Scientific and Technical Information
Output of the Langley Research Center for Calendar Year 1985

JANUARY 1986
Scientific and Technical Information
Output of the Langley Research Center
for Calendar Year 1985

Compiled by
Research Information and Applications Division
Langley Research Center
Hampton, Virginia
FOREWORD

This report contains a listing of Langley Research Center's scientific and technical research output for calendar year 1985.

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.

During the calendar year 1985, Langley's contributions to NASA and non-NASA literature included 167 NASA Formal Reports, 144 Quick-Release Technical Memorandums, 302 Contractor Reports, 265 Journal Articles and Other Publications, 599 Meeting Presentations, 238 Technical Talks, 15 Computer Programs, 66 Tech Briefs, and 23 Patents. In addition, during the year 13 conferences, symposia, and workshops were sponsored or cosponsored by Langley and held locally.

Comments or suggestions concerning this publication should be addressed to the Research Information and Applications Division, Mail Stop 180A, NASA Langley Research Center, Hampton, Virginia 23665.

Andrew J. Hansbrough
Assistant Chief, Research Information and Applications Division
<table>
<thead>
<tr>
<th>Title of conference</th>
<th>Date</th>
<th>Langley contacts</th>
<th>Langley</th>
<th>Non-Langley</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Speakers</td>
<td>Attendees</td>
</tr>
<tr>
<td>1. 0.3-m TCT User Miniworkshop on Airfoil WIAC Procedure</td>
<td>Feb. 6</td>
<td>P. A. Newman</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>3. Government/Industry Controlled Impact Demonstration (CID)</td>
<td>Apr. 10</td>
<td>R. J. Hayduk</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>4. Langley Symposium on Aerodynamics</td>
<td>Apr. 23-25</td>
<td>S. H. Stack</td>
<td>48</td>
<td>134</td>
</tr>
<tr>
<td>5. SATA 21st Annual Meeting</td>
<td>May 14-16</td>
<td>Z. T. Applin</td>
<td>5</td>
<td>33</td>
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<tr>
<td>6. Workshop on Computational Methods for Structural Mechanics and Dynamics</td>
<td>June 19-21</td>
<td>W. J. Stroud</td>
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</tr>
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<td>7. Symposium on Vortex Dominated Flows</td>
<td>July 9-10</td>
<td>M. D. Salas</td>
<td>1</td>
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<td></td>
<td></td>
<td>R. G. Voigt</td>
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<tr>
<td>8. Symposium on the LARC Space Commercialization Program</td>
<td>July 18</td>
<td>F. O. Allamby</td>
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<td></td>
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<td>C. S. Hoffman</td>
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<tr>
<td>10. Control of Flexible Structures (COFS) Workshop</td>
<td>Aug. 27-28</td>
<td>C. S. Hoffman</td>
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<td>63</td>
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<tr>
<td>12. First International DIAL Data Collection and Analysis Workshop</td>
<td>Nov. 18-21</td>
<td>E. V. Browell</td>
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<td>13. Workshop on Interfacial Aspects of Adhesion to Carbon Fibers</td>
<td>Dec. 10-12</td>
<td>J. A. Hinkley</td>
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<td>Total</td>
<td></td>
<td></td>
<td>83</td>
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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 fluid and flight mechanics, structures and materials, acoustics and noise reduction, measurement and instrumentation systems, numerical methods and techniques, data systems, electronics, physics, chemistry, and Earth and space sciences.

This publication is a compilation of Langley's scientific and technical research output for 1985 which is processed through the Center's Research Information and Applications Division, an integral part of NASA's Agency-wide Scientific and Technical Information (STI) system. This document is intended as a reference summary for researchers and as a current awareness publication for the scientific, research, and academic community.

The results of Langley's research are disseminated in a variety of NASA and non-NASA scientific and technical media and information systems. Details of the availability of the research references in this document are found in the section, "Availability," on page vii.

The citations are grouped first by Langley Directorates, then by the Langley Office or Division to which the senior author or innovator belongs. Citations are listed alphabetically by author or innovator under the following headings: Formal Reports (Technical Papers, Technical Memorandums, Conference Publications, Reference Publications, and Special Publications), Quick-Release Technical Memorandums, Contractor Reports, Journal Articles and Other Publications, Meeting Presentations, Technical Talks, Computer Programs, Tech Briefs, and Patents. If a citation has more than one author, it is listed only once under the first author's name. The subject category number used to index the citation and the Research Technology Objectives and Plans (RTOP) number are noted below citations when appropriate.

Computer Programs listed are those which were submitted by Langley to COSMIC in 1985.

The NASA Tech Briefs cited have either been published¹ or submitted in 1985 for publication in "NASA Tech Briefs," a quarterly journal for United States industry, entrepreneurs, and academia. Free subscriptions to this journal are available through the publisher, NASA Tech Briefs, 41 East 42nd Street, Suite 921, New York, New York 10017 or the NASA Technology Utilization Program by writing to the Technology Utilization Office, NASA Scientific and Technical Information Facility, P. O. Box 8757, Baltimore/Washington International Airport, Maryland 21240.

Patents listed, which are owned in whole or in part by Langley Research Center personnel, have been published in issues of "Scientific and Technical Aerospace Reports" (STAR), a NASA announcement journal for report literature. A subscription to STAR is available from the U.S. Government Printing Office (GPO) or to qualified recipients from the NASA Scientific and Technical Information Facility (STIF).

¹Those submitted in 1984 (and therefore listed in the 1984 issue of this document) but published in 1985 have not been listed.
Publication of some journal articles was not known at press time for the 1984 issue of this document. These articles are therefore listed in the 1985 issue.
<table>
<thead>
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<th>Category</th>
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<tr>
<td>Formal Reports</td>
<td>National Technical Information Service (NTIS)</td>
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<td>5285 Port Royal Road</td>
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<tr>
<td>Contractor Reports</td>
<td>Springfield, VA 22161</td>
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<td>Computer Programs</td>
<td>NASA Scientific and Technical Information Facility (STIF)</td>
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<td>Langley Tech Briefs</td>
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<td>NASA Industrial Applications Centers (IAC)</td>
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<td>Washington, DC 20231</td>
</tr>
</tbody>
</table>
CONTENTS

FOREWORD ....................................................................... iii
LANGLEY CONFERENCES, SYMPOSIA, AND WORKSHOPS FOR 1984 ...................................... iv
INTRODUCTION ................................................................... v
AVAILABILITY ................................................................... vii
OFFICE OF THE DIRECTOR ................................................ 1
OFFICE OF DIRECTOR FOR PROJECTS ........................................... 10
AERONAUTICAL SYSTEMS OFFICE ...................................................... 11
SPACE TECHNOLOGY FLIGHT EXPERIMENTS OFFICE ......................................... 15
SCOUT PROJECT OFFICE .......................................................... 16
SPACE FLIGHT EXPERIMENT DEFINITION AND INTEGRATION OFFICE ................................ 18
AIRCRAFT ENERGY EFFICIENCY PROJECT OFFICE ........................................ 19
OFFICE OF DIRECTOR FOR ELECTRONICS ............................................. 22
ANALYSIS AND COMPUTATION DIVISION ............................................ 23
INSTRUMENT RESEARCH DIVISION ................................................... 26
FLIGHT ELECTRONICS DIVISION ..................................................... 38
OFFICE OF DIRECTOR FOR STRUCTURES .............................................. 43
STRUCTURES AND DYNAMICS DIVISION ......................................... 44
LOADS AND AEROELASTICITY DIVISION ........................................... 56
INTERDISCIPLINARY RESEARCH OFFICE ........................................ 68
MATERIALS DIVISION .......................................................... 72
ACOUSTICS DIVISION .......................................................... 94
OFFICE OF DIRECTOR FOR AERONAUTICS ............................................. 104
TRANSONIC AERODYNAMICS DIVISION ........................................... 105
LOW-SPEED AERODYNAMICS DIVISION ........................................... 124
HIGH-SPEED AERODYNAMICS DIVISION ........................................... 136
OFFICE OF DIRECTOR FOR SPACE ................................................... 152
SPACE STATION OFFICE .......................................................... 153
ATMOSPHERIC SCIENCES DIVISION ................................................. 155
SPACE SYSTEMS DIVISION .......................................................... 174
OFFICE OF DIRECTOR FOR FLIGHT SYSTEMS .......................................... 190
ADVANCED TRANSPORT OPERATING SYSTEMS PROGRAM OFFICE ................. 191
INFORMATION SYSTEMS DIVISION ................................................. 192
GUIDANCE AND CONTROL DIVISION .............................................. 201
FLIGHT MANAGEMENT DIVISION ................................................... 211
OFFICE OF DIRECTOR FOR SYSTEMS ENGINEERING AND OPERATIONS ............. 215
FABRICATION DIVISION .......................................................... 216
SYSTEMS ENGINEERING DIVISION ............................................... 218
FACILITIES ENGINEERING DIVISION .............................................. 222
OPERATIONS SUPPORT DIVISION ................................................... 224
OFFICE OF DIRECTOR FOR MANAGEMENT OPERATIONS .................................... 225
Formal Reports


Quick-Release Technical Memorandums


Contractor Reports


(Avail: NTIS Subject Category 75 RTOP 505-31-83)

(Avail: NTIS Subject Category 34 RTOP 505-31-83)

(Avail: NTIS Subject Category 67 RTOP 505-31-83)

(Avail: NTIS Subject Category 61 RTOP 505-31-83)

(Avail: NTIS Subject Category 64 RTOP 505-31-83)

(Avail: NTIS Subject Category 64 RTOP 505-31-83)

(Avail: NTIS Subject Category 64 RTOP 505-31-83)

(Avail: NTIS Subject Category 64 RTOP 505-31-83)

(Avail: NTIS Subject Category 34 RTOP 505-31-83)

(Avail: NTIS Subject Category 64 RTOP 505-31-83)
(Avail: NTIS Subject Category 61 RTOP 505-31-83)

(Avail: NTIS Subject Category 61 RTOP 505-31-83)

(Avail: NTIS Subject Category 61 RTOP 505-31-83)

(Avail: NTIS Subject Category 61 RTOP 505-31-83)

(Avail: NTIS Subject Category 59 RTOP 505-31-83)

(Avail: NTIS Subject Category 64 RTOP 505-31-83)

(Avail: NTIS Subject Category 61 RTOP 505-31-83)

(Avail: NTIS Subject Category 34 RTOP 505-31-83)

56. Rosen, I. G.: Spline-Based Rayleigh-Ritz Methods for the Approximation of the Natural Modes of Vibration for Flexible Beams With Tip Bodies. 
(Avail: NTIS Subject Category 39 RTOP 505-31-83)

57. Rosenau, P.; and Turkel, E.: Long-Time Asymptotics of a System for Plasma Diffusion. 
(Avail: NTIS Subject Category 75 RTOP 505-31-83)


64. Tal-Ezer, H.: The Eigenvalues of the Pseudospectral Fourier Approximation to the Operator $\frac{-\sin(2x)^2}{3x^2}$. (NAS1-17070 Institute for Computer Applications in Science and Engineering.) NASA CR-172538, February 1985, 11 p. (Avail: NTIS Subject Category 64 RTOP 505-31-83)


   (Avail: NTIS Subject Category 64 RTOP 505-31-83)

   (Avail: NTIS Subject Category 64 RTOP 505-31-83)

   (Avail: NTIS Subject Category 59 RTOP 505-31-83)

   (Avail: NTIS Subject Category 34 RTOP 505-31-83)

   (Avail: NTIS Subject Category 64 RTOP 505-31-83)

Journal Articles and Other Publications

   (Subject Category 15)

   (Subject Category 01 RTOP 505-43-43)

Meeting Presentations

   (Subject Category 59)

   (Subject Category 02 RTOP 505-31-03)

Technical Talks


Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
PUBLICATIONS FOR OFFICE OF DIRECTOR FOR PROJECTS

Formal Reports

No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations


Technical Talks

No technical talks.

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
FORMAL REPORTS

No formal reports.

QUICK-RELEASE TECHNICAL MEMORANDUMS

   (Avail: NTIS Subject Category 02 RTOP 505-43-43)

   (Avail: NTIS Subject Category 01 RTOP 505-43-43)

   (Avail: NTIS Subject Category 05 RTOP 505-43-43)

   (Avail: NTIS Subject Category 05 RTOP 505-43-43)

   (Avail: NTIS Subject Category 05 RTOP 505-43-43)

   (Avail: NTIS Subject Category 34 RTOP 505-43-43)

   (Avail: NTIS Subject Category 05 RTOP 505-43-43)

   (Avail: NTIS Subject Category 01 RTOP 505-43-43)

   (Avail: NTIS Subject Category 02 RTOP 505-43-43)

   (Avail: NTIS Subject Category 02 RTOP 505-43-43)
   (Avail: NTIS Subject Category 15 RTOP 505-69-41)

   (Avail: NTIS Subject Category 03 RTOP 505-69-41)

Contractor Reports

   (Avail: NTIS Subject Category 02 RTOP 505-43-43)

   (Avail: NTIS Subject Category 02 RTOP 505-43-43)

   (Avail: STIF Subject Category 02 RTOP 505-43-43)

   (Avail: NTIS Subject Category 05 RTOP 505-43-43)

   (Avail: NTIS Subject Category 02 RTOP 505-43-43)

Journal Articles and Other Publications

   (Subject Category 02 RTOP 505-43-43)

Meeting Presentations

   (Subject Category 05 RTOP 505-43-43)
100. Dollyhigh, S. M.; and Foss, W. E., Jr.: The Impact of Emerging Technology on Fighter Aircraft Requirements. Presented at the SAE Aerospace Technology Conference and Exposition, October 14-17, 1985, Long Beach, California. SAE Paper No. 851841. (Subject Category 05 RTOP 505-43-43)


Technical Talks


113. Liu, G. C.; and Liu, C-H.: Computations of Vortex Flows. Presented at the National Tsing Hua University, January 9, 1985, Hsinchu, Taiwan. (Subject Category 02 RTOP 505-43-43)

114. Maglieri, D. J.; Dean, H.; and Densmore, J.: Status and Outlook on Sonic Boom. Presented at the 1985 AIAA Annual Meeting and International Aerospace Exhibit, April 9-11, 1985, Washington, DC. (Subject Category 02 RTOP 505-43-43)


Computer Programs

No computer programs.

Tech Briefs


Patents

No patents.
Formal Reports

No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations

No meeting presentations.

Technical Talks


Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
PUBLICATIONS FOR SCOUT PROJECT OFFICE

Formal Reports

No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

   (Avail: NTIS Subject Category 61 RTOP 563-22-68)

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Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations

No meeting presentations.

Technical Talks

No technical talks.

Computer Programs

No computer programs.
Tech Briefs

tech briefs.

Patents

0 patents.
PUBLICATIONS FOR SPACE FLIGHT EXPERIMENT DEFINITION AND INTEGRATION OFFICE

Formal Reports


Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations

No meeting presentations.

Technical Talks

No technical talks.

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
PUBLICATIONS FOR AIRCRAFT ENERGY EFFICIENCY PROJECT OFFICE

Formal Reports

(Avail: NTIS Subject Category 24 RTOP 534-06-13)

(Avail: NTIS Subject Category 05 RTOP 534-02-13)

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

(Avail: IAC Subject Category 24 RTOP 534-03-13)

(Avail: IAC Subject Category 24 RTOP 534-03-13)

(Avail: IAC Subject Category 24 RTOP 534-03-13)

(Avail: IAC Subject Category 24 RTOP 534-06-13)

(Avail: IAC Subject Category 24 RTOP 534-06-13)

(Avail: IAC Subject Category 24 RTOP 505-45-63)


Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations


Technical Talks


Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
PUBLICATIONS FOR OFFICE OF DIRECTOR FOR ELECTRONICS

Formal Reports

No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations

No meeting presentations.

Technical Talks

No technical talks.

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
Formal Reports

(Avail: NTIS Subject Category 59 RTOP 505-31-83)

(Avail: NTIS Subject Category 65 RTOP 505-31-83)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 05 RTOP 992-16-05)

(Avail: NTIS Subject Category 61 RTOP 505-45-33)

(Avail: NTIS Subject Category 62 RTOP 505-60-01)

(Avail: NTIS Subject Category 60 RTOP 505-60-01)

Contractor Reports

(Avail: NTIS Subject Category 59 RTOP 340-00-00)

(Avail: NTIS Subject Category 62 RTOP 505-60-01)

(Avail: NTIS Subject Category 62 RTOP 505-36-33)


Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations


Technical Talks


Computer Programs


Tech Briefs


Patents

No patents.
PUBLICATIONS FOR INSTRUMENT RESEARCH DIVISION

Formal Reports

(Avail: NTIS Subject Category 35 RTOP 505-31-53)

(Avail: NTIS Subject Category 36 RTOP 505-31-53)

(Avail: NTIS Subject Category 35 RTOP 141-20-10)

(Avail: NTIS Subject Category 35 RTOP 505-31-53)

(Avail: NTIS Subject Category 71 RTOP 505-33-53)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 35 RTOP 505-61-01)

(Avail: NTIS Subject Category 61 RTOP 505-61-01)

(Avail: NTIS Subject Category 35 RTOP 505-31-53)

(Avail: NTIS Subject Category 01 RTOP 992-19-00)

*Aerostructures Directorate, USAARTA (AVSCOM)
(Avail: NTIS Subject Category 24 RTOP 505-33-90)

(Avail: NTIS Subject Category 77 RTOP 505-63-81)

Contractor Reports

(Avail: NTIS Subject Category 35 RTOP 324-01-00)

(Avail: STIF Subject Category 35 RTOP 506-53-63)

(Avail: NTIS Subject Category 35 RTOP 505-31-09)

(Avail: NTIS Subject Category 35 RTOP 505-31-53)

(Avail: NTIS Subject Category 09 RTOP 505-31-53)

(Avail: NTIS Subject Category 25 RTOP 678-12-04)

(Avail: STIF Subject Category 35 RTOP 505-31-53)

(Avail: NTIS Subject Category 35 RTOP 324-01-00)


Meeting Presentations


   (Subject Category 23 RTOP 307-04-02)

   (Subject Category 71 RTOP 505-33-23)

   (Subject Category 18 RTOP 506-49-31)

   (Subject Category 35 RTOP 505-31-53)

   (Subject Category 35 RTOP 505-31-53)

   (Subject Category 71 RTOP 505-33-23)

   (Subject Category 71 RTOP 505-33-23)

   (Subject Category 71 RTOP 505-33-23)


(Subj ect Category 25 RTOP 147-33-03)

(Subj ect Category 25 RTOP 147-33-03)

(Subj ect Category 38 RTOP 992-19-00)

(Subj ect Category 38 RTOP 992-19-00)

(Subj ect Category 38 RTOP 323-52-60)

(Subj ect Category 35 RTOP 505-31-53)

(Subj ect Category 71 RTOP 505-33-23)

(Subj ect Category 71 RTOP 505-33-23)

(Subj ect Category 71 RTOP 505-33-23)


(Subject Category 70     RTOP 505-33-23)

(Subject Category 19     RTOP 506-63-24)

(Subject Category 71     RTOP 505-33-23)

(Subject Category 06     RTOP 506-51-13)

(Subject Category 71     RTOP 505-33-23)

(Subject Category 71     RTOP 505-33-23)

(Subject Category 71     RTOP 505-33-23)

(Subject Category 71     RTOP 505-33-23)
(Special Category 18 RTOP 505-33-53)

(Special Category 71 RTOP 505-33-53)

Technical Talks

(Special Category 35 RTOP 506-51-23)

(Special Category 71 RTOP 141-20-40)

(Special Category 35 RTOP 992-19-00)

(Special Category 72 RTOP 505-43-83)

(Special Category 74 RTOP 505-61-01)

(Special Category 71 RTOP 505-33-23)


257. Zuckerwar, A. J.: Acoustical Determination of Vibrational Relaxation Frequencies in Air. Presented at the University of Rhode Island Physics Colloquium, April 26, 1985, Kingston, Rhode Island. (Subject Category 71 RTOP 505-31-33)

Computer Programs

No computer programs.

Tech Briefs


266. Schutte, P. C.; Cate, K. H.; and Young, S. D.: Dynamic Pressure Calibration Standard. NASA Tech Brief LAR-13443.

**Patents**


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*Aerostructures Directorate, USAARTA (AVSCOM)*
(Avail: NTIS Subject Category 43 RTOP 618-32-33)

(Avail: NTIS Subject Category 36 RTOP 506-54-23)

(Avail: NTIS Subject Category 25 RTOP 506-54-23)

(Avail: NTIS Subject Category 36 RTOP 506-54-43)

(Avail: NTIS Subject Category 61 RTOP 619-12-01)

(Avail: STIF Subject Category 33 RTOP 506-54-13)

(Subject Category 36 RTOP 506-54-23)


Meeting Presentations


286. Devi, V. M.; Sidney, B. D.; Rinsland, C. P.; Smith, M. A. H.; Benner, D. C.; and Fridovich, B.: Tunable Diode Laser Measurements of \( \text{N}_2^+ \) and Air-Broadened Halfwidths: Lines of \( ^{12}\text{C}_2\text{H}_2, \text{H}_2\text{O}, \text{HDO}, \text{and H}_2\text{O}_2 \) in the 1250-1380-cm\(^{-1} \) Region. Presented at the Ohio State University 40th Annual Symposium on Molecular Spectroscopy, June 17-21, 1985, Columbus, Ohio. In Volume of Abstracts, June 1985, p. 95. (Subject Category 72 RTOP 147-23-11)


Technical Talks


Computer Programs

No computer programs.

Tech Briefs

(Subject Category 33)
PUBLICATIONS FOR OFFICE OF DIRECTOR FOR STRUCTURES

Formal Reports
No formal reports.

Quick-Release Technical Memorandums
No quick-release technical memorandums.

Contractor Reports
No contractor reports.

