY, D.P. SD50


CHRISTIAN, H.J. XD11

Global Lightning Activity—Abstract Only. For presentation at the Cosmosphere and Space Center, Wichita, KA, April 14–15, 2005, and at The Mexican Meteorological Conference, Cancun, Mexico, February 28–March 4, 2005.

CHRISTIAN, H.J. XD11


CHUNG, Y.T. The Boeing Company
LO, W. The Boeing Company
FOWLER, S.B. XP01
TOWNER, R. Jacobs Sverdrup


CLINTON, R.G. XD40
SZOFRAN, F.R. XD40
BASSLER, J.A. XD40
SCHLAGHECK, R.A. XD40
COOK, M.B. XD40


COFFEY, V.N. XD12
SINGH, N. UAH
AVANOV, L.A. XD12

the American Geophysical Union 2005 Fall Meeting, San Francisco, CA, December 5–9, 2005.

COLE, J.W. XD20
Metallic Hydrogen and Nontube Magnets—Abstract Only.
For presentation at the Army’s National Ground Intelligence Center Workshop (MAD Scientist 2004), Charlottesville, VA, November 3–5, 2004.

COLE, J.W. XD20

COMARAZAMY, D.E. University of Puerto Rico
GONZALEZ, J.E. Santa Clara University
LUVALL, J.C. XD11
RICKMAN, D.L. XD11

COOK, S. NP01
TYSON, R. NP01

COOKE, W.J. EV13
MOSER, D. Morgan Research Corp.

COOKE, W.J. EV13
SWIFT, W.R. Raytheon/EV13
SUGGS, R.M. EV13

COOKE, W.J. EV13
MCNAMARA, H.A. EV13

COSMO, M.L. Harvard-Smithsonian Center for Astrophysics
LORENZINI, E.C. Harvard-Smithsonian Center for Astrophysics
GRAMER, D.J. Orbital Technologies Corp.
HOFFMAN, J.H. The University of Texas
MAZZOLENI, A.P. North Carolina State University


COX, M.C. Vanderbilt University
ANILKUMAR, A.V. Vanderbilt University
GRUGEL, R.N. XD41
HOFMEISTER, W.H. XD41


CRAVEN, P.O. XD12
LIEMOHN, M. XD12
CHANDLER, M.O. XD12
MOORE, T. XD12


CRAVENS, T.E. University of Kansas
CLARK, J. University of Kansas
BHARDWAJ, A. NRC
ELSNER, R.F. XD12
WAITE, JR., J.H. University of Michigan
ACTON, L.W. Montana State University
MAURELLIS, A.N. Space Research Organization Netherlands
GLADSTONE, G.R. SWRI


CROSSON, W.L. XD11
ESTES, M.E. XD11
KAHN, M. XD11
LAPENTA, W.M. XD11
QUATTROCHI, D.A. XD11

Mesoscale Modeling of Atlanta, GA Utilizing a New High-Resolution Landcover Data Set—Abstract Only. For...
presentation at the 86th Annual AMS Meeting, Atlanta, GA, January 29–February 02, 2006.

CROSSON, W.L. XD11
LIMAYE, A. XD11
LAYMON, C.A. ISO4


CRUZEN, C.A. EO03
DYER, S.V. EO03
GIBBS III, R.E. The Boeing Company
CECH, J.G. Teledyne Brown Engineering


CURRENRI, P.A. XD40


CURRENRI, P.A. XD40

In Situ Resources in Space—Abstract Only. For presentation at the National Space and Missile Materials Symposium, Summerlin, NV, June 27–July 1, 2005.

DARDEN, C. National Weather Service Forecast Office
GATLIN, P. National Weather Service Forecast Office
BURKS, J. National Weather Service Forecast Office


DARROUZET, F. Belgian Institute for Space Aeronomy
DE KEYSER, J. Belgian Institute for Space Aeronomy
DECREAU, P. Laboratoire de Physique et Chimie de l’Environnement

GALLAGHER, D.L. XD12
PIERRARD, V. Belgian Institute for Space Aeronomy
LEMAIRE, J. Belgian Institute for Space Aeronomy
DANDOURAS, I. Centre d’Etude Spatiale des Rayonnements

MATSUI, H. Space Science Center
DUNLOP, M. Rutherford Appleton Laboratory
ANDRE, M. Swedish Institute of Space Physics

Analysis of Plasmaspheric Plumes: CLUSTER and IMAGE Observations and Numerical Simulations—Abstract Only. For presentation at and publication in proceedings of the Session C5 of the General Congress of the French Physical Society (SFP) and Belgian Physical Society (BPS), Lille, France, August 29–September 2, 2005.

DAVIS, J.M. XD12
WEST, E.A. XD12
MOORE, R.L. XD12
GARY, G.A. XD12
KOBAYASHI, K. XD12
OBERRIGHT, J.E. GSFC
EVANS, D.C. GSFC
WOOD, H.J. GSFC
SABA, J. LMSAL, GSFC
ALEXANDER, D. Rice University


DAVIS, J.M. XD12
WEST, E.A. XD12
MOORE, R.L. XD12
GARY, G.A. XD12
KOBAYASHI, K. XD12
OBERRIGHT, J.E. GSFC
EVANS, D.C. GSFC
SABA, J. LMSAL, GSFC
ALEXANDER, D. Rice University


DAVIS, S.E. EM10
HERALD, S.D. ICRC Aerospace Services
STOLZFUS, J.M. NASA White Sands Test Facility
ENGEL, C.D. Qualis Corp.
BOHLEN, J.W. Northrop Grumman Integrated Systems
PALM, T. Northrop Grumman Integrated Systems
ROBINSON, J.J. The Boeing Company Phantom Works

DECKER, R.
LEACH, R. Morgan Research Corp.

DECKER, R.
PRICKETT, T.

DELAY, T.

DICKERSON, T.

DING, J.

DISCHINGER, JR., H.C.

DISCHINGER, P.

DISCHINGER, P.

DOMINIAK, P.

DORNEY, D.J.

DORNEY, S.M.

DOYLE, M.
O’NEIL, D.A. SAIC DOYLE, M. O’NEIL, D.A. SAIC

DRAKE, G.W. XD22 KAPLAN, G. ERC, INC./AFRL/PRSP
HALL, L. AFRL/PRSP HAWKINGS, T. AFRL/PRSP
LARUE, J. AFRL/PRSP

A New Family of Ionic Liquids 1-Amino-3-Alkyl-1,2,3-Triazolium Nitrates—Abstract Only. For publication in the Journal of Chemical Crystallography.


ECCLES, W. Vanderblt University
KASZYNSKI, P. Vanderblt University
STULGIES, B. Vanderblt University
GOSTOWSKI, R. XD22
BLEVINS, J.A. XD22

Strained Hydrocarbons at Potential Hypergolic Fuels—Abstract and Presentation. For presentation at the
ECCLES, W.  XD20

ELAM, S.  ER32
HOLMES, R.  ER32
HICKMAN, R.  ER32
MCKECHNIE, T.  ER32
THOM, G.  ER32

ELSNER, R.F.  XD12
BHARDWAJ, A.  XD12/NRC
GLADSTONE, G.R.  SWRI
WAITE, JR., J.H.  University of Michigan
CRAVENS, T.E.  University of Kansas
FORD, P.G.  Center for Space Research
BRANDUARDI,RAYMONT, G.  UCL, MSSL
RAMSAY, G.  UCL, MSSL
RAMSEY, B.O.  XD12
Chandra X-Ray Observatory Observations of the Jovian System—Abstract Only. For presentation at the Six Years of Science With Chandra Symposium Chandra X-Ray Center, Cambridge, MA, November 2–4, 2005.

EMRICH, W.  XD21

ENG, R.  XD33
CARPENTER, J.  XD33
HIGHT, H.J.  XD33
HOGUE, W.D.  XD33
KEGLEY, J.R.  XD33
STAHL, H.P.  XD33
WRIGHT, E.R.  XD33
KANE, D.  Trex Advanced Materials
HADAWAY, J.  UAH
Cryogenic Performance of Trex SiC Mirror—Abstract Only. For presentation at the Mirror Technology Days, Huntsville, AL, August 16–18, 2005.

ENGEBERG, R.C. ET23
LASSITER, J. ET23

ENGEBERG, R.C. ET23

ENGEL, C.D. Qualis Corp.
HERALD, S.D. ICRC Aerospace Services
DAVIS, S.E. EM10
Heated Promoted Combustion—Initial Test Results—Presentation. For presentation at the National Space and Missiles Materials Symposium, Summerlin, NV, June 27–July 1, 2005.

ENGEL, C.D. Qualis Corp.
HERALD, S.D. ICRC Aerospace Services
DAVIS, S.E. EM10

ENGEL, C.D. Qualis Corp.
HERALD, S.D. ICRC Aerospace Services
DAVIS, S.E. EM10

ENGEL, C.D. Qualis Corp.
HERALD, S.D. ICRC Aerospace Services
DAVIS, S.E. EM10

DAVIS, S.E. EM10

ESKRIDGE, R.H. XD22
MARTIN, A.K. XD22
LEE, M.H. XD22
FIMOGNARI III, P.J. UAH

ESKRIDGE, R.H. XD22
MARTIN, A.K. XD20
LEE, M.H. XD20
FIMOGNARI III, P.J. UAH

EVANS, S.W. EM50
STELLINGWERF, R.F. Stellingwerf Consulting
STALLWORTH, R. EV32

EVANS, S.W. EM50
WILLIAMSEN, J.E. Institute for Defense Analyses

FARR, R.A. EV11
SANDERS, T.M. ET11

FARR, R.A. EV11
CHRISTENSEN, D.L. Retired
KEITH, E.L. Retired
The Business Case for Spiral Development in Heavy Launch Vehicle Systems—Final Paper. For presentation
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Institution(s)</th>
<th>Title</th>
<th>Conference</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILET, J.T.</td>
<td>EV23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VITARIUS, P.</td>
<td>Freil Innovations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUXLOW, T.W.B.</td>
<td>University of Manchester</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GARRETT, M.</td>
<td>Joint Institute for VLBI in Europe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KOUVELIOTOU, C.</td>
<td>XD12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAENSLER, B.M.</td>
<td>Harvard-Smithsonian Center for Astrophysics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GARRINGTON, S.T.</td>
<td>University of Manchester</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARAGI, Z.</td>
<td>Joint Institute for VLBI in Europe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TUDOSE, V.</td>
<td>University of Amsterdam/Astronomical Institute of the Romanian Academy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MILLER-JONES, J.C.A.</td>
<td>University of Amsterdam ET AL.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FERGUSSON, D.C.</td>
<td>NP23</td>
<td><strong>Arcing in LEO—Does the Whole Array Discharge?</strong>—Final Paper. For presentation at the 9th Spacecraft Charging Technology Conference, Tsukuba, Japan, April 4–8, 2005.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HILLARD, G.B.</td>
<td>NASA GRC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FERGUSSON, D.C.</td>
<td>NP23</td>
<td>Arching in LEO—Does the Whole Array Discharge?—Abstract Only. For presentation at the 9th Spacecraft Charging Technology Conference, Tsukuba, Japan, April 4–8, 2005.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAYNER, B.V.</td>
<td>Ohio Aerospace Institute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GALOFARO, J.T.</td>
<td>NASA GRC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HILLARD, G.B.</td>
<td>NASA GRC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FISHMAN, G.J. XD12

FISHMAN, G.J. XD12

FISHMAN, G.J. XD12
PENDLETON, G. Dynetics Corp.

FLACHBART, R.H. ER23
HASTINGS, L.J. ER23
HEDAYAT, A. ER23
NELSON, S.L. ER23
TUCKER, S.P. Alpha Technology Inc.

FLYNN, K. NP60
GUBERT, M. NP60

FOOTE, J.P. XD21
LITCHFORD, R.J. XD21

FOOTE, J.P. XD21
LITCHFORD, R.J. XD21

FORD, P.G. MIT Kavli Institute for Astrophysics and Space Research
ELSNER, R.F. XD12

FRADY, G. ER41
Paley, M.S. SD40
Strong, J.D. Morgan Research Corp.
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution/University</th>
<th>Conference/Workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adrian, M.L.</td>
<td>SD50</td>
<td></td>
</tr>
<tr>
<td>Liemohn, M.</td>
<td>SD50</td>
<td></td>
</tr>
<tr>
<td>Gallagher, D.L.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Adrian, M.L.</td>
<td>SD50</td>
<td></td>
</tr>
<tr>
<td>Liemohn, M.</td>
<td>SD50</td>
<td></td>
</tr>
<tr>
<td>Green, J.L.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Perez, J.D.</td>
<td>Auburn University</td>
<td></td>
</tr>
<tr>
<td>Quenby, J.J.</td>
<td>Blackett Laboratory</td>
<td></td>
</tr>
<tr>
<td>Gallagher, D.L.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Horwitz, J.L.</td>
<td>University of Texas in Arlington</td>
<td></td>
</tr>
<tr>
<td>Perez, J.D.</td>
<td>Auburn University</td>
<td></td>
</tr>
<tr>
<td>Quenby, J.J.</td>
<td>Blackett Laboratory</td>
<td></td>
</tr>
<tr>
<td>Gallagher, D.L.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Green, J.L.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Gallagher, D.L.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Green, J.L.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Smith, Z.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Gamayunov, K.V.</td>
<td>USRA</td>
<td></td>
</tr>
<tr>
<td>Khazanov, G.V.</td>
<td>XD12</td>
<td>Strong Pitch-Angle diffusion of the Ring Current Ions Induced by Electromagnetic Ion Cyclotron Waves—Abstract Only. For presentation at the American Geophysical Union Fall Meeting, San Francisco, CA, December 5–9, 2005.</td>
</tr>
<tr>
<td>Abbondanday, A.K.</td>
<td>Washington University</td>
<td></td>
</tr>
<tr>
<td>Lee, G.W.</td>
<td>Washington University</td>
<td></td>
</tr>
<tr>
<td>Kelton, K.F.</td>
<td>Washington University</td>
<td></td>
</tr>
<tr>
<td>Rogers, J.R.</td>
<td>XD42</td>
<td></td>
</tr>
<tr>
<td>Goldman, A.I.</td>
<td>Ames Lab/USDOE/Iowa State University</td>
<td></td>
</tr>
<tr>
<td>Robinson, D.S.</td>
<td>Ames Lab/USDOE/Iowa State University</td>
<td></td>
</tr>
<tr>
<td>Rathz, T.J.</td>
<td>UAH</td>
<td></td>
</tr>
<tr>
<td>Gavery, G.A.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Demolin, P.</td>
<td>Observatoire de Paris</td>
<td></td>
</tr>
<tr>
<td>Gary, G.A.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Sheppard, W.S.</td>
<td>University of Alabama</td>
<td></td>
</tr>
<tr>
<td>Goodman, S.J.</td>
<td>XD11</td>
<td></td>
</tr>
<tr>
<td>Gattis, G.B.</td>
<td>ED21</td>
<td></td>
</tr>
<tr>
<td>Sheppard, W.S.</td>
<td>University of Alabama</td>
<td></td>
</tr>
<tr>
<td>Goodman, S.J.</td>
<td>XD11</td>
<td></td>
</tr>
<tr>
<td>Gavrili, F.</td>
<td>McGill University</td>
<td></td>
</tr>
<tr>
<td>Kaspi, V.M.</td>
<td>McGill University</td>
<td></td>
</tr>
<tr>
<td>Woods, P.M.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Lyutikov, M.</td>
<td>University of British Columbia</td>
<td></td>
</tr>
<tr>
<td>Gelfand, J.D.</td>
<td>Harvard-Smithsonian Center for Physics for Astrophysics</td>
<td></td>
</tr>
<tr>
<td>Lyubarsky, Y.E.</td>
<td>Department of Physics</td>
<td></td>
</tr>
<tr>
<td>Eichler, D.</td>
<td>Department of Physics</td>
<td></td>
</tr>
<tr>
<td>Gaensler, B.M.</td>
<td>Harvard-Smithsonian Center for Physics for Astrophysics</td>
<td></td>
</tr>
<tr>
<td>Taylor, G.B.</td>
<td>Stanford University</td>
<td></td>
</tr>
<tr>
<td>Granot, J.</td>
<td>Stanford University</td>
<td></td>
</tr>
<tr>
<td>Newton-McGee, K.J.</td>
<td>University of Sydney/CSIRO</td>
<td></td>
</tr>
<tr>
<td>Ramirez-Ruiz, E.</td>
<td>Institute for Advanced Study</td>
<td></td>
</tr>
<tr>
<td>Kouveliotou, C.</td>
<td>XD12</td>
<td></td>
</tr>
<tr>
<td>Wiwers, R.A.M.J.</td>
<td>University of Amsterdam</td>
<td></td>
</tr>
<tr>
<td>Ghosh, K.K.</td>
<td>Universities Space Research Association (USRA)</td>
<td></td>
</tr>
<tr>
<td>Swartz, D.A.</td>
<td>SD50</td>
<td></td>
</tr>
<tr>
<td>Tennant, A.F.</td>
<td>SD50</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Institution</td>
<td>Title</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>GLUCH, R.</td>
<td>Brigham Young University</td>
<td>Pre-Launch Goes-R Risk Reduction Activities for the Geostationary Lightning Mapper—Abstract Only. For</td>
</tr>
</tbody>
</table>

