NASA Langley Scientific and Technical Information Output—2002

Susan H. Stewart, Compiler
Langley Research Center, Hampton, Virginia

December 2003
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 Office is operated by Langley Research Center, the lead center for NASA's scientific and technical information. The NASA STI Program Office provides access to the NASA STI Database, the largest collection of aeronautical and space science STI in the world. The Program Office is also NASA’s institutional mechanism for disseminating the results of its research and development activities. These results are published 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 counterpart of peer-reviewed formal professional papers, but having 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 co-sponsored 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 that complement the STI Program Office’s diverse offerings include creating custom thesauri, building customized databases, organizing and publishing research results . . . even providing videos.

For more information about the NASA STI Program Office, see the following:


- Email your question via the Internet to help@sti.nasa.gov

- Fax your question to the NASA STI Help Desk at (301) 621-0134

- Telephone the NASA STI Help Desk at (301) 621-0390

- Write to:
  NASA STI Help Desk
  NASA Center for AeroSpace Information
  7121 Standard Drive
  Hanover, MD 21076-1320
Preface

This report contains a listing of the NASA Langley Research Center’s publicly available scientific and technical research output for C.Y. 2002.

The intent of this report is to provide a greater awareness of the broad scope of results and the importance of the research and development work conducted by scientists and engineers at Langley. This current awareness is mandated by the National Aeronautics and Space Act of 1958, which provides for the widest practical dissemination of NASA research.

Introduction

The NASA Langley Research Center is one of the Nation’s leading laboratories for research and development in the sciences of aeronautics and space technology. Langley conducts basic and applied research in the areas of aerospace systems, concepts, and analysis, aerodynamics, aero thermodynamics, and acoustics, structures and materials, airborne systems, atmospheric sciences, and systems engineering.

This document contains a bibliography of Langley’s publicly available scientific and technical research output for 2002 which is processed through the Center’s Office of the Chief Information Officer to become an integral part of NASA’s Agency-wide Scientific and Technical Information (STI) system. The results of Langley’s research are disseminated in a variety of NASA and non-NASA scientific and technical media and information systems. This document is intended to be a reference summary for researchers and a current awareness publication for the scientific, research, and academic community. Details of the availability of the research references in this document are found in the section, “Availability,” on page vi.

Many Langley reports are available electronically on the Langley Technical Reports Server (LTRS) at http://techreports.larc.nasa.gov/ltrs/. The relative Uniform Resource Locators are noted below citations for reports available electronically.

The citations are grouped by the NASA Aeronautics and Space Database subject categories and listed alphabetically by author or innovator. The Langley organization to which the senior author or innovator is assigned and the Program Number are noted below citations when appropriate and included in the indexes.

Patents listed are those which were issued in 2002 and owned by Langley Research Center.

Publication of some journal articles was not known at press time for the 2001 issue of this document. These articles are therefore listed in the 2002 issue.
## Availability

<table>
<thead>
<tr>
<th>Category</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASA Reports</td>
<td>NASA Center for AeroSpace Information (CASI)</td>
</tr>
<tr>
<td></td>
<td>7121 Standard Drive</td>
</tr>
<tr>
<td></td>
<td>Hanover, MD 21076-1320</td>
</tr>
<tr>
<td></td>
<td>(301) 621-0390</td>
</tr>
<tr>
<td></td>
<td>National Technical Information Service (NTIS)</td>
</tr>
<tr>
<td></td>
<td>5285 Port Royal Road</td>
</tr>
<tr>
<td></td>
<td>Springfield, VA 22161-2171</td>
</tr>
<tr>
<td></td>
<td>(703) 605-6000</td>
</tr>
<tr>
<td>Patents:</td>
<td></td>
</tr>
<tr>
<td>Patent Application Specifications</td>
<td>NASA Center for AeroSpace Information (CASI)</td>
</tr>
<tr>
<td></td>
<td>National Technical Information Service (NTIS)</td>
</tr>
<tr>
<td>Printed Copies</td>
<td>Commissioner of Patents and Trademarks</td>
</tr>
<tr>
<td></td>
<td>U.S. Patent and Trademark Office</td>
</tr>
<tr>
<td></td>
<td>Washington, DC 20231</td>
</tr>
</tbody>
</table>
## Contents

Preface ........................................ iii

Introduction ................................... v

Availability .................................... vi

### Aeronautics

- Category 01 Aeronautics (General) .................. 1
- Category 02 Aerodynamics .......................... 2
- Category 03 Air Transportation and Safety ........ 12
- Category 04 Aircraft Communications and Navigation 22
- Category 05 Aircraft Design, Testing and Performance 23
- Category 07 Aircraft Propulsion and Power .......... 31
- Category 08 Aircraft Stability and Control .......... 32
- Category 09 Research and Support Facilities (Air) 34

### Astronautics

- Category 12 Astronautics (General) ............. 34
- Category 13 Astrodynamics ....................... 35
- Category 15 Launch Vehicles and Launch Operations 35
- Category 16 Space Transportation and Safety .... 38
- Category 17 Space Communications, Spacecraft Communications, Command and Tracking 38
- Category 18 Spacecraft Design, Testing and Performance 38

### Chemistry and Materials

- Category 23 Chemistry and Materials (General) .. 40
- Category 24 Composite Materials .................. 41
- Category 26 Metals and Metallic Materials ........ 45
- Category 27 Nonmetallic Materials ................. 50
- Category 29 Space Processing ....................... 60

### Engineering

- Category 32 Communications and Radar .......... 60
- Category 33 Electronics and Electrical Engineering 61
- Category 34 Fluid Mechanics and Thermodynamics 63
- Category 35 Instrumentation and Photography .... 72
- Category 36 Lasers and Masers ..................... 76
- Category 37 Mechanical Engineering ............... 77
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td>Quality Assurance and Reliability</td>
<td>78</td>
</tr>
<tr>
<td>39</td>
<td>Structural Mechanics</td>
<td>78</td>
</tr>
<tr>
<td><strong>Geosciences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Geosciences (General)</td>
<td>86</td>
</tr>
<tr>
<td>43</td>
<td>Earth Resources and Remote Sensing</td>
<td>88</td>
</tr>
<tr>
<td>45</td>
<td>Environment Pollution</td>
<td>89</td>
</tr>
<tr>
<td>46</td>
<td>Geophysics</td>
<td>90</td>
</tr>
<tr>
<td>47</td>
<td>Meteorology and Climatology</td>
<td>93</td>
</tr>
<tr>
<td>48</td>
<td>Oceanography</td>
<td>112</td>
</tr>
<tr>
<td><strong>Life Sciences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Aerospace Medicine</td>
<td>112</td>
</tr>
<tr>
<td>54</td>
<td>Man/System Technology and Life Support</td>
<td>112</td>
</tr>
<tr>
<td><strong>Mathematical and Computer Sciences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Mathematical and Computer Sciences (General)</td>
<td>113</td>
</tr>
<tr>
<td>60</td>
<td>Computer Operations and Hardware</td>
<td>114</td>
</tr>
<tr>
<td>61</td>
<td>Computer Programming and Software</td>
<td>115</td>
</tr>
<tr>
<td>62</td>
<td>Computer Systems</td>
<td>117</td>
</tr>
<tr>
<td>63</td>
<td>Cybernetics, Artificial Intelligence and Robotics</td>
<td>118</td>
</tr>
<tr>
<td>64</td>
<td>Numerical Analysis</td>
<td>118</td>
</tr>
<tr>
<td>65</td>
<td>Statistics and Probability</td>
<td>123</td>
</tr>
<tr>
<td>66</td>
<td>Systems Analysis and Operations Research</td>
<td>123</td>
</tr>
<tr>
<td><strong>Physics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Physics (General)</td>
<td>124</td>
</tr>
<tr>
<td>71</td>
<td>Acoustics</td>
<td>125</td>
</tr>
<tr>
<td>72</td>
<td>Atomic and Molecular Physics</td>
<td>132</td>
</tr>
<tr>
<td>74</td>
<td>Optics</td>
<td>133</td>
</tr>
<tr>
<td>76</td>
<td>Solid-State Physics</td>
<td>134</td>
</tr>
<tr>
<td>77</td>
<td>Physics of Elementary Particles and Fields</td>
<td>135</td>
</tr>
<tr>
<td><strong>Social Sciences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>Social and Information Sciences (General)</td>
<td>136</td>
</tr>
<tr>
<td>82</td>
<td>Documentation and Information Science</td>
<td>136</td>
</tr>
</tbody>
</table>
Space Sciences

Category 88 Space Sciences (General) ................................................. 138
Category 91 Lunar and Planetary Science and Exploration ...................... 138
Category 93 Space Radiation .............................................................. 139

General

Category 99 General ............................................................................. 143

Author Index ......................................................................................... 145
Organization Index. .............................................................................. 165
Program Number Index ......................................................................... 168
Scientific and Technical Publications

Aeronautics

Category 01 Aeronautics (General)

   Organization RB Program No. 992-20-80

   Organization RB Program No. 708-72-40

   Organization RB Program No. 708-72-42

   Organization RA Program No. 706-87-11

   Organization RB Program No. 781-10-11

   Organization RC Program No. 706-25-31

   Organization RB Program No. 706-32-11
Category 02 Aerodynamics

   Organization RA Program No. 706-31-21

   Organization RB Program No. 706-31-21

   Organization RB Program No. 706-32-11

   Organization RB Program No. 706-32-11

   Organization RB Program No. 706-63-11

   Organization RB Program No. 706-31-21

   Organization RB Program No. 706-31-61

   Organization RB Program No. 714-05-10

   Organization RB Program No. 706-31-11

Organization RB Program No. 706-31-11


Organization RB Program No. 781-10-11


Organization RB Program No. 781-10-11


Organization RB Program No. 781-10-11


Organization RB Program No. 706-31-11


Organization RB Program No. 706-31-11


Organization RB Program No. 781-10-11


Organization RB Program No. 706-21-11
Organization OH  
Program No. 710-10-11

Organization RB  
Program No. 706-32-11

Organization RB  
Program No. 274-00-02

Organization RB  
Program No. 274-00-02

Organization RB  
Program No. 706-31-31

Organization RB  
Program No. 537-07-22

Organization RB  
Program No. 706-21-11

Organization RB  
Program No. 992-20-08
Organization RB Program No. 522-31-31

Organization RB Program No. 522-31-31

Organization RB Program No. 992-20-03

Organization RB Program No. 282-10-01

Organization RB Program No. 282-10-01

Organization OC Program No. 706-51-71

Organization RA Program No. 706-31-61

Organization RA Program No. 705-01-11
Organization RA Program No. 706-31-61

Organization RB Program No. 706-31-31

Organization RB Program No. 706-31-31

Organization RB Program No. 706-31-31

Organization RB Program No. 896-30-00

Organization RB Program No. 706-31-21

Organization RB Program No. 762-20-11
Organization RB Program No. 714-05-10

Organization RB Program No. 706-32-11

Organization RB Program No. 706-32-11

Organization RB Program No. 781-10-11

Organization RB Program No. 781-10-11

Lamar, J. E.: Cranked Arrow Wing Aerodynamics Project (CAWAP). Presented at University of Glasgow Seminar, October 1, 2002, Glasgow, United Kingdom.
Organization RB Program No. 706-31-31

Lamar, J. E.: The Search for Multiple Vortices on Two Fighter Aircraft as Aided by Color. Presented at University of Bristol Graduate Seminar, September 30, 2002, Bristol, United Kingdom.
Organization RB Program No. 706-31-31

Organization RB Program No. 706-31-61


Organization RB Program No. 706-21-11

Organization RB Program No. 706-32-11

Organization RB Program No. 706-31-21

Organization RB Program No. 706-31-21

Organization RB Program No. 896-30-10

Organization RA Program No. 705-01-11

Organization RB Program No. 706-31-11

Organization RB Program No. 706-31-11
Organization RB Program No. 706-31-11

Organization RB Program No. 706-31-11

Organization RB Program No. 706-31-11

Organization RB Program No. 706-31-11

Organization RB Program No. 706-32-11

Organization RB Program No. 762-40-11

Organization RB Program No. 713-10-23

Organization RB Program No. 706-31-31
Organization RB Program No. 706-31-61

Organization RB Program No. 706-31-11

Organization RB Program No. 781-30-14

Organization RB Program No. 781-30-14

Organization RB Program No. 781-30-14

Organization RB Program No. 706-32-11

Organization RB Program No. 781-10-12

Organization RB Program No. 706-51-21

Organization RB Program No. 706-17-61

Organization RB
Program No. 406-10-02


Organization RD
Program No. 706-31-41

Category 03 Air Transportation and Safety


Organization RD
Program No. 727-01-26


Organization RD
Program No. 727-01-26


Organization RD
Program No. 728-60-10


Organization RD
Program No. 728-60-10


Organization RD
Program No. 727-01-26
Organization RD Program No. 727-01-26

Organization RA Program No. 706-17-21

Organization RD Program No. 707-01-26

Organization RD Program No. 706-21-71

Organization RD Program No. 728-40-30

Organization RD Program No. 728-40-10

Organization RD Program No. 727-01-26

Organization RD Program No. 728-60-30

Organization RD
Program No. 728-40-10


Organization RD
Program No. 728-60-10


Organization RE
Program No. 728-60-10


Organization RD
Program No. 727-01-26


Organization RD
Program No. 706-82-22


Organization RC
Program No. 706-62-31


Organization RA
Program No. 706-87-11


Organization RD
Program No. 728-40-10
Techniques. Presented at 2002 American Control Conference, May 8-10, 2002, Anchorage, 
Alaska.
Organization RD Program No. 728-30-10

113 Glaab, L. J.; and Takallu, M. A.: Preliminary Effect of Synthetic Vision Systems Displays to
Reduce Low-Visibility Loss of Control and Controlled Flight Into Terrain Accidents.
Presented at 2002 SAE General Aviation Technology Conference & Exhibition, April 16-18, 
Organization RD Program No. 728-60-20

114 Green, D. F.: Runway Safety Monitor Algorithm for Runway Incursion Detection and
Alerting. (NAS1-00135 Lockheed Martin Corporation.) NASA/CR-2002-211416, January 
Organization RD Program No. 728-60-30

115 Hamilton, D. W.; and Proctor, F. H.: Convectively Induced Turbulence Encountered During
NASA’s Fall-2000 Flight Experiments. Presented at 10th Conference on Aviation, Range, and 
Organization RD Program No. 728-40-30