Journal Articles and Other Publications
No journal articles and other publications.

Meeting Presentations
No meeting presentations.

Technical Talks
301. Blankenship, C. P.: Progress in Composites Research for Aircraft Structures. Presented at the 1985 SAE General Aviation Aircraft Meeting and Exposition, April 15-19, 1985, Wichita, Kansas. (Subject Category 24 RTOP 505-33-33)

Computer Programs
No computer programs.

Tech Briefs
No tech briefs.

Patents
No patents.
Formal Reports


Quick-Release Technical Memorandums


*Aerostructures Directorate, USAARTA (AVSCOM)


*Aerostructures Directorate, USAARTA (AVSCOM)

Contractor Reports


Journal Articles and Other Publications


Meeting Presentations


360. Daugherty, R. H.; and Stubbs, S. M.: The Generation of Tire Cornering Forces in Aircraft With a Free-Swiveling Nose Gear. Presented at the SAE Aerospace Technology Conference & Exposition, October 14-17, 1985, Long Beach, California. SAE Paper No. 851939. (Subject Category 05 RTOP 505-45-14)

361. Davis, P. A.; Stubbs, S. M.; and Tanner, J. A.: Aircraft Landing Dynamics Facility, A Unique Facility With New Capabilities. Presented at the SAE Aerospace Technology Conference & Exposition, October 14-17, 1985, Long Beach, California. SAE Paper No. 851938. (Subject Category 09 RTOP 505-45-14)


*Aerostructures Directorate, USAARTA (AVSCOM)


(Subject Category 24 RTOP 505-33-33)

(Subject Category 34 RTOP 505-45-14)

Technical Talks

(Subject Category 39 RTOP 505-33-53)

(Subject Category 03 RTOP 505-61-43)

(Subject Category 62 RTOP 505-33-53)

(Subject Category 39 RTOP 505-37-37)

(Subject Category 39 RTOP 506-43-51)

(Subject Category 39 RTOP 506-43-51)

(Subject Category 39 RTOP 505-37-37)


Computer Programs


Tech Briefs


Patents


PUBLICATIONS FOR LOADS AND AEROELASTICITY DIVISION

Formal Reports

(Avail: NTIS Subject Category 34 RTOP 506-51-23)

(Avail: NTIS Subject Category 02 RTOP 505-33-43)

(Avail: NTIS Subject Category 39 RTOP 506-53-33)

(Avail: IAC Subject Category 61 RTOP 505-33-43)

(Avail: NTIS Subject Category 02 RTOP 505-33-43)

(Avail: NTIS Subject Category 05 RTOP 505-33-43)

(Avail: NTIS Subject Category 34 RTOP 506-51-23)

(Avail: NTIS Subject Category 71 RTOP 505-33-43)

(Avail: NTIS Subject Category 34 RTOP 506-53-53)

(Avail: NTIS Subject Category 63 RTOP 505-33-43)
Quick-Release Technical Memorandums


*Aerostructures Directorate, USAARTA (AVSCOM)
(Avail: NTIS Subject Category 05 RTOP 505-33-43)

(Avail: STIF Subject Category 26 RTOP 506-53-23)

(Avail: NTIS Subject Category 02 RTOP 505-33-43)

Contractor Reports

(Avail: STIF Subject Category 15 RTOP 506-53-33)

(Avail: STIF Subject Category 39 RTOP 505-33-53)

(Avail: STIF Subject Category 05 RTOP 505-33-43)

(Avail: STIF Subject Category 05 RTOP 505-33-43)

(Avail: STIF Subject Category 05 RTOP 505-33-43)

(Avail: NTIS Subject Category 02 RTOP 505-33-43)


Journal Articles and Other Publications


Meeting Presentations


(Subject Category 02 RTOP 505-33-43)

(Subject Category 02 RTOP 505-33-43)

(Subject Category 34 RTOP 506-53-33)

(Subject Category 15 RTOP 506-43-31)

(Subject Category 34 RTOP 506-53-33)

(Subject Category 05 RTOP 505-33-43)

(Subject Category 39 RTOP 505-33-43)

(Subject Category 16 RTOP 506-53-33)


(Subject Category 02 RTOP 505-33-43)

(Subject Category 02 RTOP 505-42-23)

(Subject Category 02 RTOP 505-33-43)

(Subject Category 18 RTOP 505-43-83)

(Subject Category 24 RTOP 506-53-43)

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(Subject Category 34 RTOP 506-53-53)

Technical Talks


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505. Murrow, H. N.: A Perspective on the Status of Measurement of Atmospheric Turbulence in the U.S. Presented at the Fall AGARD/SMP 61st Panel Meeting and Specialists Meeting, September 9-13, 1985, Oberammergau, Germany. (Subject Category 47 RTOP 505-45-10)

506. Taylor, A. H.: Design Considerations for Reusable Flightweight Cryogenic Propellant Tanks. Presented at the JANNAF Composite Overwrapped Metal Lined Pressure Vessels Workshop, August 28, 1985, El Segundo, California. (Subject Category 15 RTOP 505-43-31)


Computer Programs

No computer programs.

Tech Briefs


Patents

(Subject Category 06)
Formal Reports


Quick-Release Technical Memorandums


Contractor Reports


Journal Articles and Other Publications


Meeting Presentations


Technical Talks
No technical talks.

Computer Programs
No computer programs.

Tech Briefs
No patents.
Formal Reports


Quick-Release Technical Memorandums


*Aerostructures Directorate, USAARTA (AVSCOM)


*Aerostructures Directorate, USAARTA (AVSCOM)


Contractor Reports


(Avail: NTIS Subject Category 24 RTOP 505-33-33)

(Avail: STIF Subject Category 24 RTOP 505-33-13)

(Avail: STIF Subject Category 26 RTOP 505-33-13)

(Avail: NTIS Subject Category 27 RTOP 505-33-33)

(Avail: NTIS Subject Category 24 RTOP 505-33-33)

(Avail: NTIS Subject Category 24 RTOP 505-33-33)

(Avail: NTIS Subject Category 39 RTOP 505-33-23)

(Avail: NTIS Subject Category 24 RTOP 534-06-23)

(Avail: NTIS Subject Category 27 RTOP 505-33-33)

(Avail: NTIS Subject Category 39 RTOP 506-53-23)


(Avail: NTIS Subject Category 26 RTOP 505-33-13)

(Avail: NTIS Subject Category 27 RTOP 506-43-11)

(Avail: NTIS Subject Category 24 RTOP 505-33-33)

(Avail: NTIS Subject Category 24 RTOP 505-42-23)

(Avail: NTIS Subject Category 26 RTOP 506-53-33)

(Avail: IAC Subject Category 24 RTOP 534-06-13)

(Avail: NTIS Subject Category 24 RTOP 534-06-13)

(Avail: NTIS Subject Category 39 RTOP 505-33-23)

(Avail: NTIS Subject Category 24 RTOP 505-42-23)

(Avail: NTIS Subject Category 39 RTOP 506-53-23)
(Avail: NTIS Subject Category 39 RTOP 505-33-23)

(Avail: NTIS Subject Category 24 RTOP 505-33-33)

Journal Articles and Other Publications

(Subject Category 27 RTOP 505-33-33)

(Subject Category 24 RTOP 505-33-33)

(Subject Category 24 RTOP 505-33-33)

(Subject Category 24 RTOP 505-33-33)

(Subject Category 27 RTOP 505-33-33)

(Subject Category 27 RTOP 505-33-33)

(Subject Category 27 RTOP 505-33-33)

(Subject Category 27 RTOP 505-33-33)


*Aerostructures Directorate, USAARTA (AVSCOM)
(Subject Category 27 RTOP 505-33-33)

(Subject Category 27 RTOP 505-33-33)

(Subject Category 24 RTOP 506-53-33)

(Subject Category 16 RTOP 307-04-02)

(Subject Category 24 RTOP 534-06-23)

Meeting Presentations

(Subject Category 24 RTOP 506-53-23)

(Subject Category 27 RTOP 505-33-33)

(Subject Category 24 RTOP 505-33-33)

(Subject Category 27 RTOP 505-33-33)


*Aerostructures Directorate, USAARTA (AVSCOM)


636. Hergenrother, P. M.; Jensen, B. J.; and Havens, S. J.: Poly(arylene Ethers) From Bis-1,3 and 1,4-(4-Chlorobenzoyl) benzene. Presented at the National Meeting of the American Chemical Society, September 8-13, 1985, Chicago, Illinois. Published in Polymer Preprints, Volume 26, No. 2, 1985, p. 174. (Subject Category 27 RTOP 505-33-33)


*Aerostructures Directorate, USAARTA (AVSCOM)*

82


* Aerostructures Directorate, USAARTA (AVSCOM)


*Aerostructures Directorate, USAARTA (AVSCOM)


*Aerostructures Directorate, USAARTA (AVSCOM)
(Subject Category 39 RTOP 505-33-23)

(Subject Category 24 RTOP 506-53-23)

(Subject Category 24 RTOP 506-53-23)

(Subject Category 24 RTOP 506-53-23)

(Subject Category 24 RTOP 506-53-23)

(Subject Category 26 RTOP 505-53-33)

(Subject Category 25 RTOP 505-31-53)

(Subject Category 24 RTOP 505-33-23)


Technical Talks


688. Dexter, H. B.: Composite Applications to Aircraft. Presented at the Raspet Flight Research Laboratory Third Applied Composite Structure Design and Fabrication Short Course, March 4-8, 1985, Mississippi State, Mississippi. (Subject Category 24 RTOP 505-42-23)


692. Freeman, W. T., Jr.: Filament Winding for Aerospace Structures. Presented at the University of Delaware Symposium on Manufacturing Issues in Composite Materials, July 24, 1985, Newark, Delaware. (Subject Category 24 RTOP 505-33-33)

693. Hergenrother, P. M.: High Performance Adhesives. Presented at the DARPA Workshop on Advances and Opportunities in Polymer Research, July 15-17, 1985, La Jolla, California. (Subject Category 27 RTOP 505-33-33)


*Aerostructures Directorate, USAARTA (AVSCOM)
697. Hergenrother, P. M.; Jensen, B. J.; and Havens, S. J.: Polyarylene Ethers From 1,3- and 1,4-Bis(4-chlorobenzoyl)-benzene and Bisphenols. Presented at the American Chemical Society Central Regional Meeting, June 5-7, 1985, Akron, Ohio. (Subject Category 27 RTOP 505-33-33)


701. Johnston, N. J.: High Performance Composites. Presented at the DARPA Workshop on Advances and Opportunities in Polymer Research, July 15-17, 1985, La Jolla, California. (Subject Category 24 RTOP 505-33-33)


708. St. Clair, T. L.: Polymer Research at NASA-LaRC. Presented at the DOD/NASA High Temple Workshop V, March 5-7, 1985, Monterey, California. (Subject Category 27 RTOP 505-33-33)


713. Tenney, D. R.: Composite Applications for Spacecraft and Aircraft. Presented at the University of Tennessee Space Institute Short Course on Design and Fabrication of Aircraft and Space Structures Using Composite Materials, November 4-8, 1985, Tullahoma, Tennessee. (Subject Category 24 RTOP 505-63-01)


717. Young, P. R.: Diffuse Reflectance-FTIR Analysis of Adhesives. Presented at the Virginia Polytechnic Institute and State University Third Annual Center for Adhesion Science Program Review/Workshop, May 19-22, 1985, Blacksburg, Virginia. (Subject Category 27 RTOP 505-33-33)


Computer Programs


Tech Briefs


Patents


PUBLICATIONS FOR ACOUSTICS DIVISION

Formal Reports

(Avail: STIF Subject Category 71 RTOP 532-06-13)


(Avail: NTIS Subject Category 71 RTOP 505-33-90)

(Avail: NTIS Subject Category 71 RTOP 505-33-90)

(Avail: NTIS Subject Category 71 RTOP 505-33-53)

(Avail: NTIS Subject Category 71 RTOP 505-31-33)

(Avail: NTIS Subject Category 71 RTOP 505-31-33)

(Avail: NTIS Subject Category 71 RTOP 505-31-33)

(Avail: NTIS Subject Category 71 RTOP 505-33-53)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 71 RTOP 505-35-13)

*Aerostructures Directorate, USAARTA (AVSCOM)


Contractor Reports


(Avail: NTIS Subject Category 71 RTOP 505-33-53)

(Avail: STIF Subject Category 71 RTOP 532-06-13)

(Avail: NTIS Subject Category 71 RTOP 505-31-33)

(Avail: NTIS Subject Category 71 RTOP 542-23-08)

(Avail: NTIS Subject Category 71 RTOP 505-33-53)

(Avail: STIF Subject Category 71 RTOP 505-33-53)

(Avail: STIF Subject Category 71 RTOP 324-01-00)

(Avail: NTIS Subject Category 71 RTOP 776-33-41)

(Avail: NTIS Subject Category 71 RTOP 776-33-41)

(Avail: NTIS Subject Category 71 RTOP 505-35-13)
(Avail: NTIS Subject Category 71 RTOP 505-33-53)

(Avail: IAC Subject Category 71 RTOP 505-33-53)

(Avail: NTIS Subject Category 71 RTOP 505-33-53)

(Avail: NTIS Subject Category 71 RTOP 532-06-13)

Journal Articles and Other Publications

(SubjecT Category 71 RTOP 505-33-53)

(Subj ect Category 71 RTOP 535-03-12)

(Subtext Category 71 RTOP 505-31-33)

(Subtext Category 71 RTOP 505-31-33)

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Meeting Presentations


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798. Hardin, J. C.; and Lamkin, S. L.: Computational Aeroacoustics - Present Status and Future Promise. Presented at the IUTAM Symposium on Aero- and Hydro-acoustics, July 3-6, 1985, Lyon, France. To be published by Springer Verlag. (Subject Category 71 RTOP 505-31-33)


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*Aerostructures Directorate, USAARTA (AVSCOM)


Technical Talks


Computer Programs

No computer programs.

Tech Briefs


Patents

No patents.
Formal Reports

No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations

No meeting presentations.

Technical Talks

No technical talks.

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
PUBLICATIONS FOR TRANSONIC AERODYNAMICS DIVISION

Formal Reports


(Avail: NTIS Subject Category 02 RTOP 505-40-90)

(Avail: NTIS Subject Category 02 RTOP 505-31-03)

(Avail: NTIS Subject Category 09 RTOP 505-31-53)

(Avail: NTIS Subject Category 02 RTOP 505-40-90)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 02 RTOP 505-31-53)

(Avail: NTIS Subject Category 09 RTOP 505-61-01)

(Avail: STIF Subject Category 02 RTOP 505-31-23)

(Avail: STIF Subject Category 02 RTOP 505-31-23)

(Avail: IAC Subject Category 02 RTOP 505-31-23)
Contractor Reports

   (Avail: NTIS Subject Category 02 RTOP 505-62-91)

   (Avail: NTIS Subject Category 02 RTOP 505-43-90)

   (Avail: NTIS Subject Category 09 RTOP 505-31-53)

   (Avail: NTIS Subject Category 02 RTOP 505-45-63)

   (Avail: NTIS Subject Category 02 RTOP 505-40-90)

   (Avail: NTIS Subject Category 09 RTOP 505-31-53)

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   (Avail: NTIS Subject Category 09 RTOP 505-31-53)

   (Avail: NTIS Subject Category 02 RTOP 505-61-01)

   (Avail: NTIS Subject Category 02 RTOP 505-31-23)
(Avail: NTIS Subject Category 02 RTOP 505-31-53)

(Avail: NTIS Subject Category 34 RTOP 505-31-53)

(Avail: NTIS Subject Category 09 RTOP 505-31-53)

(Avail: NTIS Subject Category 02 RTOP 505-31-13)

(Avail: NTIS Subject Category 02 RTOP 505-31-13)

(Avail: NTIS Subject Category 02 RTOP 505-31-53)

(Avail: STIF Subject Category 02 RTOP 505-31-23)

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(Avail: NTIS Subject Category 09 RTOP 324-01-00)

(Avail: NTIS Subject Category 26 RTOP 324-01-00)
875. Zalenski, M. A.; Rowe, E. L.; and McPhee, J. R.: Operational
Considerations in Monitoring Oxygen Levels at the National Transonic
Facility. (NAS1-16331 Wyle Laboratories.) NASA CR-3953, December 1985,
18 p.
(Avail: NTIS Subject Category 09 RTOP 505-31-63)

Journal Articles and Other Publications

876. Biringer, S.; and Maestrello, L.: Development of Spot-Like Turbulence in
Plane Control Flow. Physics of Fluids, Volume 27, February 1984,
p. 318-321.
(Subject Category 34)

877. Britcher, C. P.: Progress Towards Magnetic Suspension and Balance Systems
for Large Wind Tunnels. Journal of Aircraft, Volume 22, No. 4, April 1985,
p. 264-269.
(Subject Category 09 RTOP 505-31-53)

878. Cline, M. C.; and Wilmoth, R. G.: Computation of the Shuttle Solid
Booster Nozzle Start-Up Transient Flow. Journal of Propulsion and Power,
Volume 1, No. 5, September - October 1985, p. 321-328.
(Subject Category 34 RTOP 505-43-23)

879. Hall, R. M.; Dotson, E. H.; and Vennemann, D. H.: Homogeneous and
Heterogeneous Condensation of Nitrogen in Transonic Flow. Rarefied Gas
(Subject Category 34 RTOP 505-31-23)

880. Hussaini, M. Y.; Kopriva, D. A.; Salas, M. D.; and Zang, T. A.: Spectral
Methods for the Euler Equations: Part I - Fourier Methods and Shock
(Subject Category 02 RTOP 505-31-03)

Methods for the Euler Equations: Part II. Chebyshev Methods and Shock
(Subject Category 39 RTOP 506-53-23)

882. Hussaini, M. Y.; Salas, M. D.; and Zang, T. A.: Spectral Methods for
Inviscid Compressible Flows. Recent Advances in Numerical Methods in
(Subject Category 64 RTOP 505-31-03)

883. Maestrello, L.; and Ting, L.: Analysis of Active Control by Surface
(Subject Category 02 RTOP 505-31-23)

884. Reubush, D. E.; Bare, E. A.; Yaros, S. F.; and Yetter, J. A.: Flow-Field
Investigation of a Supercruise Fighter Model. Journal of Aircraft,
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(Subject Category 64 RTOP 505-31-03)

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Meeting Presentations

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(Subject Category 02 RTOP 505-31-23)

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(Subject Category 09 RTOP 505-31-53)

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894. Bruce, W. E., Jr.: The U.S. National Transonic Facility, I. Presented at the AGARD/VKI Special Course on Cryogenic Technology for Windtunnel Testing, April 22-26, 1985, Rhode-Saint-Genese, Belgium. (Subject Category 09 RTOP 505-31-53)

895. Bruce, W. E., Jr.: The U.S. National Transonic Facility, II. Presented at the AGARD/VKI Special Course on Cryogenic Technology for Windtunnel Testing, April 22-26, 1985, Rhode-Saint-Genese, Belgium. (Subject Category 09 RTOP 505-31-53)


902. Finley, D. B.; and Schoonover, W. E., Jr.: Design and Wind Tunnel Evaluation of Vortex Flaps for the F-16 XL. Presented at the NASA Vortex Flow Aerodynamics Conference, October 8-10, 1985, Hampton, Virginia. NASA CP pending. (Subject Category 02 RTOP 505-31-23)
(Subject Category 02 RTOP 505-31-23)

(Subject Category 02 RTOP 505-31-23)

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(Subject Category 45 RTOP 505-31-23)

(Subject Category 08 RTOP 505-31-23)

(Subject Category 64 RTOP 505-31-03)

(Subject Category 64 RTOP 505-60-01)

(Subject Category 02 RTOP 505-31-53)

(Subject Category 02 RTOP 505-31-23)
913. Harvey, W. D.; Harris, C. D.; Brooks, C. W., Jr.; and Bobbitt, P. J.: Experimental Results on a Swept Supercritical Airfoil With Suction in the Langley 8-Foot Transonic Pressure Tunnel. Presented at the AIAA Shear Flow Control Conference, March 12-14, 1985, Boulder, Colorado. (Subject Category 02 RTOP 505-31-23)


920. Kilgore, R. A.: Other Cryogenic Wind Tunnel Projects. Presented at the AGARD/VKI Special Course on Cryogenic Technology for Windtunnel Testing, April 22-26, 1985, Rhode-Saint-Genese, Belgium. (Subject Category 09 RTOP 505-31-53)

921. Kilgore, R. A.: The NASA Langley 0.3-m Transonic Cryogenic Tunnel. Presented at the AGARD/VKI Special Course on Cryogenic Technology for Windtunnel Testing, April 22-26, 1985, Rhode-Saint-Genese, Belgium. (Subject Category 09 RTOP 505-31-53)


935. Maestrello, L.; Bayliss, A.; Parikh, P.; and Turkel, E.: Active Control of Compressible Flows Over a Curved Surface. Presented at the SAE Aerospace Technology Conference and Exposition, October 14-17, 1985, Long Beach, California. SAE Paper No. 851856. (Subject Category 02 RTOP 505-60-21)


947. Salas, M. D.: Progress Toward the Numerical Solution of the Euler Equations. Presented at the SAE Aerospace Technology Conference and Exposition, October 14-17, 1985, Long Beach, California. SAE Paper No. 851792. (Subject Category 64 RTOP 505-31-03)


Technical Talks


966. Dress, D. A.: Calculation of Flow Parameters and Power Requirements for Cryogenic Wind Tunnels Using a Desktop Computer. Presented at the 64th Meeting of the Supersonic Tunnel Association, October 1-3, 1985, San Diego, California. (Subject Category 09 RTOP 505-31-53)

967. Gumbert, C. R.: Incorporation of TWINTN4 Into an 0.3-m TCT Airfoil WIAC Procedure. Presented at the NASA 0.3-m TCT User Miniworkshop on Airfoil WIAC Procedure, February 6, 1985, Hampton, Virginia. (Subject Category 02 RTOP 505-31-53)