GOODMAN, S.J. XD11
BLAKESLEE, R.J. XD11
BOCCIPPIO, D.J. XD11
CHRISTIAN, H.J. XD11
KOSHAK, W.J. XD11
PETERSEN, W.A. UAH


GORTI, S. SD46
FORSYTHE, E.L. SD46/BAE Systems
PUSEY, M.L. SD46

Kinetic Roughening and Energetics of Tetragonal Lysozyme Crystal Growth: A Preliminary Atomic Force Microscopy Investigation—Abstract Only. For publication in ACTA Crystallographica D.

GRADL, P.R. ER32
STEPHENS, W. MP21


GRANOT, J. XD31
RAMIREZ-RUIZ, E. KIPAC, Stanford University
TAYLOR, G.B. Institute for Advanced Study

Ion Milling of Sapphire—Abstract Only. For publication in Electrochemical and Solid-State Letters and American Institute of Physics.

GRIFFEY, A.M. IS04


GRIFFEY, K. IS01


GRANT, J. XD31


GRANT, J. XD31


GRANT, J. XD31


GREENWOOD, T. MP31
TWICHELL, W. Lockheed Martin
FERRARI, D. Lockheed Martin
KUCK, F. Boeing-Rocketdyne


GRIFFEY, K. IS01


GRUDEL, R.N. SD46

High Tensile Strength Amalgams for In-Space Repair and Fabrication—Abstract Only. For presentation at the Continuing the Voyage of Discovery—1st Space Exploration Conference, Orlando, FL, February 2–4, 2005.


Protection of Conductive and Non-Conductive Advanced Polymer-Based Paints From Highly Aggressive Oxidative Environments—Abstract Only. For presentation at the 5th International Symposium on Polymer Surface Modification, Toronto, Canada, June 20–22, 2005.

Pyroelectric Ceramics for Infrared Detection Applications—Final Paper. For publication in Materials Science.

Comparison of Two IRI Plasmasphere Extensions With GPS–TEC Observations—Abstract Only. For presentation at and publication in the proceedings of the IRI 2005 Workshop, Roquetes, Spain, June 27–July 1, 2005.


GWALTNEY, D.A.  
FERGUSON, M.I.  
JPL  

HAMILTON, J.T.  
ET01  

HAMILTON, J.T.  
ET01  
ASM Student Technology and Career Night—Presentation. For presentation at the American Society of Materials Student Career Night, Huntsville, AL, March 29, 2005.

HAMILTON, J.T.  
ET01  
Test Laboratory 2005. For presentation at the Test Week 2005, Huntsville, AL, June 6–9, 2005.

HARMSEN, E.  
LUVALL, J.C.  
GONZALEZ, J.  
XD11  

HATHAWAY, D.H.  
WILSON, R.M.  
XD12  

HATHAWAY, D.H.  
XD12  

HATHAWAY, D.H.  
XD12  
HATHAWAY, D.H.  XD12  HICKMAN, R.  ER11
CHOU DHARY, D.  California State University  MIRELES, O.  ER11

HATHAWAY, D.H.  XD12
WILLIAMS, P.E.  University of Texas
CUNTZ, M.  University of Texas

HEATON, A.F.  EV40

HEDAYAT, A.  ER23
NELSON, S.L.  ER23
HASTINGS, L.J.  Alpha Technology, Inc.
GLACHTBART, R.H.  ER23
TUCKER, S.P.  ER23

HEDAYAT, A.  ER23
NELSON, S.L.  ER23
HASTINGS, L.J.  Alpha Technology Inc.

HERALD, S.D.  ICRC Aerospace Services
ENGEL, C.D.  Qualis Corp.
DAVIS, S.E.  EM10

HERMILLER, J.  Cornerstone Research Group, Inc.
STAHLE, H.P.  XD30

HJORTH, J.  University of Copenhagen
SOLLERMAN, J.  University of Copenhagen/Stockholm University
GOROSABEL, J.  Instituto de Astrofisica de Andalucia
GRANOT, J.  Kavli Institute
KLOSE, S.  Thuringer Landessternwarte
KOUVELIOTOU, C.  XD12
MELINDER, J.  Stockholm University
RAMIREZ- RUIZ, E.  Institute for Advanced Study
STARLING, R.  University of Amsterdam
ET AL.

HJORTH, J.  University of Copenhagen
WATSON, D.  University of Copenhagen
FYNO, J.P.  University of Copenhagen
PRICE, P.A.  University of Hawaii
JENSEN, B.L.  University of Copenhagen
JORGENSEN, U.G.  University of Copenhagen
KUBAS, D.  ESO Santiago
GOROSABEL, J.  Instituto de Astrofisica de Andalucia
KOUVELIOTOU, C.  XD12
The Optical Afterglow of a Short Y-Ray Burst—Abstract Only. For publication in Nature.

HOLDER, D.  EV50
FORT, J.  Hamilton Sundstrand
BARONE, M.  Hamilton Sundstrand
MURDOCH, K.  Hamilton Sundstrand
HOLLINGER, G.A.  
Swarthmore College

BRISCOE, J.M.  
EI21


HOOVER, R.B.  
XD12


HOOVER, R.B.  
XD12


HOUTS, M.G.  
NP50

BRAGG-SITTON, S.M.  
ER11

MIRELES, O.  
ER11

ET AL.


HOUTS, M.G.  
NP50


HOUTS, M.G.  
NP50

SCHEMIDT, G.R.  
NP50

BRAGG-SITTON, S.M.  
NP50

HICKMAN, R.  
NP50

HISSAM, A.  
NP50

HOUSTON, V.  
NP50

MARTIN, J.  
NP50

MIRELES, O.  
NP50

REID, B.  
NP50

ET AL.


HOWARD, R.T.  
EV21

JOHNSTON, A.S.  
EV21

BRYAN, T.C.  
EV21

BOOK, M.L.  
EV21

Simulation and Ground Testing with the AVGS—Final Paper. For presentation at the SPIE Defense and Security Symposium, Orlando, FL, March 28–April 1, 2005.

HOWARD, R.W.  
SY10

In Situ Fabrication Technologies: Meeting the Challenge for Exploration—Presentation. For presentation at the National Space and Missile Materials Symposium, Las Vegas, NV, June 27–July 1, 2005.

HOWELL, J.T.  
FD02

FIKES, J.C.  
SP20

O’NEILL, M.J.  
Entech, Inc.

Novel Space-Based Solar Power Technologies and Architectures for Earth and Beyond—Abstract Only. For presentation at the 56th International Astronautical Congress, Fukuoka, Japan, October 17–21, 2005.

HOWELL, J.T.  
FD02

FIKES, J.C.  
SP20

MANKINS, J.C.  
NASA Headquarters

In-Space Cryogenic Propellant Depot Stepping Stone—Abstract Only. For presentation at the 56th International Astronautical Congress, Fukuoka, Japan, October 17–21, 2005.

HOWELL, J.T.  
FD02

O’NEILL, M.J.  
Entech, Inc.

High-Voltage Array Ground Test for Direct-Drive Solar Electric Propulsion—Abstract Only. For presentation at the 56th International Astronautical Congress, Fukuoka, Japan, October 17–21, 2005.

HOWELL, J. T.  
FD02

CARRINGTON, C.K.  
SP20

MANKINS, J.C.  
NASA Headquarters


HOWELL, J. T.  
FD02

HUEBNER, L.D.  
NP60

SAIYED, N.H.  
NASA Headquarters

Advanced Development Projects for Constellation From the Next Generation Launch Technology Program Elements—Abstract Only. For presentation at the 56th International Astronautical Congress, Fukuoka, Japan, October 17–22, 2005.

HULCHER, A.B.  
ED34

YOUNG, G.  
ATK Thiokol Propulsion

Film Delivery Module for Fiber Replacement Fabrication of Hybridized Composite Structures—Abstract Only. For
presentation at the SAMPE Conference, Long Beach, CA, May 1–5, 2005.

HULL, M.S.  Luna Innovations Inc.
TASSELL, V.  Luna Innovations Inc.
PENNINGTON, C.D.  Luna Innovations Inc.
ROMAN, M.C.  EV52

HULL, P.V.  EV11/Jacobs Sverdrup
KITTREDGE, K.  EV34
TINKER, M.L.  EV11
SANSOUCIE, M.P.  EV11

HULL, P.V.  EV11/Jacobs Sverdrup
TINKER, M.L.  EV11
DOZIER, G.  Auburn University

HULL, P.V.  EV11/Jacobs Sverdrup
CANFIELD, S.L.  Tennessee Technological University

HYERS, R.W.  University of Massachusetts
LEE, J.  University of Massachusetts
BRADSHAW, R.C.  University of Massachusetts
ROGERS, J.R.  XD42
RATHZ, T.J.  UAH
WALL, J.J.  University of Tennessee
CHOO, H.  University of Tennessee
LIAW, P.K.  University of Tennessee

HYERS, R.W.  University of Massachusetts
SANSOUCIE, M.P.  EV11
PEPYNE, D.  University of Massachusetts
HANLON, A.B.  University of Massachusetts
DESHMUKH, A.  University of Massachusetts

IGNATIEV, A.  University of Houston
FREUNDLICH, A.  University of Houston
ALEMU, A.  University of Houston
SIBILLE, L.  BAE Systems
CURRERI, P.A.  XD40

ING, S.H.  IS05

IRWIN, D.E.  XD11
SERVER, T.  XD11
GRAVES, S.  UAH
HARDIN, D.  UAH
SIAM-SERVER: An Environmental Monitoring and Decision Support System for Meso-america—Abstract Only. For presentation at the Lecture for the City of Knowledge, City of Knowledge Foundation, Panama City, Panama, August 18, 2005.

IRWIN, R.W.  Purdue University
TINKER, M.L.  EV11

JAAP, J.  EO50
PHILLIPS, S.  EO50

JAAP, J.  EO50
PHILLIPS, S.  EO50
JAAP, J. EO50
MAXWELL, T. EO50

JAAP, J. EO50
PHILLIPS, S. EO50

JAAP, J. EO50
MEYER, P. EO50

JACOBY, M.T. Schafer Corp.
GOODMAN, W.A. Schafer Corp.
REILY, J.C. XD30
KEGLEY, J.R. XD33
HAIGHT, H.J. XD33
TUCKER, J. XD30
WRIGHT, E.R. XD33
HOGUE, W.D. XD33

JAMES, B.F. TD05
MUNK, M. TD05
MOON, S.A. Gray Research

JEDLOVEC, G.J. XD11
NAIR, U. UAH
HAINES, S.L. UAH
Detection of Tornado Damage Tracks With EOS Data—Abstract Only. For publication in the Journal of Weather and Forecasting.

JEDLOVEC, G.J. XD11
THOM, R.L. EM10
MOORE, L.E. EM10
GIBSON, H.G. EM10
HALL, P.B. EM10
PREDMORE, R.E. Swales/GSFC

JEDLOVEC, G.J. XD11
JOHNSON, D.L. EV13
KELLER, V.W. EV13
VAUGHAN, W.W. UAH

JOHNSON, D.L. EV13
JOHNSON, L. TD05
VAUGHAN, W.W. UAH

MSFC ABSTRACTS, ARTICLES, PAPERS, AND PRESENTATIONS CLEARED FOR DISSEMINATION
(Publicly available. Dates are conference dates.)

JOHNSON, L. TD05
HARRIS, D. TD05
TRAUUSH, A. TD05
MATLOFF, G.L. Gray Research/New York City College of Technology
TAYLOR, T. BAE Systems
CUTTING, K. Gray Research

JOHNSON, L. NP40
MATLOFF, G.L. Gray Research/New York City College of Technology
The Interstellar Conspiracy—Final Paper. For publication in Analog (Science-Fact Article).

JOHNSON, L. NP40
JAMES, B. NP40
BAGGETT, R. NP40
MONTGOMERY, S. NP40

JOHNSON, L. NP40
JAMES, B. NP40
BAGGETT, R. NP40
MONTGOMERY, S. NP40

JOHNSON, R.W. Auburn University
STRICKLAND, M. El42

JONES, G. ER32
PROTZ, C. ER32
TRINN, H.P. ER32
TUCKER, P.K. ER43
NESMAN, T. ER42
HULKA, J. Jacobs Sverdrup

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.