116 Hamilton, D. W.; and Proctor, F. H.: Meteorology Associated With Turbulence Encounters
During NASA’s Fall-2002 Flight Experiments. Presented at 40th AIAA Aerospace Sciences 
Organization RD Program No. 728-40-30

117 Hamilton, D. W.; Watson, J. F.; Proctor, F. H.; Cornman, L.; and Bowles, R. L.: FY02
TPAWS Radar NASA B757 Flight Campaign Summary. Presented at 3rd Annual Weather 
Organization RD Program No. 728-40-30

118 Helbing, K. G.; Oseguera-Lohr, R. M.; and Eischeid, T.: The Effects of an Airborne Inter-
Arrival Spacing Tool on Pilot Workload and Acceptability. Presented at Human Factors and 
Ergonomics Society 46th Annual Meeting, September 30–October 4, 2002, Baltimore, 
Maryland.
Organization RD Program No. 727-01-26

119 Holmes, B. J.: NASA Small Aircraft Transportation System (SATS) 21st Century Air
Mobility Research Program. Presented at Society of Allied Weight Engineers 61st Annual 
Organization OD Program No. 786-80-80
Organization RD Program No. 728-60-10

Organization RD Program No. 728-60-30

Organization RD Program No. 727-01-26

Organization RD Program No. 728-60-20

Organization RD Program No. 728-60-30

Organization RD Program No. 728-40-10

Organization RD Program No. 728-40-30

Organization RD Program No. 728-40-10
Organization RD Program No. 728-40-10

Organization RD Program No. 728-40-10

Organization RD Program No. 728-40-10

Organization RD Program No. 727-01-26

Organization RD Program No. 728-40-10

Organization RD Program No. 711-41-32

Organization RD Program No. 727-01-26


Organization RD Program No. 728-40-30


Organization RC Program No. 728-50-10


Organization RD Program No. 727-04-10


Organization RD Program No. 727-04-01


Organization RC Program No. 729-50-10


Organization RD Program No. 728-40-10


Organization RD Program No. 728-40-10


Organization RD Program No. 728-40-10


Organization RD Program No. 728-40-10
Organization RB Program No. 781-20-11

Organization RD Program No. 727-04-10

Organization RD Program No. 728-60-10

Organization RD Program No. 728-60-20

Organization RD Program No. 706-21-71

Organization RD Program No. 706-21-71

Organization RD Program No. 728-60-10

Organization RD Program No. 728-60-30
Organization RB  Program No. 706-81-14

Organization RB  Program No. 706-81-14

Organization RB  Program No. 781-10-13

Organization RD  Program No. 728-40-10

Organization OD  Program No. 706-31-31

Organization RD  Program No. 707-01-26

Organization RD  Program No. 727-01-26
Organization RA  
Program No. 727-04-20

Organization RD  
Program No. 992-62-10

Organization RC  
Program No. 706-25-31

Organization RD  
Program No. 728-60-30

Category 04 Aircraft Communications and Navigation

Organization RD  
Program No. 727-01-26

Organization RD  
Program No. 727-01-26

Organization RD  
Program No. 728-60-30
Category 05 Aircraft Design, Testing and Performance


Organization RB, Program No. 713-10-60

Organization RC, Program No. 706-31-41

Organization RA, Program No. 714-05-30

Organization RC, Program No. 728-50-10

Organization RC, Program No. 728-50-10

Organization RC, Program No. 728-50-10

Organization RC, Program No. 728-50-10

Organization RC, Program No. 728-50-10

Organization RC Program No. 728-50-10


Organization RC Program No. 706-62-11


Organization RC Program No. 629-06-00


Organization RC Program No. 755-06-00


Organization RC Program No. 755-06-00


Organization RC Program No. 728-50-10


Organization RC Program No. 728-50-10


Organization RC Program No. 728-50-10


Organization RC Program No. 728-50-10
Organization RC Program No. 728-50-10

Organization RC Program No. 728-50-10

Organization RC Program No. 706-25-02

Organization RC Program No. 712-10-11

Organization RD Program No. 728-40-10

Organization RC Program No. 728-50-10

Organization RC Program No. 728-50-10

Organization RC Program No. 577-50-10
205 Lyle, K. H.; Jones, L. E.; and Stockwell, A. E.: Correlating Full-Scale Crash Data With
Simulation Results. Presented at 2002 SAE General Aviation Technology Conference &
Exhibition, April 16-18, 2002, Wichita, Kansas.
Organization RC Program No. 728-50-10

206 Lyle, K. H.; Jones, L. E.; and Stockwell, A. E.: Correlation of Full-Scale Crash Simulations
With Test Results. Presented at 14 U.S. National Congress of Theoretical and Applied
Organization RC Program No. 728-50-10

207 Marzocca, P.; Librescu, L.; and Silva, W. A.: Aeroelastic Response and Flutter of Swept
Organization RC Program No. 706-31-41

208 Marzocca, P.; Librescu, L.; and Silva, W. A.: Flutter, Postflutter, and Control of a Supersonic
Wing Section. Journal of Guidance, Control, and Dynamics, Volume 25, No. 5, September–
Organization RC Program No. 706-31-41

209 Marzocca, P.; Librescu, L.; and Silva, W. A.: Aeroelastic Response on Nonlinear Wing
Sections Using a Functional Series Technique. AIAA Journal, Volume 40, No. 5, May 2002,
p. 813-824.
Organization RC Program No. 706-31-41

Organization OC Program No. 706-51-71

211 Morelli, E. A.: System Identification Programs for AirCraft (SIDPAC). Presented at AIAA
Atmospheric Flight Mechanics Conference & Exhibit, August 5-8, 2002, Monterey,
Organization RD Program No. 706-21-71

212 Pappa, R. S.; Woods-Vedeler, J. A.; and Jones, T. W.: In-Space Structural Validation Plan for
Exposition on Structural Dynamics, February 4-7, 2002, Los Angeles, California.
Organization RC Program No. 629-60-00

213 Piatak, D. J.; and Cleckner, C. S.: A New Forced Oscillation Capability for the Transonic
Dynamics Tunnel. Presented at 40th AIAA Aerospace Sciences Meeting and Exhibit, January
Organization RC Program No. 706-31-41


Organization RC  
Program No. 722-59-87

Organization RC  
Program No. 722-59-87

Organization RC  
Program No. 706-62-31

Organization RC  
Program No. 706-25-31

Organization RC  
Program No. 706-25-31

Organization RC  
Program No. 706-25-31

Organization RC  
Program No. 706-25-31

Organization RC  
Program No. 706-25-31
Organization RA Program No. 706-31-61

Category 07 Aircraft Propulsion and Power

Organization OC Program No. 713-10-90

Organization RB Program No. 708-72-80

Organization RB Program No. 706-51-31

Organization RB Program No. 708-72-80

Organization RB Program No. 706-51-31

Organization RB  Program No. 713-10-23

Category 08 Aircraft Stability and Control


Organization RD  Program No. 706-62-21


Organization RD  Program No. 706-17-71


Organization OD  Program No. 706-32-41


Organization OD  Program No. 706-32-41


Organization OD  Program No. 706-32-41


Organization OD  Program No. 706-32-41


Organization OD  Program No. 706-32-41
Organization OD  Program No. 251-10-01

Organization OD  Program No. 706-32-41

Organization OD  Program No. 706-32-41

Organization RD  Program No. 706-17-71

Organization RD  Program No. 706-21-71

Organization RD  Program No. 537-08-23

Organization RD  Program No. 728-30-30

Organization RD  Program No. 706-30-30
Organization RD Program No. 706-32-41

Organization RB Program No. 992-35-12

Organization RB Program No. 706-31-31

Organization RB Program No. 713-80-12

Organization RA Program No. 725-10-11

Organization RB Program No. 721-20-41

Astronautics

Organization RA Program No. 759-30-00
Organization RA Program No. 706-87-11

Organization RA Program No. 759-30-00

Organization RA Program No. 896-70-00

Organization RC Program No. 905-24-00

Category 13 Astrodynamics

Organization RA Program No. 896-30-00

Organization RA Program No. 896-70-00

Category 15 Launch Vehicles and Launch Operations

Organization RC Program No. 706-85-21
<table>
<thead>
<tr>
<th>Entry</th>
<th>Author(s)</th>
<th>Title</th>
<th>Conference details</th>
<th>Document link</th>
<th>Program No.</th>
</tr>
</thead>
</table>

Organization RA
Program No. 721-21-50


Organization RA
Program No. 706-88-21


Organization RC
Program No. 706-85-21


Organization RC
Program No. 706-85-21


Organization RA
Program No. 896-30-00


Organization RB
Program No. 706-32-21


Organization RA
Program No. 725-10-11


Organization RA
Program No. 725-10-11
Category 16 Space Transportation and Safety


Organization RC Program No. 706-85-29


Organization RA Program No. 800-90-40


Organization RA Program No. 706-87-11

Category 17 Space Communications, Spacecraft Communications, Command and Tracking


Organization RF Program No. 621-45-20

Category 18 Spacecraft Design, Testing and Performance


Organization RA Program No. 896-30-00


Organization RA Program No. 800-90-40
Organization RA Program No. 896-93-00

Organization RB Program No. 759-30-00

Organization RA Program No. 896-30-00

Organization RA Program No. 242-33-01

Organization RA Program No. 706-87-11

Organization RA Program No. 706-87-11

Organization RC Program No. 755-06-00

Organization RA Program No. 896-30-00


Chemistry and Materials

Category 23 Chemistry and Materials (General)


Category 24 Composite Materials

   Organization RC Program No. 721-20-41

   Organization RC

   Organization RC

   Organization RC Program No. 721-21-30

   Organization RC Program No. 721-21-10

   Organization RC Program No. 721-21-10

   Organization RC Program No. 706-85-10

   Organization RC Program No. 732-50-00
Organization RC Program No. 721-21-10

Organization RC Program No. 706-32-51

Organization RC Program No. 706-32-51

Organization RC Program No. 706-85-20

Organization RC Program No. 722-63-87

Organization RC Program No. 712-10-21

Organization RC Program No. 712-10-21

Organization RC Program No. 706-63-51
Organization RC
Program No. 721-21-34

Organization RC
Program No. 706-32-51

Organization RC
Program No. 706-32-51

Organization RC
Program No. 732-50-00

Organization RC
Program No. 706-21-21

Organization RC
Program No. 706-21-31

Organization RC
Program No. 706-61-11

Organization RC
Program No. 706-61-11

Organization RC Program No. 721-20-41


Organization RC Program No. 706-63-51


Organization RC Program No. 721-20-41

Category 26 Metals and Metallic Materials


Organization RC Program No. 251-10-01


Organization RC Program No. 706-63-61


Organization RC Program No. 706-63-61


Organization RC Program No. 706-63-61


Organization RC Program No. 706-85-21
   Organization RC                      Program No. 706-62-11

   Organization RC                      Program No. 706-61-11

   Organization RC                      Program No. 706-61-11

   Organization RC                      Program No. 706-62-11

   Organization RC                      Program No. 706-62-11

   Organization RC                      Program No. 706-63-51

   Organization RC                      Program No. 706-63-61

   Organization RC                      Program No. 251-10-01
Organization RC  Program No. 713-50-02

Organization RC  Program No. 713-50-02

Organization RC  Program No. 706-63-61

Organization RC  Program No. 706-32-31

Organization RC

Organization RC  Program No. 706-61-11

Organization RC  Program No. 706-62-31

Organization RC  Program No. 522-18-11

Organization RC Program No. 706-21-21


Organization RC Program No. 706-21-21


Organization RC Program No. 706-21-11


Organization RC Program No. 706-61-11


Organization RC Program No. 706-61-11


Organization RC Program No. 706-62-31


Organization RC Program No. 706-62-31


Organization RC Program No. 706-63-71

Organization RC Program No. 706-62-31


Organization RC Program No. 706-62-31


Organization RC Program No. 706-63-61


Organization RC Program No. 251-10-01


Organization RC Program No. 706-63-61


Organization RC Program No. 706-25-02


Organization RC Program No. 706-63-61


Organization RC Program No. 706-25-02

Organization RC Program No. 706-63-51


Organization RC Program No. 706-63-51


Organization RC Program No. 706-63-51

Category 27 Nonmetallic Materials


Organization RC Program No. 706-63-51


Organization RC Program No. 251-10-01


Organization RC Program No. 706-31-21


Organization RC Program No. 706-32-21


Organization RC  Program No. 755-06-00


Organization RC  Program No. 708-73-20


Organization RC


Organization RC


Organization RC  Program No. 251-10-01


Organization RC  Program No. 251-10-01


Organization RC  Program No. 755-06-00


Organization RC  Program No. 755-06-00


Organization RC Program No. 706-63-51


Organization RC Program No. 706-63-51


Organization RC Program No. 706-63-51


Organization RC Program No. 706-63-51


Organization RC Program No. 706-63-51


Organization RC Program No. 706-63-51


Organization RC Program No. 706-63-51


Organization RC Program No. 274-00-03


Organization RC Program No. 755-06-00

Organization RC Program No. 755-06-00

Organization RC Program No. 755-06-00

Organization RC Program No. 755-06-00

Organization RC Program No. 706-21-21

Organization RC Program No. 706-21-21

Organization RC Program No. 706-25-01

Organization RC Program No. 274-00-02
Organization RC Program No. 258-10-01

Organization RC Program No. 274-00-03

Organization RC Program No. 706-63-51

Organization RC Program No. 755-06-00

Organization RC Program No. 708-73-20

Organization RC Program No. 755-06-00

Organization RC Program No. 706-32-21

Organization RC Program No. 706-32-21

Organization RC Program No. 755-06-00
Organization RC Program No. 706-85-20


Category 29 Space Processing


Engineering

Category 32 Communications and Radar


Organization RF Program No. 757-01-00

Organization RF Program No. 757-01-00

Organization RD Program No. 706-31-41

Organization RD Program No. 706-31-41

Organization RD Program No. 706-31-41

Organization RD Program No. 728-60-30

Organization RF Program No. 297-60-20

Organization RF Program No. 706-32-41

Organization RD Program No. 706-17-21


Organization RB Program No. 714-05-10


Organization RD Program No. 722-64-10


Organization RD Program No. 722-64-10


Organization RD Program No. 728-40-10


Organization RB Program No. 706-81-14

Category 34 Fluid Mechanics and Thermodynamics


Organization RB Program No. 714-05-10


Organization RB Program No. 706-85-41

Organization RB Program No. 706-51-31

Organization A Program No. 505-90-52

Organization RC Program No. 731-21-51

Organization RC Program No. 706-85-30

Organization RC Program No. 706-85-30

Organization RC Program No. 721-21-51

Organization RF Program No. 624-05-00
Organization RF Program No. 896-30-00

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization RB Program No. 706-51-31

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization RB Program No. 706-31-11

66


Organization A Program No. 505-90-52


Organization RB Program No. 605-85-42


Organization RB Program No. 706-85-41


Organization RB Program No. 721-21-41


Organization RB Program No. 713-80-00


Organization RB Program No. 706-31-11


Organization RB Program No. 522-31-11


|---|---|---|
Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52


Organization RB Program No. 992-20-08

Organization RC Program No. 706-62-31

Organization RB Program No. 708-72-40

Organization RB Program No. 704-01-50

Organization RD Program No. 728-40-10

Organization RB Program No. 992-20-08

Organization RF Program No. 622-63-14

Organization RB Program No. 992-35-12
Organization RB Program No. 704-20-21


Organization RB Program No. 704-01-20


Organization RB Program No. 706-31-11

Organization RB Program No. 706-32-11

Organization RB Program No. 522-31-11


Moore, T. C., Sr.; and Hare, D. A.: Performance Characteristics of Commercially Available High-Temperature Fiber-Optic Extenosometer on Inconel 100 Test Beams at Elevated Temperatures. Presented at Western Regional Strain Gage Committee Conference, February 12-13, 2002, Long Beach, California.