968. Gumbert, C. R.: Sample Case Demonstration of 0.3-m TCT WIAC Procedure on Interactive Graphics Terminal. Presented at the NASA 0.3-m TCT User Miniworkshop on Airfoil WIAC Procedure, February 6, 1985, Hampton, Virginia. (Subject Category 02 RTOP 505-31-53)

969. Harvey, W. D.; McGhee, R. J.; and Harris, C. D.: Summary of NASA Langley Advanced Low-Drag Airfoil Research. Presented at the Air Force, NASA, Navy Drag Reduction and Boundary Layer Control Symposium, October 22-25, 1985, Washington, DC. (Subject Category 02 RTOP 505-31-23)

970. Johnson, C. B.; Murthy, A. V.; Ray, E. J.; and McGee, B. S.: Preliminary Validation of the Active Sidewall-Boundary Layer Removal System of the 0.3-Meter Transonic Cryogenic Tunnel. Presented at the 63rd Semiannual Supersonic Tunnel Association Meeting, April 15-16, 1985, Dallas, Texas. (Subject Category 09 RTOP 505-31-53)


974. Lamar, J. E.: Vortex Flow Visualization on the F-106B. Presented at the SAE Aerospace Technology Conference and Exposition, October 14-17, 1985, Long Beach, California. (Subject Category 02 RTOP 307-05-01)

975. Lawing, P. L.: Cryogenic Wind Tunnels for High Reynolds Number Testing. Presented at the University of Tennessee Space Institute Short Course on Aerospace Ground Test Facilities and Flight Testing, May 8, 1985, Tullahoma, Tennessee. (Subject Category 09 RTOP 505-61-01)

976. Lawing, P. L.: The Construction of Airfoil Models by the Bonded Plate Method. Presented at the 64th Meeting of the Supersonic Tunnel Association, October 1-3, 1985, San Diego, California. (Subject Category 02 RTOP 505-31-53)

977. Maestrello, L.: Active Boundary Layer Control. Presented at the NASA Seminar at David Taylor Naval Ship Research and Development Center, May 24, 1985, Bethesda, Maryland. (Subject Category 02 RTOP 505-31-23)


979. McKinney, L. W.: Update on NTF Calibration. Presented at the 63rd Semiannual Supersonic Tunnel Association Meeting, April 15-16, 1985, Dallas, Texas. (Subject Category 09 RTOP 505-31-53)


981. Mineck, R. E.: The Adaptive Wall Test Section for the NASA Langley 0.3-m Transonic Cryogenic Tunnel. Presented at the 64th Meeting of the Supersonic Tunnel Association, October 1-3, 1985, San Diego, California. (Subject Category 02 RTOP 505-31-53)

982. Newman, P. A.: Validation of 0.3-m TCT Airfoil WIAC Procedure. Presented at the NASA 0.3-m TCT User Miniworkshop on Airfoil WIAC Procedure, February 6, 1985, Hampton, Virginia. (Subject Category 02 RTOP 505-31-53)

983. Newman, P. A.: Wall Interference of 8- by 24-Inch Test Section Design, Transonic Correction Philosophy, and Overview of WIAC Procedure. Presented at the NASA 0.3-m TCT User Miniworkshop on Airfoil WIAC Procedure, February 6, 1985, Hampton, Virginia. (Subject Category 02 RTOP 505-31-53)
984. Salas, M. D.: Breakdown of the Conservative Potential Model. Presented at the Polytechnic Institute of New York Short Course on Numerical Gas Dynamics, March 11-15, 1985, Farmingdale, New York. (Subject Category 64  RTOP 505-31-03)

985. Salas, M. D.: Fundamentals - Mathematical and Numerical Models, Analysis of Basic Assumptions. Presented at the Polytechnic Institute of New York Short Course on Numerical Gas Dynamics, March 11-15, 1985, Farmingdale, New York. (Subject Category 64  RTOP 505-31-03)

986. Salas, M. D.: Inviscid Separation - Effects of Vorticity and Artificial Dissipation. Presented at the Polytechnic Institute of New York Short Course on Numerical Gas Dynamics, March 11-15, 1985, Farmingdale, New York. (Subject Category 64  RTOP 505-31-03)

987. Salas, M. D.: Multiple Steady States of Characteristic Initial Value Problems. Presented at the Polytechnic Institute of New York Short Course on Numerical Gas Dynamics, March 11-15, 1985, Farmingdale, New York. (Subject Category 64  RTOP 505-31-03)

988. Salas, M. D.: Recent Advances on the Numerical Solution of the Euler Equations. Presented at the University of Rome Seminar on Recent Advances in Numerical Gas-Dynamics, September 16-20, 1985, Rome, Italy. (Subject Category 64  RTOP 505-31-03)


991. Salas, M. D.: Studies on Shock-Wave Stability. Presented at the University of Rome Seminar on Recent Advances in Numerical Gas-Dynamics, September 16-20, 1985, Rome, Italy. (Subject Category 64  RTOP 505-31-03)


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Computer Programs

No computer programs.

Tech Briefs


Patents

Formal Reports


*Aerostructures Directorate, USAARTA (AVSCOM)
1008. *Phelps, A. E., III; and *Berry, J. D.: Wind-Tunnel Evaluation of a 21-
Percent-Scale Powered Model of a Prototype Advanced Scout Helicopter. NASA
(Avail: NTIS Subject Category 02 RTOP 505-45-43)

1009. Riley, D. R.: Simulator Study of the Stall Departure Characteristics of a
Light General Aviation Airplane With and Without a Wing Leading-Edge
(Avail: NTIS Subject Category 05 RTOP 505-45-43)

1010. Satran, D. R.; Gilbert, W. P.; and Anglin, E. L.: Low-Speed Stability and
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Flight Characteristics at High Angles of Attack. NASA TP-2431, May 1985,
44 p.
(Avail: NTIS Subject Category 02 RTOP 505-43-13)

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1012. Stough, H. P., III; DiCarlo, D. J.; and Patton, J. M., Jr.: Flight
Investigation of Stall, Spin, and Recovery Characteristics of a Low-Wing,
(Avail: NTIS Subject Category 05 RTOP 505-45-23)

1013. Usry, J. W.; Dunham, R. E., Jr.; and Lee, J. T.: Comparison of Wind Velocity
in Thunderstorms Determined From Measurements by a Ground-Based Doppler
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1014. Whipple, R. D.; and White, W. L.: Spin-Tunnel Investigation of a 1/25-Scale
Model of the McDonnell Douglas AV-8B V/STOL Airplane (Coord No.
(Avail: NASA Subject Category 02 RTOP 505-43-33)

1015. Yip, L. P.: Wind-Tunnel Investigation of a Full-Scale Canard-Configured
(Avail: NTIS Subject Category 02 RTOP 505-45-43)

Quick-Release Technical Memorandums

No quick-release technical memorandums.
Contractor Reports


1017. Hess, C. P.; and Li, P.: Optical Technique to Study the Impact of Heavy Rain on Aircraft Performance. (NAS1-17932 Spectron Development Laboratories, Inc.) NASA CR-177989, October 1985, 42 p. (Avail: NTIS Subject Category 35 RTOP 324-01-00)


Journal Articles and Other Publications


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   (Subject Category 02 RTOP 505-45-13)

   (Subject Category 02 RTOP 505-45-43)

   (Subject Category 02 RTOP 505-31-03)

   (Subject Category 02 RTOP 505-61-51)

   (Subject Category 02 RTOP 505-31-03)

**Meeting Presentations**

   AIAA Paper No. 85-0122.  
   (Subject Category 02 RTOP 505-31-03)

   (Subject Category 02 RTOP 505-03-12)

   SAE Paper No. 850860.  
   (Subject Category 02 RTOP 505-45-43)

   (Subject Category 02 RTOP 505-45-43)


*Aerostructures Directorate, USAARTA (AVSCOM)


1066. Stough, H. P., III; Jordan, F. L., Jr.; DiCarlo, D. J.; and Glover, K. E.: Leading-Edge Design for Improved Spin Resistance of Wings Incorporating Conventional and Advanced Airfoils. Presented at the SAE Aerospace Technology Conference and Exposition, October 14-17, 1985, Long Beach, California. SAE Paper No. 851816. (Subject Category 02 RTOP 505-43-13)


Technical Talks

1074. Crabill, N. L.: Storm Hazards Research (Lightning and Heavy Rain). Presented at the IATA Flight Operations Advisory Committee Meeting, December 3, 1985, Moffett Field, California. (Subject Category 03 RTOP 505-68-01)


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   (Subject Category 02 RTOP 505-45-23)

   (Subject Category 34 RTOP 505-42-43)

   (Subject Category 02 RTOP 505-60-31)

Computer Programs


Tech Briefs


PUBLICATIONS FOR HIGH-SPEED AERODYNAMICS DIVISION

Formal Reports


(Avail: STIF Subject Category 02 RTOP 505-43-90)

(Avail: NTIS Subject Category 02 RTOP 505-43-90)

(Avail: NTIS Subject Category 07 RTOP 505-43-83)

(Avail: NTIS Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 02 RTOP 505-43-23)


(Avail: NTIS Subject Category 02 RTOP 505-43-83)

(Avail: STIF Subject Category 02 RTOP 505-43-23)


(Avail: STIF Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 02 RTOP 505-43-23)
Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports


(Avail: STIF Subject Category 02 RTOP 505-43-23)

(Avail: NTIS Subject Category 34 RTOP 505-31-13)


(Avail: NTIS Subject Category 02 RTOP 505-31-03)

(Avail: IAC Subject Category 02 RTOP 505-43-23)

Journal Articles and Other Publications

(Subject Category 25 RTOP 505-43-83)

(Subject Category 02 RTOP 505-43-83)

(Subject Category 02 RTOP 505-43-23)

(Subject Category 05 RTOP 505-45-43)

(Subject Category 02 RTOP 505-43-83)


1149. Kumar, A.; and Salas, M. D.: Euler and Navier-Stokes Solutions for Supersonic Shear Flow Past a Circular Cylinder. AIAA Journal, Volume 23, No. 4, April 1985, p. 583-587. (Subject Category 02 RTOP 505-31-03)


1152. Citation deleted because of duplication.


Meeting Presentations


1177. Eidson, T. M.; Zang, T. A.; and Hussaini, M. Y.: Data Analysis of Turbulent Flow Simulations. Presented at the Technical University of Munich Direct and Large Eddy Simulation of Turbulent Flows Meeting, September 30 - October 1, 1985, Munich, West Germany. Proceedings pending. (Subject Category 02 RTOP 505-31-03)


(Subject Category 25 RTOP 505-43-83)

(Subject Category 02 RTOP 505-43-23)

(Subject Category 02 RTOP 505-43-23)

(Subject Category 02 RTOP 505-43-23)

(Subject Category 34 RTOP 505-31-13)

(Subject Category 02 RTOP 505-31-03)

(Subject Category 02 RTOP 505-43-83)

(Subject Category 34 RTOP 505-31-13)

(Subject Category 34 RTOP 505-31-13)


Technical Talks


1233. Schultz, A. E.: A Wind Tunnel Reborn. Presented at the 63rd Semiannual Supersonic Tunnel Association Meeting, April 15-16, 1985, Dallas, Texas. (Subject Category 02 RTOP 505-43-23)


Computer Programs


Tech Briefs


Patents

PUBLICATIONS FOR OFFICE OF DIRECTOR FOR SPACE

Formal Reports
No formal reports.

Quick-Release Technical Memorandums
No quick-release technical memorandums.

Contractor Reports
No contractor reports.

Journal Articles and Other Publications
No journal articles and other publications.

Meeting Presentations
No meeting presentations.

Technical Talks
1250. Nunamaker, R. R.: Orbit-on-Demand--Prospects and Opportunities. Presented at the SAE Aerospace Technology Conference and Exposition, October 14-17, 1985, Long Beach, California. (Subject Category 16 RTOP 506-51-13)

Computer Programs
No computer programs.

Tech Briefs
No tech briefs.

Patents
No patents.
PUBLICATIONS FOR SPACE STATION OFFICE

Formal Reports

No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations


Technical Talks

No technical talks.

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
PUBLICATIONS FOR ATMOSPHERIC SCIENCES DIVISION

Formal Reports


Quick-Release Technical Memorandums

Contractor Reports


Journal Articles and Other Publications


1271. Benner, D. C.; and Rinsland, C. P.: Identification and Intensities of the "Forbidden" $3v_2^3$ Band of $^{12}$C$^{16}$O$_2$. Journal of Molecular Spectroscopy, Volume 112, 1985, p. 18-25. (Subject Category 72 RTOP 618-21-00)


   (Subject Category 45 RTOP 199-30-26)

   (Subject Category 46 RTOP 673-41-07)

   (Subject Category 46 RTOP 673-41-02)

   (Subject Category 46 RTOP 673-41-07)

   (Subject Category 46 RTOP 665-40-40)

   (Subject Category 46 RTOP 147-44-02)

   (Subject Category 92 RTOP 619-12-20)

   (Subject Category 46 RTOP 673-41-10)

   (Subject Category 46 RTOP 199-50-16)


1325. Yue, G. K.; and Deepak, A.: Latitudinal and Altitudinal Variation of Size Distribution of Stratospheric Aerosols Inferred From SAGE Aerosol Extinction Coefficient Measurements at Two Wavelengths. Geophysical Research Letters, Volume 11, October 1984, p. 999-1002. (Subject Category 46 RTOP 619-12-30)

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1333. Benner, D. C.; Devi, V. M.; and Rinsland, C. P.: Molecular Parameters for Carbon Dioxide Bands in the 2.86 - 3.18 μm Spectral Region. Presented at the Ohio State University 40th Annual Symposium on Molecular Spectroscopy, June 17-21, 1985, Columbus, Ohio. In Volume of Abstracts, June 1985, p. 57. (Subject Category 72 RTOP 618-21-00)


1346. Flaud, J-M.; Camy-Peyret, C.; Perrin, A.; Devi, V. M.; Rinsland, C. P.; and Smith, M. A. H.: The v$_3$ and v$_1$ Bands of the $^{16}$O$^{16}$O$^{18}$O and $^{16}$O$^{18}$O$^{16}$O Isotopic Species of Ozone. Presented at the Ohio State University 40th Annual Symposium on Molecular Spectroscopy, June 17-21, 1985, Columbus, Ohio. In Volume of Abstracts, June 1985, p. 52. (Subject Category 72 RTOP 147-44-02)


Presented at the AMS Ninth Conference on Probability and Statistics in 
Atmospheric Sciences, October 9-11, 1985, Virginia Beach, Virginia. 
Published in Preprints, 1985, p. 360-367. 
(Subject Category 47 RTOP 619-12-30)

1368. Vemury, S. K.; Wielicki, B. A.; and Suttles, J. T.: Scene Identification 
Using Maximum Likelihood Estimation (MLE). Presented at the 1985 American 
Geophysical Union Spring Meeting, May 27-31, 1985, Baltimore, Maryland. 
(Subject Category 47 RTOP 619-12-30)

1369. Wallio, H. A.; Gormsen, B. B.; and Reichle, H. G., Jr.: Results of a 
Feasibility Study of a Spaceborne Multi-Level Tropospheric CO Measurement 
System. Presented at the 1985 American Geophysical Union Fall Meeting, 
Transactions, Volume 66, No. 46, p. 818. 
(Subject Category 35 RTOP 618-22-31)

Determination of Spectral Properties of the Earth Radiation Budget at 
Selected Sites. Presented at the OSA Topical Meeting on Remote Sensing of 
the Atmosphere, January 15-18, 1985, Incline Village, Nevada. In Technical 
Digest No. TUC12. 
(Subject Category 47 RTOP 672-40-04)

1371. Young, D. P.; and Keating, G. M.: Models of Ozone Climatology Based on 
Satellite Data. Presented at the 1985 American Geophysical Union Spring 
Meeting, May 27-31, 1985, Baltimore, Maryland. Abstract published in EOS 
(Subject Category 46 RTOP 673-41-07)

Technical Talks

(Subject Category 43 RTOP 199-30-36)

Related to Carbon Cycling. Presented at the NASA Symposium on Biospheric 
Research, March 13-14, 1985, Moffett Field, California. 
(Subject Category 43 RTOP 199-30-36)

1374. Barkstrom, B. R.; and the ERBE Science Team: Initial Data From the Earth 
Radiation Budget Experiment (ERBE). Presented at the IAMAP/IAPSO Joint 
Assembly Meeting, August 5-16, 1985, Honolulu, Hawaii. 
(Subject Category 47 RTOP 619-12-30)

1375. Blackshear, W. T.; and Grose, W. L.: Dynamics of a Sudden Stratospheric 
Warming Simulated by a Primitive Equation Atmospheric Model. Presented at 
the International Association of Geomagnetism and Aeronomy (IAGA) Fifth 
Scientific Assembly, August 5-17, 1985, Prague, Czechoslovakia. 
(Subject Category 47 RTOP 673-64-02)
1376. Butchart, N.; and Remsberg, E. E.: Area Diagnostics for the Northern Hemisphere Middle Stratosphere. Presented at the AMS Fifth Conference on the Meteorology of the Stratosphere and Mesosphere, April 23-26, 1985, Boulder, Colorado. (Subject Category 46 RTOP 673-41-10)


1378. Callis, L. B.; Boughner, R. E.; and Natarajan, M.: Middle Atmospheric Transport Derived From the LIMS, SAMS, and SBUV Data. Presented at the International Association of Geomagnetism and Aeronomy (IAGA) Fifth Scientific Assembly, August 5-17, 1985, Prague, Czechoslovakia. (Subject Category 46 RTOP 673-62-02)


1380. Cofer, W. R., III: Airborne Shuttle Exhaust Cloud Measurements at Vandenberg AFB, CA. Presented at the JANNAF Safety & Environmental Protection Subcommittee Workshop on 'Atmospheric Transport and Diffusion Modeling,' June 11-13, 1985, Los Angeles, California. (Subject Category 45 RTOP 569-81-91)

1381. Ferebee, M. T.: Color Contouring for Atmospheric Data Sets. Presented at the National Technical Association (NTA) 1985 Conference, July 22-26, 1985, Houston, Texas. (Subject Category 60 RTOP 619-12-20)


1385. Grose, W. L.; and O'Neill, A.: Application of LIMS and SSU Global Satellite to Studies of Stratospheric Dynamics. Presented at the International Association of Geomagnetism and Aeronomy (IAGA) Fifth Scientific Assembly, August 5-17, 1985, Prague, Czechoslovakia. (Subject Category 47 RTOP 673-64-02)

1386. Grose, W. L.; Turner, R. E.; and Nealy, J. E.: Coupling Between Photochemistry and Transport: Simulations With a 3-D Model. Presented at the International Association of Geomagnetism and Aeronomy (IAGA) Fifth Scientific Assembly, August 5-17, 1985, Prague, Czechoslovakia. (Subject Category 47 RTOP 673-64-02)

1387. Harrison, E. F.; and Minnis, P.: Cloud Cover Derived From ISCCP Data Using a Hybrid Bi-Spectral Threshold Technique. Presented at the IAMAP/IAPSO Joint Assembly Meeting, August 5-16, 1985, Honolulu, Hawaii. (Subject Category 47 RTOP 672-22-04)

1388. Keating, G. M.; and Brasseur, G.: Observed and Predicted Response of Middle Atmosphere to Short-Term Solar UV Variations. Presented at the International Association of Geomagnetism and Aeronomy (IAGA) Fifth Scientific Assembly, August 5-17, 1985, Prague, Czechoslovakia. (Subject Category 46 RTOP 673-41-07)

1389. Keating, G. M.; Nicholson, J. Y., III; Brasseur, G.; and De Rudder, A.: Review of Recent Evidence of Solar Activity Effects in the Middle Atmosphere From Large Data Sets. Presented at the International Association of Geomagnetism and Aeronomy (IAGA) Fifth Scientific Assembly, August 5-17, 1985, Prague, Czechoslovakia. (Subject Category 46 RTOP 673-41-07)

1390. Keating, G. M.; and Young, D. F.: Interim Reference Ozone Models for CIRA. Presented at the International Association of Geomagnetism and Aeronomy (IAGA) Fifth Scientific Assembly, August 5-17, 1985, Prague, Czechoslovakia. (Subject Category 46 RTOP 673-41-07)

1391. Kent, G. S.; and McCormick, M. P.: Global Stratospheric Aerosol Climatology From Satellite Occultation and Lidar Measurements. Presented at the International Association of Geomagnetism and Aeronomy (IAGA) Fifth Scientific Assembly, August 5-17, 1985, Prague, Czechoslovakia. (Subject Category 46 RTOP 665-40-40)

1392. Lawrence, J. D., Jr.: Remote Sensing of the Atmosphere. Presented at the AIAA 23rd Aerospace Sciences Meeting, January 14-17, 1985, Reno, Nevada. (Subject Category 45 RTOP 146-74-01)

1393. LeCroy, S. R.; Whitlock, C. H.; and Suttles, J. T.: Characterization of Aerosol Types by Their Extinction to Backscatter Cross Section Ratio. Presented at the IAMAP/IAPSO Joint Assembly Meeting, August 5-16, 1985, Honolulu, Hawaii. (Subject Category 47 RTOP 672-40-04)


1398. Miles, T.; and Grose, W. L.: Wave Activity in the Summer Stratosphere Observed by LIMS. Presented at the International Association of Geomagnetism and Aeronomy (IAGA) Fifth Scientific Assembly, August 5-17, 1985, Prague, Czechoslovakia. (Subject Category 47 RTOP 673-64-02)

1399. Minnis, P.; and Harrison, E. F.: Zenith Angle Dependence of Cloud Fraction Retrieval From Satellite. Presented at the IAMAP/IAPSO Joint Assembly Meeting, August 5-16, 1985, Honolulu, Hawaii. (Subject Category 47 RTOP 672-22-04)


1401. Park, J. H.; and Carli, B.: Retrieval of Stratospheric Minor Constituents From Atmospheric Emission Spectra in the Submillimeter Region. Presented at the International Association of Geomagnetism and Aeronomy (IAGA) Fifth Scientific Assembly, August 8-17, 1985, Prague, Czechoslovakia. (Subject Category 46 RTOP 147-44-02)

1402. Parker, L.; Welch, R. M.; Musil, D. J.; and Wielicki, B. A.: Spatial Inhomogeneities in Clouds. Presented at the IAMAP/IAPSO Joint Assembly Meeting, August 5-16, 1985, Honolulu, Hawaii. (Subject Category 47 RTOP 672-22-10)


1405. Remsberg, E. E.; and Butchart, N.: Diagnostics of the Winter Polar Vortex Using Ozone and Water Vapor From the Nimbus 7 LIMS Experiment. Presented at the AMS Fifth Conference on the Meteorology of the Stratosphere and Mesosphere, April 23-26, 1985, Boulder, Colorado. (Subject Category 46 RTOP 673-41-10)


1407. Russell, J. M., III: The Halogen Occultation Experiment (HALOE). Presented at the International Association of Geomagnetism and Aeronomy (IAGA) Fifth Scientific Assembly, August 5-17, 1985, Prague, Czechoslovakia. (Subject Category 46 RTOP 673-41-10)


1411. Smith, M. A. H.: Infrared Spectroscopy for Upper Atmospheric Measurements. Presented at the Ohio State University 40th Molecular Spectroscopy Symposium, June 17-21, 1985, Columbus, Ohio. (Subject Category 72 RTOP 147-23-11)

1412. Welch, R. M.; and Wielicki, B. A.: The Stratocumulus Nature of Fog. Presented at the IAMAP/IAPSO Joint Assembly Meeting, August 5-16, 1985, Honolulu, Hawaii. (Subject Category 47 RTOP 672-22-10)

1413. Wielicki, B. A.; and Suttles, J. T.: Stratocumulus Cloud Radiative Properties. Presented at the IAMAP/IAPSO Joint Assembly Meeting, August 5-16, 1985, Honolulu, Hawaii. (Subject Category 47 RTOP 672-22-10)
               (Subject Category 46 RTOP 672-22-10)

Computer Programs

No computer programs.