JUSTUS, C.G. Morgan Research Corp.
DUVALL, A.L. Morgan Research Corp.
KELLER, V.W. EV13
KALEMCI, E. University of California
BOGGS, S.E. University of California
KOUVELIOTOU, C. XD12/USRA
FINGER, M.H. USRA ET AL.
Millimeter Wave Detection of Localized Anomalies in the Space Shuttle External Fuel Tank Insulating Foam—Final Paper. For publication in the Institute of Electronical and Electronics.

KHARKOVSKY, S. University of Missouri-Rolla
HEPBURN, F. EM20
WALKER, J. EM20
ZOUGH, R. University of Missouri-Rolla


KHARKOVSKY, S. University of Missouri-Rolla
CASE, J.T. University of Missouri-Rolla
ZOUGH, R. University of Missouri-Rolla
HEPBURN, F. EM20


KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12

Electrodynamc Tether as a Thruster for MXER Studies—Abstract Only. For presentation at and publication in the proceedings of the 53rd JANNAF Propulsion Meeting/2nd Liquid Propulsion Subcommittee/1st Spacecraft Propulsion Joint Meeting, Monterey, CA, December 5–8, 2005.

KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12

Strong Pitch-Angle Diffusion of Ring Current Ions in Geomagnetic Storm-Associated Conditions—Abstract Only. For publication in AGU Monograph.

KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12

Cross-Scale Couplng in the Inner Magnetosphere—Abstract Only. For presentation at the American Geophysical Union, San Francisco, CA, November 5–9, 2005.

KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12

Analysis of Bare-Tether Systems as a Thruster for MXER Studies—Abstract Only. For publication in the Journal of Geophysical Research.

KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12


KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12

Electrodynamc Tether as a Thruster for MXER Studies—Abstract Only. For presentation at the 9th Spacecraft Charging Technology Conference, Tsukuba, Japan, April 4–8, 2005.

KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12

Analysis of Bare-Tether Systems as a Thruster for MXER Studies—Abstract Only. For publication at the CEDAR/GEM Workshop, Santa Fe, NM, June 27–July 1, 2005.

KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12

Analysis of Bare-Tether Systems as a Thruster for MXER Studies—Abstract Only. For publication in AGU Monograph.

KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12

Cross-Scale Couplng in the Inner Magnetosphere—Abstract Only. For presentation at the American Geophysical Union, San Francisco, CA, November 5–9, 2005.

KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12

Analysis of Bare-Tether Systems as a Thruster for MXER Studies—Abstract Only. For publication at the CEDAR/GEM Workshop, Santa Fe, NM, June 27–July 1, 2005.

KHAZANOV, G.V. XD12
KRIVORUTSKY, E.N. NRC
SORENSEN, K. XD12

KHAZANOV, G.V. XD12
GALLAGHER, D.L. XD12

KHODABANDEH, J.W. EI13

KHOSHNEVIS, B. University of Southern California
BODIFORD, M.P. SY10
BURKS, K.H. EI52
ETHRIDGE, E. XD42
TUCKER, D. XD31
KIM, W. NASA JPL
TOUTANJI, H. UAH
FISKE, M.R. SY10

KNOX, J.C. EV51
CAMPBELL, M. Hamilton Sundstrand
MURDOCH, K. Hamilton Sundstrand
MILLER, L. Jacobs Sverdrup
JENG, F. Lockheed Martin
Integrated Test and Evaluation of a 4-Bed Molecular Sieve (4BMS) Carbon Dioxide Removal System (CDRA), Mechanical Compressor Engineering Development Unit (EDU), and Sabatier Engineering Development Unit (EDU)—Final Paper. For presentation at the International Conference on Environmental Systems (ICES), Rome, Italy, July 11–14, 2005.

KOSHERK, W.J. XD11
Retrieving Storm Electric Fields From Aircraft Field Mill Data. Part II: Applications—Abstract Only. For publication in the Journal Of Atmospheric and Oceanic Technology/AMS.

KOUVELIOTOU, C. XD12

KOUVELIOTOU, C. XD12
Observations of Soft Gamma Repeaters—Abstract Only. For presentation at the Triggering Relativstc Jets Meeting, Cozumel, Mexico, March 28–April 1, 2005.

KOUVELIOTOU, C. XD12

KOUVELIOTOU, C. XD12

KOUVELIOTOU, C. XD12
Magnetars—Abstract Only. For presentation at A Life With Stars, Amsterdam, Netherlands, August 21–26, 2005.

KRIVORUTSKY, E.N. NRC
KHAZANOV, G.V. XD12
GAMAYUNOV, K.V. XD12
AVANOV, L.A. XD12

LAL, R.B. XD40
CLINTON, R.G. XD40
FRAZIER, D.O. XD40
Advanced Sensors for NASA’s Exploration Missions—Presentation. For presentation at the National Science Foundation (NSF) Workshop on Sensors, Huntsville, AL, June 7, 2005.
LAYMON, C.A. XD11
CROSSON, W.L. XD11
LIMAYE, A. XD11
MANU, A. XD11
ARCHER, F. XD11


LEE, G.W. Washington University
GANGOPADHYAY, A.K. Washington University
KELTON, K.F. Washington University
BRADSHAW, R.C. University of Massachusetts
HYERS, R.W. University of Massachusetts
RATHZ, T.J. UAH
ROGERS, J.R. XD42


LEE, G.W. Washington University
KIM, T.H. Washington University
SIEVE, B. Ames Laboratory USDOE/Iowa State University
GANGOPADHYAY, A.K. Washington University
HYERS, R.W. University of Massachusetts
RATHZ, T.J. UAH
ROGERS, J.R. XD42
ROBINSON, D.S. Ames Laboratory USDOE/Iowa State University
KELTON, K.F. Washington University
GOLDMAN, A.I. Ames Laboratory USDOE/Iowa State University


LEE, J. XD42
BRADSHAW, R. XD42
ROGERS, J.R. XD42
RATHZ, T. XD42
WALL, J. XD42
CHOO, H. XD42
LIAM, P. XD42
HYERS, R. XD42


LEE, J.A. EM30

Feasibility Assessment for Pressure Casting of Ceramic-Aluminum Composites for NASA’s Propulsion Applications—Abstract Only. For presentation at the 29th Con-

LEWIS, R.A. R Lewis Company
ROBERTSON, G.A. XD21

LI, C. SD46
SU, C-H. XD42
LEHOCZKY, S.L. SD46
SCRIPA, R.N. UAB
BAN, H. SD46
LIN, B. SD46

LI, C. SD46
SU, C-H. XD42
LEHOCZKY, S.L. SD46
SCRIPA, R.N. UAB
BAN, H. SD46

LIN, B. UAB
BAN, H. UAB
LI, C. SD46
SCRIPA, R.N. UAB
SU, C-H. XD42
LEHOCZKY, S.L. SD46

SU, C-H. XD42
BAN, H. UAB
SCRIPA, R.N. UAB
LEHOCZKY, S.L. SD46

LIN, J. ER43
WEST, J.S. ER43
WILLIAMS, R.W. ER43
TUCKER, P.K. ER43

LIN, J. ER43
WEST, J.S. ER43
WILLIAMS, R.W. ER43
TUCKER, P.K. ER43

LIN, Z-W. UAH
BARGHOUTY, A.F. XD41

LIN, Z-W. UAH
BARGHOUTY, A.F. XD41

LIN, Z-W. UAH
BARGHOUTY, A.F. XD41
Effects of Nuclear Interactions on Accuracy of Space Radiation Transport—Abstract Only. For presentation at and publication in the proceedings of the Space Nuclear Conference 2005, San Diego, CA, June 5–9, 2005.

LIN, Z-W. UAH

MARTIN, A.K. XD22
ESKRIDGE, R.H. XD22
FIMOGNARI III, P.J. UAH

MARTIN, A.K. XD22
ESKRIDGE, R.H. XD22
LEE, M. XD22
FIMOGNARI III, P.H. UAH

MARTIN, J.J. ER11
REID, R.S. ER11

MARTIN, J.J. ER11
REID, R.S. ER11

MATLIK, J.F. Rolls Royce Corp.
FARRIS, T.N. Purdue University
HAYNES, J. United Technologies Corp.
SWANSON, G.R. EM20
HAM-BATTISTA, G. Jacobs Sverdrup

MATLIK, J.F. Rolls Royce Corp.
FARRIS, T.N. Purdue University
HAAKE, F.K. United Technologies Corp.
MATISON, L. NP40
MATLIK, J.F. Rolls Royce Corp.
MATISON, L. NP40
FARRIS, T.N. Purdue University
HAYNES, J. United Technologies Corp.
SWANSON, G.R. EM20
HAM-BATTISTA, G. Jacobs Sverdrup

MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
JONES, J. University of Western Ontario
KAUFFMAN, B. ED44
SUGGS, R.M. EV13
COOKE, W.J. EV13
SMITH, S. ED44/Morgan Research Corp.

MATLIK, J.F. Rolls Royce Corp.
FARRIS, T.N. Purdue University
HAYNES, J. United Technologies Corp.
SWANSON, G.R. EM20
HAM-BATTISTA, G. Jacobs Sverdrup

MATLIK, J.F. Rolls Royce Corp.
FARRIS, T.N. Purdue University
HAAKE, F.K. United Technologies Corp.
MATISON, L. NP40
MATLIK, J.F. Rolls Royce Corp.
MATISON, L. NP40
FARRIS, T.N. Purdue University
HAYNES, J. United Technologies Corp.
SWANSON, G.R. EM20
HAM-BATTISTA, G. Jacobs Sverdrup

MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
JONES, J. University of Western Ontario
KAUFFMAN, B. ED44
SUGGS, R.M. EV13
COOKE, W.J. EV13
SMITH, S. ED44/Morgan Research Corp.

MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
JONES, J. University of Western Ontario
KAUFFMAN, B. ED44
SUGGS, R.M. EV13
COOKE, W.J. EV13
SMITH, S. ED44/Morgan Research Corp.

MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
JONES, J. University of Western Ontario
KAUFFMAN, B. ED44
SUGGS, R.M. EV13
COOKE, W.J. EV13
SMITH, S. ED44/Morgan Research Corp.

MATLIK, J.F. Rolls Royce Corp.
FARRIS, T.N. Purdue University
HAYNES, J. United Technologies Corp.
SWANSON, G.R. EM20
HAM-BATTISTA, G. Jacobs Sverdrup

MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
JONES, J. University of Western Ontario
KAUFFMAN, B. ED44
SUGGS, R.M. EV13
COOKE, W.J. EV13
SMITH, S. ED44/Morgan Research Corp.

MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
JONES, J. University of Western Ontario
KAUFFMAN, B. ED44
SUGGS, R.M. EV13
COOKE, W.J. EV13
SMITH, S. ED44/Morgan Research Corp.

MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
MCNAMARA, H.A. EV13
JONES, J. University of Western Ontario
KAUFFMAN, B. ED44
SUGGS, R.M. EV13
COOKE, W.J. EV13
SMITH, S. ED44/Morgan Research Corp.
For presentation at the 43rd AIAA Aerospace Sciences Meetings and Exhibit, Reno, NV, January 13, 2005.


Reuse of International Space Station (ISS) Modules as Lunar Habitat—Abstract Only. For presentation at the 1st Space Exploration Conference, Orlando, FL, January 30–February 1, 2005.


An Overview of Program Developments for NASA’s Space Environments and Effects (SEE) Program—Final Paper.
MOORE, R.L.  XD12
STERLING, A.C.  XD12
FALCONER, D.A.  XD12
DAVIS, J.M.  XD12

MOORE, R.E.  EM10
SCOTT, J.P.  EM10
WISE, H.  EM10
Considerations for Storage of High-Test Hydrogen Peroxide (HTP) Utilizing Non-Metal Containers—Abstract Only. For presentation at the 8th International Hydrogen Peroxide Propulsion Conference, West Lafayette, IN, September 18–22, 2005.

MOORE, R.L.  XD12
STERLING, A.C.  XD12
FALCONER, D.A.  XD12
GARY, G.A.  XD12

MOORE, R.L.  XD12
STERLING, A.C.  XD12

NALL, M. SR10

NERNEY, S. SD50
SUSS, S.T. SD50

NEUMANN, B. HQS
MCMILLAN, V. EDO3

NGUYEN, H. The Boeing Company
CHANDLER, F. The Boeing Company
MAZURKIVICH, P. NP60
Pressurization System Modeling for a Generic Bime
two-Stage-to-Orbit Reusable Launch Vehicle—Final Pa-
er. For presentation at the 41st AIAA/ASME/SAE/ASEE

NIELSEN, D. ATK Thiokol Inc.
TOWNSEND, J. ED21
KAPPUS, K. ED21
DRISKILL, T. ED21
TORRES, I. ED21
PARKS, R. ED21

NISHIKAWA, K.I. University of Alabama/Tuscaloosa
3-D GRMHD Simulations of Disk-Jet Coupling and Associated Variabilities and Emission—Abstract Only. For presentation at the International Workshop on Magneto-

NISHIKAWA, K.I. University of Alabama/Tuscaloosa
HARDEE, P. University of Alabama/Tuscaloosa
HEDEDAL, C.B. Niels Bohr Institute/Department of Astrophysics
RICHARDSON, G. UAH
SOL, H. LUTH
PREECE, R. UAH
FISHERMAN, G.J. XD12

NISHIKAWA, K.I. University of Alabama/Tuscaloosa
HARDEE, P. University of Alabama/Tuscaloosa
HEDEDAL, C.B. Niels Bohr Institute/Department of Astrophysics
RICHARDSON, G. UAH
SOL, H. LUTH
PREECE, R. UAH
FISHERMAN, G.J. XD12
Particle Acceleration, Magnetic Field Generation in Relativistic Shocks—Abstract Only. For presentation at and publication in the proceedings of the International Workshop on Particles and Radiation From Cosmic Accelerators, Chiba, Japan, March 2–4, 2005.