Organization RB Program No. 992-31-12


Organization RB Program No. 992-35-12


Organization RB Program No. 706-32-11


Organization RC Program No. 274-00-00


Organization RC Program No. 706-62-31


Organization RB Program No. 706-32-11

Category 36 Lasers and Masers


Organization RC Program No. 522-63-41


Organization RF Program No. 258-70-22


Category 38 Quality Assurance and Reliability

Organization RC Program No. 706-62-31

Organization RC Program No. 706-62-31

Organization RC Program No. 706-21-21

Organization OD Program No. 706-63-51

Category 39 Structural Mechanics

Organization RC Program No. 721-20-30

Organization RC Program No. 706-21-21

Organization RC Program No. 706-21-21


Organization RC Program No. 706-21-21


Organization RC Program No. 706-21-21


Organization RC Program No. 706-21-21


Organization RC Program No. 721-21-30


Organization RC Program No. 706-62-11


Organization RC Program No. 706-85-10


Organization RC Program No. 721-20-30
Organization RC Program No. 706-21-21

Organization RC Program No. 706-21-21

Organization RC Program No. 706-63-71

Organization RC Program No. 706-21-21

Organization RC Program No. 755-06-00

Organization RC Program No. 706-21-21

Organization RC Program No. 755-06-00

Organization RC Program No. 896-30-00
Organization RC Program No. 705-30-11

Organization RC Program No. 706-85-12

Organization RC Program No. 706-21-21

Organization RC Program No. 706-85-10

Organization RC Program No. 706-63-71

Organization RA Program No. 706-25-01

Organization RC Program No. 522-11-41

Organization RC Program No. 755-06-00
Organization RC  
Program No. 755-06-00

Organization RC  
Program No. 755-06-00

Organization RC  
Program No. 706-21-21

Organization RC  
Program No. 706-21-21

Organization RC  
Program No. 706-21-21

Organization RC  
Program No. 706-21-21

Organization RB  
Program No. 522-63-11
Organization RC  Program No. 706-21-21

Organization RC  Program No. 706-63-71

Organization RC  Program No. 710-70-21

Organization RC  Program No. 706-25-02

Organization RC  Program No. 757-01-00

Organization RC  Program No. 721-21-14

Organization RC  Program No. 706-85-12

Organization RC  Program No. 706-21-21


Organization RC Program No. 721-20-41

Organization RC Program No. 755-06-00

Organization RC Program No. 629-60-00

Organization RC Program No. 755-06-00

Organization RC Program No. 629-60-00

Organization RA Program No. 712-10-10

Organization RC Program No. 706-63-71
Geosciences

Category 42 Geosciences (General)

Organization RF Program No. 258-70-21

Organization RE Program No. 622-61-11

Organization RE Program No. 622-61-11

Organization RE Program No. 622-61-11

Organization RE Program No. 622-61-11

Organization RE Program No. 622-43-31

667 Hair, J. W.; Browell, E. V.; Grant, W. B.; DeYoung, R. J.; Butler, C. F.; and Brackett, V. G.: Large-Scale Aerosol Distributions and Trends Measured in the Canadian Arctic During the TOPSE (Tropospheric Ozone Production About the Spring Equinox) Field Experiment. Presented at International Geoscience & Remote Sensing Symposium, June 24-28, 2002, Toronto, Canada.
Organization RE Program No. 622-43-31
Organization RE Program No. 706-25-02

Organization RF Program No. 258-80-21

Organization RE Program No. 880-02-00

Organization RE Program No. 621-25-05

Organization RE Program No. 622-56-09

Organization RE Program No. 622-63-02

Organization RE Program No. 622-56-61


Organization RE Program No. 259-40-01


Organization RE Program No. 662-56-40


Organization RE Program No. 622-96-00

Category 43 Earth Resources and Remote Sensing


Organization A Program No. 282-10-01


Organization RE Program No. 259-40-01


Organization RD Program No. 722-64-13


Organization RD Program No. 728-40-10
Organization RF Program No. 258-70-22

Organization RF Program No. 258-70-22

Organization RE Program No. 621-45-20

Category 45 Environment Pollution

Organization RE Program No. 291-07-07

Organization RE Program No. 622-63-13

Organization RE Program No. 622-63-13

Organization RE Program No. 291-07-07

Organization RE Program No. 622-26-26
Organization RE Program No. 622-29-26

Organization RE Program No. 258-80-30

Organization RE Program No. 622-63-08

Organization RA Program No. 621-45-20

Organization RE Program No. 621-45-20

Category 46 Geophysics

Organization RE Program No. 370-21-08

Organization RE Program No. 665-25-38

Organization RE Program No. 229-02-06

Organization RE Program No. 622-58-17


Organization RE Program No. 622-68-51


Organization RA Program No. 662-70-18


Organization RE Program No. 274-00-00


Organization RE Program No. 274-00-00


Organization RE Program No. 274-00-00


Organization RE Program No. 880-02-00


Organization RE Program No. 880-02-00

Organization RE Program No. 880-02-00


Organization RE Program No. 880-02-00


Organization RE Program No. 621-25-05


Organization RE Program No. 880-02-00


Organization RE Program No. 621-25-05


Organization RE Program No. 622-56-54


Organization RE Program No. 621-25-05


Organization RE Program No. 622-63-08


Organization RE Program No. 622-96-00


Organization RE Program No. 622-96-00

Browell, E. V.; Butler, C. F.; Fenn, M. A.; Grant, W. B.; Brackett, V. G.; Hair, J. W.; Avery, M. A.; Newell, R. E.; and Fuelberg, H. E.: Ozone and Aerosol Distribution Measured Over the Western Pacific With an Airborne Lidar During the TRACE-P Field Experiments. Presented at 21st International Laser Radar Conference, July 8-12, 2002, Quebec City, Canada.

Organization RE Program No. 622-63-13


Organization RE Program No. 622-31-13


Organization RE Program No. 622-63-13


Organization RE Program No. 622-63-13

Organization RE Program No. 622-63-13


Organization RE Program No. 622-43-31


Organization RE Program No. 622-63-13


Organization RE Program No. 229-01-02


Organization RE Program No. 229-10-02


Organization RE Program No. 229-01-02


Organization RE Program No. 622-96-00


Organization RE Program No. 229-10-02
Organization RE Program No. 229-01-02

Organization RE Program No. 229-01-02

Organization RE Program No. 229-01-02

Organization RE Program No. 229-01-02

Organization RE Program No. 229-10-02

Organization RE Program No. 291-01-91

Organization RE Program No. 229-01-02

Organization RE Program No. 229-01-02


Organization RE Program No. 622-96-00


Organization RE Program No. 662-96-00


Organization RE Program No. 229-01-02


Organization RE Program No. 714-01-27


Organization RE Program No. 621-82-80


Organization RE Program No. 621-82-80


Organization RE Program No. 229-01-02


Organization RE Program No. 291-01-91

Organization RE Program No. 622-96-00


Organization RE Program No. 622-29-26


Organization RE Program No. 622-29-26


Organization RE Program No. 622-96-00


Organization RE Program No. 622-96-00


Organization RE Program No. 622-56-61


Organization RE Program No. 622-56-61


Organization RE Program No. 706-25-02

Organization RE Program No. 229-01-02

Organization RE Program No. 359-02-01

Organization RE Program No. 622-29-26

Organization RE Program No. 622-29-26

Organization RF Program No. 622-29-22

Organization RF Program No. 622-26-22


Organization RE Program No. 229-01-02


Organization RE Program No. 622-96-00


Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02

Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02


Organization RE Program No. 229-10-32


Organization RE Program No. 229-10-72


Organization RE Program No. 622-43-31


Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02


Organization RE Program No. 880-02-00


Organization RE Program No. 880-02-00


Organization RE Program No. 622-96-00


Organization RE Program No. 229-01-02


Organization RE Program No. 622-96-00


Organization RE Program No. 621-82-80

Organization RE
Program No. 621-82-80


Organization RE
Program No. 229-01-02


Organization RE
Program No. 259-40-01


Organization RE
Program No. 229-10-72


Organization RE
Program No. 622-96-00


Organization RE
Program No. 229-01-02


Organization RE
Program No. 622-96-00


Organization RE
Program No. 229-10-72


Organization RE
Program No. 229-01-02


Organization RE Program No. 291-01-09

Organization RE Program No. 229-01-02

Organization RE Program No. 229-01-02

Organization RE Program No. 621-45-20

Organization RE Program No. 622-63-08

Organization RE Program No. 229-10-32

Organization RE Program No. 291-01-72

Organization RE Program No. 229-10-72

Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02


Organization RE Program No. 622-43-93


Organization RE Program No. 229-01-02


Organization RE Program No. 706-25-01


Organization RE Program No. 229-01-02


Organization RE Program No. 259-40-10


Organization RE Program No. 259-40-01
Organization RE Program No. 259-40-01

Organization RE Program No. 621-45-20

Organization RE Program No. 229-01-02

Organization RA Program No. 229-01-02

Organization RE Program No. 229-01-02

Organization RE Program No. 229-01-02

Organization RE Program No. 291-01-91

Organization RE Program No. 229-10-02


Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02


Organization RE Program No. 662-96-00


Organization RE Program No. 622-43-10


Organization RE Program No. 229-01-02


Organization RE Program No. 229-01-02

Category 48 Oceanography


Life Sciences

Category 52 Aerospace Medicine


Category 54 Man/System Technology and Life Support


Organization RD Program No. 711-51-21

Organization RD Program No. 711-50-21

Organization RD Program No. 728-60-10

Organization RD Program No. 992-30-11

Mathematical and Computer Sciences

Category 59 Mathematical and Computer Sciences (General)

Organization A Program No. 505-9052

Organization A Program No. 505-90-52

Organization RD Program No. 704-01-50
Category 60 Computer Operations and Hardware

Organization RD Program No. 728-30-30

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization RD Program No. 728-30-10

Organization A Program No. 505-90-52


Organization RB Program No. 712-20-31

Category 61 Computer Programming and Software


Organization RD Program No. 727-01-22


Organization RD Program No. 727-01-22


Organization RD Program No. 728-30-30


Organization RD Program No. 704-04-10


Organization RD Program No. 704-01-10


Organization RD Program No. 704-50-02
Organization SL Program No. 771-10-10

Organization RD Program No. 992-30-11

Organization SL Program No. 771-10-10

Organization RA Program No. 706-32-21

Organization RA Program No. 253-02-98

Organization RC Program No. 755-30-11

Organization RB Program No. 706-85-41
Category 62 Computer Systems

Organization RD Program No. 706-21-61

Organization RD Program No. 706-21-61

Organization RD Program No. 704-01-10

Organization RD Program No. 229-01-02

Organization RD Program No. 728-30-10

Organization RD Program No. 706-21-61

Organization RD Program No. 728-30-10

Organization RD Program No. 728-30-10
Category 63 Cybernetics, Artificial Intelligence and Robotics

Organization RD Program No. 274-00-03

Organization RD Program No. 706-62-21

Organization RA Program No. 706-17-51

Organization RA Program No. 706-17-51

Organization RD Program No. 706-32-21

Category 64 Numerical Analysis

Organization A Program No. 505-90-52

Organization RA Program No. 706-31-21

Organization RA Program No. 706-31-21
Organization RA Program No. 706-31-21

Organization RA Program No. 721-10-42

Organization RA Program No. 721-10-42

Organization RA Program No. 706-31-21

Organization RA Program No. 721-10-42

Organization A Program No. 505-90-52

Organization RB Program No. 706-31-11

Organization A Program No. 505-90-52
Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization RB Program No. 706-25-01


Organization RA Program No. 706-31-61

Organization RA Program No. 706-31-21

Organization RA Program No. 706-31-21

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization A Program No. 505-90-52

Organization RB Program No. 713-10-23

Organization RB Program No. 706-85-41
<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Authors</th>
<th>Details</th>
<th>Organization</th>
<th>Program No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 65 Statistics and Probability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 66 Systems Analysis and Operations Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Organization RD Program No. 522-14-21

Organization RD Program No. 522-14-21

Physics

Category 70 Physics (General)

Organization RC Program No. 706-62-31

Organization RC Program No. 706-63-81

Organization RC Program No. 706-62-31

Organization RC Program No. 706-62-31

Organization RC Program No. 706-62-31

Organization RC Program No. 706-62-31

Organization RC Program No. 706-62-31

Category 71 Acoustics


Organization RC Program No. 706-61-11


Organization RB Program No. 781-30-14


Organization RB Program No. 781-30-14


Organization RB Program No. 727-03-15


Organization RB Program No. 722-59-87


Organization RB Program No. 781-10-13


Organization RB Program No. 706-81-21

http://techrepor...NASA-aiaa-2002-2472.pdf
Organization RB Program No. 781-10-12

http://techrepor...NASA-aiaa-2002-2446.pdf
Organization RB Program No. 781-30-14

Organization RB Program No. 781-10-11

Organization RB Program No. 781-10-11

http://techrepor...NASA-aiaa-2002-2555.pdf
Organization RB Program No. 781-10-12

http://techrepor...NASA-2002-icence-jk.pdf
Organization RB Program No. 781-20-12
Organization RB Program No. 781-20-11

Organization RB Program No. 706-31-11

Organization RB Program No. 706-31-11

Organization RB Program No. 706-81-14

Organization RB Program No. 781-20-12

Organization RB Program No. 781-10-11

Organization RC Program No. 706-62-31

Organization RC Program No. 706-62-31
Organization RB Program No. 781-10-13

Organization RB Program No. 781-10-11

Organization RB Program No. 781-10-11

Organization RB Program No. 781-30-12

Organization RB Program No. 706-81-11

Organization RC Program No. 706-12-21

Organization RC Program No. 706-62-31

Organization RB Program No. 706-31-11

Organization RB Program No. 781-20-11
<table>
<thead>
<tr>
<th>Code</th>
<th>Reference</th>
</tr>
</thead>
</table>
Organization RB Program No. 781-10-12

Organization RB Program No. 706-32-31

Organization RB Program No. 251-10-01

Organization RB Program No. 706-32-31

Organization RC

Category 72 Atomic and Molecular Physics

Organization RE Program No. 622-67-65

Organization RE Program No. 622-67-65

Organization RE Program No. 622-67-65


1026 Smith, M. A.; Rinsland, C. P.; Benner, D. C.; and Devi, V. M.: Broadening and Shift Coefficients in the $v_3$ Bands of $^{12}$C$_{16}$O$_2$ and $^{13}$C$_{16}$O$_2$. Presented at 57th International Symposium on Molecular Spectroscopy, June 17-21, 2002, Columbus, Ohio.