Tech Briefs


Patents

No patents.
Formal Reports


Quick-Release Technical Memorandums


(Avail: NTIS Subject Category 02 RTOP 906-65-34)

(Avail: NTIS Subject Category 18 RTOP 506-49-31)

(Avail: NTIS Subject Category 36 RTOP 506-55-73)

Contractor Reports

(Avail: NTIS Subject Category 18 RTOP 506-62-23)

(Avail: NTIS Subject Category 18 RTOP 506-62-23)

(Avail: NTIS Subject Category 66 RTOP 506-62-23)

(Avail: NTIS Subject Category 18 RTOP 506-62-23)

(Avail: NTIS Subject Category 39 RTOP 506-62-23)

(Avail: NTIS Subject Category 12 RTOP 506-63-23)


Journal Articles and Other Publications


1459. Dunham, E. W.; Baron, R. L.; Conner, S.; Dunham, D. W.; Dunham, J. B.; Schneider, G.; Cohen, H. L.; Helms, V. T., III; Croom, M.; and Saftka, J.: Results From the Occultation of 14 Piscium by (51) Nemausa. Astronomical Journal, Volume 89, November 1984, p. 1755-1758. (Subject Category 89)


179
(Subject Category 73 RTOP 199-20-76)

(Subject Category 70 RTOP 199-20-76)

(Subject Category 31 RTOP 506-55-73)

(Subject Category 31 RTOP 506-55-73)

(Subject Category 31 RTOP 506-55-43)

(Subject Category 15 RTOP 506-51-13)

(Subject Category 08 RTOP 506-51-13)

(Subject Category 15 RTOP 506-51-13)

(Subject Category 34 RTOP 506-51-13)


Meeting Presentations


Technical Talks


1559. Walberg, G. D.: Entry Vehicles of the Twenty-First Century. Presented at the Deutsche Forschungs- und Versuchsanstalt fur luft- und Raumfahrt e.V. (DFVLR), October 14, 1985, Gottingen, Germany. (Subject Category 15 RTOP 506-51-13)


Computer Programs


Tech Briefs


Patents

PUBLICATIONS FOR OFFICE OF DIRECTOR FOR FLIGHT SYSTEMS

Formal Reports
No formal reports.

Quick-Release Technical Memorandums
No quick-release technical memorandums.

Contractor Reports
No contractor reports.

Journal Articles and Other Publications
No journal articles and other publications.

Meeting Presentations
No meeting presentations.

Technical Talks
No technical talks.

Computer Programs
No computer programs.

Tech Briefs
No tech briefs.

Patents
No patents.
No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports


Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations

No meeting presentations.

Technical Talks

No technical talks.

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
Formal Reports

(Avail: NTIS Subject Category 61 RTOP 505-34-13)

(Avail: NTIS Subject Category 63 RTOP 506-54-63)

(Avail: NTIS Subject Category 43 RTOP 619-12-30)

(Avail: NTIS Subject Category 32 RTOP 506-58-13)

(Avail: NTIS Subject Category 61 RTOP 505-34-13)

(Avail: NTIS Subject Category 38 RTOP 505-34-13)

(Avail: NTIS Subject Category 62 RTOP 505-34-13)

(Avail: NTIS Subject Category 61 RTOP 482-58-13)

(Avail: NTIS Subject Category 61 RTOP 482-58-13)

(Avail: NTIS Subject Category 91 RTOP 506-54-13)


Contractor Reports


Journal Articles and Other Publications


Meeting Presentations


Technical Talks


1641. Crouch, R. K.; Schuszler, A., II; Simchick, R.; and Barber, P. G.: Correspondence of the Composition of the Compound Semiconductor Lead Tin Telluride and Its Etch Pattern. Presented at the 167th Meeting of the Electrochemical Society, May 12-17, 1985, Toronto, Canada. (Subject Category 23 RTOP 694-30-70)


Computer Programs


Patents


(Avail: NTIS Subject Category 33 RTOP 506-58-23)

(Avail: STIF Subject Category 08 RTOP 505-34-03)

(Avail: NTIS Subject Category 05 RTOP 505-34-03)

(Avail: NTIS Subject Category 08 RTOP 505-34-03)

(Avail: NTIS Subject Category 08 RTOP 505-34-03)

(Avail: NTIS Subject Category 18 RTOP 506-57-13)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 32 RTOP 146-40-13)

(Avail: NTIS Subject Category 08 RTOP 505-34-03)

(Avail: NTIS Subject Category 08 RTOP 505-34-03)

(Avail: NTIS Subject Category 32 RTOP 506-58-23)

(Avail: NTIS Subject Category 08 RTOP 505-34-03)


Contractor Reports


Journal Articles and Other Publications


Meeting Presentations


(Subject Category 04 RTOP 505-45-33)

(Subject Category 15 RTOP 506-62-43)

(Subject Category 31 RTOP 506-57-13)

(Subject Category 33 RTOP 505-34-93)

(Subject Category 43 RTOP 506-58-23)

(Subject Category 08 RTOP 505-45-33)

(Subject Category 33 RTOP 506-58-23)

(Subject Category 63 RTOP 506-57-13)
(Subject Category 63 RTOP 506-57-13)

(Subject Category 20 RTOP 506-57-13)

(Subject Category 13 RTOP 506-57-13)

(Subject Category 13 RTOP 506-57-13)

(Subject Category 32 RTOP 506-58-23)

(Subject Category 20 RTOP 506-57-13)

(Subject Category 08 RTOP 505-34-03)

(Subject Category 63 RTOP 506-57-13)


1728. Montgomery, R. C.: The COFS Experiment Ground Test Activity. Presented at the Fifth VPI&SU/AIAA Symposium on Dynamics and Control of Large Structures, June 12-14, 1985, Blacksburg, Virginia. (Subject Category 31 RTOP 506-57-13)


Computer Programs


Tech Briefs


Patents

No patents.
PUBLICATIONS FOR FLIGHT MANAGEMENT DIVISION

Formal Reports


Quick-Release Technical Memorandums


Contractor Reports


(Avail: NTIS Subject Category 06 RTOP 505-35-13)

(Avail: NTIS Subject Category 53 RTOP 505-45-33)

(Avail: NTIS Subject Category 05 RTOP 505-45-73)

(Avail: NTIS Subject Category 05 RTOP 505-34-13)

(Avail: NTIS Subject Category 06 RTOP 534-04-13)

Journal Articles and Other Publications

(Subject Category 06 RTOP 505-35-13)

(Subject Category 08 RTOP 505-35-33)

(Subject Category 06 RTOP 505-45-33)

(Subject Category 54)
Meeting Presentations


Technical Talks


1761. Garner, H. D.: Micros in the Cockpit. Presented at the 1985 EAA Oshkosh Fly-In and Convention, July 26 - August 2, 1985, Oshkosh, Wisconsin. (Subject Category 06 RTOP 505-34-33)
1762. Knox, C. E.: MLS Advanced Applications Study. Presented at the IATA Flight Operations Advisory Committee Meeting, December 3, 1985, Moffett Field, California. (Subject Category 06 RTOP 505-66-41)


Computer Programs

No computer programs.

Tech Briefs


Patents

No patents.
PUBLICATIONS FOR OFFICE OF DIRECTOR FOR SYSTEMS ENGINEERING AND OPERATIONS

Formal Reports
No formal reports.

Quick-Release Technical Memorandums
No quick-release technical memorandums.

Contractor Reports
No contractor reports.

Journal Articles and Other Publications
No journal articles and other publications.

Meeting Presentations
No meeting presentations.

Technical Talks
No technical talks.

Computer Programs
No computer programs.

Tech Briefs
No tech briefs.

Patents
No patents.
PUBLICATIONS FOR FABRICATION DIVISION

Formal Reports

(Avail: STIF Subject Category 24 RTOP 506-53-33)

(Avail: NTIS Subject Category 23 RTOP 505-42-23)

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles and Other Publications

No journals articles and other publications.

Meeting Presentations

(Subj ect Category 24 RTOP 505-42-23)

(Sub ject Category 24 RTOP 505-42-23)

(Sub ject Category 23)
Technical Talks

No technical talks.

Computer Programs

No computer programs.

Tech Briefs


Patents


PUBLICATIONS FOR SYSTEMS ENGINEERING DIVISION

Formal Reports

   (Avail: NTIS Subject Category 03 RTOP 505-42-23)

   (Avail: NTIS Subject Category 02 RTOP 505-45-63)

Quick-Release Technical Memorandums

   (Avail: NTIS Subject Category 05 RTOP 505-42-23)

   (Avail: NTIS Subject Category 27 RTOP 505-33-33)

   (Avail: NTIS Subject Category 35 RTOP 619-12-01)

Contractor Reports

   (Avail: STIF Subject Category 26 RTOP 505-61-01)

   (Avail: NTIS Subject Category 26 RTOP 505-31-53)

   (Avail: NTIS Subject Category 26 RTOP 505-31-53)

Journal Articles and Other Publications


Meeting Presentations


1798. Young, C. P., Jr.: Design and Construction of Models for the National Transonic Facility - I. Presented at the AGARD/VKI Special Course on Cryogenic Technology for Windtunnel Testing, April 22-26, 1985, Rhode-Saint-Genese, Belgium. (Subject Category 09 RTOP 505-31-53)

1799. Young, C. P., Jr.: Design and Construction of Models for the National Transonic Facility - II. Presented at the AGARD/VKI Special Course on Cryogenic Technology for Windtunnel Testing, April 22-26, 1985, Rhode-Saint-Genese, Belgium. (Subject Category 09 RTOP 505-31-53)

Technical Talks


Computer Programs

No computer programs.

Tech Briefs


Patents

No patents.
No formal reports.

Quick-Release Technical Memorandums

No quick-release technical memorandums.

Contractor Reports

No contractor reports.

Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations


Technical Talks

No technical talks.

Computer Programs

No computer programs.
No tech briefs.

No patents.
PUBLICATIONS FOR OPERATIONS SUPPORT DIVISION

Formal Reports
No formal reports.

Quick-Release Technical Memorandums
No quick-release technical memorandums.

Contractor Reports
No contractor reports.

Journal Articles and Other Publications
No journal articles and other publications.

Meeting Presentations
No meeting presentations.

Technical Talks
No technical talks.

Computer Programs
No computer programs.

Tech Briefs

Patents
No patents.
PUBLICATIONS FOR OFFICE OF DIRECTOR FOR MANAGEMENT OPERATIONS

Formal Reports

No formal reports.

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 82)

Contractor Reports

No contractor reports.

Journal Articles and Other Publications

(Subject Category 82)

Meeting Presentations

(Subject Category 82)

(Subject Category 82)

(Subject Category 82)

Technical Talks

No technical talks.
Computer Programs

No computer programs.

Tech Briefs

No tech briefs.

Patents

No patents.
Formal Reports

(Avail: NTIS Subject Category 24 RTOP 505-42-39)

Quick-Release Technical Memorandums

(Avail: NTIS Subject Category 39 RTOP 505-42-39)

Contractor Reports

No contractor reports.

Journal Articles and Other Publications

No journal articles and other publications.

Meeting Presentations

(Subject Category 02 RTOP 505-42-23)

Technical Talks

No technical talks.

Computer Programs

No computer programs.

Tech Briefs

No tech briefs.
APPENDIX

INDUSTRIAL APPLICATIONS CENTERS

Aerospace Research Applications Center
Indianapolis Center for Advanced Research
611 N. Capital Avenue
Indianapolis, IN 46204
(317) 264-4644

Kerr Industrial Applications Center
Southeastern Oklahoma State University
Station A, Box 2584
Durant, OK 74701
(405) 924-6822

NASA Industrial Applications Center
University of Pittsburgh
823 William Pitt Union
Pittsburgh, PA 15260
(412) 624-5211

NASA Industrial Applications Center
University of Southern California
Research Annex, Room 200
3716 South Hope Street
Los Angeles, CA 90007
(213) 743-6132

New England Research Applications Center
Mansfield Professional Park
Storrs, CT 06268
(203) 486-4533

North Carolina Science and Technology Research Center
Post Office Box 12235
Research Triangle Park, NC 27709
(919) 549-0671

Technology Applications Center
University of New Mexico
Albuquerque, NM 87131
(505) 277-3622