NISHIKAWA, K.I. University of Alabama/Tuscaloosa
RAMIREZ-RUIZ, E. Institute for Advanced Study
HARDEE, P. University of Alabama/Tuscaloosa
HEDEDAL, C.B. Niels Bohr Institute/Department of Astrophysics
KOUVELIOTOU, C. XD12
FISHERMAN, G.J. XD12
Particle Acceleration, Magnetic Field Generation, and Emission in Relativistic Pair Jets—Abstract Only. For presentation at and publication in the proceedings of the Astrophysical Sources of High-Energy Particles and Radiation, Torun, Poland, June 20–24, 2005.
NISHIKAWA, K.I. University of Alabama/Tuscaloosa
RAMIREZ-RUIZ, E. Institute for Advanced Study
HARDEE, P. University of Alabama/Tuscaloosa
HEDEDAL, C. Niels Bohr Institute/Department of Astrophysics
KOUVELIOTOU, C. XD12
FISHMAN, G.J. XD12
MIZUNO, Y. NRC


NISHIKAWA, K.I. University of Alabama/Tuscaloosa
RAMIREZ-RUIZ, E. Institute for Advanced Study
HARDEE, P. University of Alabama/Tuscaloosa
HEDEDAL, C. Niels Bohr Institute/Department of Astrophysics
KOUVELIOTOU, C. XD12
FISHMAN, G.J. XD12
MIZUNO, Y. NRC


NISHIKAWA, K.I. University of Alabama/Tuscaloosa
RAMIREZ-RUIZ, E. Institute for Advanced Study
HARDEE, P. University of Alabama/Tuscaloosa
HEDEDAL, C. Niels Bohr Institute/Department of Astrophysics
KOUVELIOTOU, C. XD12
FISHMAN, G.J. XD12
MIZUNO, Y. NRC


O'NEIL, D.A. FD02
MANKINS, J.C. NASA Headquarters


NOUNSEK, J.A. Pennsylvania State University
KOUVELIOTOU, C. XD12
GRUPE, D. Pennsylvania State University
PAGE, K. University of Leicester
GRANOT, J. Stanford University
RAMIREZ-RUIZ, E. Institute for Advanced Study
PATEL, S.K. IPA with NASA/XD12
BURROWS, D.N. Pennsylvania State University
MANGANO, V. INAF
BARTHELMY, S.D. GSFC


OSTROGORSKY, A. Rensselaer Polytechnic Institute
MARIN, C. Rensselaer Polytechnic Institute
VOLZ, M.P. XD42
BONNER, W.A. Crystallod, Inc.

OVERBEY, B.G. Raytheon
ROBERTS, B.C. ED44
Analysis of Surface Charging for a Candidate Solar Sail Mission Using NASCAP–2K—Final Paper. For presentation at the 9th Spacecraft Charging Technology Conference, Tsukuba, Japan, April 4–8, 2005.

PARKER, L.N. ED44/Jacobs Sverdrup
MINOW, J.I. EV13
DAVIS, V.A. SAIC
MANDELL, M.J. SAIC
GARDNER, B.M. SAIC


PATRICK, M.P. ED12
COOPER, A.E. ED12
POWERS, W.T. ED12


PEARSON, J.B. XD21
LEWIS, R.A. R Lewis Company


PEARSON, J.B. XD21
LEWIS, R.A. R Lewis Company


PERRY, J.L. EV51


PERRY, J.L. EV51
TOMES, K.M. EV51
ROYCHOUHDURY, S. Precision Combustion, Inc.
TATARA, J.D. Qualis Corp.


PETERS, W.A. XD11
KNUPP, K. XD11
WALTERS, J. XD11
DEIERLING, W. XD11
GAUTHIER, M. XD11
DOLAN, B. XD11
DICE, J.P. XD11
SATTERFIELD, D. XD11
DAVIS, C. XD11
ET AL.


PETERS, W.A. XD11
CHRISTIAN, H.J. XD11
RUTLEDGE, S.A. XD11


PHILLIPS, T.A. EI52
MACLEOD, T.C. EI52

Modeling of a Metal-Ferroelectric-Semiconductor Field-Effect Transistor Nand Gate—Abstract Only. For presentation at the 11th International Meeting on Ferroelectricity, Foz do Iguacu, Brazil, September 5–9, 2005, and to be published in the Ferroelectrics Journal.

PICON, A.J. UPRM
VASQUEZ, R. UPRM
GONZALEZ, J.E. Santa Clara University
LUVALL, J.C. XD11
RICKMAN, D.L. XD11


PIKUTA, E.V. XD12
ITOH, T. RIKEN BioResource Center
HOOVER, R.B. XD12

Anaerobic Decomposition of Cellulose by Alkaliphilic Micr Obial Community of Owens Lake, California—
Abstract Only. For presentation at and publication in the proceedings of The International Symposium of Optical Science and Technology 50th Annual Meeting—Instruments, Methods, and Missions for Astrobiology IX, San Diego, CA, July 31–August 4, 2005.

PITTMAN, J.V. XD11/USRA
FUEGLISTALER, S. University of Washington
MILLER, T.L. XD11
WEINSTOCK, E.M. Harvard University


POOLE, E. XD21
MYRABO, L.N. Rensselaer Polytechnic Institute

PUSEY, M.L. XD42
The Nucleation and Growth of Protein Crystals—Abstract Only. For presentation at the Invited Speaker at the Fall Seminar Series at the University of Toledo, Toledo, OH, November 4–6, 2004.

PUSEY, M.L. XD42
FORSYTHE, E. BAE Systems

PUSEY, M.L. XD42
FORSYTHE, E. BAE Systems
ACHARIA, A. Raytheon

PUSEY, M.L. XD42
FORSYTHE, E. BAE Systems
ACHARIA, A. Raytheon
Fluorescent Approaches to High-Throughput Crystallography—Abstract Only. For presentation at the American Institute of Chemical Engineers, Cincinnati, OH, October 30–November 4, 2005.

PITTMAN, J.V. XD11/USRA
ROBERTSON, F.R. XD11
MILLER, T.L. XD11

PUSEY, M.L. XD42
FORSYTHE, E. BAE Systems
AUCHER, T. Raytheon
Fluorescent Approaches to High-Throughput Crystallography—Abstract Only. For presentation at the American Institute of Chemical Engineers, Cincinnati, OH, October 30–November 4, 2005.

POLZIN, K.A. XD20
MARKUSIC, T.E. XD20
RAITSES, Y. Princeton University
SMIRNOV, A. Princeton University
FISCH, N.J. Princeton University

POLZIN, K.A. XD20
MARKUSIC, T.E. XD20
RAITSES, Y. Princeton University
SMIRNOV, A. Princeton University
FISCH, N.J. Princeton University

POLZIN, K.A. XD20
MARKUSIC, T.E. XD20
RAITSES, Y. Princeton University
SMIRNOV, A. Princeton University
FISCH, N.J. Princeton University
Galium Electromagnetic (GEM) Thruster Concept and Design—Abstract Only. For presentation at the 53rd JANNAF Propulsion Meeting/2nd Liquid Propulsion Subcommittee/1st Spacecraft Propulsion Joint Meeting, Monterey, CA, December 5–8, 2005.

QUATTROCHI, D.A. XD11
ESTES, JR., M.G. XD11
CROSSON, W.L. XD11
KHAN, M. Georgia Environmental Protection Division

QUATTROCHI, D.A. XD11
NISKAR, A.S. Centers for Disease Control and Prevention

RAMACHANDRAN, N. XD42

RAMACHANDRAN, N. XD42
Space Laboratory on a Table Top—A Next Generation ECLSS Design and Diagnostic Tool—Abstract Only. For presentation at the 35th International Conference on Environmental Systems (ICES), Rome, Italy, July 11–14, 2005.

RAMACHANDRAN, N. XD42

RAMACHANDRAN, N. XD42

RAMACHANDRAN, N. XD42
LESLIE, F.W. XD42

RAMPINI, R. Alena Spazio S.p.A.
LOBASCIO, C. Alena Spazio S.p.A.
PERRY, J.L. EADS Space Transportation GmH

RAMSEY, B.D. XD12

RAMSEY, B.D. XD12

RAO, S. Intelligent Optical Systems
MALAK, H. American Environmental Systems, Inc.
BISHOP, A. UAH
CISZAK, E. UAH
RICHMOND, R.C. XD42

RAY, C.S. XD42
REIS, S.T. University of Missouri-Rolla
BROW, R.K. University of Missouri-Rolla
HOLAND, W. Ivoclar Vivident AG
RHEINERGER, V. Ivoclar Vivident AG

RAY, C.S. XD42
REIS, S.T. University of Missouri-Rolla
SENE, F.F. Energy and Nuclear Research Institute
YANG, J.B. University of Missouri-Rolla
PONTUSCHKA, W.M. Physics Institute
GIEHL, J.M. Physics Institute
KIM, C.W. University of Missouri-Rolla
SEN, S. X42/BAE Systems


RICHARDSON, E.H. NP40
MUNK, M.M. NP40
JAMES, B.F. NP40
MOON, S.A. Gray Research

Review of NASA In-Space Propulsion Technology Program Inflatable Decelerator Investments—Final paper. For presentation at the 18th AIAA Aerodynamic Decelerator Technology Conference and Seminar, Munich, Germany, May 23–26, 2005.

RICHMOND, R.C. XD42


RISON, W. New Mexico Institute of Mining and Technology
KREHBIEL, P.R. New Mexico Institute of Mining and Technology
GOODMAN, S.J. XD11
MACGORMAN, D.R. New Mexico Institute of Mining and Technology


ROBERTS, L. MP01


ROBERTSON, B. WILKerson, D. XD31


ROBERTSON, B. WILKerson, D. XD31


ROBERTSON, F.R. XD11


ROBERTSON, F.R. XD11
LU, H.-I. USRA


ROBERTSON, F.R. XD11

Interannual Variability of Tropical Rainfall as Seen from TRMM—Abstract Only. For presentation at and publication in the proceedings of the 5th International Scientific Conference on the Global Energy and Water Cycle, Orange County, CA, June 18–24, 2005.

ROBERTSON, F.R. XD11

Interannual Variability of Tropical Rainfall as Seen from TRMM—Abstract Only. For presentation at the 86th AMS Annual Meeting, 14th Conference on Satellite Meteorology and Oceanography, Atlanta, GA, January 29–February 2, 2006.

ROBERTSON, F.R. XD11
WICK, G. NOAA/Environmental Technology Laboratory

Jackson, D. NOAA/Environmental Technology Laboratory

BOSILovich, M.G. NASA Goddard Space Flight Center

ROBERTSON, G.A. XD21

ROBINSON, P.J. Aerojet
VEITH, E.M. Aerojet
TURPIN, A.A. ER23

ROCKER, M. ER43
Steady-State CFD Simulations of the Modular Combustor Test Article—Abstract Only. For presentation at the 53rd JANNAF Propulsion Meeting/2nd Liquid Propulsion Subcommittee/Space Propulsion Joint Meeting, Monterey, CA, December 5–8, 2005.

RODRIGUEZ, H. The Boeing Company
POPP, C. ER23
REHAGEN, R.J. The Boeing Company

RODRIGUEZ, H. The Boeing Company
POPP, C. ER23

ROLIN, T.D. EI42
HAMMOND, M. SY10
In Situ Fabrication Technologies—Abstract and Presentation. For presentation at the UC Berkeley, University of California, Berkely, CA, May 17, 2005.

ROMAN, J.M. NP22
MEACHAM, S.B. NP23
KRUPP, D.R. EV12
THREET, G.E. NP12
BEST, J. EO04
Resistively Heated Microlith-Based Adsorber for Carbon Dioxide and Trace Contaminant Removal—Final Paper.
For presentation at the 35th International Conference on Environmental Systems (ICES), Rome, Italy, July 11–14, 2005.

RUSSELL, C.K. EM30
NUNES, JR., A.C. EM30
ZIMMERMAN, F.R. ED33
Welding in Space—Lessons Learned for Future In Space Repair Development—Abstract Only. For presentation at the National Space and Missiles Materials Symposium, Summerlin, NV, June 27–July 1, 2005.

SAFIE, F.M. MP31
NGUYEN, S.C. Lockheed Martin
BURLESON, K.W. MP31

SANDERS, J. Mississippi State University
SCHNEIDER, J. Mississippi State University
NUNES, JR., A.C. ED33

SANSOUCIE, M.P. EV11
HULL, P.V. EV11
IRWIN, R.W. Purdue University
TINKER, M.L. EV11
PATTON, B.W. EV11

SANSOUCIE, M.P. EV11
HULL, P.V. EV11
TINKER, M.L. EV11

SANSOUCIE, M.P. EV11
TINKER, M.L. EV11
HYERS, R.W. University of Massachusetts
HULL, P.V. EV11
KITTREDGE, K. EV34

SCHLAGHECK, R.A. XD40
SIBILLE, L. BAE Systems Analytical Systems
SACKSTEDER, K. GRC
OWENS, C. Teledyne Brown Engineering

SCHNEIDER, J. Mississippi State University
NUNES, JR., A.C. ED33

SCHNEIDER, J. Mississippi State University
NUNES, JR., A.C. ED33

SCHNEIDER, J. Mississippi State University
NUNES, JR., A.C. ED33

SCHNEIDER, J. Mississippi State University
BESHEARS, R. ED32
NUNES, JR., A.C. ED33
Computer Tomography 3-D Imaging of the Metal Deformation Flow Path in Friction Stir Welding—Final Paper. For publication in Materials Science and Engineering.

SCHRAMM, F. ED03
Technologies on the Horizon for Product Identification—Presentation. For presentation at the Automation Identification and Data Capture Technical Institute, Ohio, IL, July 28–29, 2005.

SCHRAMM, F. ED03
SCOTT, J.P. ICRC
WHITFIELD, S. EM10
DAVIS, S.E. EM10
WISE, H. ICRC
MOORE, R.L. XD12
The Role of Toxicity Testing in NASA’s Future Missions—Abstract Only. For presentation at the National Space and Missiles Materials Symposium, Summerlin, NV, June 27–July 1, 2005.
SEN, S. XD42/BAE Systems
SCHOFIELD, E. Plasma Processes, Inc.
O’DELL, S. Plasma Processes, Inc.
RAY, C.S. XD42

SEN, S. XD42/BAE Systems
RAY, C.S. XD42
RAMACHANDRAN, N. XD42/BAE Systems

SEVER, T.L. SD60
SATURNO, W. SD60

SHAH, S. EM30

SHAH, S. EM30
JERMAN, G. EM30

SHELDON, R.B. UAH
HOOVER, R.B. XD12

SHELDON, R.B. UAH
HOOVER, R.B. XD12

SHELTON, J.D. NP20
FREDERICK, R.A. UAH

SHELTON, J.D. NP20
Launch Vehicle Propulsion Parameter Design Multiple Selection Criteria—Dissertation. For presentation at the Department of Mechanical and Aerospace Engineering, UAH, Huntsville, AL.

SHERIF, D.E. Honeywell International
KNOX, J.C. EV51

SHIBAKOV, A. Tennessee Technological University
HULL, P.V. EV11
CANFIELD, S.L. Tennessee Technological University
TINKER, M. EV11

SHIVERS, H. ED03

SHRESTHA, S. University of Missouri-Rolla
KHARKOVSKY, S. University of Missouri-Rolla
ZOUHGLI, R. University of Missouri-Rolla
HEPBURN, F.L. EM20

SIBILLE, L. BAE Systems
Present Status of Lunar Regolith Simulants, Workshop Overview and Objectives—Abstract Only. For presenta-

SMITHERMAN, D.V. SP20

SNELL, E.H. XD42
Macromolecular Crystallization in Microgravity—Abstract Only. For publication in Reports on Progress in Physics.