1027 Smith, M. A.; Rinsland, C. P.; Benner, D. C.; Devi, V. M.; and Dulick, M.: Broadening and Shift Coefficients in the 3-$\mu$m Bands of HCN. Presented at 57th International Symposium on Molecular Spectroscopy, June 17-21, 2002, Columbus, Ohio.

**Category 74 Optics**


Organization RB  
Program No. 706-31-11

Organization RF  
Program No. 757-01-00

Organization RC  
Program No. 706-62-31

Organization RC  
Program No. 706-63-31

Organization RF  
Program No. 757-01-00

Category 76 Solid-State Physics

Organization RF  
Program No. 258-70-22

Organization RF  
Program No. 755-09-00


Walsh, B. M.; Murray, K. E.; and Barnes, N. P.: A Comparison of Tm:Ho:YLF and Tm:Ho:LuLF for 2.0 Micrometer Lasers; Experiment and Modeling. Presented at Advanced Solid-State Laser Topical Meeting, February 3-6, 2002, Quebec, Canada.


Social Sciences

Category 80 Social and Information Sciences (General)

Organization SH

Category 82 Documentation and Information Science

Organization RE Program No. 428-50-08

Organization RE Program No. 428-50-08

Organization SH Program No. 332-16-30

Organization RC Program No. 242-82-76

Organization RF Program No. 992-16-05

Organization RF Program No. 992-16-05

Organization RF Program No. 992-16-05

136
    Organization SH  Program No. 722-90-57

    Organization SH  Program No. 727-04-20

    Organization SH  Program No. 332-16-30

    Organization SH  Program No. 706-17-41

    Organization SH  Program No. 282-10-08

    Organization SH  Program No. 722-90-57

    Organization SL  Program No. 771-10-10

    Organization SL  Program No. 282-30-10
Space Sciences

Category 88 Space Sciences (General)

Organization RA Program No. 905-90-00

Organization RD Program No. 519-31-61

Category 91 Lunar and Planetary Science and Exploration

Organization RC Program No. 896-30-00

Organization RF Program No. 896-30-00

Organization RE Program No. 896-30-00

Organization RA Program No. 706-87-11

Organization RB Program No. 390-20-00
   Organization RB  Program No. 390-20-00

Category 93 Space Radiation


   Organization RC  Program No. 732-50-00

   Organization RC  Program No. 710-70-21

   Organization RC  Program No. 784-50-10

   Organization RC  Program No. 732-50-00

   Organization RC  Program No. 732-50-00
Organization RC Program No. 101-21-23

Organization RC Program No. 784-50-01

Organization RC Program No. 274-00-99

Organization RC Program No. 349-06-01

Organization RC Program No. 732-50-00

Organization RC Program No. 732-50-00

Organization RC Program No. 755-06-00

Organization RC Program No. 755-06-00
Organization RC Program No. 755-06-00

Organization RF Program No. 732-50-00

Organization RC Program No. 732-50-00

Organization RC Program No. 732-50-00

Organization RC Program No. 732-50-00

Organization RC Program No. 725-10-11

Organization RC Program No. 755-06-00

Organization RC Program No. 710-70-21

Organization RC Program No. 706-62-31
Organization RC Program No. 755-06-00

Organization RC Program No. 101-21-23

Organization RC Program No. 101-21-23

Organization RC Program No. 732-50-00

Organization RC Program No. 732-50-00

Organization RC Program No. 705-30-11

Organization RC Program No. 349-06-01

Organization RC Program No. 784-50-01

Organization RC Program No. 732-50-00


Organization RC Program No. 750-50-00


Organization RC Program No. 732-50-00


Organization RC Program No. 732-50-00


Organization RC Program No. 101-21-23

General

Category 99 General


Organization AJ Program No. 772-10-11


Organization AH Program No. 297-80-00


Organization AH Program No. 297-80-00
Organization AK Program No. 992-10-01

Organization AK Program No. 992-10-01

Organization RC Program No. 706-32-51
Author Index

A
Abarbanel, S. A.: 912
Abbott, D.: 600, 601
Abbott, T. S.: 91, 92, 136, 137
Abedin, M. N.: 690, 691
Abu-Khajeel, H.: 284
Ackerman, S.: 724
Adams, D. O.: 317
Adcock, E. E.: 488
Adetona, O.: 173
Adhami, R.: 271
Agrawal, S.: 55
Ahern, S. C.: 1070, 1071, 1085
Al-Hajjah, A.: 834
Al-Saadi, J. A.: 672, 673
Albierg, M.: 776
Alexanderov, N. M.: 8, 913, 914, 915, 916, 917, 918, 919
Allan, B. G.: 493, 494
Allan, R. P.: 845
Allen, B. D.: 1052
Allen, B. G.: 15, 553
Allen, M.: 709
Allison, S. G.: 174, 589
Alter, S. J.: 45, 296, 528
Alter-Gartenberg, R.: 555, 661
Altus, T. D.: 175, 219
Ambur, D. R.: 310, 495, 604, 605, 613, 626, 635
Amzajerdian, F.: 556, 783
Anastasi, R. F.: 109, 962, 996, 997
Anders, J. B., Jr.: 1112
Anders, S. G.: 7, 48
Anderson, B. E.: 309, 687
Anderson, B. M.: 1072, 1082, 1086, 1097
Anderson, B. P.: 520
Anderson, J.: 385
Anderson, T.: 1073
Anderson, W. K.: 63
Andersson, A. O.: 975
Andresen, A.: 235, 236
Andrianov, E. V.: 975
Angster, S.: 1062
Anon.: 874, 875
Antaki, J. F.: 598, 599
Antol, J.: 292, 301
Aranda, I., Jr.: 387, 389
Aravamuthan, R.: 550
Arbogast, W. J.: 358
Arbocz, J.: 606
Arduini, R. F.: 721, 745, 840
Arthur, J. J.: 93, 94
Ashcroft, S. B.: 1055
Atkins, H. L.: 9, 10, 11, 12, 23, 46, 47, 921, 929
Atwell, W.: 1099
Au-Yeung, S. W.: 406
Auslender, A. H.: 238, 240, 243, 502
Axenson, T. J.: 590, 591, 1036
Ayers, J. K.: 723, 760
B
Bacon, B. J.: 244, 256
Badavi, F. F.: 1075, 1089, 1099, 1102
Badhwar, G. D.: 1099
Bai, Y.: 1028, 1029, 1032, 1035
Bailey, M. C.: 487
Bailey, R. E.: 93, 94, 105, 872
Baker, N. R.: 704
Balakumar, P.: 12
Balaram, B.: 303
Balla, R. J.: 572, 585
Ballin, M. G.: 95, 96, 138
Balok, A. E.: 752, 767, 768
Banerjee, D.: 1080
Banerjee, S.: 1004
Bao, H.: 97
Barbe, A.: 700
Barhydt, R.: 98, 164, 170, 171
Bark, L. W.: 203
Barkstrom, B. R.: 824, 857, 1047, 1048
Barmore, B. E.: 165
Barnes, J. C.: 592, 593
Barnes, K. N.: 287, 492
Barnes, N. P.: 486, 557, 590, 591, 1028, 1035, 1036, 1037, 1038, 1039, 1041, 1042
Barrick, J. D.: 722, 729, 764, 836
Bruno, C.: 242
Bryant, R. G.: 254, 386, 387, 388, 389, 461,
        462, 466, 492, 863
Bucci, R. J.: 638
Buck, G. M.: 582
Buckley, J. D.: 423
Buehrle, R. D.: 6, 967, 979, 982, 1010
Buning, P. G.: 14, 15, 80
Burdisso, R. A.: 983, 1008, 1009
Buck, G. M.: 582
Buckley, J. D.: 423
Buehrle, R. D.: 6, 967, 979, 982, 1010
Buning, P. G.: 14, 15, 80
Burdisso, R. A.: 983, 1008, 1009
Burke, C. G., Jr.: 307, 584
Burley, C. L.: 968
Burner, A. W.: 558, 559
But, J. L.: 101
Bush, G.: 461, 462
Bush, H. G.: 270
Bush, K. A.: 732, 789
Bushnell, D. M.: 679
Busquets, A. M.: 106
Butler, C. F.: 666, 667, 687, 689, 725, 726,
        727, 728, 729, 730
Butler, R. W.: 891
Butler, T. A.: 478
Buttrill, C. S.: 257

C

Cabell, R. H.: 969, 980, 981
Cadogan, D. P.: 173
Cageao, R. P.: 709
Cagle, C. M.: 49, 179
Cahoon, J. F.: 405
Callahan, J.: 383
Callis, L. B., Jr.: 696
Camaro, P. P.: 607, 608, 609
Campbell, B. A.: 27, 28
Campbell, J.: 158
Campbell, R. L.: 31
Camyn-Peyret, C.: 700
Cano, R. J.: 311, 408, 409, 418, 420, 445,
        451, 452
Cantrell, J. H., Jr.: 864, 865, 1019
Capriotti, D. P.: 180, 561
Cardullo, F. M.: 873
Carey, D.: 292
Carlson, J. R.: 16, 17, 539
Farassat, F.: 18, 19, 20, 976, 977, 1001, 1011
Farley, D. L.: 1050
Fasanella, E. L.: 178, 183, 184, 185, 186, 187, 188, 193, 194, 204, 216
Fenn, M. A.: 666, 725, 726, 727, 728, 729, 730
Ferebee, M. J., Jr.: 267
Ferebee, M. T.: 1047
Feri, J.: 1098
Ferrare, R. A.: 722, 729, 763, 764, 765, 766, 780, 781
Fibich, G.: 927
Filer, E. D.: 1038
Finch, M.: 1047
Finley, T. D.: 261
Fischer, J. E.: 306
Fishman, J.: 673, 752, 767, 768, 769
Fitch, J. W.: 390
Flamm, J. D.: 88
Forder, J.-M.: 700
Fleming, G. A.: 567, 568, 569, 585, 956
Fletcher, M. T.: 585
Flick, J. J.: 582
Flittner, D. E.: 796, 797, 822
Flocke, F.: 665
Florance, J. R.: 217
Foelsche, R. O.: 263
Folk, M.: 1048
Forman, R. G.: 354
Forth, S. C.: 189, 313, 353, 354, 368, 611
Foster, J. V.: 258
Fox, R. L.: 287, 492, 589, 1112
Francis, J.: 746
Frank, K. L.: 1054, 1055, 1056, 1057, 1058
Frankland, S. J.: 333, 513, 514, 549, 552
Freeman, F. G.: 139
Frehlich, R. G.: 783
Fremaux, C. M.: 258
Frey, R. A.: 724
Friedberg, W.: 1101
Friedman, A. D.: 306
Frink, N. T.: 29, 67
Fritts, D. C.: 717
Froggatt, M. E.: 570, 571, 589
Fuelberg, H. E.: 725, 726, 727, 728, 729, 770, 799
Fuller, G. L.: 468, 471
Gainer, T. G.: 30
Gallman, J.: 964
Gally, T.: 31
Gambheer, A. V.: 771
Gambles, J. W.: 477
Ganoe, G. G.: 772
Gao, B-C.: 858, 859
Garcia-Comas, M.: 717
Garland, D.: 130
Garvin, A. J.: 406
Gasbarre, J. F.: 508
Gaspar, J. L.: 190, 191, 192
Gatlin, G. M.: 32
Gato, W.: 258
Gatski, T. B.: 16, 17, 515, 516, 539
Gause, C. B.: 135
Gehrke, S. H.: 417
Genzel, N. N.: 89
George, B. E.: 269, 508
Gerhold, C. H.: 978
Geser, A. E.: 879, 880, 881, 900
Gettinger, C.: 243
Ghaﬀari, F.: 33, 34
Ghosh, A.: 35
Gibbs, G. P.: 969, 979, 980, 981
Gibson, S. C.: 689, 773, 807, 833, 841
Giesy, D. P.: 888
Gilbert, M. G.: 1107
Ginzburg, I.: 503
Glaab, L. J.: 113, 246
Glaessgen, E. H.: 316, 317, 355, 356, 612, 621
Glass, C. E.: 278, 279, 517, 518, 542, 543
Glass, D. E.: 180, 278, 279
Gnoﬀo, P. A.: 519, 520
Goldberg, R. A.: 717
Goldhagen, P.: 1074, 1077, 1078, 1079, 1101
Goldman, A.: 700, 718
Goldsmith, J. E.: 764, 766
Golembiewski, W. T.: 393
Golubev, A. Y.: 975
Jegley, D. C.: 358, 619, 1112
Jenkins, L. N.: 48, 49
Jensen, B. J.: 420
Jiang, Y.: 709
Jin, F.: 596
Jobson, D. J.: 575
Johns, B. D.: 282, 1064, 1065, 1089
Johnson, A. R.: 305, 620
Johnson, D. E.: 852
Johnson, D. G.: 669
Johnson, D. R.: 673
Johnson, E. J.: 96, 122, 164
Johnson, E. R.: 521, 613, 614
Johnson, J. W.: 487
Johnson, M. E.: 990
Johnson, N. B.: 143
Johnson, S.: 499, 529
Johnson, T. A.: 772
Johnson, T. F.: 280, 465
Johnston, N. J.: 311, 405, 445
Johnston, W. M.: 346, 359, 373, 421
Joiner, L. L.: 271
Jones, D. R.: 123, 124
Jones, G. S.: 49, 76, 77, 179
Jones, H. E.: 966
Jones, I. W.: 1079
Jones, K. M.: 89, 101
Jones, L. E.: 195, 196, 205, 206
Jones, M. G.: 83, 985
Jones, N. B.: 718
Jones, W. L.: 487
Jones, W. R.: 172
Jones, Y. T.: 188
Jonsson, J. E.: 100, 125
Jordan, C. E.: 687
Jordan, J. D.: 307, 384, 585
Jordan, K.: 306
Jordan, T. L.: 488
Joshi, S. M.: 244, 907, 908
Joslin, R. D.: 1013, 1014
Jothiprasad, G.: 930
Jung, J-H.: 926