NASA/Florida State Technology Applications Center
State University System of Florida
307 Weil Hall
Gainesville, FL 32611
(904) 392-6626
<table>
<thead>
<tr>
<th>Author Name</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aanstoos, J. V.</td>
<td>1623</td>
</tr>
<tr>
<td>Abarbanel, S.</td>
<td>4, 5</td>
</tr>
<tr>
<td>Abbott, K. H.</td>
<td>1735, 1758</td>
</tr>
<tr>
<td>Abbott, T. S.</td>
<td>1736</td>
</tr>
<tr>
<td>Abdelsalam, M. K.</td>
<td>857</td>
</tr>
<tr>
<td>Abel, I.</td>
<td>461, 466</td>
</tr>
<tr>
<td>obeyounis, W. K.</td>
<td>826, 833, 838, 927</td>
</tr>
<tr>
<td>Abrahamson, A. L.</td>
<td>751</td>
</tr>
<tr>
<td>ACEE Composites Project Office</td>
<td>123</td>
</tr>
<tr>
<td>Ackley, D. E.</td>
<td>258</td>
</tr>
<tr>
<td>Adams, B. R.</td>
<td>1206, 1232, 1242</td>
</tr>
<tr>
<td>Adams, D. F.</td>
<td>560, 594</td>
</tr>
<tr>
<td>Adams, L.</td>
<td>6</td>
</tr>
<tr>
<td>Adams, M. S.</td>
<td>1096, 1099, 1100, 1101</td>
</tr>
<tr>
<td>Adams, R. R.</td>
<td>355, 1796</td>
</tr>
<tr>
<td>Adams, W. M., Jr.</td>
<td>1699</td>
</tr>
<tr>
<td>Adcock, J. B.</td>
<td>939</td>
</tr>
<tr>
<td>Adelman, H. M.</td>
<td>511, 512, 521, 522, 525</td>
</tr>
<tr>
<td>Adelman, J. L.</td>
<td>794</td>
</tr>
<tr>
<td>Ahuja, K. K.</td>
<td>760</td>
</tr>
<tr>
<td>Ake, R. L.</td>
<td>190, 228</td>
</tr>
<tr>
<td>Aksel, B.</td>
<td>561</td>
</tr>
<tr>
<td>Aksel, G. N.</td>
<td>562</td>
</tr>
<tr>
<td>Alaghband, G.</td>
<td>7</td>
</tr>
<tr>
<td>Albertson, C. W.</td>
<td>414</td>
</tr>
<tr>
<td>Alexander, W., Jr.</td>
<td>1779</td>
</tr>
<tr>
<td>Alfaro-Bou, E.</td>
<td>350, 365, 366, 367, 393, 394, 1806</td>
</tr>
<tr>
<td>Allario, P.</td>
<td>283</td>
</tr>
<tr>
<td>Allen, B. B.</td>
<td>1788</td>
</tr>
<tr>
<td>Allen, G. J.</td>
<td>192, 616</td>
</tr>
<tr>
<td>Allen, J. M.</td>
<td>1097, 1158</td>
</tr>
<tr>
<td>Allison, D. O.</td>
<td>827</td>
</tr>
<tr>
<td>Allison, S. G.</td>
<td>191, 205, 223, 224, 225</td>
</tr>
<tr>
<td>Allsup, H. C.</td>
<td>451</td>
</tr>
<tr>
<td>Alpert, J. C.</td>
<td>1275</td>
</tr>
<tr>
<td>Anders, J. B., Jr.</td>
<td>1159, 1160, 1161, 1221, 1222, 1234</td>
</tr>
<tr>
<td>Andersen, G. C.</td>
<td>1502</td>
</tr>
<tr>
<td>Anderson, E. C.</td>
<td>1179</td>
</tr>
<tr>
<td>Anderson, G. S.</td>
<td>752</td>
</tr>
<tr>
<td>Anderson, G. Y.</td>
<td>1098</td>
</tr>
<tr>
<td>Anderson, I. C.</td>
<td>1326, 1327</td>
</tr>
<tr>
<td>Anderson, M. S.</td>
<td>308, 349, 351</td>
</tr>
<tr>
<td>Anderson, O. L.</td>
<td>1122</td>
</tr>
<tr>
<td>Anderson, W. K.</td>
<td>1031</td>
</tr>
<tr>
<td>Andrews, E. H., Jr.</td>
<td>1098, 1185, 1186, 1187</td>
</tr>
<tr>
<td>Anglin, E. L.</td>
<td>1010</td>
</tr>
<tr>
<td>Anon.</td>
<td>2, 3, 8, 9, 10, 1442, 1443, 1565, 1592, 1593</td>
</tr>
<tr>
<td>Antcliff, R. R.</td>
<td>956, 1136, 1162, 1163, 1191, 1223</td>
</tr>
<tr>
<td>Antman, S. S.</td>
<td>59</td>
</tr>
<tr>
<td>Applin, Z. T.</td>
<td>1011, 1165, 1428</td>
</tr>
<tr>
<td>Arbiter, D. G.</td>
<td>855</td>
</tr>
<tr>
<td>Arbuckle, P. D.</td>
<td>1653, 1654, 1731, 1732</td>
</tr>
<tr>
<td>Ard, K.</td>
<td>618</td>
</tr>
<tr>
<td>Arduini, R. F.</td>
<td>1264</td>
</tr>
<tr>
<td>Arefian, V. V.</td>
<td>444</td>
</tr>
<tr>
<td>Arking, A.</td>
<td>1311</td>
</tr>
<tr>
<td>Arrington, J. R.</td>
<td>1495</td>
</tr>
<tr>
<td>Ash, R. L.</td>
<td>179, 226</td>
</tr>
<tr>
<td>Ashmore, T. C.</td>
<td>1574</td>
</tr>
<tr>
<td>Asimov, I.</td>
<td>1</td>
</tr>
<tr>
<td>Athans, M.</td>
<td>1675</td>
</tr>
<tr>
<td>Augustsson, T. R.</td>
<td>1273, 1300</td>
</tr>
<tr>
<td>Avery, D. E.</td>
<td>408, 462</td>
</tr>
<tr>
<td>Babb, C. D.</td>
<td>1112</td>
</tr>
<tr>
<td>Bachtell, E. E.</td>
<td>1444, 1445</td>
</tr>
<tr>
<td>Badavi, F.</td>
<td>1546</td>
</tr>
<tr>
<td>Bader, R. M.</td>
<td>426, 485</td>
</tr>
<tr>
<td>Bahn, G. S.</td>
<td>1656</td>
</tr>
<tr>
<td>Bailey, A. R.</td>
<td>1746, 1747</td>
</tr>
<tr>
<td>Bailey, J. W.</td>
<td>1805</td>
</tr>
<tr>
<td>Bailey, M. C.</td>
<td>1668, 1691</td>
</tr>
<tr>
<td>Bailey, P. L.</td>
<td>1304</td>
</tr>
<tr>
<td>Bainum, P. M.</td>
<td>352</td>
</tr>
<tr>
<td>Bair, C. H.</td>
<td>272, 284</td>
</tr>
<tr>
<td>Balakrishnan, A. V.</td>
<td>1676</td>
</tr>
<tr>
<td>Balasubramanian, R.</td>
<td>1215</td>
</tr>
<tr>
<td>Bales, K. S.</td>
<td>307</td>
</tr>
<tr>
<td>Bales, T. T.</td>
<td>537, 681</td>
</tr>
<tr>
<td>Bangert, L. S.</td>
<td>828</td>
</tr>
<tr>
<td>Banks, D. W.</td>
<td>999, 1022, 1059</td>
</tr>
<tr>
<td>Banks, H. T.</td>
<td>11, 12</td>
</tr>
<tr>
<td>Bantle, J. W.</td>
<td>81</td>
</tr>
<tr>
<td>Barber, P. G.</td>
<td>1594, 1615, 1634, 1641, 1646</td>
</tr>
<tr>
<td>Bare, E. A.</td>
<td>846, 884</td>
</tr>
<tr>
<td>Barger, R. L.</td>
<td>1096, 1099, 1100, 1101</td>
</tr>
<tr>
<td>Barker, L. K.</td>
<td>164, 1566</td>
</tr>
<tr>
<td>Name</td>
<td>Page Numbers</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Barkstrom, B. R.</td>
<td>1297, 1328, 1370, 1374, 1394</td>
</tr>
<tr>
<td>Barnes, A. G.</td>
<td>328</td>
</tr>
<tr>
<td>Barnes, J. C.</td>
<td>285, 294, 295</td>
</tr>
<tr>
<td>Barnwell, R. W.</td>
<td>941</td>
</tr>
<tr>
<td>Baron, R. L.</td>
<td>1459</td>
</tr>
<tr>
<td>Baron, S.</td>
<td>1742</td>
</tr>
<tr>
<td>Barrett, N. M.</td>
<td>1681</td>
</tr>
<tr>
<td>Barthelemy, J-F.</td>
<td>513, 515, 526, 528</td>
</tr>
<tr>
<td>Bartlett, D. S.</td>
<td>1329, 1330, 1331, 1332, 1351, 1372, 1373</td>
</tr>
<tr>
<td>Bartlett, D. W.</td>
<td>124</td>
</tr>
<tr>
<td>Bartlett, G. R.</td>
<td>856, 898, 942</td>
</tr>
<tr>
<td>Bartlett, K. B.</td>
<td>1270, 1290, 1313, 1331, 1332, 1365</td>
</tr>
<tr>
<td>Bascom, W. D.</td>
<td>638</td>
</tr>
<tr>
<td>Bass, R. G.</td>
<td>619, 723</td>
</tr>
<tr>
<td>Batina, J. T.</td>
<td>409, 418, 419, 422, 475, 476, 479</td>
</tr>
<tr>
<td>Batten, C. E.</td>
<td>184, 192</td>
</tr>
<tr>
<td>Batterson, J. G.</td>
<td>1663, 1700</td>
</tr>
<tr>
<td>Baucom, R. M.</td>
<td>682, 683</td>
</tr>
<tr>
<td>Baugh, B. T.</td>
<td>1563</td>
</tr>
<tr>
<td>Baucomlicher, C. W., Jr.</td>
<td>187</td>
</tr>
<tr>
<td>Bavuso, S. J.</td>
<td>1575, 1639, 1645, 1647</td>
</tr>
<tr>
<td>Bayliss, A.</td>
<td>13, 14, 15, 16, 46, 887, 888, 899, 934, 935, 978</td>
</tr>
<tr>
<td>Beach, H. L., Jr.</td>
<td>1164, 1224</td>
</tr>
<tr>
<td>Beck, S. M.</td>
<td>1338, 1347</td>
</tr>
<tr>
<td>Beck, W. E., Jr.</td>
<td>93</td>
</tr>
<tr>
<td>Becker, L. E.</td>
<td>1657</td>
</tr>
<tr>
<td>Beckwith, I. E.</td>
<td>1105, 1165, 1172, 1173, 1225</td>
</tr>
<tr>
<td>Beeler, G. B.</td>
<td>1197, 1213, 1226</td>
</tr>
<tr>
<td>Beissner, F. L., Jr.</td>
<td>96</td>
</tr>
<tr>
<td>Belcastro, C. M.</td>
<td>1655</td>
</tr>
<tr>
<td>Bell, V. L., Jr.</td>
<td>720</td>
</tr>
<tr>
<td>Belvin, W. K.</td>
<td>329</td>
</tr>
<tr>
<td>Bement, L. J.</td>
<td>1778, 1780, 1789, 1805</td>
</tr>
<tr>
<td>Bendura, R. J.</td>
<td>1281</td>
</tr>
<tr>
<td>Benner, D. C.</td>
<td>286, 1271, 1285, 1286, 1305, 1333, 1344</td>
</tr>
<tr>
<td>Bennett, R. M.</td>
<td>420, 421, 477, 478</td>
</tr>
<tr>
<td>Benz, H. F.</td>
<td>1625, 1626</td>
</tr>
<tr>
<td>Berger, M. J.</td>
<td>17</td>
</tr>
<tr>
<td>Bergeron, H. P.</td>
<td>1749</td>
</tr>
<tr>
<td>Bergman, J.</td>
<td>1</td>
</tr>
<tr>
<td>Berman, A.</td>
<td>323</td>
</tr>
<tr>
<td>Bernot, P. T.</td>
<td>1417</td>
</tr>
<tr>
<td>Berrier, B. L.</td>
<td>828, 843, 995</td>
</tr>
<tr>
<td>Berry, H. M.</td>
<td>422, 479</td>
</tr>
<tr>
<td>Berry, J. D.</td>
<td>1008</td>
</tr>
<tr>
<td>Berry, M.</td>
<td>637</td>
</tr>
<tr>
<td>Berry, R. F.</td>
<td>1776</td>
</tr>
<tr>
<td>Beskenis, S. O.</td>
<td>1573</td>
</tr>
<tr>
<td>Bettadapur, S. S.</td>
<td>1444, 1445</td>
</tr>
<tr>
<td>Bey, K. S.</td>
<td>423, 480</td>
</tr>
<tr>
<td>Beyer, T. B.</td>
<td>772</td>
</tr>
<tr>
<td>Bezios, G. M.</td>
<td>1036</td>
</tr>
<tr>
<td>Bhartia, P. K.</td>
<td>1293, 1352</td>
</tr>
<tr>
<td>Bhat, G. K.</td>
<td>1783</td>
</tr>
<tr>
<td>Bhatia, K. G.</td>
<td>463</td>
</tr>
<tr>
<td>Bidasaria, H. B.</td>
<td>1497</td>
</tr>
<tr>
<td>Biermann, T. F.</td>
<td>563</td>
</tr>
<tr>
<td>Bigelow, C. A.</td>
<td>533, 539, 540, 684</td>
</tr>
<tr>
<td>Biggers, S. B.</td>
<td>362</td>
</tr>
<tr>
<td>Bilanin, A. J.</td>
<td>1090</td>
</tr>
<tr>
<td>Bilimoria, K. D.</td>
<td>1690</td>
</tr>
<tr>
<td>Bingham, G. J.</td>
<td>531</td>
</tr>
<tr>
<td>Bird, G. A.</td>
<td>1473, 1505, 1533</td>
</tr>
<tr>
<td>Biringer, S.</td>
<td>876</td>
</tr>
<tr>
<td>Bissinger, N. C.</td>
<td>943</td>
</tr>
<tr>
<td>Blackburn, L. B.</td>
<td>721, 732</td>
</tr>
<tr>
<td>Blakeshear, W. T.</td>
<td>1375, 1400</td>
</tr>
<tr>
<td>Blair, A. B., Jr.</td>
<td>1102, 1103, 1208</td>
</tr>
<tr>
<td>Blair, W.</td>
<td>443</td>
</tr>
<tr>
<td>Blalock, T. N.</td>
<td>193</td>
</tr>
<tr>
<td>Blanchard, R. C.</td>
<td>1458, 1503</td>
</tr>
<tr>
<td>Bland, S. R.</td>
<td>442, 473</td>
</tr>
<tr>
<td>Blankenship, C. P.</td>
<td>301</td>
</tr>
<tr>
<td>Blatherwick, R. D.</td>
<td>1307</td>
</tr>
<tr>
<td>Block, P. J. W.</td>
<td>773, 784, 795</td>
</tr>
<tr>
<td>Blosser, M. L.</td>
<td>439, 481, 482</td>
</tr>
<tr>
<td>Blume, H. J. C.</td>
<td>1662</td>
</tr>
<tr>
<td>Bobbitt, P. J.</td>
<td>827, 890, 891, 913, 914</td>
</tr>
<tr>
<td>Bochary, E.</td>
<td>93</td>
</tr>
<tr>
<td>Bogart, E. H.</td>
<td>1739</td>
</tr>
<tr>
<td>Bohon, H. L.</td>
<td>135, 139</td>
</tr>
<tr>
<td>Boitnott, R. L.</td>
<td>353, 356</td>
</tr>
<tr>
<td>Bokhari, S. H.</td>
<td>17, 18</td>
</tr>
<tr>
<td>Bonner, E.</td>
<td>1123</td>
</tr>
<tr>
<td>Bonnice, W.</td>
<td>1683</td>
</tr>
<tr>
<td>Bonomo, F. S.</td>
<td>1307, 1406</td>
</tr>
<tr>
<td>Boom, R. W.</td>
<td>857</td>
</tr>
<tr>
<td>Booth, B. C.</td>
<td>652</td>
</tr>
<tr>
<td>Booth, E. R., Jr.</td>
<td>812</td>
</tr>
<tr>
<td>Boppe, C. W.</td>
<td>858</td>
</tr>
<tr>
<td>Bostic, S. W.</td>
<td>354, 395</td>
</tr>
<tr>
<td>Botez, D.</td>
<td>259</td>
</tr>
<tr>
<td>Boughner, R. E.</td>
<td>1272, 1378</td>
</tr>
<tr>
<td>Bowen, J. T.</td>
<td>147</td>
</tr>
<tr>
<td>Bowker, D. E.</td>
<td>1567, 1616</td>
</tr>
<tr>
<td>Bowles, D. E.</td>
<td>671, 674</td>
</tr>
<tr>
<td>Bowles, R. L.</td>
<td>1750</td>
</tr>
<tr>
<td>Bowman, L. M.</td>
<td>1918</td>
</tr>
<tr>
<td>Boyd, C. N.</td>
<td>852, 853</td>
</tr>
<tr>
<td>Boyden, R. P.</td>
<td>892, 893</td>
</tr>
</tbody>
</table>
Carrol, M. A.: 278
Carroway, D.: 956
Carson, G. T., Jr.: 830
Carter, A. F.: 1336
Carzoo, S. W.: 164, 1566
Casadevall, T. J.: 1277
Casas, J. C.: 1404
Cassidy, M. D.: 1125
Cate, K. H.: 266, 1755
Cattany-Carnes, K. M.: 1341, 1379
Caulfield, J.: 1618
Cavalleri, R. J.: 1171
Cazier, F. W., Jr.: 413, 492
Cerro, J. A.: 346, 470, 471, 482, 1527
Chamberlain, J. P.: 1023, 1071
Chinitz, W.: 1126
Choi, S. H.: 1537
Chow, R. R.: 869
Chu, J.: 831, 922
Chu, W. P.: 1279, 1356
Chuan, R. L.: 1277, 1323, 1342
Chun, H. M.: 330, 335, 347, 348, 357
Chung, T-S.: 567
Ciaponi, A. J.: 1171
Cicerone, R.: 1280
Clark, I. O.: 1634
Clark, R. K.: 441, 622, 623, 624, 675, 678
Clarke, D. K.: 899
Clayton, J. D.: 445, 446, 447
Clever, W. C.: 1244
Cliff, E. M.: 1690
Cline, J. H.: 474
Cline, M. C.: 878
Clukey, P.: 914
Clune, E.: 1598
Cockrell, C. R.: 1671
Coe, P. L., Jr.: 1000, 1032
Coen, P. G.: 82, 99
Cofer, W. R., III: 1281, 1282, 1284, 1314, 1380
Coffey, M. T.: 1283, 1288
Coggeshall, R. L.: 568, 569
Cohen, D.: 685
Cohen, H. L.: 1459
Cokeley, R.: 1657
Cole, C. M.: 1801
Cole, S. R.: 424, 484
Coleman, R. A.: 1284
Coleman, W. J.: 764
Collier, F.: 1189
Collins, V. G.: 1282
Collins, W. R.: 50, 51
Coltrin, R. E.: 1224
Companion, J.: 251
Compton, H. R.: 1463
Compton, W. B., III: 900
Computer Science and Applications Branch: 162
Condon, E. P.: 278
Connell, J. W.: 619, 723
Conner, D. A.: 739
Conner, F.: 518
Conner, S.: 1459
Connors, V. S.: 1343, 1410
Conrad, C. L.: 1599
Conway, E. J.: 1507, 1508
Cooper, D. E.: 685
Cooper, P. A.: 318
Cordle, V. M.: 1815, 1816
Corlett, W. A.: 1112
Coronato, P. A.: 1677
Covell, P. F.: 1104, 1120, 1152, 1199, 1201
Cox, C. L.: 23
Cox, J. W.: 1782
Coyner, J. V.: 1444
Crabill, N. L.: 1074
Craidon, C. B.: 144
Cramer, R. G., Jr.: 433
Craven, J. D.: 1293, 1352
Creel, T. R., Jr.: 1105, 1225
Crews, J. H., Jr.: 596, 625, 650, 686
Croll, P. M.: 1365
Crisp, V. K.: 1418
Crockett, T. W.: 322, 395
Cronin, D. L.: 1020
Cronin, M. J.: 1600
Crooks, O. J.: 492
Croom, C. C.: 1033, 1034, 1045
Croom, D. R., Jr.: 1775
Croom, M.: 1459
Croom, M. A.: 1072
E
Earnest, B. M.: 145
Eckhardt, D. E., Jr.: 1577, 1627, 1629, 1630, 1631, 1632, 1643
Eckstrom, C. V.: 412, 427, 438, 486, 500
Edahl, R. A., Jr.: 1284
Edmonds, W. L.: 275
Edwards, J. W.: 442, 473
Edwards, S. F.: 203, 246
Egli, A. H.: 627
Ehlers, F. E.: 448
Eichelberger, C. P.: 1792, 1800, 1806
Eichmann, O.: 836, 837
Eide, D. G.: 237, 1514
Eldson, T. M.: 1177
Eisenhaure, D. B.: 1684, 1714
Ejim, T. I.: 1619
Elber, W.: 606, 610, 611, 640, 690
Elkouh, A. F.: 282
Ellingsworth, J. R.: 732
Elliot, J. W.: 1035
Elliott, S. J.: 804
Ellison, J. P.: 413
Enderson, T. I.: 1465
Engman, E. T.: 1723
Epler, R.: 901
ERBE Science Team: 1374
Erdogan, F.: 561, 562, 573, 590, 592, 593
Erickson, G. E.: 1037
Erlebacher, G.: 1178, 1179
Esterling, D. M.: 615
Eterno, J. S.: 1681
Ettenberg, M.: 1596
Evans, A. B.: 149
Everett, R. A., Jr.: 698
Eversman, W.: 776, 785
Everton, E. L.: 147
Exton, R. J.: 247, 248
Eyss, M.: 857
Ezzell, K. S.: 555, 662
Ezzell, S. A.: 726, 727