SPANN, J.F. XD12

SPANN, J.F. XD12

SPANN, J.F. XD12
Laboratory Investigation of Space and Planetary Dust Grains—Abstract Only. For presentation at the Institute of Planetary Science at the University of Muenster, Muenster, Germany, June 6–12, 2005.

SPANN, J.F. XD12

SPANN, J.F. XD12
Future Directions for ITM Imaging—Abstract Only. For presentation at and publication in the proceedings of the 2005 Fall American Geophysical Union, San Francisco, CA, December 5–9, 2005.

STAHL, H.P. XD30

STAHL, H.P. XD30

STERLING, A.C. XD12
MOORE, R.L. XD12

STERLING, A.C. XD12
MOORE, R.L. XD12

STERLING, A.C. XD12
BEMPORAD, A. XD12
MOORE, R.L. XD12
POLETTO, G. INAF

STERLING, A.C. XD12

STERLING, A.C. XD12
MOORE, R.L. XD12

STORRIE-LOMBARDI, M.C. Kinohi Institute
HOOVER, R.B. XD12

SU, C.-H. XD42
Composition, Temperature, Partial Pressures Data for Cd0.8Zn0.2Te by Optical Absorption Measurements—Abstract Only. For publication in the Journal of Crystal Growth.

SUESS, S.T. XD12
NERNEY, S. XD12

SUESS, S.T. XD12
POLETTO, G. INAF

SUGGS, R.M. EV13
COOKE, W.J. EV13
MCNAMARA, H.A. EV13

SULLIVAN, D. XD11
SHAW, J. XD11
RICKMAN, D.L. XD11
SULLIVAN, D. XD11
SHAW, J.N. XD11
RICKMAN, D.L. XD11
MASK, P.L. XD11
LUVALL, J.C. XD11


SWIFT, W.R. EV13/Raytheon
SUGGS, R.M. EV13
COOKE, W.J. EV13


TAYLOR, G.B. Kavli Institute of Particle Astrophysics and Cosmology/National Radio Astronomy Observatory
GELFAND, J.D. Harvard-Smithsonian Center for Astrophysics
GAENSLER, B.M. Harvard-Smithsonian Center for Astrophysics
GRANOT, J. Kavli Institute of Particle Astrophysics and Cosmology
KOUVELIOTOU, C. XD12


THOM, R.L. EM10
WALKER, J.L. EM10


THOMAS, C. International Space Systems, Inc.
PERRELL, E. ERAU
LIRON, C. ERAU
CHIROUX, R. SAIC
CASSIBRY, J. UAH
ADAMS, R.B. NP10


THOMAS, F. EV32
ZHAO, Y. Embry-Riddle Aeronautical University


TIRADO-CASTRO, A.J. IAA–CSIC
MOLLER, P. European Southern Observatory
SEGURA-GARCIA, G. Instituto de Astronomia
GOROSABEL, J. Instituto de Astrofisica de Andalucia
PEREZ, E. Instituto de Astrofisica
POSTIGO, A. Instituto de Astrofisica
SOLANO, E. Laboratorio de Arofisica
NAVASCUES, D. Laboratorio de Arofisica
CERON, J. Space Telescope Science Institute

KOUVELIOTOU, C. XD12


TOUATANJI, H. UAH
TUCKER, D. XD31
ETHRIDGE, E. XD31

New Fiber Reinforced Waterless Concrete for Extraterrestrial Structural Applications—Abstract Only. For presentation at the Twelfth International Conference on Composites/Nano Engineering, Tenerife, Canary Islands, Spain, August 1–6, 2005.

TOUATANJI, H. UAH
MEYERS, C. EV31


TREVINO, L.C. EV23
CRUMBLEY, T. EV23


TREVINO, L.C. EV23

Software for Intelligent System Health Management—Presentation. For presentation at the Software for Intelligent System Health Management (ISHM) Briefing for Alabama A&M Engineering Department, Normal, AL, October 29, 2004.

TREVINO, L.C. EV23

Software for Intelligent System Health Management—Presentation. For presentation at the Software for Intelligent
System Health Management (ISHM) Briefing for Georgia Tech, Intelligent Controls Laboratory, Atlanta, GA, December 22, 2004.

TRINH, H.P., CHEN, C.P., UAH

TRINH, H.P., CHEN, C.P., BALASUBRAMANYAM, M.S., UAH

TUCKER, P.K., PAL, S., SANTORO, R., Pennsylvania State University

TURNER, M.W., HAWK, C.W., LITCHFORD, R.J., XD20

TURNER, S., SPANYER, K., NP30

TURNER, S., SPANYER, K., NP30

UBERTINI, P., BAZZANO, A., IASF/INAF


VARNAVAS, K., Varian, M.W.

VARNAVAS, K., Varian, M.W.


Materials and Processes Laboratory Core Capabilities Overview—Presentation. For presentation at the Alcan Workshop, Issore, France, June 15–23, 2005.


Low-Resolution VLT Spectroscopy of GRBs 991216, 011211, 021211, and 03028—Abstract Only. For publication in Astronomy and Astrophysics.


Simulation of the ATIC–2 Silicon Matrix for Protons and Helium GCR Primaries at 0.3, 10, and 25 TeV/Nucleon—Abstract Only. For presentation at the 29th International Cosmic Ray Conference/Tata Institute of Fundamental Research, Pune, India, August 3–10, 2005.


Six Years of Science with the Chandra X-Ray Observatory—Abstract Only. For presentation at the General Colloquium, Purdue University, September 22, 2005.


Five Years of Observations With the Chandra X-Ray Observatory—Abstract Only. For publication in Space Research Today.

The First Chandra Field: The Discovery and Identification of Leon X–1—Abstract Only. For presentation at the Six Years of Science With Chandra Symposium, Cambridge, MA, November 2–4, 2005.
The Solar Ultraviolet Magnetograph Investigation: Polarization Properties—Abstract Only. For presentation at and publication in the proceedings of the SPIE Optics and Photonics, San Diego, CA, July 31–August 4, 2005.

WEST, E.A. XD12
NOBLE, M. XD12
CHOU DHARY, D.P. XD12
Large Field-of-View KD*P Modulator for Solar Polarization Measurements—Abstract Only. For presentation at and publication in the proceedings of the SPIE Optics and Photonics, San Diego, CA, July 31–August 4, 2005.

WEST, E.A. XD12
NOBLE, M. XD12
KOBAYASHI, K. XD12

WEST, E.A. XD12
Polarization Measurements in the Vacuum Ultraviolet—Abstract Only. For presentation at and publication in the proceedings of the SPIE Optics and Photonics, San Diego, CA, July 31–August 4, 2005.

WEST, E.A. XD12

WILLIAMSEN, J.E. Institute for Defense Analyses
WOODS, P.M. XD12
KOUVELIOTOU, C. XD12
GAVRILL, F.P. McGill University

WILSON, C.A. XD12
WEISSKOPF, M.C. XD12
FINGER, M.H. XD12/USRA
COE, M.J. School of Physics and Astronomy
GREINER, J. Max-Planck-Institute
REIG, P. University of Crete
PAPAMASTORAKIS, G. University of Crete


WILSON, C.A. SD50
FISHMAN, G.J. XD12
HONG, J-S. CFA
GRINDLAY, J. CFA
KRAWCZYSKNI, H. Washington University

Using the EXIST Active Shields for Earth Occultation Observations of X-Ray Sources—Abstract Only. For presentation at and publication in the proceedings of the 22nd Texas Symposium on Relativistic Astrophysics, Stanford University, December 13–17, 2004.

WILSON, C.A. SD50
FISHMAN, G.J. XD12
HONG, J-S. CFA
GRINDLAY, J. CFA
KRAWCZYSKNI, H. Washington University


WILSON, C.A. XD12
FABREGAT, J. Universitat de Valencia
COBURN, W. University of California at Berkeley

KASPI, V.M. McGill University/Canada Research
ROBERTS, M.S.E. McGill University
IBRAHIM, A. George Washington University
MARKWARDT, C.B. GSFC
SWANK, J.H. GSFC
FINGER, M.H. USRA/XD12


YANG, B-J. Georgia Institute of Technology
CALISE, A.J. Georgia Institute of Technology
CRAIG, J.I. Georgia Institute of Technology
WHORTON, M.S. EV42


ZAVLIN, V.E. XD12/NRC


ZHANG, T. University of Missouri-Rolla
REIS, S.T. University of Missouri-Rolla
BROW, R.K. University of Missouri-Rolla
RAY, C.S. XD42


ZOLADZ, T.F. ER42
SZABO, R.J. Rocketdyne
CASIANO, M.J. ER42
TYLER, T.R. ER42


ZOGUH, R. University of Missouri-Rolla
KHARKOVSKY, S. University of Missouri-Rolla
HEPBURN, F.L. EM20

Microwave and Millimeter Wave Testing for the Inspection of the Space Shuttle Spray on Foam Insulation (SOFI) and the Acreage Heat Tiles—Final Paper. For publication in The American Institute of Physics.
# INDEX

## TECHNICAL MEMORANDUMS

<table>
<thead>
<tr>
<th>Author</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAMS, J.H.</td>
<td>2</td>
</tr>
<tr>
<td>ALBYN, K.C.</td>
<td>1</td>
</tr>
<tr>
<td>ALHORN, D.C.</td>
<td>4</td>
</tr>
<tr>
<td>BEECH, G.S.</td>
<td>1, 2</td>
</tr>
<tr>
<td>CHEN, P.S.</td>
<td>2</td>
</tr>
<tr>
<td>COLE, H.E.</td>
<td>3</td>
</tr>
<tr>
<td>CUTTING, K.</td>
<td>4</td>
</tr>
<tr>
<td>EL-LESSY, H.N.</td>
<td>3</td>
</tr>
<tr>
<td>FOWLER, B.A.</td>
<td>2</td>
</tr>
<tr>
<td>GREGORY, J.C.</td>
<td>2</td>
</tr>
<tr>
<td>GRUGEL, R.N.</td>
<td>2</td>
</tr>
<tr>
<td>HAMPTON, R.D.</td>
<td>1, 2</td>
</tr>
<tr>
<td>HARRIS, D.</td>
<td>4</td>
</tr>
<tr>
<td>HATHAWAY, D.H.</td>
<td>2</td>
</tr>
<tr>
<td>HOWARD, D.E.</td>
<td>4</td>
</tr>
<tr>
<td>JOHNSON, L.</td>
<td>4</td>
</tr>
<tr>
<td>LEE, J.A.</td>
<td>2</td>
</tr>
<tr>
<td>MARTIN, J.J.</td>
<td>3</td>
</tr>
<tr>
<td>MATLOFF, G.L.</td>
<td>4</td>
</tr>
<tr>
<td>MCGHEE, D.S.</td>
<td>1</td>
</tr>
<tr>
<td>OVERBEY, B.G.</td>
<td>4</td>
</tr>
<tr>
<td>PARNELL, T.A.</td>
<td>2</td>
</tr>
<tr>
<td>PERRY, J.L.</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>REID, R.S.</td>
<td>3</td>
</tr>
<tr>
<td>ROBERTS, B.C.</td>
<td>4</td>
</tr>
<tr>
<td>RUPERT, J.K.</td>
<td>1, 2</td>
</tr>
<tr>
<td>SCHMIDT, G.L.</td>
<td>3</td>
</tr>
<tr>
<td>SMITH, D.A.</td>
<td>4</td>
</tr>
<tr>
<td>STEEVE, B.E.</td>
<td>2</td>
</tr>
<tr>
<td>TATARA, J.D.</td>
<td>1, 3</td>
</tr>
<tr>
<td>TAYLOR, T.</td>
<td>4</td>
</tr>
<tr>
<td>TOMEK, K.M.</td>
<td>3</td>
</tr>
<tr>
<td>TRAUSCH, A.</td>
<td>4</td>
</tr>
<tr>
<td>WATTS, J.W.</td>
<td>2</td>
</tr>
<tr>
<td>WIELAND, P.O.</td>
<td>3</td>
</tr>
<tr>
<td>WINGLEE, R.M.</td>
<td>2</td>
</tr>
</tbody>
</table>

## TECHNICAL PUBLICATIONS

<table>
<thead>
<tr>
<th>Author</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>HARADA, N.</td>
<td>5</td>
</tr>
<tr>
<td>HATHAWAY, DAVID H.</td>
<td>5</td>
</tr>
<tr>
<td>LITCHFORD, R.J.</td>
<td>5</td>
</tr>
<tr>
<td>WILSON, ROBERT M.</td>
<td>5</td>
</tr>
</tbody>
</table>

## CONFERENCE PUBLICATIONS

<table>
<thead>
<tr>
<th>Author</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHRISTENSEN, C.B.</td>
<td>6</td>
</tr>
<tr>
<td>CRAIG, D.A.</td>
<td>6</td>
</tr>
<tr>
<td>GARCIA, R.</td>
<td>6</td>
</tr>
<tr>
<td>GRESHAM, E.C.</td>
<td>6</td>
</tr>
<tr>
<td>HOFFMAN, J.</td>
<td>6</td>
</tr>
<tr>
<td>MANKINS, J.C.</td>
<td>6</td>
</tr>
<tr>
<td>MULLINS, C.A.</td>
<td>6</td>
</tr>
<tr>
<td>O'NEIL, D.A.</td>
<td>6</td>
</tr>
<tr>
<td>PATEL, R.</td>
<td>6</td>
</tr>
<tr>
<td>SIMMONS, A.</td>
<td>6</td>
</tr>
<tr>
<td>SMITHERMAN, D.V.</td>
<td>6</td>
</tr>
</tbody>
</table>