Kahng, S. K.: 488
Kamieni, R.: 781
Kaneshiro, H.: 465
Kang, K. S.: 931, 932
Kaplan, M. L.: 126
Karpilovsky, E.: 709
Katz, R.: 1082
Katzberg, S. J.: 701, 1112
Kavaya, M. J.: 782, 783
Kawamoto, K.: 784
Kay-Bunnell, L.: 301
Kaye, J.: 776
Keating, G. M.: 269
Keckhut, P.: 715
Keel, L. H.: 173
Kegerise, M. A.: 50, 76, 969
Kelkar, A. G.: 908
Kellas, S.: 188, 197, 198, 281
Keller, D. F.: 217
Keller, E.: 135
Keller, P.: 461, 462
Kelly, J.: 964
Kelly, J. J.: 1015
Kennedy, C. A.: 13
Kenney, P. S.: 902
Kenny, S. P.: 237
Kent, R. M.: 135
Kenyon, J. D.: 753
Khairoutdinov, M.: 852
Khaiyer, M. M.: 785, 805, 813, 821
Khalesi, M. R.: 39
Khorrami, M. R.: 5, 23, 51, 52, 56, 970, 986, 987
Khurgin, J.: 596
Kiefer, R. L.: 423
Kiehl, J. T.: 845
Kiley, C. M.: 309
Kim, J.: 422
Kim, M. Y.: 423, 1099
Kim, S-W.: 90
Kim, S. S.: 1080
Kim, U. J.: 306
Kimmel, W. M.: 368
Kincaid, R. K.: 199
King, G. C.: 391, 393, 394
King, R. A.: 530
Kinzie, K. W.: 988
L

Lacey, J.: 264
Lach, C. L.: 360, 361
Ladd, I.: 769

Lalime, A. L.: 990
Lallemand, P.: 500, 503
Lamar, J. E.: 53, 54
Lamb, B.: 675
Lambert, M. A.: 1056, 1057, 1058
Lambeth, J. D.: 696
Lammert, A.: 764
Lane, S.: 130
Lang, C. G.: 933
Langston, C. W.: 200, 214, 228
Larar, A. M.: 678, 692, 827, 862
Latorella, K. A.: 127, 128, 129, 130, 133, 201
Lawrence, R. M.: 488
Lazos, B. S.: 991, 992
LeBeau, G. J.: 542, 543
LeMarshall, J.: 826
Leatherwood, J. D.: 993
Lee, H-A.: 697
Lee, H. R.: 1035
Lee, K-M.: 697
Lee, R. B., III: 732, 788, 789, 790, 791, 820, 823, 824, 834
Lee-Rausch, E. M.: 74
Lefer, B.: 662, 665
Leighty, B. D.: 585
Leo, D.: 453
Lepsch, R. A., Jr.: 288, 289
Lesht, B.: 764
Lessard, W. B.: 202
Leuschen, M.: 1080
Leveine, J. S.: 307, 584, 702, 703, 704, 1066
Levy, D. W.: 55, 936
Lewis, A.: 193, 194
Li, F.: 5, 51, 52, 56
Li, W.: 937
Librescu, L.: 207, 208, 209, 626
Liddle, D.: 658
Lieber, L. S.: 994
Liechtty, D. S.: 296, 526, 534, 535
Lillehei, P. T.: 385, 424, 425, 436, 441, 442, 443, 444, 448, 536
Lilley, G. M.: 23
Lim, J. W.: 968
Lin, B.: 737, 738, 739, 762, 792, 793, 794, 795, 856
Lin, H-Z.: 39
Lin, J. C.: 222, 493, 494, 537, 553
Lin, Y-L.: 126
Lindenberg, R. A.: 369, 370
Lingenfelsler, G. S.: 715, 717
Linne, H.: 764
Little, M. E.: 392
Liu, T.: 559, 566, 577, 580
Liu, X-M.: 892, 1051
Liu, X.: 862
Llorente, I. M.: 882
Lockard, D. P.: 5, 23, 57, 970, 987, 995
Lockwood, M. K.: 298
Loeb, N. G.: 820
Logan, M. J.: 287
Lohr, G. W.: 95, 131, 136, 137
Lombardi, K.: 662
Lomcaric, J.: 934, 935
Lommis, M. P.: 296
Loos, A. C.: 408, 409, 451, 452
Lopez-Puertas, M.: 670, 705, 706, 707, 708, 710, 717
Lotts, C. G.: 338
Loughman, R.: 796, 797, 822
Louie, R.: 384
Lowther, S. E.: 420, 433, 436, 547
Lu, C-H.: 694
Lucker, P. L.: 817, 849
Luettgen, G.: 878
Luo, L-S.: 57, 500, 503, 538, 540, 541, 550
Lux, K. M.: 126
Lyle, K. H.: 187, 203, 204, 205, 206
Lynch, D. K.: 798

M

MacConochie, I. O.: 299
Macaraeg, M. G.: 970
Mace, G. G.: 754, 755, 756
Machida, R.: 35
Mackey, C. E.: 1047
Madaras, E. I.: 109, 962, 996, 997
Madden, M. M.: 893
Madenci, E.: 1073
Madsen, L. A.: 510
Maestrillo, L.: 998
Maghami, P. G.: 237
Mahieu, E.: 718
Mahoney, M. J.: 763, 781
Maki, G. K.: 477
Mal, A.: 1004
Malekpour, M. R.: 883, 904
Malik, M. R.: 56
Maloney, J. C.: 729, 799
Maly, K.: 892, 1051, 1053
Manceau, R.: 539
Mankin, W. G.: 700
Manos, D.: 466
Mantz, A. W.: 1024
Manvi, R.: 1067
Marchand, R. T.: 754, 755
Marchello, J. M.: 311
Marcolini, M. A.: 971
Marsh, W. D.: 593
Martin, B. D.: 770
Martin-Torres, J.: 710
Martinez-Harder, M.: 675
Martinovic, Z. N.: 275, 283
Martzaklis, K. S.: 150
Marzocca, P.: 207, 208, 209
Masciarelli, J.: 291
Mason, B. H.: 467, 643, 648, 649, 652
Mason, G. S.: 909, 910
Masters, D.: 701
Matrosov, S.: 830
Mauldin, R. L.: 662
Mavriplis, D. J.: 930, 936
Mazanek, D. D.: 292, 300, 301
McAdaragh, R. M.: 132
McClinton, C. R.: 38, 210, 238
McCormick, M. P.: 676, 839, 847, 848
McCurdy, D. A.: 993
McDaniel, J. C.: 38
McDaniel, P. R.: 362
McEntire, J.: 186, 193, 194
McFarlane, D. C.: 133
McGrane, R.: 452
McHugh, M. J.: 715
McKeever, S. W.: 1080
McMinn, J. D.: 255
McPeters, R. D.: 796, 822
Meadows, B. L.: 593
Mehrotra, P.: 884
Mei, R.: 540, 541
<table>
<thead>
<tr>
<th>Name</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melendez, O.</td>
<td>426, 427</td>
</tr>
<tr>
<td>Mendoza, J. M.</td>
<td>999, 1000</td>
</tr>
<tr>
<td>Menzel, W. P.</td>
<td>724</td>
</tr>
<tr>
<td>Mercker, E.</td>
<td>968</td>
</tr>
<tr>
<td>Merski, N. R.</td>
<td>180, 278, 279, 497</td>
</tr>
<tr>
<td>Mertens, C. J.</td>
<td>670, 671, 705, 706, 707, 708, 717</td>
</tr>
<tr>
<td>Meyers, J. F.</td>
<td>594, 596</td>
</tr>
<tr>
<td>Micol, J. R.</td>
<td>265</td>
</tr>
<tr>
<td>Mikovitz, J.</td>
<td>751, 832</td>
</tr>
<tr>
<td>Miller, A. J.</td>
<td>845</td>
</tr>
<tr>
<td>Miller, J.</td>
<td>1081</td>
</tr>
<tr>
<td>Miller, W. F.</td>
<td>802, 803</td>
</tr>
<tr>
<td>Mills, F. P.</td>
<td>709</td>
</tr>
<tr>
<td>Min, Q.</td>
<td>785</td>
</tr>
<tr>
<td>Miner, P. S.</td>
<td>900, 903, 904</td>
</tr>
<tr>
<td>Minguet, P. J.</td>
<td>322, 323, 327, 532, 533</td>
</tr>
<tr>
<td>Mirick, P. H.</td>
<td>228</td>
</tr>
<tr>
<td>Mishchenko, M. I.</td>
<td>858, 859</td>
</tr>
<tr>
<td>Mitcheltree, R. A.</td>
<td>266, 509</td>
</tr>
<tr>
<td>Mlynczak, M. G.</td>
<td>670, 671, 705, 706, 707, 708, 710, 717, 776, 809, 810</td>
</tr>
<tr>
<td>Mockensturm, E. M.</td>
<td>656, 657, 658</td>
</tr>
<tr>
<td>Moerder, D. D.</td>
<td>259</td>
</tr>
<tr>
<td>Mohnen, V. A.</td>
<td>694</td>
</tr>
<tr>
<td>Mojazza, B.</td>
<td>406</td>
</tr>
<tr>
<td>Moncet, J-L.</td>
<td>862</td>
</tr>
<tr>
<td>Mondoloni, S.</td>
<td>134</td>
</tr>
<tr>
<td>Montero, R. S.</td>
<td>882</td>
</tr>
<tr>
<td>Moore, A. A.</td>
<td>289</td>
</tr>
<tr>
<td>Moore, D. F.</td>
<td>637</td>
</tr>
<tr>
<td>Moore, J. R.</td>
<td>835</td>
</tr>
<tr>
<td>Moore, M. D.</td>
<td>77</td>
</tr>
<tr>
<td>Moore, T. C., Sr.</td>
<td>578</td>
</tr>
<tr>
<td>Morelli, E. A.</td>
<td>211</td>
</tr>
<tr>
<td>Morgan, H. L., Jr.</td>
<td>60, 61</td>
</tr>
<tr>
<td>Morris, A. T.</td>
<td>905, 949</td>
</tr>
<tr>
<td>Morris, P. J.</td>
<td>1001</td>
</tr>
<tr>
<td>Moses, R. W.</td>
<td>492</td>
</tr>
<tr>
<td>Moss, J. N.</td>
<td>542, 543</td>
</tr>
<tr>
<td>Motter, M. A.</td>
<td>911</td>
</tr>
<tr>
<td>Moura, M. F.</td>
<td>608, 609</td>
</tr>
<tr>
<td>Mukhopadhyay, V.</td>
<td>627, 909, 910</td>
</tr>
<tr>
<td>Mullins, B. R.</td>
<td>216</td>
</tr>
<tr>
<td>Munk, M. M.</td>
<td>304</td>
</tr>
<tr>
<td>Munns, T. E.</td>
<td>135</td>
</tr>
<tr>
<td>Munoz, C.</td>
<td>881, 887</td>
</tr>
<tr>
<td>Muravyov, A.</td>
<td>636</td>
</tr>
<tr>
<td>Murcray, F. J.</td>
<td>718</td>
</tr>
<tr>
<td>Murphy, K. J.</td>
<td>62</td>
</tr>
<tr>
<td>Murray, D. B.</td>
<td>1046</td>
</tr>
<tr>
<td>Murray, K. E.</td>
<td>1035, 1042</td>
</tr>
<tr>
<td>Murray, P.</td>
<td>964</td>
</tr>
<tr>
<td>Murray, T.</td>
<td>474</td>
</tr>
<tr>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Naguib, A. M.</td>
<td>544, 573, 574</td>
</tr>
<tr>
<td>Namkung, M.</td>
<td>363, 364, 365, 382, 383, 384</td>
</tr>
<tr>
<td>Naser, A. S.</td>
<td>648, 649, 652</td>
</tr>
<tr>
<td>Natarajan, M.</td>
<td>671, 672, 696, 711, 716</td>
</tr>
<tr>
<td>Naujokat, B.</td>
<td>697</td>
</tr>
<tr>
<td>Nealy, J. E.</td>
<td>1072, 1076, 1082, 1094, 1100</td>
</tr>
<tr>
<td>Neece, R. T.</td>
<td>484</td>
</tr>
<tr>
<td>Neil, D. O.</td>
<td>673</td>
</tr>
<tr>
<td>Nelson, G. L.</td>
<td>426, 427</td>
</tr>
<tr>
<td>Nelson, M. L.</td>
<td>892, 894, 1051, 1052, 1053</td>
</tr>
<tr>
<td>Nemeth, M. P.</td>
<td>366, 367, 410, 523, 628</td>
</tr>
<tr>
<td>Nemtchinov, V.</td>
<td>709</td>
</tr>
<tr>
<td>Neubert, G. R.</td>
<td>970</td>
</tr>
<tr>
<td>Newbury, K. M.</td>
<td>453</td>
</tr>
<tr>
<td>Newell, R. E.</td>
<td>725, 726, 727, 728, 729, 770, 836</td>
</tr>
<tr>
<td>Newman, J. A.</td>
<td>313, 353, 368, 369, 370, 371, 372</td>
</tr>
<tr>
<td>Newman, J. C., Jr.</td>
<td>328, 351, 354, 368, 373, 638</td>
</tr>
<tr>
<td>Newman, P. A.</td>
<td>41, 69</td>
</tr>
<tr>
<td>Nguyen, D. P.</td>
<td>172</td>
</tr>
<tr>
<td>Nguyen, D. T.</td>
<td>84</td>
</tr>
<tr>
<td>Nguyen, L.</td>
<td>723, 745, 775, 785, 802, 803, 804, 805, 811, 812, 821</td>
</tr>
<tr>
<td>Nguyen, T. X.</td>
<td>469, 470, 490</td>
</tr>
<tr>
<td>Nicholson, L. M.</td>
<td>428, 430, 431</td>
</tr>
<tr>
<td>Nicholson, M.</td>
<td>223</td>
</tr>
<tr>
<td>Nielsen, E. J.</td>
<td>63</td>
</tr>
<tr>
<td>Nixon, M. W.</td>
<td>200, 214</td>
</tr>
<tr>
<td>Nolf, S. R.</td>
<td>309, 555, 661</td>
</tr>
</tbody>
</table>
Noor, A. K.: 603
Norbury, J. W.: 1070, 1071, 1083, 1084, 1085, 1091, 1104, 1105
Nordeen, M. L.: 785, 813
Norman, R.: 1083
Norman, R. M.: 93
Norum, T. D.: 1002
Notari, A.: 763, 780, 781