F
Faison, R. W.: 1794
Fales, C. L.: 1578, 1585, 1621, 1635, 1636
Farassat, F.: 777, 796
Farley, G. L.: 535, 628, 629, 691
Farmer, J. C.: 278
Farmer, J. T.: 1515, 1549
Farrukh, U. O.: 1295, 1302
Faulcon, N. D.: 170, 171
Fay, T. H.: 142
Fedors, E. G.: 160
Fedors, J. C.: 1782
Fehringer, C.: 1742
Ferebee, M. J.: 318, 1516, 1518, 1538
Ferebee, M. T.: 1381
Ferguson, R. L.: 299
Fetterman, D. E., Jr.: 83
Ficklin, R. A.: 604
Fields, J. M.: 747, 754, 755, 756
Finch, M. S.: 1805
Findlay, J. T.: 1448, 1449, 1450, 1451, 1463, 1548
Finley, D. B.: 902
Firth, G. C.: 1781
Fischer, M. C.: 136, 1075
Fishel, C.: 244
Fisher, B. D.: 1038, 1039, 1040, 1053, 1054, 1591
Fisher, D. F.: 1075
Fishman, J.: 1319, 1345, 1382, 1383
Fix, G. J.: 23, 27
Planagan, P. F.: 1539
Flaude, J. M.: 1306, 1346, 1364
Flebbe, P. A.: 1290
Flechnor, S. G.: 845
Fleming, P. J.: 28
Fontana, A.: 1703
Foss, R. A.: 1790, 1793, 1794
Foss, W. E., Jr.: 82, 99, 100
Poudriat, E. C.: 1579, 1633
Foughner, J. T., Jr.: 890
Fournier, R. H.: 1439
Fox, B. R.: 134
Fox, C. H., Jr.: 917
Fox, R. L.: 1768, 1769, 1770, 1777
Frank, L. A.: 1293, 1352
Frascia, R. L.: 95
Frattello, D. J.: 791
Freedman, M. I.: 449, 450
Freeman, D. C., Jr.: 1434, 1481, 1517, 1550
Freeman, S. M.: 232
Freeman, W. T., Jr.: 598, 630, 692
Fridovich, B.: 286, 1316
Friend, J. P.: 1277
Friesen, W. J.: 1435
Frink, N. T.: 903, 904, 912, 922, 953
Fripp, A. L.: 1617, 1619, 1634, 1652
<table>
<thead>
<tr>
<th>Name</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mahan, J. R.</td>
<td>762</td>
</tr>
<tr>
<td>Mahishi, J. M.</td>
<td>560</td>
</tr>
<tr>
<td>Majda, G.</td>
<td>47</td>
</tr>
<tr>
<td>Maksymiuk, C. M.</td>
<td>116</td>
</tr>
<tr>
<td>Malik, M. R.</td>
<td>934, 1154, 1168, 1172</td>
</tr>
<tr>
<td>Mall, S.</td>
<td>544, 546, 582, 585</td>
</tr>
<tr>
<td>Manasevit, H. M.</td>
<td>1603</td>
</tr>
<tr>
<td>Mangalam, S. M.</td>
<td>220, 934, 936</td>
</tr>
<tr>
<td>Mangalgiri, P. D.</td>
<td>545, 639</td>
</tr>
<tr>
<td>Mankin, W. G.</td>
<td>1283, 1288</td>
</tr>
<tr>
<td>Mann, M. J.</td>
<td>937, 938</td>
</tr>
<tr>
<td>Mantay, W. R.</td>
<td>433</td>
</tr>
<tr>
<td>Manuel, G. S.</td>
<td>1026, 1043, 1091</td>
</tr>
<tr>
<td>Marcolini, M. A.</td>
<td>774</td>
</tr>
<tr>
<td>Marcum, D. C., Jr.</td>
<td>1192</td>
</tr>
<tr>
<td>Margason, R. J.</td>
<td>1051, 1052, 1063, 1081</td>
</tr>
<tr>
<td>Marinaro, R. M.</td>
<td>290</td>
</tr>
<tr>
<td>Marshall, B. T.</td>
<td>1265</td>
</tr>
<tr>
<td>Martin, G. L.</td>
<td>1046</td>
</tr>
<tr>
<td>Martin, J. A.</td>
<td>1468, 1469, 1470, 1471 , 1527, 1528, 1553</td>
</tr>
<tr>
<td>Martin, R. M.</td>
<td>782, 817, 1003</td>
</tr>
<tr>
<td>Martindale, W. R.</td>
<td>867</td>
</tr>
<tr>
<td>Maskew, B.</td>
<td>454, 456</td>
</tr>
<tr>
<td>Mason, J. P.</td>
<td>780</td>
</tr>
<tr>
<td>Mason, M. L.</td>
<td>843, 945</td>
</tr>
<tr>
<td>Matthews, C. G.</td>
<td>143, 147</td>
</tr>
<tr>
<td>Maudgal, S.</td>
<td>599, 607, 614, 645, 661, 729</td>
</tr>
<tr>
<td>Mauldin, L. E., III</td>
<td>281, 291, 292</td>
</tr>
<tr>
<td>May, C. J.</td>
<td>1802</td>
</tr>
<tr>
<td>May, D. N.</td>
<td>763</td>
</tr>
<tr>
<td>Mayes, W. H.</td>
<td>746</td>
</tr>
<tr>
<td>Mayo, L. S.</td>
<td>292</td>
</tr>
<tr>
<td>Mazel, D. S.</td>
<td>169, 242, 243, 265</td>
</tr>
<tr>
<td>Mazur, V.</td>
<td>1053, 1054</td>
</tr>
<tr>
<td>McBride, S. E.</td>
<td>1599, 1601, 1604</td>
</tr>
<tr>
<td>McCain, W. E.</td>
<td>464</td>
</tr>
<tr>
<td>McCandless, R. S.</td>
<td>1422, 1495, 1529</td>
</tr>
<tr>
<td>McClintone, C. R.</td>
<td>1196</td>
</tr>
<tr>
<td>McComb, H. G., Jr.</td>
<td>315</td>
</tr>
<tr>
<td>McConnell, J. G.</td>
<td>1448, 1449, 1450, 1451</td>
</tr>
<tr>
<td>McCormick, M. P.</td>
<td>281, 291, 1257, 1258, 1259, 1260, 1261, 1287, 1295, 1302, 1303, 1320, 1321, 1339, 1355, 1359, 1360, 1361, 1391</td>
</tr>
<tr>
<td>McCreary, W. E.</td>
<td>492</td>
</tr>
<tr>
<td>McCullough, R.</td>
<td>1816</td>
</tr>
<tr>
<td>McCurdy, D. A.</td>
<td>748, 800</td>
</tr>
<tr>
<td>McDaniel, C. D.</td>
<td>770</td>
</tr>
<tr>
<td>McDougal, D. S.</td>
<td>1397</td>
</tr>
<tr>
<td>McFarland, M.</td>
<td>278</td>
</tr>
<tr>
<td>McGee, B. S.</td>
<td>970</td>
</tr>
<tr>
<td>McGhee, R. J.</td>
<td>854, 959, 969</td>
</tr>
<tr>
<td>McGinley, C. B.</td>
<td>1197, 1231</td>
</tr>
<tr>
<td>McGough, J. G.</td>
<td>1606</td>
</tr>
<tr>
<td>McGowan, P. E.</td>
<td>316, 380</td>
</tr>
<tr>
<td>McGuire, P. D.</td>
<td>848</td>
</tr>
<tr>
<td>McIntosh, G. E.</td>
<td>857</td>
</tr>
<tr>
<td>McInville, R. M.</td>
<td>1151, 1198</td>
</tr>
<tr>
<td>McKenna, P. M.</td>
<td>1611</td>
</tr>
<tr>
<td>McKinney, L. W.</td>
<td>939, 979</td>
</tr>
<tr>
<td>McLain, A. G.</td>
<td>1110, 1205</td>
</tr>
<tr>
<td>McMahon, H.</td>
<td>925</td>
</tr>
<tr>
<td>McMastcr, L. R.</td>
<td>291, 1303</td>
</tr>
<tr>
<td>McMillin, S. N.</td>
<td>1217</td>
</tr>
<tr>
<td>McNay, D. E.</td>
<td>131</td>
</tr>
<tr>
<td>McNeil, S. R.</td>
<td>653</td>
</tr>
<tr>
<td>McPhee, J. R.</td>
<td>875</td>
</tr>
<tr>
<td>McReynolds, M. C.</td>
<td>1564</td>
</tr>
<tr>
<td>McWithey, R. R.</td>
<td>490</td>
</tr>
<tr>
<td>Mead, G. H.</td>
<td>1452</td>
</tr>
<tr>
<td>Mead, H. R.</td>
<td>868, 869</td>
</tr>
<tr>
<td>Meaney, J. E.</td>
<td>443</td>
</tr>
<tr>
<td>Mehrrotra, P.</td>
<td>48</td>
</tr>
<tr>
<td>Mei, C.</td>
<td>1787</td>
</tr>
<tr>
<td>Meintel, A. J., Jr.</td>
<td>1644</td>
</tr>
<tr>
<td>Melack, J. M.</td>
<td>1365</td>
</tr>
<tr>
<td>Melfi, L. T.</td>
<td>1505</td>
</tr>
<tr>
<td>Melnik, R. E.</td>
<td>847, 868, 869</td>
</tr>
<tr>
<td>Melson, E., Jr.</td>
<td>1036</td>
</tr>
<tr>
<td>Nelson, N. D.</td>
<td>980</td>
</tr>
<tr>
<td>Mendenhall, M. R.</td>
<td>1245</td>
</tr>
<tr>
<td>Menon, P. K. A.</td>
<td>1690</td>
</tr>
<tr>
<td>Mercer, C. E.</td>
<td>844, 937, 938</td>
</tr>
<tr>
<td>Meredith, B. D.</td>
<td>1623</td>
</tr>
<tr>
<td>Meredith, R. W.</td>
<td>189</td>
</tr>
<tr>
<td>Meschter, P. J.</td>
<td>583</td>
</tr>
<tr>
<td>Messick, D. A.</td>
<td>597</td>
</tr>
<tr>
<td>Metcalf, V. L.</td>
<td>797, 801</td>
</tr>
<tr>
<td>Meyers, J. F.</td>
<td>166, 220, 221, 222, 268, 936, 956</td>
</tr>
<tr>
<td>Micol, J. R.</td>
<td>1424, 1530</td>
</tr>
<tr>
<td>Midden, R. E.</td>
<td>1423</td>
</tr>
<tr>
<td>Middleton, D. B.</td>
<td>124</td>
</tr>
<tr>
<td>Mielke, R. R.</td>
<td>1682</td>
</tr>
<tr>
<td>Mihora, D. J.</td>
<td>1453</td>
</tr>
<tr>
<td>Milanovich, F. P.</td>
<td>1267</td>
</tr>
<tr>
<td>Miles, T.</td>
<td>1310, 1398</td>
</tr>
<tr>
<td>Miley, S. J.</td>
<td>94, 1047, 1055</td>
</tr>
<tr>
<td>Milkovich, S. M.</td>
<td>646, 668</td>
</tr>
<tr>
<td>Millard, B. F.</td>
<td>854</td>
</tr>
</tbody>
</table>
Miller, C. G., III: 1423, 1424, 1472, 1531, 1554
Miller, D. R.: 1607
Miller, D. S.: 1111, 1121, 1152, 1155, 1156, 1157, 1199, 1200, 1201, 1216
Miller, I. M.: 254, 272, 273, 287
Miller, J. B.: 355, 1782, 1796
Miller, K.: 171
Miller, L. D.: 1132, 1133
Miller, R. E.: 1156, 1157, 1199, 1200, 1201, 1216
Miller, W. E.: 1318, 1345, 1362, 1383, 1387, 1399
Miserentino, R.: 1774
Mixson, J. S.: 779, 783, 788, 789, 805, 806
Mo, T.: 1723
Mock, W., Jr.: 174, 230
Moerder, D. D.: 1666
Molloy, J. K.: 1911
Monta, W. J.: 1208
Monteith, J. H.: 171
Montgomery, D.: 38
Montgomery, R. C.: 1667, 1694, 1695, 1697, 1698, 1711, 1712, 1724, 1728, 1729, 1730
Montoya, R. J.: 1754
Moore, A. S.: 292
Moore, J. G.: 232
Moore, T. C.: 1091
Moretti, G.: 1134
Morgan, H. G.: 818, 819
Morgan, H. L., Jr.: 852, 853, 940
Morino, L.: 455
Morrell, F. R.: 1701
Morris, C. E. K., Jr.: 1052
Morris, D. H.: 548, 575, 634, 654
Morris, O. A.: 1112
Morris, S. J., Jr.: 1466
Morris, W. D.: 1487, 1488, 1532
Morrisette, E. L.: 1184, 1225
Moser, F.: 1311
Moses, P. L.: 410, 437, 498, 508
Moss, J. N.: 1420, 1437, 1462, 1473, 1533
Motyka, P.: 1683
Moul, T. M.: 1006
Moulton, R. J.: 638
Moyers, J. L.: 1277
Mukhopadhyay, V.: 465
Muniz, B.: 483
Muncray, D. G.: 1288, 1296, 1307, 1406
Muncray, F. J.: 1288, 1296, 1307, 1406
Murray, N. D.: 1623, 1637
Murray, R. F.: 1763
Murri, D. G.: 1056
Murri, G. B.: 647, 648, 649
Murrow, H. N.: 434, 505
Murthy, A. V.: 870, 970
Musil, D. J.: 1402
Myers, M. K.: 777
Myrick, D. L.: 1534, 1567
Naftel, J. C.: 470, 1474, 1482, 1489, 1517, 1528
Naftel, P. B.: 146, 152
Nagaraja, K. S.: 463
Nagatani, R. M.: 1303
Nagy, K.: 317
Naik, R. A.: 650
Naik, V. K.: 58
Namkung, M.: 223, 224, 225
Napolitano, M.: 1202
Nastrom, G. D.: 279
Natarajan, M.: 1276, 1340, 1378
Nealy, J. E.: 1386, 1400
Neely, W. R., Jr.: 1658
Nelson, B. A.: 1564
Nelson, G. L.: 1608
Nelson, J. B.: 547
Nemeroff, S.: 1606
Nemeth, M. P.: 381, 402
Neuhart, D.: 1062
Newell, R. E.: 1343, 1410
Newman, J. C., Jr.: 553, 651, 652, 653, 670, 724
Newman, P. A.: 941, 982, 983
Newsom, J. R.: 461, 465, 466
Newsome, R. W.: 1203
Ng, G. S.: 1807
Nguyen, H. Q.: 87
Nguyen, L. T.: 1001, 1056, 1057, 1072
Nichols, C. D.: 1581
Nichols, C. E., Jr.: 165, 166, 1811
Nicholson, J. Y., III: 1292, 1334, 1353, 1354, 1389
Nicks, O. W.: 97
Nicolaides, R. A.: 1024, 1042
Nigro, N. J.: 282
Niki, H.: 1291
Nimmo, N. A.: 351
Noland, M. S.: 159
Nomura, J. K.: 491
Noonan, R. E.: 49, 50, 51
243
<table>
<thead>
<tr>
<th>Name</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norbury, J. W.</td>
<td>1425, 1430, 1475, 1476, 1491, 1506, 1509, 1512, 1535, 1543, 1546, 1555, 1556</td>
</tr>
<tr>
<td>Northam, G. B.</td>
<td>1098, 1196, 1204, 1205</td>
</tr>
<tr>
<td>Nowak, R. J.</td>
<td>244, 414</td>
</tr>
<tr>
<td>Nunamaker, R. R.</td>
<td>1250</td>
</tr>
<tr>
<td>O'Brien, T. K.</td>
<td>548, 549, 608, 632, 649, 654, 690</td>
</tr>
<tr>
<td>O'Keefe, D. A.</td>
<td>518</td>
</tr>
<tr>
<td>O'Neal, J. E.</td>
<td>583</td>
</tr>
<tr>
<td>O'Neal, R. L.</td>
<td>806</td>
</tr>
<tr>
<td>O'Neill, A.</td>
<td>1385</td>
</tr>
<tr>
<td>O'Neill, P. E.</td>
<td>1707</td>
</tr>
<tr>
<td>O'Neille, P.</td>
<td>289</td>
</tr>
<tr>
<td>Obara, C. J.</td>
<td>956, 1007, 1045, 1046, 1058</td>
</tr>
<tr>
<td>Oertel, G. F.</td>
<td>1713</td>
</tr>
<tr>
<td>Ogbum, M. E.</td>
<td>1056</td>
</tr>
<tr>
<td>Oglevie, R. E.</td>
<td>1684, 1714</td>
</tr>
<tr>
<td>Ogliaruso, M. A.</td>
<td>1273</td>
</tr>
<tr>
<td>Ohlhorst, C. W.</td>
<td>644, 655</td>
</tr>
<tr>
<td>Olinger, F. V.</td>
<td>1113, 1114, 1115, 1212</td>
</tr>
<tr>
<td>Olsen, C. G.</td>
<td>467</td>
</tr>
<tr>
<td>Orlando, N. E.</td>
<td>1651</td>
</tr>
<tr>
<td>Orr, L. H.</td>
<td>1438, 1520, 1536, 1561</td>
</tr>
<tr>
<td>Ortega, J. M.</td>
<td>52</td>
</tr>
<tr>
<td>Osborn, M. T.</td>
<td>1260, 1261</td>
</tr>
<tr>
<td>Osborn, R. F.</td>
<td>897</td>
</tr>
<tr>
<td>Osher, S.</td>
<td>53, 468</td>
</tr>
<tr>
<td>Ostroff, A. J.</td>
<td>1655, 1715</td>
</tr>
<tr>
<td>Ott, M. S.</td>
<td>1591</td>
</tr>
<tr>
<td>Outlaw, R. A.</td>
<td>1478, 1479, 1480, 1545, 1563</td>
</tr>
<tr>
<td>O'Brien, T. K.</td>
<td>548, 549, 608, 632, 649, 654, 690</td>
</tr>
<tr>
<td>O'Keefe, D. A.</td>
<td>518</td>
</tr>
<tr>
<td>O'Neal, J. E.</td>
<td>583</td>
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<tr>
<td>O'Neal, R. L.</td>
<td>806</td>
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<td>O'Neill, A.</td>
<td>1385</td>
</tr>
<tr>
<td>O'Neill, P. E.</td>
<td>1707</td>
</tr>
<tr>
<td>O'Neille, P.</td>
<td>289</td>
</tr>
<tr>
<td>Obara, C. J.</td>
<td>956, 1007, 1045, 1046, 1058</td>
</tr>
<tr>
<td>Oertel, G. F.</td>
<td>1713</td>
</tr>
<tr>
<td>Ogbum, M. E.</td>
<td>1056</td>
</tr>
<tr>
<td>Oglevie, R. E.</td>
<td>1684, 1714</td>
</tr>
<tr>
<td>Ogliaruso, M. A.</td>
<td>1273</td>
</tr>
<tr>
<td>Ohlhorst, C. W.</td>
<td>644, 655</td>
</tr>
<tr>
<td>Olinger, F. V.</td>
<td>1113, 1114, 1115, 1212</td>
</tr>
<tr>
<td>Olsen, C. G.</td>
<td>467</td>
</tr>
<tr>
<td>Orlando, N. E.</td>
<td>1651</td>
</tr>
<tr>
<td>Orr, L. H.</td>
<td>1438, 1520, 1536, 1561</td>
</tr>
<tr>
<td>Ortega, J. M.</td>
<td>52</td>
</tr>
<tr>
<td>Osborn, M. T.</td>
<td>1260, 1261</td>
</tr>
<tr>
<td>Osborn, R. F.</td>
<td>897</td>
</tr>
<tr>
<td>Osher, S.</td>
<td>53, 468</td>
</tr>
<tr>
<td>Ostroff, A. J.</td>
<td>1655, 1715</td>
</tr>
<tr>
<td>Ott, M. S.</td>
<td>1591</td>
</tr>
<tr>
<td>Outlaw, R. A.</td>
<td>1478, 1479, 1480, 1545, 1563</td>
</tr>
<tr>
<td>Pacheco, M. D.</td>
<td>704</td>
</tr>
<tr>
<td>Padula, S. L.</td>
<td>784</td>
</tr>
<tr>
<td>Palmer, M. T.</td>
<td>1651</td>
</tr>
<tr>
<td>Palumbo, D. L.</td>
<td>1571, 1583, 1584, 1628</td>
</tr>
<tr>
<td>Pandey, D. K.</td>
<td>179, 226</td>
</tr>
<tr>
<td>Pao, P. S.</td>
<td>583</td>
</tr>
<tr>
<td>Pao, S. P.</td>
<td>820</td>
</tr>
<tr>
<td>Pappa, R. S.</td>
<td>336, 339, 355, 375, 1796</td>
</tr>
<tr>
<td>Pare, L. A.</td>
<td>866</td>
</tr>
<tr>
<td>Parikh, P.</td>
<td>13, 14, 16, 46, 887, 888, 889, 935, 978</td>
</tr>
<tr>
<td>Park, J. H.</td>
<td>1401</td>
</tr>
<tr>
<td>Park, S. K.</td>
<td>154, 155, 1635</td>
</tr>
<tr>
<td>Parker, F. R.</td>
<td>227, 236</td>
</tr>
<tr>
<td>Parker, L.</td>
<td>1402</td>
</tr>
<tr>
<td>Parker, S. L.</td>
<td>1611</td>
</tr>
<tr>
<td>Parks, D. L.</td>
<td>1748</td>
</tr>
<tr>
<td>Parlette, E.</td>
<td>909</td>
</tr>
<tr>
<td>Parrett, A. V.</td>
<td>776, 785</td>
</tr>
<tr>
<td>Parrish, R. V.</td>
<td>1752, 1754, 1763</td>
</tr>
<tr>
<td>Parrott, T. L.</td>
<td>741, 803</td>
</tr>
<tr>
<td>Pathak, S. K.</td>
<td>518</td>
</tr>
<tr>
<td>Patrick, H. V. L.</td>
<td>749</td>
</tr>
<tr>
<td>Patterson, J. C., Jr.</td>
<td>826, 838, 845, 927, 942, 998, 1032</td>
</tr>
<tr>
<td>Patton, J. M., Jr.</td>
<td>1012</td>
</tr>
<tr>
<td>Paulin, P. A.</td>
<td>244</td>
</tr>
<tr>
<td>Paulson, J. W., Jr.</td>
<td>999, 1022, 1059</td>
</tr>
<tr>
<td>Pearce, W. E.</td>
<td>131</td>
</tr>
<tr>
<td>Pearson, R. M.</td>
<td>491</td>
</tr>
<tr>
<td>Peercy, R. L., Jr.</td>
<td>1452, 1454, 1455, 1456, 1457</td>
</tr>
<tr>
<td>Pegg, R. J.</td>
<td>1803</td>
</tr>
<tr>
<td>Pelischek, T.</td>
<td>317</td>
</tr>
<tr>
<td>Pellett, G. L.</td>
<td>1206, 1232, 1281</td>
</tr>
<tr>
<td>Pellino, A. G.</td>
<td>95</td>
</tr>
<tr>
<td>Pendergraft, O. C., Jr.</td>
<td>842, 898</td>
</tr>
<tr>
<td>Penland, J. A.</td>
<td>1116</td>
</tr>
<tr>
<td>Peralta, R. A.</td>
<td>1611</td>
</tr>
<tr>
<td>Perez, S. E.</td>
<td>373</td>
</tr>
<tr>
<td>Perkins, S. C., Jr.</td>
<td>1245</td>
</tr>
<tr>
<td>Perrin, A.</td>
<td>1346</td>
</tr>
<tr>
<td>Perry, B., III</td>
<td>493</td>
</tr>
<tr>
<td>Perry, R.</td>
<td>1805</td>
</tr>
<tr>
<td>Person, L. H., Jr.</td>
<td>1082, 1657</td>
</tr>
<tr>
<td>Peters, L., Jr.</td>
<td>1687</td>
</tr>
<tr>
<td>Petersen, P. L.</td>
<td>1575, 1639, 1645, 1647</td>
</tr>
<tr>
<td>Petersen, R. H.</td>
<td>74, 75, 78, 79</td>
</tr>
<tr>
<td>Petley, D. H.</td>
<td>1779, 1791</td>
</tr>
<tr>
<td>Pfenninger, W.</td>
<td>959</td>
</tr>
<tr>
<td>Phelps, A. E., III</td>
<td>1008</td>
</tr>
<tr>
<td>Phillips, D. H.</td>
<td>187, 190, 200, 208, 209, 228, 229</td>
</tr>
<tr>
<td>Phillips, P. S.</td>
<td>961, 962, 963</td>
</tr>
<tr>
<td>Phillips, W. H.</td>
<td>1734</td>
</tr>
<tr>
<td>Phillips, W. P.</td>
<td>1427, 1428, 1439, 1466</td>
</tr>
<tr>
<td>Pierce, J. L.</td>
<td>1599, 1602, 1604, 1645</td>
</tr>
<tr>
<td>Piette, D. S.</td>
<td>492</td>
</tr>
<tr>
<td>Pike, R. A.</td>
<td>730</td>
</tr>
<tr>
<td>Pinckney, S. Z.</td>
<td>1185, 1186, 1187</td>
</tr>
<tr>
<td>Pinelli, T. E.</td>
<td>160, 1814, 1815, 1816, 1817</td>
</tr>
<tr>
<td>Pinson, L. D.</td>
<td>376, 389, 398</td>
</tr>
<tr>
<td>Pittman, C. M.</td>
<td>469</td>
</tr>
<tr>
<td>Pittman, J. L.</td>
<td>1116</td>
</tr>
<tr>
<td>Pitts, F. L.</td>
<td>1638</td>
</tr>
<tr>
<td>Plotkin, K. J.</td>
<td>763</td>
</tr>
</tbody>
</table>
Plumer, J. A.: 1038, 1039, 1040
Poe, C. C., Jr.: 550, 634, 656, 705
Pohlmans, M. J.: 444
Pond, C. R.: 180
Ponton, M. K.: 744
Pope, A. T.: 1764
Pope, L. D.: 769, 772
Poppen, W. A., Jr.: 1672
Post, D.: 584
Pototsky, A. S.: 466, 493
Potter, J. L.: 584
Poulard, C. A.: 1812
Powell, A. G.: 95
Powell, C. A.: 747, 772, 783
Powell, R. W.: 482, 1426, 1428, 1429, 1474, 1481, 1482, 1517
Power, G. D.: 1122
Powers, R. K.: 22, 40
Powers, R. W.: 474
Prabhakaran, R.: 499, 502
Pratt, J. R.: 604, 607
Pratt, T. W.: 54
Preisser, J. S.: 740, 776, 785, 802
Preston, O. W.: 1564
Price, D. B.: 1666
Pride, J. D., Jr.: 1804
Pritchard, E. B.: 1254
Progar, D. J.: 541, 551, 552, 597, 621, 657, 706, 725
Puster, R. L.: 167, 244
Putnam, L. E.: 943
Quinto, P. F.: 1059
Raasch, R. F.: 1452, 1454, 1455, 1456, 1457
Radovich, N. A.: 518, 1600
Raju, I. S.: 548, 549, 553, 606, 625, 640, 654, 670
Ram, R. B.: 944
Ramakrishnan, R.: 423, 480
Ramamurthy, G.: 582
Ramana, M. V.: 200, 229
Ramanathan, V.: 1278
Randall, D. P.: 147
Raney, D.: 1544
Raney, D. L.: 1121
Ransom, J. B.: 319, 382, 395
Ransone, P. O.: 643, 644, 655, 658
Rao, B. M.: 454, 456
Rao, K. N.: 1316
Rapkin, M.: 1497
Rasdorf, W. J.: 383
Rasky, P. H. L.: 1605
Rasmussen, R. A.: 278
Rauch, F.: 483
Ray, E. J.: 970
Rayborn, G. H.: 186
Razzaghi, Z.: 359, 396
Re, R. J.: 927, 945
Reaser, J. S.: 518
Reed, W. H., III: 457
Rehder, J. J.: 1418, 1483, 1532
Reich, F. R.: 764
Reichle, H. G., Jr.: 1343, 1363, 1369, 1383, 1403, 1404, 1410
Reichman, B.: 300
Remington, P. J.: 757
Rensberg, E. E.: 1298, 1304, 1376, 1405
Research Information and Applications Division: 1813
Reubush, D. E.: 166, 846, 884, 946
Rezaiazadeh, M. A.: 582, 585
Rhodes, M. D.: 305, 318, 404, 405
Rich, G. L.: 1752
Rich, M. J.: 586
Richardson, D.: 518
Ricketts, R. H.: 435, 436, 483, 494, 496
Ridley, B. A.: 278
Riebe, G. D.: 1169, 1207
Riley, D. R.: 1009
Riley, M. F.: 516, 529, 531
Rimmer, M.: 483
Rinsland, C. P.: 286, 1271, 1283, 1285, 1286, 1288, 1296, 1301, 1305, 1306, 1307, 1308, 1309, 1310, 1315, 1316, 1333, 1344, 1346, 1364, 1406
Rinsland, P. L.: 293, 1307
Rising, J. J.: 1657
Robbins, J. L.: 1357
Roberts, A.: 1645
Roberts, A. M.: 1604
Robertson, D. K.: 1673
Robertson, J. B.: 1093
Robins, A. W.: 96
Robinson, D. M.: 1585
Robinson, J. C.: 623
Rockoff, L. A.: 1454, 1455, 1456, 1457
Rodgers, M. O.: 278
Roe, P. L.: 55
Roesch, M. T.: 1121
Shankar, V.: 1135, 1148, 1241, 1246
Shanmugam, K. S.: 1696
Sharp, B. H.: 763
Sharp, G.: 618
Sharpe, E. L.: 441
Sheldon, L. S.: 181
Shenoy, R. K.: 753, 759
Shenoy, R. N.: 675
Shepherd, K. P.: 765, 766
Sheppard, J. C.: 278
Shideler, J. L.: 439, 469
Shields, E. W.: 1052
Shih, K-G.: 59
Shillady, D. D.: 666
Shim, S-G.: 1366
Shin, K. G.: 1612, 1613, 1622
Shinn, J. L.: 1484, 1485
Shinn, J. M., Jr.: 537
Shipley, S. T.: 1256, 1274, 1343, 1366, 1410
Shiue, J. C.: 1723
Shivakumar, K. N.: 610, 611, 612, 625, 652
Shoosmith, J. N.: 142
Shore, C. P.: 416, 501
Shrout, B. L.: 1117, 1137, 1207
Shuart, M. J.: 320
Shuie, J.: 289, 1707
Shull, T. A.: 293
Sidney, B. D.: 272, 273, 286, 287
Siemers, P. M., III: 1539
Siewiorek, D.: 1598
Silcox, R. J.: 776, 785, 804
Silverberg, L. M.: 1440
Simchick, R.: 1641
Simmon, D. A.: 1738, 1765
Simmonds, A. L.: 1485, 1500, 1501
Simmons, H. L.: 146
Simonds, R. A.: 548, 654
Simpson, R. N.: 1646
Singh, S. N.: 1717, 1718
Sinsky, M. S.: 619, 723
Sipcic, S.: 449
Sirlin, S. W.: 341
Skeens, K. M.: 1635
Skolaut, M. W., Jr.: 1585
Slazak, M.: 768
Slepke, W. S.: 554, 555, 613, 660, 662, 663, 669
Sliwa, S. M.: 1653, 1654, 1731, 1732
Smail, D. L.: 666
Small, W. J.: 1118, 1207
Smart, A. E.: 182
Smith, A. C.: 188
Smith, B. T.: 232
Smith, D. B.: 1625, 1626
Smith, D. M.: 1794
Smith, F. R.: 952
Smith, G. L.: 1318, 1324, 1367
Smith, H. C.: 85, 101
Smith, L.: 1365
Smith, M. A. H.: 286, 1262, 1285, 1286, 1306, 1307, 1315, 1316, 1344, 1346, 1364, 1411
Smith, P. J.: 588
Smith, P. M.: 1658
Smith, R. E.: 467
Smith, R. P.: 1820
Smith-Taylor, R.: 157, 158, 159
Snow, W. L.: 195, 196
Sobieszczanski-Sobieski, J.: 514, 515, 516, 523, 524, 527, 528, 529, 530
Sohi, M.: 385
Somers, D. M.: 901
South, J. C., Jr.: 76, 77, 954
Spady, A. A., Jr.: 1753
Spencer, B., Jr.: 1428
Speziale, C. G.: 60
Spiers, R. B.: 1794
Spigel, B. S.: 502
Spijkerman, J. J.: 231
Spitzer, C. R.: 1756
Sprinkle, D. R.: 167, 270
St. Clair, A. K.: 538, 554, 555, 613, 662, 663, 667, 707, 726, 727, 734, 735, 736
Stack, J. P.: 914
Stack, S. H.: 79
Stacy, K.: 1567, 1621, 1636, 1648
Staff of Boeing Commercial Airplane Company: 133
Stainback, P. C.: 955, 956, 1165
Stallings, R. L., Jr.: 1103, 1208
Stanley, W. D.: 1674
Starr, R. F.: 867
Staylor, W. F.: 1317
Stehlin, P.: 388
Stein, B. A.: 598, 664, 665, 1767
Stein, M.: 343, 344, 345, 386, 387
Stein, P. A.: 318
Stephens, D. G.: 799, 821
Stermer, R. L.: 1618
Stewart, E. C.: 1064, 1139
Stewart, V. R.: 1021
Stickle, J. W.: 1083
Stiffler, J. J.: 1595, 1647
Stith, J. J.: 1540
Stoakley, D. M.: 666, 667, 704, 730, 736
Stokes, G. M.: 1283, 1306, 1308, 1364
Stokes, J. H.: 183
Stone, H. W.: 1429, 1482
Stone, R. H.: 589
Storaasli, O. O.: 359, 383, 396, 399
Stouffer, H. P., Ill: 1012, 1063, 1065, 1066, 1084, 1139
Stoy, S. L.: 1209
Straub, F. K.: 1029
Streett, C. L.: 504, 886, 993
Stroud, C. W.: 624, 719
Stroud, W. J.: 313, 378
Stubbs, S. M.: 303, 360, 361
Stuhlmann, R.: 1318
Stump, C. W.: 292
Suit, W. T.: 1719
Sumida, P. T.: 134
Summers, L. G.: 1564
Sun, C-R.: 1298
Sundararajan, N.: 1667, 1694, 1697, 1698, 1729, 1730
Suri, M.: 27
Suttlles, J. T.: 1263, 1289, 1368, 1370, 1393, 1413
Sutton, K.: 1486
Sutton, M. A.: 653
Swaim, R. J.: 1770, 1777
Swann, R. T.: 192, 615, 616
Swanson, E. E.: 96
Swanson, R. C.: 61, 957, 958, 1069
Sweers, J.: 518
Swissler, T. J.: 1339
Sykes, G. F., Jr.: 646, 660, 668, 669, 671, 674
Szema, K. Y.: 1135, 1241, 1246