## CONTRACTOR REPORTS

<table>
<thead>
<tr>
<th>Author</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>BANKS-SILLS, L</td>
<td>7</td>
</tr>
<tr>
<td>CARTER, B.J.</td>
<td>7</td>
</tr>
<tr>
<td>DAY, J.B.</td>
<td>7</td>
</tr>
<tr>
<td>FREEMAN, L.M.</td>
<td>7</td>
</tr>
<tr>
<td>HASSAN, R.</td>
<td>7</td>
</tr>
<tr>
<td>KARR, G.</td>
<td>7</td>
</tr>
<tr>
<td>PRUITT, J.R.</td>
<td>7</td>
</tr>
<tr>
<td>RAIS-ROHANI, M.</td>
<td>7</td>
</tr>
<tr>
<td>WAWRZYNEK, P.A.</td>
<td>7</td>
</tr>
</tbody>
</table>
ABBAS, M.M. ................................................................. 8
ABOU-KHOUSA, M.A. .................................................. 32
ABUSHAGUR, A.G. .......................................................... 56
ABUSHAGUR, M.A.G. ...................................................... 21
ABYZOV, S.S. ................................................................. 8
ACHAN, A. .................................................................... 45
ACHARI, A. ..................................................................... 45
ACTON, L.W. ................................................................... 16
ADAMS, C. ..................................................................... 27
ADAMS, C.I. .................................................................... 9
ADAMS, J.H. .............................................................. 8, 10, 14, 37, 56
ADAMS, M.L. .................................................................. 8
ADAMS, R.B. .............................................................. 8, 53
ADRIAN, M.L. ................................................................ 23
AGGARWAL, M.D. .......................................................... 26
AHN, H.S. .................................................................. 8, 10, 14, 56
AIKEN, D. ...................................................................... 42
ALDCROFT, T.L. ............................................................. 42
ALEMU, A. ..................................................................... 30
ALEXANDER, D. ............................................................ 17
ALEXANDER, L.A. ......................................................... 9, 31, 57
ALLISON, S.W. ............................................................ 10
ALSTATT, R.L. ............................................................. 39
AMAND, A. .................................................................... 9
ANDERSON, B.J. .......................................................... 55
ANDERSON, S.K. .......................................................... 42
ANDRE, M. .................................................................... 17
ANILKUMAR, A.V. .......................................................... 16, 26
ARCHER, F. ................................................................... 35
ARRANZ, A.C. .............................................................. 9
ASHLEY, P.R. ............................................................... 21, 56
ASTAFIEVA, M.M. .......................................................... 9
AVANOV, L.A. ............................................................. 14, 15, 34
AVILA, R. ...................................................................... 42
BAGDIGIAN, R.M. .......................................................... 9
BAGGETT, R.M. ............................................................ 31
BAILEY, D.A. ............................................................... 48
BAILEY, J. ..................................................................... 12
BAILEY, M.D. ............................................................... 9
BAIZE, D. ..................................................................... 9
BALASUBRAMANYAM, M.S. ........................................ 54
BALCAZAR, D. ............................................................. 37
BALDRIDGE, T. ............................................................ 9
BALLANCE, J.L. ............................................................ 9
BALLARD, R.O. ............................................................ 9
BAN, H. ...................................................................... 36
BARAN, M. ................................................................... 9
BARGHOUTY, A.F. ........................................................ 8, 36
BARGHOUTY, N. ........................................................... 8
BARONE, M. .................................................................. 28
BARTHELMY, S.D. .......................................................... 9, 10, 42
BASHINDZHAGYAN, G.L. ........................................... 8, 10, 14, 56
BASSANI, L. .................................................................. 54
BASSLER, J.A. ............................................................. 10, 15
BATEMAN, M.G. ........................................................... 12, 34
BATKOV, K.E. .............................................................. 8, 10, 14, 56
Batra, A.K. ................................................................. 26
BAZZANO, A. ............................................................... 54
BECKMANN, V. ............................................................. 9
BEMPORAD, A. ............................................................ 10, 52
BENFIELD, M.PJ. .......................................................... 9
BENGTSON, R. ................................................................ 15
BERGERON, N.P. ............................................................ 10
BESHEARS, R. .............................................................. 49
BEST, J. ..................................................................... 10, 48
BEST, P.J. ..................................................................... 11
BHARDWAJ, A. ............................................................ 11, 12, 16, 19
BHAT, B.N. ................................................................. 12
BHATTACHARYA, M. ...................................................... 8
BIESECKER, D. ............................................................. 52
BILDISH, R. ................................................................. 31
BISHOP, A. ................................................................. 46
BISHOP-BEHOL, K. ........................................................ 9
BISSELL, B.A. .............................................................. 42
BLACKWELL, W.C. ........................................................ 42
<table>
<thead>
<tr>
<th>Name</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blakeslee, R.J.</td>
<td>12, 24, 25</td>
</tr>
<tr>
<td>Blanché, J.</td>
<td>55</td>
</tr>
<tr>
<td>Blay, P.</td>
<td>9</td>
</tr>
<tr>
<td>Blevins, J.A.</td>
<td>12, 18, 39</td>
</tr>
<tr>
<td>Boccippio, D.J.</td>
<td>14, 24, 25, 57</td>
</tr>
<tr>
<td>Bodiford, M.P.</td>
<td>10, 12, 34</td>
</tr>
<tr>
<td>Boggs, S.E.</td>
<td>32</td>
</tr>
<tr>
<td>Bohlen, J.W.</td>
<td>17</td>
</tr>
<tr>
<td>Bonamente, M.</td>
<td>12, 13</td>
</tr>
<tr>
<td>Bonner, W.A.</td>
<td>43</td>
</tr>
<tr>
<td>Bonometti, J.A.</td>
<td>13, 31</td>
</tr>
<tr>
<td>Book, M.L.</td>
<td>29</td>
</tr>
<tr>
<td>Bosch, D.</td>
<td>31</td>
</tr>
<tr>
<td>Bosilovich, M.G.</td>
<td>47</td>
</tr>
<tr>
<td>Bradshaw, R.</td>
<td>35</td>
</tr>
<tr>
<td>Bradshaw, R.C.</td>
<td>13, 30, 35</td>
</tr>
<tr>
<td>Bragg-Sitton, S.M.</td>
<td>13, 29</td>
</tr>
<tr>
<td>Branduardi-Raymont, G.</td>
<td>11, 12, 19</td>
</tr>
<tr>
<td>Breizman, B.</td>
<td>15</td>
</tr>
<tr>
<td>Briscoe, J.M.</td>
<td>27, 29</td>
</tr>
<tr>
<td>Brow, R.K.</td>
<td>46, 58</td>
</tr>
<tr>
<td>Brown, A.</td>
<td>39</td>
</tr>
<tr>
<td>Brown, G.N.</td>
<td>12</td>
</tr>
<tr>
<td>Brown, K.K.</td>
<td>9, 13</td>
</tr>
<tr>
<td>Bryan, T.C.</td>
<td>29</td>
</tr>
<tr>
<td>Bryant, M.</td>
<td>43</td>
</tr>
<tr>
<td>Buechler, D.</td>
<td>17</td>
</tr>
<tr>
<td>Burks, J.</td>
<td>17, 24</td>
</tr>
<tr>
<td>Burks, K.H.</td>
<td>12, 34</td>
</tr>
<tr>
<td>Burleson, K.W.</td>
<td>49</td>
</tr>
<tr>
<td>Burns, L.</td>
<td>13</td>
</tr>
<tr>
<td>Burrows, D.</td>
<td>9</td>
</tr>
<tr>
<td>Burrows, D.N.</td>
<td>10, 42</td>
</tr>
<tr>
<td>Byers, D.</td>
<td>57</td>
</tr>
<tr>
<td>Calise, A.J.</td>
<td>58</td>
</tr>
<tr>
<td>Cameron, R.A.</td>
<td>42</td>
</tr>
<tr>
<td>Campbell, M.</td>
<td>34</td>
</tr>
<tr>
<td>Canabal, F.</td>
<td>22</td>
</tr>
<tr>
<td>Canfield, S.L.</td>
<td>30, 50</td>
</tr>
<tr>
<td>Cannizzo, J.K.</td>
<td>10</td>
</tr>
<tr>
<td>Carlstrom, J.</td>
<td>12</td>
</tr>
<tr>
<td>Caroli, E.</td>
<td>54</td>
</tr>
<tr>
<td>Carpenter, J.</td>
<td>19, 20</td>
</tr>
<tr>
<td>Carpenter, P.K.</td>
<td>13, 51</td>
</tr>
<tr>
<td>Carrasquillo, R.L.</td>
<td>13, 14, 40</td>
</tr>
<tr>
<td>Carrington, C.K.</td>
<td>14, 29, 42</td>
</tr>
<tr>
<td>Carter, D.L.</td>
<td>14</td>
</tr>
<tr>
<td>Carveo, P.</td>
<td>54</td>
</tr>
<tr>
<td>Case, J.T.</td>
<td>14, 32, 33</td>
</tr>
<tr>
<td>Casiano, M.J.</td>
<td>58</td>
</tr>
<tr>
<td>Cassibry, J.</td>
<td>53</td>
</tr>
<tr>
<td>Cassibry, J.T.</td>
<td>8</td>
</tr>
<tr>
<td>Cecil, J.G.</td>
<td>17</td>
</tr>
<tr>
<td>Ceron, J.</td>
<td>53</td>
</tr>
<tr>
<td>Chandler, F.</td>
<td>14, 41</td>
</tr>
<tr>
<td>Chandler, M.O.</td>
<td>14, 15, 16</td>
</tr>
<tr>
<td>Chang, H.</td>
<td>14, 51</td>
</tr>
<tr>
<td>Chang, J.</td>
<td>8, 10, 14, 56</td>
</tr>
<tr>
<td>Chang, S-W.</td>
<td>11</td>
</tr>
<tr>
<td>Chang-Diaz, F.</td>
<td>15</td>
</tr>
<tr>
<td>Chappell, J.H.</td>
<td>42</td>
</tr>
<tr>
<td>Chavers, D.G.</td>
<td>15</td>
</tr>
<tr>
<td>Chen, C.P.</td>
<td>37, 54</td>
</tr>
<tr>
<td>Chen, K.C.</td>
<td>42</td>
</tr>
<tr>
<td>Chen, P.S.</td>
<td>15</td>
</tr>
<tr>
<td>Cheng, G.C.</td>
<td>15</td>
</tr>
<tr>
<td>Chenoweth, J.D.</td>
<td>36</td>
</tr>
<tr>
<td>Chew, G.</td>
<td>15</td>
</tr>
<tr>
<td>Chincarini, G.</td>
<td>9</td>
</tr>
<tr>
<td>Chioux, R.</td>
<td>15, 53</td>
</tr>
<tr>
<td>Chou, H.</td>
<td>30, 35</td>
</tr>
<tr>
<td>Chou, S-H.</td>
<td>15</td>
</tr>
<tr>
<td>Choudhary, D.P.</td>
<td>15, 28, 57</td>
</tr>
<tr>
<td>Christiansen, C.B.</td>
<td>18</td>
</tr>
<tr>
<td>Christiansen, D.L.</td>
<td>20</td>
</tr>
<tr>
<td>Christian, H.J.</td>
<td>15, 24, 25, 34, 44</td>
</tr>
<tr>
<td>Christl, M.</td>
<td>8, 10, 14, 39, 56</td>
</tr>
<tr>
<td>Chung, Y.T.</td>
<td>15</td>
</tr>
<tr>
<td>Ciszak, E.</td>
<td>46</td>
</tr>
<tr>
<td>Author Name</td>
<td>Pages</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>GAENSLER, B.M.</td>
<td>21, 22, 23, 25, 53</td>
</tr>
<tr>
<td>GAGE, K.R.</td>
<td>42</td>
</tr>
<tr>
<td>GAIL, W.F.</td>
<td>55</td>
</tr>
<tr>
<td>GALLAGHER, D.L.</td>
<td>17, 23, 26, 33, 34</td>
</tr>
<tr>
<td>GALOFARO, J.T.</td>
<td>21</td>
</tr>
<tr>
<td>GAMAYUNOV, K.V.</td>
<td>23, 33, 34</td>
</tr>
<tr>
<td>GANEL, O.</td>
<td>8, 10, 14, 56</td>
</tr>
<tr>
<td>GANGOPADHYAY, A.K.</td>
<td>23, 35</td>
</tr>
<tr>
<td>GARBER, A.</td>
<td>24</td>
</tr>
<tr>
<td>GARCIA, D.</td>
<td>24</td>
</tr>
<tr>
<td>GARDNER, B.M.</td>
<td>37, 43, 44</td>
</tr>
<tr>
<td>GARRETT, M.</td>
<td>21</td>
</tr>
<tr>
<td>GARRINGTON, S.T.</td>
<td>21</td>
</tr>
<tr>
<td>GARY, G.A.</td>
<td>17, 23, 35, 40, 56</td>
</tr>
<tr>
<td>GASIEWSKI, A.J.</td>
<td>31</td>
</tr>
<tr>
<td>GATLIN, P.</td>
<td>17, 23</td>
</tr>
<tr>
<td>GATTIS, G.B.</td>
<td>23</td>
</tr>
<tr>
<td>GAUTHIER, M.</td>
<td>44</td>
</tr>
<tr>
<td>GAVRIL, F.</td>
<td>23</td>
</tr>
<tr>
<td>GAVRILL, F.P.</td>
<td>57</td>
</tr>
<tr>
<td>GEHRELS, N.</td>
<td>9, 10</td>
</tr>
<tr>
<td>GELFAND, J.D.</td>
<td>22, 23, 25, 53</td>
</tr>
<tr>
<td>GERASIMENKO, L.M.</td>
<td>8</td>
</tr>
<tr>
<td>GHOSH, K.K.</td>
<td>23, 24</td>
</tr>
<tr>
<td>GIBBS III, R.E.</td>
<td>17</td>
</tr>
<tr>
<td>GIBSON, H.G.</td>
<td>31</td>
</tr>
<tr>
<td>GIEHL, J.M.</td>
<td>47</td>
</tr>
<tr>
<td>GILL, P.S.</td>
<td>24</td>
</tr>
<tr>
<td>GILLEY, S.D.</td>
<td>10, 12</td>
</tr>
<tr>
<td>GILLIES, D.C.</td>
<td>13, 26</td>
</tr>
<tr>
<td>GIORDANO, R.J.</td>
<td>42</td>
</tr>
<tr>
<td>GITTEMEIR, K.A.</td>
<td>24</td>
</tr>
<tr>
<td>GLADSTONE, G.R.</td>
<td>11, 12, 16, 19</td>
</tr>
<tr>
<td>GLOECKLER, G.</td>
<td>52</td>
</tr>
<tr>
<td>GLUCH, R.</td>
<td>24</td>
</tr>
<tr>
<td>GODFROY, T.J.</td>
<td>24</td>
</tr>
<tr>
<td>GOEDEKE, S.M.</td>
<td>10</td>
</tr>
<tr>
<td>GOGUS, E.</td>
<td>24</td>
</tr>
<tr>
<td>GOLDBLATT, L.</td>
<td>40</td>
</tr>
<tr>
<td>GOLDMAN, A.I.</td>
<td>23, 35</td>
</tr>
<tr>
<td>GOLDSTEIN, B.</td>
<td>52</td>
</tr>
<tr>
<td>GONDA, J.</td>
<td>9</td>
</tr>
<tr>
<td>GONZALEZ, J.</td>
<td>27</td>
</tr>
<tr>
<td>GONZALEZ, J.E.</td>
<td>16, 44</td>
</tr>
<tr>
<td>GOODMAN, S.J.</td>
<td>14, 17, 23, 24, 25, 47, 57</td>
</tr>
<tr>
<td>GOODMAN, W.A.</td>
<td>31</td>
</tr>
<tr>
<td>GOROSABEL, J.</td>
<td>28, 35, 53</td>
</tr>
<tr>
<td>GORTI, S.</td>
<td>25</td>
</tr>
<tr>
<td>GOSTOWSKI, R.</td>
<td>18</td>
</tr>
<tr>
<td>GRADL, P.R.</td>
<td>25, 37, 43</td>
</tr>
<tr>
<td>GRAMER, D.J.</td>
<td>16</td>
</tr>
<tr>
<td>GRANOT, J.</td>
<td>22, 23, 25, 28, 42, 53</td>
</tr>
<tr>
<td>GRANT, C.E.</td>
<td>42</td>
</tr>
<tr>
<td>GRANT, J.</td>
<td>25</td>
</tr>
<tr>
<td>GRAVES, S.</td>
<td>30</td>
</tr>
<tr>
<td>GRAYSON, G.</td>
<td>14</td>
</tr>
<tr>
<td>GREEN, J.L.</td>
<td>23</td>
</tr>
<tr>
<td>GREENWOOD, T.</td>
<td>25</td>
</tr>
<tr>
<td>GREGORY, D.A.</td>
<td>14, 25</td>
</tr>
<tr>
<td>GREINER, J.</td>
<td>57</td>
</tr>
<tr>
<td>GRIFFEY, A.M.</td>
<td>25</td>
</tr>
<tr>
<td>GRIFFEY, K.</td>
<td>25</td>
</tr>
<tr>
<td>GRIFFIN, B.</td>
<td>54</td>
</tr>
<tr>
<td>GRIGOREVSKY, A.</td>
<td>26</td>
</tr>
<tr>
<td>GRINDLAY, J.</td>
<td>57</td>
</tr>
<tr>
<td>GRUGEL, R.N.</td>
<td>10, 16, 25, 26</td>
</tr>
<tr>
<td>GRUPE, D.</td>
<td>42</td>
</tr>
<tr>
<td>GUBAREV, M.</td>
<td>26</td>
</tr>
<tr>
<td>GUBERT, B.</td>
<td>22</td>
</tr>
<tr>
<td>GUBERT, M.K.</td>
<td>54</td>
</tr>
<tr>
<td>GUDIMENKO, Y.</td>
<td>26</td>
</tr>
<tr>
<td>GUENTHNER, A.J.</td>
<td>56</td>
</tr>
<tr>
<td>GUGGILLA, P.</td>
<td>26</td>
</tr>
<tr>
<td>GULYAeva, T.</td>
<td>26</td>
</tr>
<tr>
<td>GUNASINGHA, R.M.</td>
<td>8, 56</td>
</tr>
<tr>
<td>GWALTNEY, D.A.</td>
<td>26, 27</td>
</tr>
<tr>
<td>HAAKE, F.K.</td>
<td>38</td>
</tr>
<tr>
<td>HADAWAY, J.</td>
<td>19</td>
</tr>
<tr>
<td>HADID, A.</td>
<td>37</td>
</tr>
<tr>
<td>HAIGHT, H.J.</td>
<td>19, 20, 31</td>
</tr>
<tr>
<td>Name</td>
<td>Page(s)</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Hepburn, F.L.</td>
<td>18</td>
</tr>
<tr>
<td>Hawking, T.</td>
<td>17</td>
</tr>
<tr>
<td>Hawke, C.W.</td>
<td>18</td>
</tr>
<tr>
<td>Hawn, G.</td>
<td>18</td>
</tr>
<tr>
<td>Hamilton, J.T.</td>
<td>17</td>
</tr>
<tr>
<td>Hammond, M.</td>
<td>18</td>
</tr>
<tr>
<td>Hanlon, A.B.</td>
<td>18</td>
</tr>
<tr>
<td>Hardee, P.</td>
<td>18</td>
</tr>
<tr>
<td>Hardin, D.</td>
<td>18</td>
</tr>
<tr>
<td>Harmse, E.</td>
<td>18</td>
</tr>
<tr>
<td>Haff, D.</td>
<td>18</td>
</tr>
<tr>
<td>Hafley, J.J.</td>
<td>18</td>
</tr>
<tr>
<td>Haffner, E.</td>
<td>18</td>
</tr>
<tr>
<td>Halle, C.B.</td>
<td>18</td>
</tr>
<tr>
<td>Hally, J.R.</td>
<td>18</td>
</tr>
<tr>
<td>Henderon, E.M.</td>
<td>18</td>
</tr>
<tr>
<td>Hepburn, F.L.</td>
<td>14, 32, 33, 50, 58</td>
</tr>
<tr>
<td>Herald, S.D.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hermiller, J.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Herren, K.A.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Herrmann, M.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hickman, R.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hillard, G.B.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hinderer, S.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hissam, A.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hissam, D.A.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hjorth, J.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Ho, F.D.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hoffman, J.H.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hofmeister, W.H.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hogue, W.D.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Holland, W.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Holder, D.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hollerman, W.A.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hollinger, G.A.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Holmes, R.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hols, J.M.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hoon, J-S.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hoover, R.B.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hove, R.C.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Houppe, D.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Horton, C.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Horwitz, J.L.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Houston, V.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Houts, M.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Houts, M.G.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Howard, R.T.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Howard, R.W.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Howell, J.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Howell, J.T.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hua, F.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hubbs, W.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Huebner, L.D.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hulcher, A.B.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hulka, J.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hull, M.S.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hull, P.V.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hyers, R.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Hyers, R.W.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Ibrahim, A.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Ignatiev, A.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Ila, D.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Ing, S.H.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Irwin, D.E.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Irwin, R.W.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Iskanderova, Z.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Itoh, T.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Jaap, J.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Jackson, D.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Jackson, T.J.</td>
<td>17, 20, 28</td>
</tr>
<tr>
<td>Jacoby, M.T.</td>
<td>17, 20, 28</td>
</tr>
</tbody>
</table>