O
O’Brien, T. K.: 322, 323, 324, 327
O’Byrne, S.: 545
O’Connell, T. E.: 45
Odegard, G. M.: 325, 326, 343, 429, 430, 431, 432, 514, 546
Oglesby, D. M.: 585
Ogren, J. A.: 766
Ogunsola, O. J.: 693
Olson, E. D.: 4
Olson, J. R.: 665, 673
Om, O.: 24
Oplinger, D. W.: 1092
Orwell, R. A.: 405
Osborn, M. T.: 849
Oseguera-Lohr, R. M.: 118, 131, 136, 137
Oshel, E.: 658
Ostroff, A. J.: 244, 256
Ounaies, Z.: 433, 436, 444, 547, 548
Owens, L. R., Jr.: 32, 42, 64, 79

P
Pack, L. G.: 65
Paden, B.: 598, 599
Paden, J.: 788, 789, 790, 823, 834
Padshah, M. I.: 892
Padula, S. L.: 237, 254, 937
Page, J. A.: 972
Paik, S.: 364, 382
Paik, S. M.: 363
Palikonda, R.: 758, 759, 804, 814, 815
Palmer, M. T.: 134, 164
Palmieri, F. L.: 463
Palsson, O. S.: 867, 868
Palumbo, D. L.: 981
Pamadi, B. N.: 282
Pandey, D. K.: 789, 824, 834
Pandya, M. J.: 26
Pappa, R. S.: 6, 190, 191, 192, 212, 576, 579, 629, 630, 631, 656, 657, 658, 982
Parikh, P. C.: 294
Paris, I. L.: 323, 327
Park, J. H.: 697, 712
Park, M. A.: 66
Park, S-Y.: 301, 1067
Park, S. K.: 858
Parker, L. L.: 854, 856, 857
Parker, P. A.: 32, 580, 948
Parmar, D. S.: 581
Parrish, R. V.: 93, 94, 872
Parrott, T. L.: 83, 985
Pasciak, J. E.: 859
Pater, R. H.: 437, 438
Paules, G.: 776
Pawlowski, K. J.: 439, 547
Pecquet, R. W.: 358
Pellett, G. L.: 240, 242
Pelon, J.: 676, 847, 848
Pendergraft, O. C., Jr.: 24
Pengel, K.: 968
Penny, S. G.: 40
Perey, D. F.: 109, 383
Perez, G.: 966
Perot, E.: 291
Perrin, A.: 700
Perry, J.: 1059
Pesnell, W. D.: 717
Petch, J. C.: 852
Peters, M. E.: 138
Petersen, D. D.: 381
Petros, M.: 597, 1028, 1029, 1032, 1039, 1040, 1041, 1043, 1044
Petway, L. B.: 592, 593, 763, 780, 781
Phillips, E. P.: 351
Phillips, M.: 219
Piatak, D. J.: 200, 213, 214
Picard, R. H.: 670, 707, 708, 710, 717
Pierce, R. B.: 672, 673, 751
Pietruzska, L. M.: 389
Pincus, R.: 786, 816
Pinelli, T. E.: 1049, 1054, 1055, 1056, 1057, 1058, 1059
Pipes, R. B.: 333, 408, 409, 418, 419, 440, 464, 549, 552
Pippin, M. R.: 674, 675, 769
Pirzadeh, S. Z.: 55, 67
Pitts, M. C.: 747, 817, 818
Platnick, S.: 858
Platt, M.: 798
Poe, C. C., Jr.: 316
Poellot, M. R.: 754, 755
Poggi, M. A.: 385, 441, 442
Pollock, W. D.: 359
Poole, L. R.: 676
Pope, A. T.: 139, 867, 868, 869
Pope, S. K.: 819
Popernack, T. G., Jr.: 42
Popp, P.: 672
Posey, J. W.: 1002
Poteet, C. C.: 273, 277, 284, 285
Pototzky, A. S.: 215
Potter, S.: 226
Pougatchev, N. S.: 862
Powell, R. W.: 298, 304
Prabhu, R. K.: 45, 294, 298
Pradhan, B. K.: 306
Prater, R. E.: 1104, 1105
Prather, M.: 1080
Pratt, D.: 258
Premo, J. W.: 964
Pressley, S.: 675
Presz, W. M., Jr.: 68
Priestley, K. J.: 787, 788, 820, 824, 834
Principe, J. C.: 911
Prinzfel, L. J., III: 105, 139, 866, 870, 871, 872
Prior, E. J.: 308
Pritchard, J. I.: 6, 982
Proctor, F. H.: 115, 116, 117, 140, 141, 142, 152
Prosser, W. H.: 956, 1003, 1004
Puschell, J. J.: 692
Puster, R. L.: 240
Putko, M. M.: 69
Qi, D.: 538, 550
Qualls, G. D.: 897, 1065, 1086, 1104, 1105
Quante, M.: 798
Queen, E. M.: 268, 274, 286, 291
Quinn, G.: 627
Rackl, R. G.: 975
Raffel, M.: 968
Raffinson, V.: 1101
Rahman, Z.: 575
Raiszadeh, B.: 268, 286
Raju, I. S.: 316, 355, 356, 472, 602, 612, 624, 632, 633
Raman, A.: 639
Ramiscal, E. R.: 96
Randall, D. A.: 845, 852, 853, 854, 857
Raney, D. L.: 246, 257, 439
Rankin, C. C.: 637
Rankin, J. M.: 124
Ransome, J. B.: 634
Rapp, A. D.: 723, 735, 755, 775, 784, 785, 805, 811, 812, 813, 821, 828
Rault, D. F.: 796, 797, 822
Ray, A.: 135
Raymond, C.: 776
Reaves, M. C.: 226
Reddy, C. J.: 84
Reeder, J. R.: 329, 330, 331, 635
Reginatto, M.: 1079
Reichle, D. J., Jr.: 590, 591, 1036
Reis, D. G.: 36
Remsberg, E. E.: 671, 705, 706, 709, 711, 713, 714, 715, 716, 717
Remus, R. W.: 704
Reust, D.: 1080
Reynolds, G.: 68
Rheew, R. D.: 582
Richard, E.: 672
Richard, H.: 968
Riddell, W. T.: 612
Ridley, B. A.: 730
Rimson, I. J.: 143
Rinsland, C. P.: 677, 698, 700, 718, 1020, 1023, 1024, 1026, 1027
Riordan, A. J.: 126
Risley, A. D.: 835
Ritchey, N. A.: 844
Rivera, G.: 417
Rivers, H. K.: 276, 315, 332
Rivers, S. M.: 24
Rizvi, S.: 781
Rizzi, S. A.: 636, 897, 975
Roberts, P. W.: 583
Robertson, F.: 845
Robertson, S. H.: 143
Robins, R. E.: 144, 145
Robinson, J. H.: 967
Robinson, P.: 492
Robson, S.: 629, 630, 631
Rock, K. E.: 180
Rocker, J.: 892, 894, 1060
Rodriguez, C. G.: 38
Rogers, R. C.: 180, 240, 263
Rogowski, R. S.: 341, 1034
Roithmayr, C. M.: 301
Rollins, C. H.: 231
Rollew, V. J.: 625
Roncaglia, G. J.: 892, 894, 1060
Rose, C. A.: 637, 646, 660
Rose, F. G.: 793
Rotman, D. A.: 699
Rouse, J. H.: 424, 425, 443, 444, 536
Rouse, M.: 280
Rousseau, S.: 291
Rubinstein, R.: 70, 71, 72, 551, 1005
Rushe-Faja, D.: 1053
Rudisill, M.: 106
Ruff, C. T.: 487
Rumsey, C. L.: 73, 74, 75, 80
Rupa, K.: 780
Rushby, J.: 906
Russell, J. M., III: 670, 672, 706, 707, 708, 709, 710, 715, 717

S
Sadowski, S. S.: 970
Saether, E.: 317, 333, 549, 552
Sakosky, J. S.: 138
Salas, A. O.: 895
Salerno, L.: 180
Salud, M. T.: 470, 473, 474
Samareh, J. A.: 97, 938, 939
Sams, R. L.: 1020
Samulski, E. T.: 510, 511
Sander, S. P.: 709
Sandholm, S. T.: 665, 693, 799
Sandridge, C. A.: 897, 1086, 1087, 1088
Sandusky, R. R., Jr.: 219
Sankaran, S. N.: 332
Sapna, G. H.: 173
Sareen, A. K.: 216
Sarver-Verhey, T.: 292
Sassen, K.: 798
Sastry, S. C.: 135
Saucillo, R. J.: 292
Savitzky, A. H.: 417
Sawyer, J. W.: 276, 334
Sayre, J.: 158
Scarborough, S. E.: 173
Schaaack, T.: 673
Schaeffler, N. W.: 65, 76
Schaffner, P. R.: 484, 491
Schein, D. B.: 988
Schmidlin, F. J.: 715, 717, 763
Schmidt, I. H.: 273
Schoeberl, M. R.: 776
Schumann, U.: 798
Schwartz, R. J.: 585
Scott, L. A.: 486
Scott, M. A.: 585
Scott, R. C.: 217
Scott, W. J.: 656, 657, 658
Scotti, S. J.: 276
Sears, D.: 1080
Seifert, A.: 65
Sekula, M. K.: 229, 230
Sellers, W. L., III: 77
Seman, C. J.: 852
Seo, Y. B.: 422
Sepulveda, R.: 736
Seshadri, B. R.: 373, 638
Severance, K.: 869
Seywald, H.: 1067
Shah, G. H.: 258
Stillwagen, F. H.: 292, 1067
Stimpfle, R. M.: 672
Stoakley, D. M.: 390
Stockwell, A. E.: 146, 205, 206
Stoddard, D. B.: 736
Stoker, R. W.: 970
Stone, T. J.: 622
Storaasli, O. O.: 647
Stough, H. P., III: 147, 148, 149, 150
Strahan, S.: 699
Streets, D. G.: 309
Streett, C. L.: 222, 970
Strieder, W.: 550
Striepe, S. A.: 303
Stroud, W. J.: 227, 237, 648, 649, 650, 651, 652
Su, J.: 422, 439, 453, 454, 455, 456
Su, P.: 275
Suleiman-Rosado, D. S.: 457
Sullivan, B. J.: 276
Sullivan, B. M.: 151, 993
Sun, C.: 343
Sun, X.: 343
Sun-Mack, S.: 740, 741, 756, 760, 773, 774, 806, 807, 808, 812, 830, 833, 841, 860
Sundqvist, H.: 798
Susskind, J.: 845
Sutton, K.: 298
Switzer, G. F.: 142, 152
Syed, A. A.: 1012
Sykes, R.: 199
Szewczyk, Z. P.: 788, 790

T

Tahar, S.: 887
Tai, H.: 340, 341, 1033, 1106
Takallu, M. A.: 113, 120, 153, 154
Takashima, N.: 1068, 1069
Talbot, R. W.: 799
Taminger, K. M.: 361, 376, 377, 378, 379, 381
Tan, D.: 665
Tang, A.: 1091
Tang, R.: 892
Tang, W. H.: 84
Tanner, D.: 662, 675
Tao, W.-K: 852

Tappan, N. D.: 704
Tartabini, P. V.: 288, 304
Tatting, B. F.: 653
Taylor, A. C., III: 69
Taylor, B. D.: 231
Tedjojuwono, K. K.: 1034
Telban, R. J.: 873
Terry, J. E.: 223
Tessler, A.: 302, 639, 1073, 1092, 1093
Thibeault, S. A.: 337, 423
Thomas, J. L.: 920, 924, 925
Thomas, R. H.: 1013, 1014, 1015
Thomas, S.: 834
Thompson, C. M.: 448, 449, 450, 458, 459, 460
Thompson, R. E.: 715
Thomsen, D. L., III: 461, 462
Thornberry, T.: 675
Thornhill, K. L.: 309
Thouret, V.: 836
Till, P. D.: 159, 160, 161
Tinetti, A. F.: 1015
Tiwari, S. N.: 1046
Tolson, R. H.: 269, 272
Tomek, W. G.: 79
Tooman, T. P.: 766
Toon, G. C.: 672
Torres, O.: 701
Torres, W.: 904
Townsend, J. C.: 895
Tracy, M. B.: 985
Trepte, Q.: 741, 773, 806, 807, 808, 830, 833, 840, 841
Trexler, C. A.: 240
Tripathi, R. K.: 1070, 1071, 1076, 1083, 1084, 1085, 1091, 1094, 1095, 1096, 1097, 1100, 1103, 1104, 1105, 1106
Tripoli, G. J.: 673
Trivedi, S. B.: 596
Troutman, P. A.: 292, 1086, 1094
Trujillo, A. C.: 99, 155, 156
Truong, A.: 1102
Tsai, C-Y.: 263
Tsay, S-C.:  858, 859
Tsynkov, S. V.:  912, 927, 934, 935
Tucker, G.:  307
Tucker, J. H.:  885
Tung, C.:  968
Turkel, E.:  912
Turner, D. D.:  765, 766
Turner, T. L.:  361, 981, 1016, 1017, 1018
Tuttle, D. G.:  44
Tveten, T.:  1065
Tweed, J.:  1098, 1103, 1104, 1105, 1106
Tyler, E. D.:  294