T

Ta'asan, S.: 19, 20
Taback, I.: 297
Tabibi, B. M.: 1465, 1525
Tadmor, E.: 5, 30, 53, 62, 63
Tagge, G. E.: 1746, 1747
Tai, H.: 415, 495
Tal-Ezer, H.: 64, 65
Talay, T. A.: 1487, 1488, 1489, 1532
Talbot, R. W.: 1282, 1337
Talcott, N. A., Jr.: 1117, 1148, 1153, 1193
Tam, C. K. W.: 787
Tan, P. W.: 670
Tang, R.: 590
Tanner, J. A.: 361
Taslim, M. E.: 1131
Taylor, J. V.: 1624
Taylor, L. V.: 1404, 1782
Taylor, L. W., Jr.: 1720, 1721
Taylor, M. Z.: 1345, 1383
Taylor, N. L.: 147, 160
Tcheng, P.: 892, 893
Tenney, D. R.: 426, 485, 556, 671, 713, 714
Tennille, G. M.: 288, 1301, 1358
Tennyson, R. C.: 591
Teske, M. E.: 1090
Texeira, P. D.: 180
Thames, F. C.: 923
Thelander, J. A.: 131
Theobald, M. A.: 757
Thomas, J. L.: 1031, 1067, 1068, 1069, 1070
Thomas, M. E.: 1586, 1587, 1588
Thompson, A. R.: 752
Thompson, R. A.: 1541
Thomson, L. W.: 129
Thornton, E. A.: 423, 480
Throckmorton, D. A.: 1490, 1534, 1542
Thurston, G. A.: 388
Tiffany, S. H.: 1654, 1699, 1731, 1732
Ting, L.: 883, 1049, 1050, 1238
Tiwari, S. N.: 1174, 1289
Tolson, R. H.: 530
Tompkins, S. S.: 278
Torrence, M. G.: 1098
Towe, K. M.: 1358
Townsend, J. C.: 1158
Townsend, L. W.: 1425, 1430, 1431, 1475, 1476, 1477, 1491, 1497, 1506, 1509, 1512, 1535, 1543, 1546, 1555, 1556, 1560
Trefethen, L. N.: 66
Trepte, C. R.: 1295
Trew, R. J.: 1722
Trexler, C. A.: 1195
Tripp, J. S.: 168
Troutman, P. A.: 1449, 1450, 1451
Tseng, K.: 449, 450
Tung, L. J.: 1682
Turbel, E.: 13, 14, 15, 16, 46, 57, 61, 67, 68, 69, 887, 888, 889, 935, 957, 958, 978
Turner, J. D.: 330, 335, 347, 348, 357
Turner, R. E.: 1386, 1400
Turner, T. M.: 267
Turnock, D. L.: 440
Turriziani, R. V.: 1528
Tuttle, M. H.: 848
Tuttle, R. P.: 1447
Twigg, L. T.: 318
Tyeryar, J. R.: 637, 664
Unnam, J.: 624, 675, 678
Upchurch, B. T.: 186, 192, 254, 272, 273, 287, 616
Usry, J. W.: 1013
Utrata, D.: 225
Vahala, G.: 38
Vaicaitis, R.: 768, 788, 789, 805
Vallarino, L. M.: 666
Vallas, M.: 1779
Van Dam, C. P.: 1045, 1085
Van Leer, B.: 1031, 1070
Van Rosendale, J.: 48
Vander Velde, W. E.: 1695
Vanderlinden, L.: 1564
Vanderplaats, G. N.: 519
Vasquez, P.: 1772
Vatsa, V. N.: 958
Vaughan, W. R.: 281, 291, 298
Vavra, P. C.: 176
Vay, S. A.: 280, 288, 290
Vemuru, C. S.: 944, 1289
Vemury, S.: 1268
Vemury, S. K.: 1368
Vennemann, D. H.: 879
Venneri, S. L.: 389
Verber, C.: 1618
Vess, R. J.: 872
Vest, C. M.: 176
Vicroy, D. D.: 1738, 1757, 1765
Vijgen, P.: 1085
Viken, J. K.: 854, 871, 891, 959, 962, 963
Viken, S. A. W.: 116
Vogler, W. A.: 373
Voigl, R. G.: 52, 70
Voigl, S. J.: 1572, 1573
Volakis, J. L.: 1687
Von Lavante, E.: 94
Von Ofenheim, W. H.: 147
Vontell, J. H.: 730
Vosteen, L. F.: 715
Vuigner, A. A.: 444
Vukovich, F. M.: 1319
Waggoner, E. G.: 854, 891, 960, 961, 962, 963
Wagner, E.: 1683
Wagner, J. A.: 676, 716
Wagner, R.: 274
Wagner, R. D.: 137, 138, 141, 1077, 1086
Wahl, R. A.: 872
Wakelyn, N. T.: 558, 607, 680
Walberg, G. D.: 1492, 1558, 1559
Walker, B. S.: 854
Walker, G. H.: 1480
Walker, J. V.: 134
Walker, R. A.: 520
Walkey, K. B.: 1052
Walkley, K. B.: 1243
Wall, S. D.: 1574
Wallace, R. S.: 1651
Wall, M. C.: 1739
Wallgren, K.: 1626
Wallio, H. A.: 1369
Walsom, R. E.: 406
Walsh, J. L.: 531
Walsh, M. J.: 1210, 1234
Walters, R. W.: 1068, 1069, 1070, 1202, 1211
Walz, J. E.: 308, 370
Wander, S. M.: 799
Wang, C. C.: 278
Wang, J. R.: 1723
Wang, P-H.: 1269, 1287, 1320, 1321
Ward, S. M.: 183
Ware, G. M.: 1428
Warren, H. A.: 444
Wassum, D. L.: 1112
Waszak, M. R.: 1688, 1689
Waters, L. A.: 1449, 1451

W
<table>
<thead>
<tr>
<th>Name</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waters, W. A., Jr.</td>
<td>321, 390</td>
</tr>
<tr>
<td>Watson, D. A.</td>
<td>1447</td>
</tr>
<tr>
<td>Watson, J. J.</td>
<td>306, 318</td>
</tr>
<tr>
<td>Watson, N. D.</td>
<td>1782</td>
</tr>
<tr>
<td>Watson, R. D.</td>
<td>1160, 1161, 1235</td>
</tr>
<tr>
<td>Watson, W. R.</td>
<td>745, 825</td>
</tr>
<tr>
<td>Watts, D. J.</td>
<td>134</td>
</tr>
<tr>
<td>Watts, J. D.</td>
<td>1212</td>
</tr>
<tr>
<td>Weatherill, W. H.</td>
<td>448</td>
</tr>
<tr>
<td>Weaver, W. A.</td>
<td>1657</td>
</tr>
<tr>
<td>Weaver, W. R.</td>
<td>1465, 1525, 1551</td>
</tr>
<tr>
<td>Webb, G. L.</td>
<td>439, 441, 469</td>
</tr>
<tr>
<td>Weidner, J. P.</td>
<td>1108, 1212</td>
</tr>
<tr>
<td>Weilmuenster, K. J.</td>
<td>1493, 1519, 1530</td>
</tr>
<tr>
<td>Weinstein, L. M.</td>
<td>1213, 1226, 1247,</td>
</tr>
<tr>
<td></td>
<td>1248, 1249</td>
</tr>
<tr>
<td>Weiss, J. L.</td>
<td>1681</td>
</tr>
<tr>
<td>Welch, C. S.</td>
<td>204, 233, 234</td>
</tr>
<tr>
<td>Welch, R. M.</td>
<td>1322, 1402, 1412</td>
</tr>
<tr>
<td>Wells, D. C.</td>
<td>1741</td>
</tr>
<tr>
<td>Wells, W. L.</td>
<td>1494, 1544</td>
</tr>
<tr>
<td>Wentz, F. J.</td>
<td>1696</td>
</tr>
<tr>
<td>Wesselski, C.</td>
<td>317</td>
</tr>
<tr>
<td>Weston, A. R.</td>
<td>1690</td>
</tr>
<tr>
<td>Weston, R. P.</td>
<td>1050, 1071</td>
</tr>
<tr>
<td>Wharram, G. E.</td>
<td>591</td>
</tr>
<tr>
<td>Whipple, R. D.</td>
<td>1014, 1057, 1072, 1094</td>
</tr>
<tr>
<td>Whitcomb, J. D.</td>
<td>612, 617, 677</td>
</tr>
<tr>
<td>White, A. L.</td>
<td>1614</td>
</tr>
<tr>
<td>White, N. H.</td>
<td>1489, 1532</td>
</tr>
<tr>
<td>White, R. W.</td>
<td>1748</td>
</tr>
<tr>
<td>White, W. L.</td>
<td>1014, 1095</td>
</tr>
<tr>
<td>Whitesides, J. L.</td>
<td>900</td>
</tr>
<tr>
<td>Whitlock, C. H.</td>
<td>1263, 1370, 1393</td>
</tr>
<tr>
<td>Whitlow, W., Jr.</td>
<td>468, 472</td>
</tr>
<tr>
<td>Whitney, D. A.</td>
<td>235</td>
</tr>
<tr>
<td>Wiant, H. R.</td>
<td>537, 681</td>
</tr>
<tr>
<td>Wichorek, G. R.</td>
<td>731</td>
</tr>
<tr>
<td>Wiedemann, K. E.</td>
<td>675, 678</td>
</tr>
<tr>
<td>Wielicki, B. A.</td>
<td>1322, 1368, 1402,</td>
</tr>
<tr>
<td></td>
<td>1412, 1413</td>
</tr>
<tr>
<td>Wieseman, C. D.</td>
<td>417</td>
</tr>
<tr>
<td>Wieting, A. R.</td>
<td>426, 462, 485</td>
</tr>
<tr>
<td>Wightman, J. P.</td>
<td>597</td>
</tr>
<tr>
<td>Wigley, D. A.</td>
<td>873, 874, 1784, 1785,</td>
</tr>
<tr>
<td></td>
<td>1786</td>
</tr>
<tr>
<td>Wilby, E. G.</td>
<td>769, 770</td>
</tr>
<tr>
<td>Wilby, J. P.</td>
<td>757, 770, 806</td>
</tr>
<tr>
<td>Wilcox, F. J., Jr.</td>
<td>1119, 1208</td>
</tr>
<tr>
<td>Wilder, S. E.</td>
<td>1531</td>
</tr>
<tr>
<td>Wilhite, A. W.</td>
<td>1495</td>
</tr>
<tr>
<td>Wilkinson, S. P.</td>
<td>956, 1154, 1214,</td>
</tr>
<tr>
<td></td>
<td>1215, 1236</td>
</tr>
<tr>
<td>Will, R. W.</td>
<td>1589, 1590, 1644</td>
</tr>
<tr>
<td>Willey, C. S.</td>
<td>1657</td>
</tr>
<tr>
<td>Williams, A. J.</td>
<td>1740</td>
</tr>
<tr>
<td>Williams, D. H.</td>
<td>1741</td>
</tr>
<tr>
<td>Williams, F. W.</td>
<td>349</td>
</tr>
<tr>
<td>Williams, J. G.</td>
<td>321, 385, 390, 391</td>
</tr>
<tr>
<td>Williams, J. P.</td>
<td>1667, 1698, 1712,</td>
</tr>
<tr>
<td></td>
<td>1724</td>
</tr>
<tr>
<td>Williams, L. E.</td>
<td>994</td>
</tr>
<tr>
<td>Williams, M. D.</td>
<td>1441, 1551</td>
</tr>
<tr>
<td>Williams, M. H.</td>
<td>442, 473</td>
</tr>
<tr>
<td>Williams, M. S.</td>
<td>350</td>
</tr>
<tr>
<td>Willis, C. M.</td>
<td>746</td>
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<tr>
<td>Willshire, K. F.</td>
<td>1255</td>
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<td>Willshire, W. L., Jr.</td>
<td>750, 807, 808</td>
</tr>
<tr>
<td>Wilmoth, R. G.</td>
<td>878</td>
</tr>
<tr>
<td>Wilson, J. C.</td>
<td>1048</td>
</tr>
<tr>
<td>Wilson, J. O.</td>
<td>1365</td>
</tr>
<tr>
<td>Wilson, J. W.</td>
<td>1419, 1431, 1465, 1491,</td>
</tr>
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<td>1496, 1497, 1498, 1506,</td>
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<td>1522, 1540, 1543, 1545,</td>
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<td>1546, 1560</td>
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<tr>
<td>Wilson, M. L.</td>
<td>1552, 1773, 1774</td>
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<tr>
<td>Wilson, R. D.</td>
<td>129, 588</td>
</tr>
<tr>
<td>Winfree, W. P.</td>
<td>204, 227, 233, 234, 236</td>
</tr>
<tr>
<td>Witcofski, R. D.</td>
<td>1562</td>
</tr>
<tr>
<td>Witte, W. G., Jr.</td>
<td>559, 660</td>
</tr>
<tr>
<td>Wittmeyer, R. E.</td>
<td>1171</td>
</tr>
<tr>
<td>Wolf, D. E.</td>
<td>775, 786</td>
</tr>
<tr>
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<td>1539</td>
</tr>
<tr>
<td>Wolla, J. M.</td>
<td>574</td>
</tr>
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<td>Wong, M.</td>
<td>1497, 1546</td>
</tr>
<tr>
<td>Wong, T-C.</td>
<td>1030</td>
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<tr>
<td>Wood, E. R.</td>
<td>474</td>
</tr>
<tr>
<td>Wood, G. M., Jr.</td>
<td>186, 192, 237, 244,</td>
</tr>
<tr>
<td></td>
<td>254, 256, 272, 273, 287,</td>
</tr>
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<td>616, 1539</td>
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<tr>
<td>Wood, J. J.</td>
<td>790, 809, 810, 811</td>
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<td>Wood, M. A.</td>
<td>132</td>
</tr>
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<td>Wood, R. M.</td>
<td>1111, 1120, 1121, 1152,</td>
</tr>
<tr>
<td></td>
<td>1155, 1156, 1157, 1200,</td>
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<td>1201, 1216, 1217</td>
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<tr>
<td>Woodard, S. E.</td>
<td>352</td>
</tr>
<tr>
<td>Woodbury, M. H.</td>
<td>1613</td>
</tr>
<tr>
<td>Woods, D. C.</td>
<td>1277, 1323, 1342, 1414</td>
</tr>
<tr>
<td>Wornom, S. F.</td>
<td>964</td>
</tr>
<tr>
<td>Wright, A. S., Jr.</td>
<td>318, 1779</td>
</tr>
<tr>
<td>Wright, H. T.</td>
<td>80</td>
</tr>
<tr>
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<td>1515</td>
</tr>
<tr>
<td>Wright, S. A.</td>
<td>1531</td>
</tr>
<tr>
<td>Wurster, K. E.</td>
<td>470, 1517</td>
</tr>
<tr>
<td>Wylie, D. P.</td>
<td>1696</td>
</tr>
<tr>
<td>Wynne, E. C.</td>
<td>421, 478</td>
</tr>
</tbody>
</table>
X