65
<table>
<thead>
<tr>
<th>Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCKRELL, T.</td>
<td>48</td>
</tr>
<tr>
<td>MCLEROY, R.</td>
<td>28</td>
</tr>
<tr>
<td>MCMILLAN, V.</td>
<td>41</td>
</tr>
<tr>
<td>MCNAMARA, H.A.</td>
<td>16, 38, 52</td>
</tr>
<tr>
<td>MCNEAL, C.</td>
<td>38</td>
</tr>
<tr>
<td>MCRIGHT, P.S.</td>
<td>39</td>
</tr>
<tr>
<td>MEACHAM, S.B.</td>
<td>48</td>
</tr>
<tr>
<td>MEDLEY, S.</td>
<td>39</td>
</tr>
<tr>
<td>MEEHAN, J.</td>
<td>21</td>
</tr>
<tr>
<td>MELINDER, J.</td>
<td>28</td>
</tr>
<tr>
<td>MEREGHETTI, S.</td>
<td>54</td>
</tr>
<tr>
<td>METZGER, A.E.</td>
<td>11</td>
</tr>
<tr>
<td>MEYER, P.</td>
<td>31</td>
</tr>
<tr>
<td>MEYERS, C.</td>
<td>53</td>
</tr>
<tr>
<td>MIERNIK, J.H.</td>
<td>39</td>
</tr>
<tr>
<td>MILLER, H.C.</td>
<td>54</td>
</tr>
<tr>
<td>MILLER, J.</td>
<td>15</td>
</tr>
<tr>
<td>MILLER, L.</td>
<td>34</td>
</tr>
<tr>
<td>MILLER, T.L.</td>
<td>45</td>
</tr>
<tr>
<td>MILLER-JONES, J.C.A.</td>
<td>21</td>
</tr>
<tr>
<td>MILOS, F.S.</td>
<td>54</td>
</tr>
<tr>
<td>MILTON, M.E.</td>
<td>39</td>
</tr>
<tr>
<td>MINGO, C.</td>
<td>26</td>
</tr>
<tr>
<td>MINOR, J.L.</td>
<td>39</td>
</tr>
<tr>
<td>MINOW, J.I.</td>
<td>39, 43, 44</td>
</tr>
<tr>
<td>MIRELES, O.</td>
<td>28, 29</td>
</tr>
<tr>
<td>MITCHELL, M.L.</td>
<td>15</td>
</tr>
<tr>
<td>MITCHELL, R.</td>
<td>48</td>
</tr>
<tr>
<td>MITSKEVICH, I.N.</td>
<td>8</td>
</tr>
<tr>
<td>MITTAZ, P.D.</td>
<td>13</td>
</tr>
<tr>
<td>MIZUNO, Y.</td>
<td>39, 42</td>
</tr>
<tr>
<td>MOBASHER, B.</td>
<td>35</td>
</tr>
<tr>
<td>MOLLER, P.</td>
<td>53</td>
</tr>
<tr>
<td>MONTGOMERY, IV, E.E.</td>
<td>39</td>
</tr>
<tr>
<td>MONTGOMERY, S.</td>
<td>32</td>
</tr>
<tr>
<td>MONTGOMERY, S.E.</td>
<td>31</td>
</tr>
<tr>
<td>MOON, S.A.</td>
<td>31, 47</td>
</tr>
<tr>
<td>MOONEY, J.T.</td>
<td>39, 40</td>
</tr>
<tr>
<td>MOORE, L.E.</td>
<td>31</td>
</tr>
<tr>
<td>MOORE, R.E.</td>
<td>40</td>
</tr>
<tr>
<td>MOORE, R.J.</td>
<td>10</td>
</tr>
<tr>
<td>MOORE, R.L.</td>
<td>17, 40, 49, 52</td>
</tr>
<tr>
<td>MOORE, T.</td>
<td>16</td>
</tr>
<tr>
<td>MORETTI, A.</td>
<td>9</td>
</tr>
<tr>
<td>MORRIS, C.I.</td>
<td>40</td>
</tr>
<tr>
<td>MORRIS, P.A.</td>
<td>42</td>
</tr>
<tr>
<td>MORRISON, R.H.</td>
<td>40</td>
</tr>
<tr>
<td>MORTON, T.J.</td>
<td>13</td>
</tr>
<tr>
<td>MOSER, D.</td>
<td>16</td>
</tr>
<tr>
<td>MOTAKEF, S.</td>
<td>43</td>
</tr>
<tr>
<td>MOUSHON, B.</td>
<td>40</td>
</tr>
<tr>
<td>MULDER, A.D.</td>
<td>40</td>
</tr>
<tr>
<td>MULLINS, J.B.</td>
<td>18</td>
</tr>
<tr>
<td>MULYUKIN, A.L.</td>
<td>8</td>
</tr>
<tr>
<td>MUNK, M.</td>
<td>31</td>
</tr>
<tr>
<td>MUNK, M.M.</td>
<td>47, 55</td>
</tr>
<tr>
<td>MUNTELE, C.I.</td>
<td>51</td>
</tr>
<tr>
<td>MURDOCH, K.</td>
<td>28, 34, 40</td>
</tr>
<tr>
<td>MURPHY, L.</td>
<td>26</td>
</tr>
<tr>
<td>MUSHTAK, V.</td>
<td>57</td>
</tr>
<tr>
<td>MUXLOW, T.W.B.</td>
<td>21</td>
</tr>
<tr>
<td>MYRABO, L.N.</td>
<td>18, 45</td>
</tr>
<tr>
<td>NAIR, U.</td>
<td>31</td>
</tr>
<tr>
<td>NALETTE, T.</td>
<td>40</td>
</tr>
<tr>
<td>NALL, M.</td>
<td>41</td>
</tr>
<tr>
<td>NARINS, M.</td>
<td>9</td>
</tr>
<tr>
<td>NATALUCCI, L.</td>
<td>54</td>
</tr>
<tr>
<td>NAVASCUES, D.</td>
<td>53</td>
</tr>
<tr>
<td>NELSON, K.W.</td>
<td>13</td>
</tr>
<tr>
<td>NELSON, S.L.</td>
<td>22, 28</td>
</tr>
<tr>
<td>NERNEY, S.</td>
<td>41, 52</td>
</tr>
<tr>
<td>NESBITT, S.W.</td>
<td>14</td>
</tr>
<tr>
<td>NESMAN, T.</td>
<td>22, 32</td>
</tr>
<tr>
<td>NEUMANN, B.</td>
<td>41</td>
</tr>
<tr>
<td>NEVALAINEN, J.</td>
<td>13</td>
</tr>
<tr>
<td>NEWMAN, T.S.</td>
<td>35</td>
</tr>
<tr>
<td>NEWTON, R.</td>
<td>39</td>
</tr>
<tr>
<td>NEWTON-MCGEE, K.J.</td>
<td>23</td>
</tr>
<tr>
<td>NG, R.</td>
<td>26</td>
</tr>
<tr>
<td>NGUYEN, H.</td>
<td>41</td>
</tr>
<tr>
<td>Name</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------</td>
</tr>
<tr>
<td>NGUYEN, S.C.</td>
<td>49</td>
</tr>
<tr>
<td>NIELSEN, D.</td>
<td>41</td>
</tr>
<tr>
<td>NISHIKAWA, K.I.</td>
<td>41, 42</td>
</tr>
<tr>
<td>NISKAR, A.S.</td>
<td>46</td>
</tr>
<tr>
<td>NJOKU, E.G.</td>
<td>31</td>
</tr>
<tr>
<td>NOBLE, M.</td>
<td>56, 57</td>
</tr>
<tr>
<td>NORDIN, G.P.</td>
<td>21</td>
</tr>
<tr>
<td>NOUSEK, J.A.</td>
<td>42</td>
</tr>
<tr>
<td>NUNES, A.R.</td>
<td>42</td>
</tr>
<tr>
<td>NUNES, JR., A.C.</td>
<td>49</td>
</tr>
<tr>
<td>NUNEZ, S.M.</td>
<td>9</td>
</tr>
<tr>
<td>NUTH, J.A.</td>
<td>8</td>
</tr>
<tr>
<td>O'BRIEN, P.</td>
<td>10</td>
</tr>
<tr>
<td>O'DELL, S.</td>
<td>50</td>
</tr>
<tr>
<td>O'DELL, S.L.</td>
<td>42</td>
</tr>
<tr>
<td>O'NEIL, D.A.</td>
<td>18, 42</td>
</tr>
<tr>
<td>O'NEILL, M.J.</td>
<td>29, 42</td>
</tr>
<tr>
<td>OBERRIGHT, J.E.</td>
<td>17</td>
</tr>
<tr>
<td>OELGOETZ, P.</td>
<td>43</td>
</tr>
<tr>
<td>OGLE, J.A.</td>
<td>26</td>
</tr>
<tr>
<td>OHLHORST, C.W.</td>
<td>54</td>
</tr>
<tr>
<td>OLIVER, S.T.</td>
<td>43</td>
</tr>
<tr>
<td>OLSSEN, R.A.</td>
<td>48</td>
</tr>
<tr>
<td>OSBORNE, R.J.</td>
<td>12</td>
</tr>
<tr>
<td>OSTGAARD, N.</td>
<td>11</td>
</tr>
<tr>
<td>OSTROGORSKY, A.</td>
<td>43</td>
</tr>
<tr>
<td>OVERBEY, B.G.</td>
<td>43</td>
</tr>
<tr>
<td>OWENS, C.</td>
<td>49</td>
</tr>
<tr>
<td>OWENS, J.E.</td>
<td>21, 39</td>
</tr>
<tr>
<td>PAGE, K.</td>
<td>42</td>
</tr>
<tr>
<td>PAL, S.</td>
<td>54</td>
</tr>
<tr>
<td>PALAZZI, E.</td>
<td>55</td>
</tr>
<tr>
<td>PALEY, M.S.</td>
<td>22</td>
</tr>
<tr>
<td>PALM, T.</td>
<td>17</td>
</tr>
<tr>
<td>PALOSZ, W.</td>
<td>43</td>
</tr>
<tr>
<td>PANOV, A.D.</td>
<td>10</td>
</tr>
<tr>
<td>PAPAMASTORAKIS, G.</td>
<td>57</td>
</tr>
<tr>
<td>PARAGI, Z.</td>
<td>21</td>
</tr>
<tr>
<td>PARIS, D.</td>
<td>43</td>
</tr>
<tr>
<td>PARIS, D.E.</td>
<td>43</td>
</tr>
<tr>
<td>PARKER, L.N.</td>
<td>39, 43, 44</td>
</tr>
<tr>
<td>PARKS, R.</td>
<td>41</td>
</tr>
<tr>
<td>PARRIS, F.</td>
<td>26</td>
</tr>
<tr>
<td>PATEL, H.</td>
<td>35</td>
</tr>
<tr>
<td>PATEL, S.K.</td>
<td>24, 42</td>
</tr>
<tr>
<td>PATRICK, M.P.</td>
<td>44</td>
</tr>
<tr>
<td>PATTON, B.W.</td>
<td>49</td>
</tr>
<tr>
<td>PEARSON, J.B.</td>
<td>44</td>
</tr>
<tr>
<td>PECK, J.</td>
<td>37</td>
</tr>
<tr>
<td>PELACCIO, D.G.</td>
<td>15</td>
</tr>
<tr>
<td>PENDLETON, G.</td>
<td>22</td>
</tr>
<tr>
<td>PENN, B.</td>
<td>26</td>
</tr>
<tr>
<td>PENNINGTON, C.D.</td>
<td>30</td>
</tr>
<tr>
<td>PEPYNE, D.</td>
<td>30</td>
</tr>
<tr>
<td>PEREZ, E.</td>
<td>53</td>
</tr>
<tr>
<td>PEREZ, J.D.</td>
<td>23</td>
</tr>
<tr>
<td>PERRELL, E.</td>
<td>53</td>
</tr>
<tr>
<td>PERRY, J.L.</td>
<td>40, 44, 46, 48</td>
</tr>
<tr>
<td>PERVAN, S.</td>
<td>15</td>
</tr>
<tr>
<td>PETERSEN, W.A.</td>
<td>24, 25, 44</td>
</tr>
<tr>
<td>PHILLIPS, S.</td>
<td>30, 31</td>
</tr>
<tr>
<td>PHILLIPS, T.A.</td>
<td>37, 44</td>
</tr>
<tr>
<td>PIAN, E.</td>
<td>55</td>
</tr>
<tr>
<td>PICON, A.J.</td>
<td>44</td>
</tr>
<tr>
<td>PIERCE, C.</td>
<td>39</td>
</tr>
<tr>
<td>PIERRARD, V.</td>
<td>17</td>
</tr>
<tr>
<td>PIKUTA, E.V.</td>
<td>44</td>
</tr>
<tr>
<td>PISZCZOR, M.</td>
<td>42</td>
</tr>
<tr>
<td>PITTMAN, J.V.</td>
<td>45</td>
</tr>
<tr>
<td>PLUCINSKY, P.P.</td>
<td>42</td>
</tr>
<tr>
<td>POGOZLOVA, M.N.</td>
<td>8</td>
</tr>
<tr>
<td>POLETTO, G.</td>
<td>10, 52</td>
</tr>
<tr>
<td>POLZIN, K.A.</td>
<td>37, 45</td>
</tr>
<tr>
<td>PONTUSCHKA, W.M.</td>
<td>47</td>
</tr>
<tr>
<td>POOLE, E.</td>
<td>45</td>
</tr>
<tr>
<td>POPE, R.D.</td>
<td>12</td>
</tr>
<tr>
<td>POPP, C.</td>
<td>39, 48</td>
</tr>
<tr>
<td>PORTER, J.G.</td>
<td>56</td>
</tr>
<tr>
<td>POSTIGO, A.</td>
<td>53</td>
</tr>
<tr>
<td>POWERS, W.T.</td>
<td>44</td>
</tr>
<tr>
<td>Name</td>
<td>Page Numbers</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>SANSOUCIE, M.P.</td>
<td>30, 49</td>
</tr>
<tr>
<td>SANTORO, R.</td>
<td>54</td>
</tr>
<tr>
<td>SARIPALLI, L.</td>
<td>24</td>
</tr>
<tr>
<td>SATTERFIELD, D.</td>
<td>44</td>
</tr>
<tr>
<td>SATURNO, W.</td>
<td>50</td>
</tr>
<tr>
<td>SCHLAGHECK, R.A.</td>
<td>15, 49, 51</td>
</tr>
<tr>
<td>SCHMIDT, D.P.</td>
<td>13</td>
</tr>
<tr>
<td>SCHMIDT, G.R.</td>
<td>29</td>
</tr>
<tr>
<td>SCHMIDT, W.K.H.</td>
<td>14</td>
</tr>
<tr>
<td>SCHNEIDER, J.</td>
<td>49</td>
</tr>
<tr>
<td>SCHNEIDER, T.</td>
<td>21</td>
</tr>
<tr>
<td>Schofield, E.</td>
<td>50</td>
</tr>
<tr>
<td>Schramm, F.</td>
<td>49</td>
</tr>
<tr>
<td>SCHWARDRON, N.A.</td>
<td>10</td>
</tr>
<tr>
<td>SCHWEIZER, M.</td>
<td>55</td>
</tr>
<tr>
<td>SCOTT, J.P.</td>
<td>40, 49</td>
</tr>
<tr>
<td>SCRIPA, R.N.</td>
<td>36</td>
</tr>
<tr>
<td>SEERY, T.</td>
<td>40</td>
</tr>
<tr>
<td>SEGRE, PN.</td>
<td>26</td>
</tr>
<tr>
<td>SEGURA-GARCIA, G.</td>
<td>53</td>
</tr>
<tr>
<td>SEN, S.</td>
<td>46, 47, 50</td>
</tr>
<tr>
<td>SENE, F.F.</td>
<td>47</td>
</tr>
<tr>
<td>SERVER, T.</td>
<td>30</td>
</tr>
<tr>
<td>SEVER, T.L.</td>
<td>50</td>
</tr>
<tr>
<td>SHAH, S.</td>
<td>50, 55</td>
</tr>
<tr>
<td>SHAW, J.</td>
<td>52</td>
</tr>
<tr>
<td>SHAW, J.N.</td>
<td>53</td>
</tr>
<tr>
<td>SHEEHY, J.A.</td>
<td>39</td>
</tr>
<tr>
<td>SHELDON, R.B.</td>
<td>50</td>
</tr>
<tr>
<td>SHELTON, J.D.</td>
<td>50</td>
</tr>
<tr>
<td>SHEPARD, W.S.</td>
<td>23</td>
</tr>
<tr>
<td>SHERIF, D.E.</td>
<td>50</td>
</tr>
<tr>
<td>SHIBAKOV, A.</td>
<td>50</td>
</tr>
<tr>
<td>SHIPATA, K.</td>
<td>39</td>
</tr>
<tr>
<td>SHIVERS, H.</td>
<td>50</td>
</tr>
<tr>
<td>SHRESTHA, S.</td>
<td>50</td>
</tr>
<tr>
<td>SIAS, D.</td>
<td>10</td>
</tr>
<tr>
<td>SIBILLE, L.</td>
<td>22, 30, 49, 50, 51</td>
</tr>
<tr>
<td>Siders, J.</td>
<td>10</td>
</tr>
<tr>
<td>SIEVE, B.</td>
<td>35</td>
</tr>
<tr>
<td>SINGH, N.</td>
<td>15, 51</td>
</tr>
<tr>
<td>SISCO, J.D.</td>
<td>51</td>
</tr>
<tr>
<td>SKIPWORTH, W.</td>
<td>39</td>
</tr>
<tr>
<td>SMALLEY, K.</td>
<td>39</td>
</tr>
<tr>
<td>SMETTE, A.</td>
<td>55</td>
</tr>
<tr>
<td>SMIRNOV, A.</td>
<td>45</td>
</tr>
<tr>
<td>SMITH, A.</td>
<td>9</td>
</tr>
<tr>
<td>SMITH, C.C.</td>
<td>51</td>
</tr>
<tr>
<td>SMITH, D.D.</td>
<td>14, 51</td>
</tr>
<tr>
<td>SMITH, F.</td>
<td>40</td>
</tr>
<tr>
<td>SMITH, G.A.</td>
<td>26</td>
</tr>
<tr>
<td>SMITH, S.</td>
<td>38</td>
</tr>
<tr>
<td>SMITH, Z.</td>
<td>23</td>
</tr>
<tr>
<td>SMITHERMAN, D.V.</td>
<td>51</td>
</tr>
<tr>
<td>SNELL, E.H.</td>
<td>51</td>
</tr>
<tr>
<td>SOL, H.</td>
<td>41</td>
</tr>
<tr>
<td>SOLANO, E.</td>
<td>53</td>
</tr>
<tr>
<td>SOLLERMAN, J.</td>
<td>28</td>
</tr>
<tr>
<td>SONDAK, D.L.</td>
<td>18</td>
</tr>
<tr>
<td>SORENSEN, K.</td>
<td>33</td>
</tr>
<tr>
<td>SORENSEN, K.F.</td>
<td>13</td>
</tr>
<tr>
<td>Sorge, L.</td>
<td>10</td>
</tr>
<tr>
<td>SORIA, R.</td>
<td>11</td>
</tr>
<tr>
<td>SPANN, J.F.</td>
<td>8, 32, 33, 51</td>
</tr>
<tr>
<td>SPANYER, K.</td>
<td>54</td>
</tr>
<tr>
<td>SPEEGLE, C.</td>
<td>26</td>
</tr>
<tr>
<td>SPIVEY, R.</td>
<td>26</td>
</tr>
<tr>
<td>STAHL, H.P.</td>
<td>19, 20, 28, 39, 40, 51, 52</td>
</tr>
<tr>
<td>STALLWORTH, R.</td>
<td>20</td>
</tr>
<tr>
<td>STANKOV, B.</td>
<td>31</td>
</tr>
<tr>
<td>STANOJEV, B.J.</td>
<td>45</td>
</tr>
<tr>
<td>STARKS, P.</td>
<td>31</td>
</tr>
<tr>
<td>STARLING, R.</td>
<td>28</td>
</tr>
<tr>
<td>STELLINGWERF, R.F.</td>
<td>20</td>
</tr>
<tr>
<td>STEPHEN, J.B.</td>
<td>54</td>
</tr>
<tr>
<td>STEPHENS, W.</td>
<td>25</td>
</tr>
<tr>
<td>STERLING, A.C.</td>
<td>40, 52</td>
</tr>
<tr>
<td>STEWART, M.F.</td>
<td>34</td>
</tr>
<tr>
<td>STOLZFUS, J.M.</td>
<td>17</td>
</tr>
<tr>
<td>STORRIE-LOMBARDI, M.C.</td>
<td>52</td>
</tr>
</tbody>
</table>
WALKER, J.L. .................................................... 33, 53, 55
WALKER, J.S. .................................................... 55
WALKER, S.H. .................................................... 56
WALL, J. ............................................................. 35
WALL, J.J. .......................................................... 30
WALSH, D. .......................................................... 48
WALTERS, J. ....................................................... 44
WANG, Q. ............................................................ 55
WANG, T-S. ........................................................ 55, 56
WATSON, D. ........................................................ 28
WATSON, M.D. ................................................... 43, 56
WATTS, E. ........................................................... 24
WATTS, J. ............................................................ 56
WEEKS, D.J. ........................................................ 56
WEFEL, J.P. .......................................................... 56
WEINGARTNER, J.C. ........................................... 8
WEINSTOCK, E.M. ............................................... 45
WEISS, B. ............................................................ 40
WEISSKOPF, M.C. ............................................... 56, 57
WEST, E.A. ......................................................... 8, 17, 56, 57
WEST, J.S. .......................................................... 36
WHITAKER, A.F. .................................................. 57
WHITE, C. ........................................................... 15
WHITFIELD, S. ..................................................... 49
WHORTON, M.S. .................................................. 58
WICK, G. ............................................................ 47
WIELAND, P.O. ................................................... 48
WIJERS, A.M.J. .................................................... 55
WIJERS, R.A.M.J. ............................................... 22, 23, 25
WILCZYNSKI, J. ................................................... 32
WILET, J.T. .......................................................... 21
WILHITE, A.W. ................................................... 50
WILKERSON, D. ................................................... 47
WILLIAMS, E. ...................................................... 57
WILLIAMS, P.E. .................................................... 28
WILLIAMS, R.W. .................................................. 36
WILLIAMSEN, J.E. ............................................. 20, 57
WILSON, C.A. .................................................... 9, 24, 57
WILSON, M. ........................................................ 39
WILSON, R.M. ..................................................... 27