U
Uenking, M. D.:  154, 157
Uijt de Haag, M.:  158, 169
Unal, R.:  289
Underbrink, J. R.:  970
Unruh, J. F.:  159, 160, 161
Upchurch, B. T.:  307
Utal, T.:  829, 830

V
Vadlamani, A.:  158
Valero, F. P.:  753, 779, 819
Van der Wall, B.:  968
Van Steveninck, W.:  1079
Vanderplaats, G. N.:  896
Vann, L. B.:  842, 843
Vassberg, J. C.:  55, 80
Vatsa, V. N.:  13, 81, 84, 921
Vay, S. A.:  309
Veiga, R. E.:  750
Venkata, V.:  135
Venter, G.:  224, 225
VerHage, J. E.:  897, 1086
Verma, R.:  480
Vicari, L.:  135
Viken, S. A.:  49, 921
Villani, J. A.:  166
Vivona, R. A.:  96
Voland, R. T.:  240
Von Ofenheim, B.:  892
Von der Gathen, P.:  689
Voracek, D. F.:  226
Vranas, T. L.:  287

W
Vukovich, F. M.:  768

Wagner, J. A.:  358
Wahls, R. A.:  24, 42, 55, 64, 79
Waithe, K. A.:  15
Walford, A.:  629, 630, 631
Walker, B.:  964
Walker, S. P.:  342, 654
Wallace, T. A.:  380
Walsh, B. M.:  557, 1032, 1037, 1038, 1041, 1042
Walsh, J. L.:  227
Walters, R. W.:  942
Waltrup, P. L.:  243
Wambold, J. C.:  235, 236
Wang, C. C.:  596
Wang, D.:  852, 857
Wang, J-A.:  1090
Wang, J. T.:  302, 305
Wang, L-P.:  538
Wang, P-H.:  695, 733, 843
Wang, Y.:  343
Ware, J.:  1098
Warren, A. W.:  98, 170, 171
Washburn, A. E.:  7, 49, 254, 585
Waszak, M. R.:  260
Watkins, A. N.:  384, 585
Watson, J. F.:  117, 142
Watson, J. J.:  270
Watson, J. K.:  381
Watson, K. A.:  404, 406, 412, 413, 414, 415, 433, 448, 449, 450, 460, 463, 547
Watson, R. D.:  74
Watson, W. R.:  82, 83, 84, 985
Way, D. W.:  303
Weathered, B. W.:  231
Weatherhead, E.:  810
Wei, C-F.:  693
Weinstein, B.:  899
Weiser, E. S.:  420, 426, 427, 440, 464, 465
Welch, S. S.:  238
Wells, J. G., Jr.:  715
Werlink, R. J.:  466
Werner, M. R.:  269, 301
West, J. W.:  307, 584
Westberg, D. J.:  770
<table>
<thead>
<tr>
<th>Author</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Westberg, H.</td>
<td>675</td>
</tr>
<tr>
<td>Weston, R. P.</td>
<td>97, 227</td>
</tr>
<tr>
<td>White, A. L.</td>
<td>950, 951, 952, 953, 954</td>
</tr>
<tr>
<td>White, J. A.</td>
<td>78, 502, 943</td>
</tr>
<tr>
<td>Whitley, K. S.</td>
<td>314, 315, 331, 344, 428</td>
</tr>
<tr>
<td>Whittlock, C. H.</td>
<td>844</td>
</tr>
<tr>
<td>Whittaker, S. R.</td>
<td>477</td>
</tr>
<tr>
<td>Wielicki, B. A.</td>
<td>733, 737, 761, 778, 793, 794, 795, 807, 808, 820, 833, 843, 845, 854, 855, 856, 857, 861</td>
</tr>
<tr>
<td>Wilber, A. C.</td>
<td>825, 844</td>
</tr>
<tr>
<td>Wilborn, J. E.</td>
<td>258</td>
</tr>
<tr>
<td>Wilbur, M. L.</td>
<td>228, 229, 230, 965</td>
</tr>
<tr>
<td>Wilcox, F. J., Jr.</td>
<td>265</td>
</tr>
<tr>
<td>Wilkie, W. K.</td>
<td>655</td>
</tr>
<tr>
<td>Wilkins, R.</td>
<td>337</td>
</tr>
<tr>
<td>Wilkinson, S. P.</td>
<td>85</td>
</tr>
<tr>
<td>Willard, S. A.</td>
<td>374</td>
</tr>
<tr>
<td>Williams, A. C.</td>
<td>1055, 1058</td>
</tr>
<tr>
<td>Williams, J.</td>
<td>142</td>
</tr>
<tr>
<td>Williams, L. J.</td>
<td>162</td>
</tr>
<tr>
<td>Williams, M. K.</td>
<td>426, 427, 464</td>
</tr>
<tr>
<td>Willshire, W. L., Jr.</td>
<td>163</td>
</tr>
<tr>
<td>Wilmoth, R. G.</td>
<td>297, 501, 528, 928, 1068, 1069</td>
</tr>
<tr>
<td>Wilson, J. W.</td>
<td>317, 423, 789, 1072, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1086, 1089, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106</td>
</tr>
<tr>
<td>Wilson, R. S.</td>
<td>791, 834</td>
</tr>
<tr>
<td>Wincheski, R. A.</td>
<td>363, 364, 365, 382, 383, 384</td>
</tr>
<tr>
<td>Winfree, W. P.</td>
<td>375, 587, 955, 957, 958, 959, 960, 961</td>
</tr>
<tr>
<td>Wing, D. J.</td>
<td>95, 134, 164, 165</td>
</tr>
<tr>
<td>Wingrove, E. R., III</td>
<td>166</td>
</tr>
<tr>
<td>Winick, J. R.</td>
<td>670, 707, 708, 710</td>
</tr>
<tr>
<td>Winker, D. M.</td>
<td>676, 846, 847, 848, 858, 859</td>
</tr>
<tr>
<td>Wintersteiner, P. P.</td>
<td>670, 707, 708, 710</td>
</tr>
<tr>
<td>Wiscombe, W.</td>
<td>776, 858</td>
</tr>
<tr>
<td>Wise, K.</td>
<td>430, 431, 432, 436, 546, 548</td>
</tr>
<tr>
<td>Wong, D. T.</td>
<td>153, 154</td>
</tr>
<tr>
<td>Wong, T.</td>
<td>843, 845, 854, 855, 856, 857, 861</td>
</tr>
<tr>
<td>Woo, J-H.</td>
<td>309</td>
</tr>
<tr>
<td>Wood, R. M.</td>
<td>86, 87, 88</td>
</tr>
<tr>
<td>Wood, S. W.</td>
<td>718</td>
</tr>
<tr>
<td>Wood, W. A.</td>
<td>898, 944</td>
</tr>
<tr>
<td>Woodall, C.</td>
<td>394</td>
</tr>
<tr>
<td>Woodard, S. E.</td>
<td>231, 956</td>
</tr>
<tr>
<td>Woodell, G. A.</td>
<td>575</td>
</tr>
<tr>
<td>Woodman, K. L.</td>
<td>231</td>
</tr>
<tr>
<td>Woods, D. C.</td>
<td>849</td>
</tr>
<tr>
<td>Woods, W. C.</td>
<td>89</td>
</tr>
<tr>
<td>Woods-Vedeler, J. A.</td>
<td>212, 656, 657, 658</td>
</tr>
<tr>
<td>Worden, J.</td>
<td>698</td>
</tr>
<tr>
<td>Working, D. C.</td>
<td>436</td>
</tr>
<tr>
<td>Wright, K. D., II</td>
<td>585</td>
</tr>
<tr>
<td>Wright, M. C.</td>
<td>866</td>
</tr>
<tr>
<td>Wu, F.</td>
<td>90</td>
</tr>
<tr>
<td>Wu, K. C.</td>
<td>659</td>
</tr>
<tr>
<td>Wu, M-C.</td>
<td>1034</td>
</tr>
<tr>
<td>Wu, N. E.</td>
<td>940</td>
</tr>
<tr>
<td>Wuebbles, D. J.</td>
<td>693</td>
</tr>
<tr>
<td>Wurster, K. E.</td>
<td>277, 288</td>
</tr>
<tr>
<td>Wusk, M. S.</td>
<td>167</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Xie, S. C.</td>
<td>850, 852, 853</td>
</tr>
<tr>
<td>Xiong, Q.</td>
<td>306</td>
</tr>
<tr>
<td>Xu, K-M.</td>
<td>737, 742, 743, 744, 761, 786, 794, 795, 816, 850, 851, 852, 853, 854, 855, 856, 857</td>
</tr>
<tr>
<td>Xu, T-B.</td>
<td>456</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Y</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yager, T. J.</td>
<td>168, 232, 233, 234, 235, 236</td>
</tr>
<tr>
<td>Yamaleev, N. K.</td>
<td>921, 945, 946</td>
</tr>
<tr>
<td>Yan, J.</td>
<td>947</td>
</tr>
<tr>
<td>Yang, P.</td>
<td>858, 859</td>
</tr>
<tr>
<td>Yang, S-K.</td>
<td>845</td>
</tr>
<tr>
<td>Yanishesky, M.</td>
<td>352</td>
</tr>
<tr>
<td>Yao, C-S.</td>
<td>65, 493, 494, 553</td>
</tr>
<tr>
<td>Yeager, W. T., Jr.</td>
<td>228, 229, 230</td>
</tr>
<tr>
<td>Yeung, L.</td>
<td>282, 1065</td>
</tr>
<tr>
<td>Yieh, P. S.</td>
<td>477</td>
</tr>
<tr>
<td>Ying, S. X.</td>
<td>75</td>
</tr>
<tr>
<td>Yio, J. J.</td>
<td>853</td>
</tr>
<tr>
<td>Yokota, R.</td>
<td>402, 403, 412, 413, 414, 415, 447, 458</td>
</tr>
<tr>
<td>Yost, W. T.</td>
<td>109, 864, 865, 1019</td>
</tr>
</tbody>
</table>
Young, D. F.: 373, 721, 723, 732, 736, 738, 739, 740, 741, 745, 774, 802, 803, 805, 806, 807, 808, 811, 812, 833, 860, 861
Young, R. D.: 628, 638, 660
Young, S. D.: 158, 169
Young, V.: 675
Yu, D.: 540, 541
Yu, J.: 595, 597, 690, 691, 964, 1012, 1028, 1029, 1032, 1035, 1039, 1040, 1041, 1043, 1044
Yu, Y. H.: 968
Yue, G. K.: 694, 695
Yung, Y. L.: 709

Z

Zalameda, J. N.: 586, 587, 960, 961
Zander, R.: 718
Zang, T. A.: 237
Zapotecny, T.: 673
Zawodny, J. M.: 749, 839
Zec, J.: 487
Zeitlin, C. J.: 1081, 1098
Zhang, H.: 778
Zhang, M.: 733
Zhao, H.: 12
Zhao, J.: 859
Zhou, D. K.: 678, 827, 862
Zhou, Y.: 1005
Zhu, J. Z.: 554
Zhu, Y.: 770
Zickuhr, T.: 55
Zubair, M.: 884, 892, 1051, 1053
Zuckerwar, A. J.: 588
Organization Index

Office of Director (A)

Independent Program Assessment Office (AH)
1108, 1109

Systems Management Office (AJ)
1107

National Institute of Aerospace Management Office (AK)
1110, 1111

Space Access and Exploration Program Office (OC)
38, 210, 238, 278, 279

Aerospace Vehicle Systems Technology Office (OD)
119, 163, 247, 248, 249, 250, 251, 252, 253, 254, 603

Aero-Performing Center Program Management Office (OH)
25

Aerospace Systems, Concepts and Analysis Competency (RA)

Aerodynamics, Aerothermodynamics and Acoustics Competency (RB)
Structures and Materials Competency (RC)

1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1031, 1068, 1069

Airborne Systems Competency (RD)


Atmospheric Sciences Competency (RE)

Systems Engineering Competency (RF)


Office of Education (SH)

308, 1046, 1049, 1054, 1055, 1056, 1057, 1058, 1059

Office of the Chief Information Officer (SL)

892, 894, 1060, 1061
## Program Number Index

<table>
<thead>
<tr>
<th>Program No.</th>
<th>Program Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>101-21-23</td>
<td>1077, 1095, 1096, 1106</td>
</tr>
<tr>
<td>229-01-02</td>
<td>721, 732, 734, 737, 738, 739, 740, 743, 744, 745, 756, 760, 773, 774, 778, 784, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 802, 803, 806, 807, 808, 812, 816, 820, 823, 824, 830, 833, 834, 840, 841, 843, 845, 850, 851, 852, 853, 856, 857, 860, 861, 902</td>
</tr>
<tr>
<td>229-01-72</td>
<td>838</td>
</tr>
<tr>
<td>229-02-06</td>
<td>698</td>
</tr>
<tr>
<td>229-10-02</td>
<td>733, 736, 741, 855</td>
</tr>
<tr>
<td>229-10-32</td>
<td>748, 750, 796, 837</td>
</tr>
<tr>
<td>229-10-72</td>
<td>749, 797, 818, 822, 839</td>
</tr>
<tr>
<td>232-23-02</td>
<td>280</td>
</tr>
<tr>
<td>242-33-01</td>
<td>299</td>
</tr>
<tr>
<td>242-82-76</td>
<td>1050</td>
</tr>
<tr>
<td>251-10-01</td>
<td>252, 345, 357, 377, 386, 396, 402, 403, 1017</td>
</tr>
<tr>
<td>251-10-10</td>
<td>395</td>
</tr>
<tr>
<td>253-02-98</td>
<td>896</td>
</tr>
<tr>
<td>258-10-01</td>
<td>455</td>
</tr>
<tr>
<td>258-70-21</td>
<td>592, 593, 661, 772</td>
</tr>
<tr>
<td>258-70-22</td>
<td>590, 591, 595, 683, 684, 1036, 1038, 1042</td>
</tr>
<tr>
<td>258-80-21</td>
<td>669</td>
</tr>
<tr>
<td>258-80-30</td>
<td>692</td>
</tr>
<tr>
<td>259-40-01</td>
<td>676, 680, 817, 847, 848</td>
</tr>
<tr>
<td>259-40-10</td>
<td>846</td>
</tr>
<tr>
<td>274-00-00</td>
<td>307, 555, 586, 702, 703, 704, 1040</td>
</tr>
<tr>
<td>274-00-02</td>
<td>27, 28, 454, 1030</td>
</tr>
<tr>
<td>274-00-03</td>
<td>437, 438, 456, 907</td>
</tr>
</tbody>
</table>
Program No. 274-00-99
1079