Xu, Y. J.: 1498
Xue-Hui, L.: 592, 593

Y

Yager, T. J.: 328, 369, 392, 400, 401
Yang, J. K.: 282
Yang, S-K.: 1324
Yang, T. Y.: 422, 479
Yaniv, S.: 69
Yanosy, J. L.: 1547
Yaros, S. F.: 849, 884
Yates, E. C., Jr.: 488, 507
Yates, J. E.: 771
Yeager, P. R.: 194, 256
Yeager, W. T., Jr.: 433
Yenni, K. R.: 1658
Yetter, J. A.: 884
Yip, E. L.: 448
Yip, L. P.: 953, 1015, 1073
Yost, W. T.: 185, 193, 219, 238, 239, 240, 241, 260
Young, C. P., Jr.: 1798, 1799
Young, D. F.: 1293, 1294, 1352, 1354, 1371, 1390
Young, J. C.: 1428, 1548
Young, J. W.: 318, 1659
Young, P. R.: 542, 679, 680, 717, 718
Young, S. D.: 266, 1755
Yu, J. C.: 791, 793, 822, 823, 824
Yue, G. K.: 1325

Z

Zacharias, G. L.: 1679
Zaepfel, K. P.: 1591
Zalenski, M. A.: 875
Zaman, K. B. M. Q.: 792, 793
Zang, T. A.: 25, 71, 72, 880, 881, 882, 886, 1145, 1146, 1175, 1177, 1190, 1218, 1219, 1220, 1237
Zapata, L. E.: 1441, 1499
Zasimowich, R. F.: 202, 213
Zaun, N. H.: 281
Zimmerman, R. S.: 594
Zoby, E. V.: 1500, 1501, 1542
Zuckerwar, A. J.: 169, 175, 189, 242, 243, 257, 265
Zumbrun, H. N.: 1775
AERONAUTICS

Category 01: Aeronautics (General)
74, 78, 82, 87, 104, 106, 109, 173, 252, 253, 429, 1004, 1005, 1079, 1725, 1760

Category 02: Aerodynamics

Category 03: Air Transportation and Safety
92, 394, 1013, 1038, 1039, 1040, 1074, 1082, 1083, 1557, 1741, 1742, 1758, 1778

Category 04: Aircraft Communications and Navigation
486, 1678, 1701, 1743

Category 05: Aircraft Design, Testing and Performance
83, 84, 85, 87, 96, 99, 100, 101, 102, 103, 112, 124, 133, 137, 144, 302, 304, 312, 325, 326, 327, 328, 350, 360, 369, 400, 401, 413, 434, 440, 445, 446, 447, 463, 474, 483, 491, 516, 517, 518, 523, 524, 531, 1006, 1009, 1012, 1094, 1125, 1127, 1139, 1600, 1620, 1653, 1664, 1746, 1747, 1756, 1780, 1789, 1800, 1803

Category 06: Aircraft Instrumentation
237, 296, 510, 805, 1680, 1735, 1736, 1738, 1744, 1748, 1749, 1751, 1754, 1757, 1761, 1762
Category 07: Aircraft Propulsion and Power
490, 896, 928, 1110, 1185, 1186, 1187, 1196, 1204, 1205

Category 08: Aircraft Stability and Control
156, 161, 427, 908, 1001, 1057, 1064, 1095, 1482, 1624, 1654, 1655, 1657, 1658, 1663, 1665, 1666, 1669, 1670, 1672, 1675, 1682, 1683, 1685, 1688, 1689, 1690, 1699, 1700, 1706, 1715, 1750, 1759, 1804

Category 09: Research and Support Facilities (Air)
180, 361, 829, 832, 839, 848, 851, 857, 860, 861, 862, 867, 873, 875, 877, 892, 893, 894, 895, 920, 921, 939, 946, 965, 966, 970, 971, 972, 975, 979, 994, 1003, 1098, 1249, 1564, 1798, 1799

ASTRONAUTICS

Category 12: Astronautics (General)
944, 1254, 1447

Category 13: Astrodynamics
1474, 1695, 1711, 1712, 1724, 1729, 1730

Category 14: Ground Support Systems and Facilities (Space)
117, 1394

Category 15: Launch Vehicles and Space Vehicles
73, 91, 121, 122, 443, 481, 506, 1421, 1427, 1452, 1454, 1455, 1456, 1457, 1464, 1481, 1483, 1489, 1495, 1517, 1520, 1523, 1553, 1558, 1559, 1702, 1721

Category 16: Space Transportation
425, 426, 471, 485, 503, 616, 1250, 1426, 1428, 1429, 1448, 1449, 1450, 1451, 1487, 1492, 1514, 1532, 1552

Category 17: Spacecraft Communications, Command and Tracking
1463, 1790, 1793

Category 18: Spacecraft Design, Testing and Performance

Category 19: Spacecraft Instrumentation
235, 281, 291, 292, 1458, 1539, 1763

253
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 20:</td>
<td>Spacecraft Propulsion and Power</td>
<td>470, 1435, 1466, 1468, 1469, 1471, 1488, 1528, 1549, 1677, 1684, 1710, 1714</td>
</tr>
<tr>
<td>Category 23:</td>
<td>Chemistry and Materials (General)</td>
<td>187, 192, 200, 1594, 1615, 1641, 1767, 1770</td>
</tr>
<tr>
<td>Category 25:</td>
<td>Inorganic and Physical Chemistry</td>
<td>181, 184, 190, 208, 209, 228, 273, 676, 1126, 1136, 1147, 1162, 1163, 1191, 1206, 1223, 1232</td>
</tr>
<tr>
<td>Category 26:</td>
<td>Metallic Materials</td>
<td>229, 441, 537, 566, 580, 583, 587, 622, 623, 624, 626, 675, 678, 681, 716, 874, 1783, 1784, 1785, 1786, 1792, 1797</td>
</tr>
<tr>
<td>Category 31:</td>
<td>Engineering (General)</td>
<td>59, 1252, 1253, 1478, 1479, 1480, 1703, 1728, 1777, 1801</td>
</tr>
<tr>
<td>Category 32:</td>
<td>Communications</td>
<td>293, 1568, 1580, 1637, 1668, 1671, 1674, 1691, 1713, 1726, 1727</td>
</tr>
</tbody>
</table>
Category 33: Electronics and Electrical Engineering
276, 289, 300, 1251, 1255, 1436, 1453, 1524, 1581, 1603, 1605, 1608, 1610, 1625, 1626, 1638, 1660, 1661, 1662, 1692, 1704, 1707, 1723, 1788, 1802

Category 34: Fluid Mechanics and Heat Transfer
13, 14, 25, 31, 32, 33, 34, 36, 39, 46, 55, 60, 61, 71, 86, 392, 408, 414, 416, 423, 431, 432, 439, 462, 467, 480, 482, 489, 501, 866, 876, 878, 879, 919, 923, 950, 957, 958, 973, 980, 1035, 1044, 1055, 1071, 1075, 1076, 1080, 1085, 1105, 1122, 1131, 1141, 1142, 1143, 1144, 1150, 1151, 1154, 1159, 1160, 1161, 1165, 1166, 1167, 1168, 1171, 1172, 1173, 1175, 1180, 1181, 1182, 1183, 1184, 1197, 1198, 1210, 1213, 1214, 1215, 1221, 1222, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1234, 1235, 1236, 1420, 1423, 1424, 1437, 1460, 1461, 1462, 1472, 1473, 1484, 1485, 1486, 1490, 1493, 1494, 1500, 1501, 1505, 1511, 1519, 1521, 1529, 1531, 1533, 1534, 1541, 1542, 1544, 1550, 1597, 1791

Category 35: Instrumentation and Photography
165, 167, 168, 170, 172, 176, 177, 178, 179, 182, 183, 186, 195, 196, 201, 202, 203, 206, 207, 213, 226, 244, 246, 268, 270, 284, 732, 1017, 1312, 1369, 1563, 1578, 1616, 1621, 1755, 1782, 1811

Category 36: Lasers and Masers
154, 166, 221, 222, 254, 272, 274, 277, 283, 285, 287, 294, 295, 297, 298, 1336, 1432, 1433, 1441, 1465, 1499, 1507, 1508, 1513, 1525, 1551, 1596, 1635, 1636

Category 37: Mechanical Engineering
406, 509, 1592, 1652

Category 38: Quality Assurance and Reliability
210, 211, 212, 1570, 1810

Category 39: Structural Mechanics

GEOSCIENCES

Category 42: Geosciences (General)
1272, 1330, 1337, 1338

255
Category 43: Earth Resources

271, 1329, 1351, 1357, 1372, 1373, 1567, 1656, 1705, 1722

Category 44: Energy Production and Conversion

1796

Category 45: Environment Pollution

288, 907, 1256, 1273, 1280, 1281, 1282, 1283, 1284, 1288, 1290, 1291, 1306, 1307, 1308, 1313, 1314, 1347, 1348, 1349, 1350, 1364, 1365, 1366, 1380, 1392, 1406, 1410

Category 46: Geophysics

278, 280, 290, 1257, 1258, 1259, 1260, 1261, 1265, 1266, 1267, 1269, 1270, 1276, 1277, 1279, 1287, 1292, 1293, 1294, 1295, 1296, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1309, 1310, 1315, 1320, 1321, 1323, 1325, 1326, 1327, 1331, 1332, 1334, 1340, 1342, 1343, 1345, 1352, 1353, 1354, 1355, 1356, 1358, 1359, 1360, 1361, 1371, 1376, 1377, 1378, 1382, 1383, 1388, 1389, 1390, 1391, 1395, 1396, 1401, 1403, 1404, 1405, 1407, 1408, 1409, 1414

Category 47: Meteorology and Climatology

279, 505, 1053, 1054, 1263, 1264, 1268, 1274, 1275, 1278, 1289, 1311, 1317, 1318, 1319, 1322, 1324, 1328, 1335, 1339, 1341, 1362, 1363, 1367, 1368, 1370, 1374, 1375, 1379, 1384, 1385, 1386, 1387, 1393, 1397, 1398, 1399, 1400, 1402, 1412, 1413, 1582, 1586, 1587, 1588, 1591, 1611

Category 48: Oceanography

1696

LIFE SCIENCES

Category 52: Aerospace Medicine

269, 1496

Category 53: Behavioral Sciences

790, 809, 810, 811, 1737, 1739, 1740, 1745, 1753

Category 54: Man/System Technology and Life Support

1419, 1504, 1518, 1547, 1752, 1764
MATHEMATICAL AND COMPUTER SCIENCES

Category 59: Mathematical and Computer Sciences (General)
8, 9, 10, 17, 18, 19, 22, 35, 52, 58, 70, 75, 142, 148, 153, 155, 528, 529, 1418, 1595, 1606, 1631, 1633, 1639

Category 60: Computer Operations and Hardware
147, 152, 1381, 1623

Category 61: Computer Programming and Software

Category 62: Computer Systems
146, 149, 150, 310, 319, 322, 324, 382, 395, 527, 1571, 1579, 1598, 1609, 1612, 1613, 1622, 1628, 1640, 1642

Category 63: Cybernetics
417, 465, 466, 1566, 1644, 1681, 1708, 1709, 1716, 1717, 1718

Category 64: Numerical Analysis
4, 5, 11, 12, 15, 20, 21, 23, 24, 26, 27, 30, 37, 42, 43, 44, 45, 47, 53, 62, 63, 64, 65, 66, 68, 69, 72, 151, 504, 530, 882, 885, 886, 899, 905, 909, 910, 947, 948, 949, 954, 964, 984, 985, 986, 987, 988, 989, 990, 991

Category 65: Statistics and Probability
143, 1576

Category 66: Systems Analysis
515, 1444, 1516, 1614

Category 67: Theoretical Mathematics
40

PHYSICS

Category 70: Physics (General)
234, 1477, 1545
Category 71: Acoustics

Category 72: Atomic and Molecular Physics
247, 286, 1262, 1271, 1285, 1286, 1305, 1316, 1333, 1344, 1346, 1411

Category 73: Nuclear and High-Energy Physics
1425, 1430, 1431, 1475, 1476, 1491, 1497, 1498, 1506, 1509, 1512, 1522, 1535, 1540, 1543, 1555, 1556, 1560

Category 74: Optics
248, 1585, 1618

Category 75: Plasma Physics
38, 57, 1537

Category 76: Solid-State Physics
1634, 1694

Category 77: Thermodynamics and Statistical Physics
175

SOCIAL SCIENCES

Category 80: Social Sciences (General)
29

Category 81: Administration and Management
80

Category 82: Documentation and Information Science
160, 1813, 1814, 1815, 1816, 1817

Category 83: Economics and Cost Analysis
1809

258
SPACE SCIENCES

Category 89: Astronomy

1459

Category 91: Lunar and Planetary Exploration

1574

Category 92: Solar Physics

1297

Category 93: Space Radiation

1546

GENERAL

Category 99: General

1, 2, 3, 105, 107
<table>
<thead>
<tr>
<th>RTOP 023-10-01</th>
<th>RTOP 147-33-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>187, 190, 208, 209, 228</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTOP 141-20-10</th>
<th>RTOP 147-44-02</th>
</tr>
</thead>
<tbody>
<tr>
<td>167, 1810</td>
<td>1262, 1283, 1288, 1296, 1306, 1307, 1308, 1309, 1310, 1315, 1346, 1364, 1401, 1406</td>
</tr>
</tbody>
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<thead>
<tr>
<th>RTOP 141-20-14</th>
<th>RTOP 175-20-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>790, 809, 810, 811</td>
<td>1349</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTOP 141-20-20</th>
<th>RTOP 176-10-05</th>
</tr>
</thead>
<tbody>
<tr>
<td>682, 683</td>
<td>1319, 1345, 1382, 1383</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>RTOP 146-40-05</th>
<th>RTOP 176-20-02</th>
</tr>
</thead>
<tbody>
<tr>
<td>1696</td>
<td>1273, 1301, 1326, 1327, 1395, 1396</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>RTOP 146-40-13</th>
<th>RTOP 176-20-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>1668</td>
<td>278, 280, 288, 290</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>RTOP 146-74-01</th>
<th>RTOP 176-20-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>1339, 1392</td>
<td>1410</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTOP 146-74-04</th>
<th>RTOP 176-20-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>1341, 1379</td>
<td>1348</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTOP 147-23-11</th>
<th>RTOP 176-20-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>286, 1285, 1286, 1344, 1411</td>
<td>1347, 1350</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTOP 147-30-01</th>
<th>RTOP 176-40-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>1316</td>
<td>1256, 1274, 1335, 1336, 1337, 1338</td>
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<thead>
<tr>
<th>RTOP 147-31-05</th>
<th>RTOP 179-20-76</th>
</tr>
</thead>
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<tr>
<td>1275</td>
<td>1425, 1476, 1477, 1491, 1496</td>
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</tbody>
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<thead>
<tr>
<th>RTOP 147-33-03</th>
<th>RTOP 199-22-76</th>
</tr>
</thead>
<tbody>
<tr>
<td>187, 190, 208, 209, 228</td>
<td>1430, 1431, 1475, 1497, 1506, 1509, 1512, 1522, 1535, 1543, 1546, 1555, 1556, 1560</td>
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<th>RTOP 147-44-02</th>
<th>RTOP 199-30-26</th>
</tr>
</thead>
<tbody>
<tr>
<td>1262, 1283, 1288, 1296, 1306, 1307, 1308, 1309, 1310, 1315, 1346, 1364, 1401, 1406</td>
<td>1270, 1280, 1290, 1291, 1314, 1332, 1365</td>
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<thead>
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<th>RTOP 147-44-02</th>
<th>RTOP 199-30-36</th>
</tr>
</thead>
<tbody>
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<thead>
<tr>
<th>RTOP 141-20-14</th>
<th>RTOP 199-50-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>790, 809, 810, 811</td>
<td>1299, 1300, 1358</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTOP 141-20-20</th>
<th>RTOP 307-03-02</th>
</tr>
</thead>
<tbody>
<tr>
<td>682, 683</td>
<td>1322</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTOP 146-40-05</th>
<th>RTOP 307-04-02</th>
</tr>
</thead>
<tbody>
<tr>
<td>1696</td>
<td>192, 616, 1282, 1366, 1548, 1578, 1621, 1636</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTOP 146-40-13</th>
<th>RTOP 307-05-01</th>
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<tr>
<th>RTOP 146-74-01</th>
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<td>1339, 1392</td>
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<tr>
<th>RTOP 146-74-04</th>
<th>RTOP 323-52-60</th>
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<td>1341, 1379</td>
<td>212</td>
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<th>RTOP 147-23-11</th>
<th>RTOP 324-01-00</th>
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<td>286, 1285, 1286, 1344, 1411</td>
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<th>RTOP 147-30-01</th>
<th>RTOP 327-05-00</th>
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260
RTOP 340-00-00
148

RTOP 480-51-06
1252, 1253

RTOP 480-52-02
1251

RTOP 482-53-23
714

RTOP 482-53-53
311

RTOP 482-58-13
1572, 1573, 1763

RTOP 483-32-13
1254, 1255

RTOP 483-36-13
1536, 1547

RTOP 483-36-23
1538

RTOP 504-64-23
1438

RTOP 505-06-23
385

RTOP 505-31-03
76, 77, 847, 880, 882, 885, 886, 899, 905, 909, 923, 947, 948,

RTOP 505-31-33
949, 954, 958, 984, 985, 986, 987, 988,
989, 990, 991, 993,
1016, 1023, 1024, 1025,
1028, 1030, 1031, 1042,
1049, 1050, 1060, 1067,
1068, 1070, 1071, 1134,
1145, 1146, 1149, 1174,
1175, 1176, 1177, 1178,
1179, 1194, 1195, 1202,
1203, 1211, 1218, 1219,
1220, 1237

RTOP 505-31-53
RTOP 505-31-09
178

RTOP 505-31-13
868, 869, 964, 980,
1105, 1131, 1141, 1142,
1143, 1144, 1150, 1151,
1154, 1159, 1160, 1161,
1165, 1167, 1168, 1172,
1173, 1180, 1181, 1182,
1183, 1184, 1188, 1189,
1197, 1198, 1210, 1213,
1214, 1215, 1221, 1227,
1229

RTOP 505-31-63
RTOP 505-31-23
220, 831, 834, 852,
853, 854, 864, 871,
879, 883, 887, 888,
889, 890, 891, 897,
901, 902, 903, 904,
906, 907, 908, 912,
913, 914, 916, 917,
918, 924, 925, 926,
930, 931, 932, 933,
934, 936, 940, 944,
950, 951, 952, 953,
955, 957, 959, 960,
961, 962, 963, 969,
973, 977, 978, 992,
1004, 1005, 1061, 1062,
1107, 1123, 1148, 1153

RTOP 505-31-83
4, 5, 6, 7, 8, 9, 10,
11, 12, 13, 14, 15, 16,
17, 18, 19, 20, 21, 22,
23, 24, 25, 26, 27, 28,
30, 31, 32, 33, 34, 35,
36, 37, 38, 39, 40, 41,
42, 43, 44, 45, 46, 47,
48, 49, 50, 51, 52, 53,
54, 55, 56, 57, 58, 59,
60, 61, 62, 63, 64, 65,
66, 67, 68, 69, 70, 71,
72, 142, 143, 151, 153,
156, 161

RTOP 505-33-13
565, 566, 583, 626

261
RTOP 505-60-21
922, 935

RTOP 505-60-31
1075, 1086, 1190, 1222, 1225, 1226, 1228, 1230, 1231, 1234, 1235, 1236

RTOP 505-61-01
170, 171, 203, 248, 851, 863, 972, 975, 1783

RTOP 505-61-11
791, 799

RTOP 505-61-41
79, 1078

RTOP 505-61-43
394

RTOP 505-61-51
814, 815, 817, 819, 820, 823, 824, 1029

RTOP 505-62-81
1204

RTOP 505-62-91
855

RTOP 505-63-01
578, 579, 631, 691, 713

RTOP 505-63-21
427, 457

RTOP 505-63-31
314

RTOP 505-63-81
175

RTOP 505-63-91
231, 555

RTOP 505-66-21
1638

RTOP 505-66-41
1762

RTOP 505-66-43
1759

RTOP 505-68-01
1074

RTOP 505-69-41
91, 92

RTOP 506-33-33
690

RTOP 506-40-11
1448, 1463, 1554

RTOP 506-41-41
1551

RTOP 506-43-11
250, 584, 695, 696, 712

RTOP 506-43-21
609, 646, 704

RTOP 506-43-31
481, 506

RTOP 506-43-51
316, 334, 341, 349, 389, 397, 398

RTOP 506-43-81
644

RTOP 506-49-11
1552

RTOP 506-49-31
1440, 194

RTOP 506-51-13
184, 237, 1250, 1417, 1420, 1422, 1423, 1424, 1426, 1427, 1428, 1429, 1437, 1449, 1450, 1451, 1460, 1461, 1467, 1468, 1470, 1471, 1472, 1473, 1481, 1482, 1483, 1484, 1485, 1486, 1489, 1490, 1492, 1493, 1494, 1495, 1500, 1501, 1505, 1511, 1519, 1521, 1523, 1529, 1530, 1531, 1533, 1541, 1544, 1558, 1559

RTOP 506-51-15
1462

RTOP 506-51-23
244, 408, 414, 462

RTOP 506-52-23
1526

264
RTOP 673-41-10
  1298, 1304, 1376, 1405, 1407, 1408, 1409

RTOP 673-53-01
  1357

RTOP 673-62-02
  1272, 1276, 1340, 1377, 1378

RTOP 673-64-02
  1375, 1384, 1385, 1386, 1398, 1400

RTOP 677-22-28
  1723

RTOP 678-12-04
  181, 292, 1794

RTOP 683-41-07
  1354

RTOP 694-80-70
  1594, 1597, 1615, 1617, 1619, 1634, 1641

RTOP 776-33-41
  765, 766, 807

RTOP 906-54-02
  1452, 1454, 1455, 1456, 1457

RTOP 906-65-34
  1439

RTOP 906-70-16
  1539

RTOP 925-81-01
  1281

RTOP 927-11-01
  1789

RTOP 928-50-06
  1790, 1793

RTOP 992-16-05
  145

RTOP 992-19-00
  173, 210, 211, 246, 252

RTOP 992-19-00

267
Scientific and Technical Information Output of the Langley Research Center for Calendar Year 1985

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