WISE, H. ............................................................. 40, 49
WOFFORD, S. ...................................................... 43
WOOD, H.J. ......................................................... 17
WOOD, K. ........................................................... 32
WOODCOCK, G.R. ............................................. 9, 57
WOODS, P.M. .................................................... 23, 24, 57
WRIGHT, E.R. ................................................... 19, 20, 31
WU, K. ................................................................. 24
YAMADA, S. ....................................................... 39
YANG, B-J. ......................................................... 58
YANG, J.B. .......................................................... 47
YOUNG, G. ........................................................... 29
YOUNG, R.M. ...................................................... 9
ZAVLIN, V.E. ...................................................... 58
ZAVODSKY, B. .................................................... 15
ZHANG, B. ........................................................... 10
ZHANG, T. ............................................................ 58
ZHAO, Y. ............................................................. 53
ZHENG, B. ........................................................... 51
ZIMMERMAN, F.R. .............................................. 49
ZIPSER, E.J. ........................................................ 14
ZOLADZ, T.F. ..................................................... 58
ZOUCHI, R. .......................................................... 14, 32, 33, 50, 58
This Technical Memorandum (TM) presents formal NASA technical reports, papers published in technical journals, and presentations by Marshall Space Flight Center (MSFC) personnel in FY 2005. It also includes papers of MSFC contractors.

After being announced in STAR, all NASA series reports may be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

The information in this TM may be of value to the scientific and engineering community in determining what information has been published and what is available.