Program No. 282-10-01
36, 37, 679, 826, 827

Program No. 282-10-08
1058

Program No. 282-30-10
1061

Program No. 291-01-09
832

Program No. 291-01-91
742, 746, 761, 825, 831, 854

Program No. 291-07-07
686, 689

Program No. 297-60-20
485, 863

Program No. 297-80-00
1108, 1109

Program No. 323-78-01
1045

Program No. 332-16-30
1049, 1056

Program No. 349-06-01
1080, 1100

Program No. 359-02-01
753, 771, 779

Program No. 370-21-08
696

Program No. 390-20-00
1068, 1069

Program No. 406-10-02
89

Program No. 428-50-08
1047, 1048

Program No. 505-90-52
494, 495, 500, 503, 510, 511, 513, 514, 521, 522, 523, 524, 531, 532, 533, 536, 538, 541, 546, 547, 548, 549, 550, 551, 552, 554, 875, 878, 879, 880, 881, 882, 884, 912, 920, 922, 923, 924, 925, 926, 927, 928, 930, 931, 932, 934, 935, 936, 940, 941, 942, 947

Program No. 505-90-54
540

Program No. 505-9052
874

Program No. 519-31-61
1063

Program No. 522-11-41
628

Program No. 522-14-21
952, 953, 954

Program No. 522-18-11
365
Program No. 522-31-11  
 530, 574

Program No. 522-31-21  
63

Program No. 522-31-31  
33, 34

Program No. 522-63-11  
636

Program No. 522-63-41  
589

Program No. 537-06-37  
975

Program No. 537-07-22  
30

Program No. 537-07-24  
246

Program No. 537-08-23  
257

Program No. 537-09-20  
227

Program No. 548-50-21  
139

Program No. 577-50-10  
204

Program No. 605-85-42  
525

Program No. 621-25-05  
671, 709, 711, 713, 714, 716

Program No. 621-25-38  
715

Program No. 621-45-20  
293, 685, 694, 695, 719, 720, 747, 835, 849

Program No. 621-82-80  
758, 759, 801, 804, 814, 815

Program No. 622-26-22  
783

Program No. 622-26-26  
690

Program No. 622-29-22  
782

Program No. 622-29-26  
691, 763, 764, 780, 781

Program No. 622-31-13  
726

Program No. 622-43-10  
859

Program No. 622-43-31  
666, 667, 730, 798, 800

Program No. 622-43-93  
842

Program No. 622-44-60  
751
Program No. 704-50-02
891

Program No. 704-51-41
949

Program No. 705-01-11
40, 69

Program No. 705-30-11
622, 1099

Program No. 706-12-21
1003

Program No. 706-13-31
428

Program No. 706-17-21
97, 487

Program No. 706-17-31
60, 61

Program No. 706-17-41
1057

Program No. 706-17-51
909, 910

Program No. 706-17-61
88

Program No. 706-17-71
245, 255

Program No. 706-21-11
24, 31, 64, 368

Program No. 706-21-21
331, 338, 366, 367, 408, 409, 418, 419, 451, 452, 472, 602, 605, 606, 607, 608,
609, 614, 615, 617, 619, 624, 632, 633,
634, 635, 637, 644, 645, 646, 653

Program No. 706-21-31
339

Program No. 706-21-61
899, 900, 904, 950, 951

Program No. 706-21-71
99, 155, 156, 211, 256

Program No. 706-25-01
423, 453, 627, 844, 929

Program No. 706-25-02
175, 199, 219, 224, 225, 306, 379, 381,
392, 413, 414, 640, 668, 673, 777

Program No. 706-25-31
6, 168, 174, 232, 233, 234, 235, 236

Program No. 706-30-30
259

Program No. 706-31-05
57

Program No. 706-31-11
16, 17, 21, 22, 70, 71, 72, 73, 74, 75, 81,
498, 499, 515, 516, 529, 539, 572, 921,
945, 946, 991, 992, 1005, 1031

Program No. 706-31-21
8, 9, 13, 46, 66, 67, 387, 913, 914, 915,
918, 938, 939
Program No. 706-31-31
29, 42, 43, 44, 53, 54, 59, 79, 163, 262

Program No. 706-31-40
218

Program No. 706-31-41
90, 176, 181, 207, 208, 209, 213, 217, 475, 476, 478, 481, 482, 483

Program No. 706-31-61
14, 39, 41, 55, 80, 237, 467, 649, 650, 652, 937

Program No. 706-32-11
7, 10, 11, 26, 49, 50, 65, 76, 85, 179, 544, 573, 585, 588

Program No. 706-32-21
287, 388, 391, 393, 394, 422, 461, 462, 895, 911

Program No. 706-32-31
173, 226, 361, 466, 1016, 1018

Program No. 706-32-41
247, 248, 249, 250, 251, 253, 254, 260, 486

Program No. 706-32-51
319, 320, 335, 336, 439, 1112

Program No. 706-51-21
58, 87

Program No. 706-51-31
240, 242, 502, 512

Program No. 706-51-71
38, 210

Program No. 706-61-11
340, 341, 351, 352, 363, 369, 370, 421, 962

Program No. 706-62-11
189, 350, 353, 354, 611

Program No. 706-62-21
244, 908

Program No. 706-62-31

Program No. 706-63-11
12

Program No. 706-63-31
1034

Program No. 706-63-51

Program No. 706-63-61
346, 347, 348, 356, 360, 376, 378, 380

Program No. 706-63-71
373, 616, 626, 638, 660

Program No. 706-63-81
956

Program No. 706-72-50
594
Program No. 706-81-11
1002

Program No. 706-81-12
1008, 1009

Program No. 706-81-13
970

Program No. 706-81-14
159, 160, 492, 993

Program No. 706-81-21
983

Program No. 706-81-22
108

Program No. 706-81-29
290

Program No. 706-81-30
505, 506

Program No. 706-85-10
316, 330, 612, 625

Program No. 706-85-12
623, 643, 648, 651, 933

Program No. 706-85-20
321, 440, 464

Program No. 706-85-21
273, 276, 277, 284, 285, 349

Program No. 706-85-22
426, 427, 465

Program No. 706-85-29
290

Program No. 706-85-30
505, 506

Program No. 706-85-41
501, 526, 898, 944

Program No. 706-85-42
497, 517, 518, 542

Program No. 706-87-11
4, 110, 220, 221, 267, 292, 300, 301, 1067

Program No. 706-88-21
283

Program No. 707-01-26
98, 164

Program No. 708-72-40
2, 561

Program No. 708-72-41
446

Program No. 708-72-42
3

Program No. 708-72-50
596

Program No. 708-72-80
239, 241

Program No. 708-73-20
399, 459

Program No. 710-10-11
25, 215

Program No. 710-70-21
639, 1073, 1092
Program No. 711-41-32
133

Program No. 711-50-21
866, 868, 871

Program No. 711-51-21
870

Program No. 712-10-10
659

Program No. 712-10-11
200, 214

Program No. 712-10-21
323, 324, 327

Program No. 712-20-21
228

Program No. 712-20-31
885

Program No. 713-10-23
78, 243, 943

Program No. 713-10-60
180

Program No. 713-10-90
238, 278, 279

Program No. 713-23-02
332

Program No. 713-50-02
358, 359

Program No. 713-50-02
358, 359

Program No. 713-76-22
420

Program No. 713-80-00
528

Program No. 713-80-12
263

Program No. 713-80-13
545

Program No. 713-81-70
581

Program No. 714-01-27
757

Program No. 714-05-10
15, 48, 488, 493, 553

Program No. 714-05-30
182

Program No. 714-05-40

Program No. 721-10-13
275

Program No. 721-10-42
916, 917, 919

Program No. 721-20-30
604, 613

Program No. 721-20-41
265, 310, 342, 344, 654

Program No. 721-21-10
314, 315, 318, 326

175
Program No. 721-21-14
   642
Program No. 721-21-30
   313, 329, 610
Program No. 721-21-34
   334
Program No. 721-21-41
   496, 519, 520, 527, 543
Program No. 721-21-50
   282
Program No. 721-21-51
   507
Program No. 722-59-50
   537
Program No. 722-59-87
   229, 230, 966
Program No. 722-63-87
   322
Program No. 722-64-10
   468, 469, 470, 471, 473, 474, 489, 490
Program No. 722-64-13
   681
Program No. 722-90-57
   1054, 1059
Program No. 725-10-11
   264, 288, 289, 1090
Program No. 727-01-22
   886, 887
Program No. 727-01-26
   91, 92, 95, 96, 102, 107, 118, 122, 131, 134, 136, 137, 138, 165, 170, 171
Program No. 727-03-15
   965, 968, 971, 972, 973, 974
Program No. 727-04-01
   145
Program No. 727-04-10
   144, 152
Program No. 727-04-20
   166, 1055
Program No. 728-30-10
   112, 135, 883, 903, 905, 906
Program No. 728-30-30
   258, 877, 888
Program No. 728-40-10
   101, 104, 111, 125, 127, 128, 129, 130, 132, 147, 148, 149, 150, 162, 201, 491, 563, 682
Program No. 728-40-30
   100, 115, 116, 117, 126, 140, 141, 142
Program No. 728-50-10
   143, 177, 178, 183, 184, 185, 186, 187, 188, 193, 194, 195, 196, 197, 198, 202, 203, 205, 206, 216, 223
Program No. 728-60-10
   93, 94, 105, 106, 120, 153, 157, 872
Program No. 728-60-20
113, 123, 154

Program No. 728-60-30
103, 114, 121, 124, 158, 169, 172, 484, 575

Program No. 729-50-10
146

Program No. 731-21-51
504

Program No. 732-50-00
317, 337, 647, 1072, 1075, 1076, 1081, 1082, 1086, 1087, 1088, 1089, 1097, 1098, 1102, 1104, 1105

Program No. 750-50-00
1103

Program No. 755-03-00
477

Program No. 755-06-00

Program No. 755-09-00
557, 1037, 1041

Program No. 755-30-11
897

Program No. 757-01-00
479, 480, 597, 641, 1028, 1029, 1032, 1035, 1039, 1043, 1044

Program No. 759-30-00
266, 268, 297

Program No. 762-20-11
47

Program No. 762-30-51
417, 441

Program No. 762-40-11
77

Program No. 762-40-21
389

Program No. 771-10-10
892, 894, 1060

Program No. 772-10-11
1107

Program No. 772-30-10
308

Program No. 781-10-11
5, 18, 19, 20, 23, 51, 52, 56, 976, 986, 987, 995, 999, 1000

Program No. 781-10-12
86, 984, 988, 1011, 1013, 1014, 1015

Program No. 781-10-13
161, 967, 969, 979, 980, 981, 982, 998, 1007, 1010

Program No. 781-20-11
151, 990, 1006

Program No. 781-20-12
989, 994
<table>
<thead>
<tr>
<th>Program No. 781-30-12</th>
<th>Program No. 992-10-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>1001</td>
<td>1110, 1111</td>
</tr>
<tr>
<td>Program No. 781-30-14</td>
<td>Program No. 992-16-05</td>
</tr>
<tr>
<td>82, 83, 84, 963, 964, 977, 978, 985, 1012</td>
<td>1051, 1052, 1053</td>
</tr>
<tr>
<td>Program No. 784-50-01</td>
<td>Program No. 992-20-03</td>
</tr>
<tr>
<td>1078, 1101</td>
<td>35</td>
</tr>
<tr>
<td>Program No. 784-50-10</td>
<td>Program No. 992-20-08</td>
</tr>
<tr>
<td>1074</td>
<td>32, 558, 559, 564, 580</td>
</tr>
<tr>
<td>Program No. 786-80-80</td>
<td>Program No. 992-20-80</td>
</tr>
<tr>
<td>119</td>
<td>1</td>
</tr>
<tr>
<td>Program No. 800-90-40</td>
<td>Program No. 992-30-11</td>
</tr>
<tr>
<td>274, 291, 295, 534</td>
<td>873, 893</td>
</tr>
<tr>
<td>Program No. 880-02-00</td>
<td>Program No. 992-31-12</td>
</tr>
<tr>
<td>670, 705, 706, 707, 708, 710, 717, 776, 809, 810</td>
<td>583</td>
</tr>
<tr>
<td>Program No. 896-30-00</td>
<td>Program No. 992-35-12</td>
</tr>
<tr>
<td>45, 62, 271, 281, 286, 294, 298, 303, 304, 509, 535, 621, 1064, 1065, 1066</td>
<td>261, 566, 577, 578, 582, 584, 948</td>
</tr>
<tr>
<td>Program No. 896-30-10</td>
<td>Program No. 992-62-10</td>
</tr>
<tr>
<td>68</td>
<td>167</td>
</tr>
<tr>
<td>Program No. 896-70-00</td>
<td></td>
</tr>
<tr>
<td>269, 272</td>
<td></td>
</tr>
<tr>
<td>Program No. 896-93-00</td>
<td></td>
</tr>
<tr>
<td>296</td>
<td></td>
</tr>
<tr>
<td>Program No. 905-24-00</td>
<td></td>
</tr>
<tr>
<td>270</td>
<td></td>
</tr>
<tr>
<td>Program No. 905-90-00</td>
<td></td>
</tr>
<tr>
<td>1062</td>
<td></td>
</tr>
</tbody>
</table>
This document is a compilation of the scientific and technical information that the Langley Research Center has produced during the calendar year 2002. Included are citations for Technical Publications, Conference Publications, Technical Memorandums, Contractor Reports, Journal Articles and Book Publications, Meeting Presentations, Technical Talks, and Patents.