

Stubbs, R. M., **B94-003**
 Suarez, E., **B94-126**
 Takaki, R., **B94-075**
 Tarpley, C., **B94-111**
 Thompson, H. D., **B94-088**
 Torrey, M. D., **B94-090**
 Trexler, C. A., **B94-025**
 Tsai, G.-L., **B94-006**
 Ueda, S., **B94-089**
 Van Fossen, G. J., **B94-119**

Van Wie, D. M., **B94-074**
 Vaughn, J. K., **B94-057**
 Vetrone, R. H., **B94-002**
 Wadel, M. F., **B94-114**
 Waibel, R., **B93-029**
 Wakamatsu, Y., **B94-037**,
B94-085
 Wald, S., **B94-036**
 Wang, H., **B94-062**, **B94-063**
 Wang, M. R., **B94-056**

Wang, W.-B., **B94-006**
 Warren, R. E., Jr., **B94-007**
 Wellborn, S. R., **B94-092**
 Wetzel, K. K., **B94-068**
 Whitehurst, R. B., III, **B94-052**
 Whitelaw, J. H., **B94-064**
 Williams, F. A., **B94-061**
 Williams, G. J., Jr., **B94-004**
 Wolff, J. M., **B94-095**
 Wu, M.-K., **B94-029**

Xiao, Y., **B94-055**
 Yang, J.-T., **B94-006**
 Yang, R.-J., **B94-120**
 Yeh, F. C., **B94-119**
 Yeuan, J. J., **B94-010**
 Yi, A. C., **B94-067**
 Yoshida, M., **B94-038**
 Yungster, S., **B94-084**
 Zelesnik, D., **B94-076**
 Zeleznik, F. J., **B93-029**
 Zhang, S. Y., **B94-072**

Chronological Index

B91-026 Simple Modeling of Particle Trajectories in Solid Rocket Motors. G. Carrier, F. Fendell, D. Brent, C. Kimbrough, S. Loucks, E. Hess, and P. Acosta, *TRW Space & Technology Group* (7, 2, p. 185) Article based on AIAA Paper 90-0452

Technical Comment by John W. Murdock, *The Aerospace Corporation* (10, 3, p. 437)

Reply (10, 3, p. 438)

B92-105 Method for Reducing Stagnation Pressure Losses in Segmented Solid Rocket Motors. W. A. Johnston, *The Aerospace Corporation* (8, 3, p. 720) Technical Note

Technical Comment by Robert L. Glick, *Talley Defense Systems*; and Leonard H. Caveny, *BMDO, Pentagon* (10, 2, p. 295)

Reply (10, 2, p. 296)

B92-107 Relationships for Motor Temperature Sensitivity. R. E. Hamke, *Thiokol Corporation*; and J. R. Osborn, *Purdue University* (8, 3, p. 723) Technical Note

Technical Comment by Robert L. Glick, *Talley Defense Systems*; and Wm. Ted Brooks, *Hercules, Inc.* (10, 5, p. 754)

B93-029 Evaluation of the Munich Method for Modeling Rocket Engine Performance. Frank J. Zeleznik, *NASA Lewis Research Center* (9, 2, p. 191) Article

Technical Comment by Sanford Gordon, *Sanford Gordon and Associates* (10, 5, p. 749)

Technical Comment by R. Waibel, *Federal Armed Forces University, Germany* (10, 5, p. 750)

Reply (10, 5, p. 752)

B94-001 Facility Opportunities and Associated Stream Chemistry Considerations for Hypersonic Air-Breathing Propulsion. Wallace Chinitz, John I. Erdos, and Oussama Rizkalla, *General Applied Science Laboratories, Inc.*; and G. Y. Anderson and Dennis M. Bushnell, *NASA Langley Research Center* (10, 1, p. 6) Survey Paper based on AIAA Paper 92-3991

B94-002 Test Facilities for High-Power Electric Propulsion. James S. Sovey, Robert H. Vetrone, and Stanley P. Grisnik, *NASA Lewis Research Center*; and Roger M. Myers and James E. Parkes, *Sverdrup Technology, Inc.* (10, 1, p. 18) Article based on AIAA Paper 91-3499

B94-003 Numerical Study of Low-Pressure Concept for Nuclear Thermal Rockets. Suk C. Kim, *Sverdrup Technology, Inc.*; and Robert M. Stubbs, *NASA Lewis Research Center* (10, 1, p. 25) Article

B94-004 Preliminary Design of a Space Propulsion System Utilizing Stored Thermal Energy. George J. Williams Jr., Rhonald M. Jenkins, and M. Frank Rose, *Auburn University* (10, 1, p. 32) Article based on AIAA Paper 92-3848

B94-005 New Generation of High-Performance Engines for Spacecraft Propulsion. Sanders D. Rosenberg and Leonard Schoenman, *Aerojet Propulsion Division* (10, 1, p. 40) Article based on AIAA Paper 91-2039

B94-006 Near-Wake Characteristics of Various V-Shaped Bluff Bodies. Jing-Tang Yang, Go-Long Tsai, and Wen-Bin Wang, *National Tsing Hua University, Taiwan, ROC* (10, 1, p. 47) Article

B94-007 NO₂-Based Laser-Induced Fluorescence Technique to Measure Cold-Flow Mixing. A. Gulati and R. E. Warren Jr., *General Electric Company* (10, 1, p. 54) Article based on AIAA Paper 92-0511

B94-008 Experimental Studies on Mixing of Two Co-Axial High-Speed Streams. A. K. Narayanan and K. A. Damodaran, *Indian Institute of Technology* (10, 1, p. 62) Article

B94-009 Dynamic Turbine Blade Temperature Measurements. William J. Becker, Richard J. Roby, and Walter F. O'Brien, *Virginia Polytechnic Institute and State University*; and Gerald K. Bensing, *Rosemount Aerospace Division* (10, 1, p. 69) Article based on AIAA Paper 89-2689

B94-010 Investigation of Shock/Turbulent Boundary-Layer Bleed Interactions. A. Hamed, S. Shih, and J. J. Yeuan, *University of Cincinnati* (10, 1, p. 79) Article based on AIAA Paper 92-3085

B94-011 Circular-to-Rectangular Transition Duct Flow Without and with Inlet Swirl. Bruce A. Reichert and Warren R. Hingst, *NASA Lewis Research Center*; and Theodore H. Okiishi, *Iowa State University* (10, 1, p. 88) Article

B94-012 Computational Investigation of Circular-to-Rectangular Transition Ducts. S. Paul Pao and John R. Carlson, *NASA Langley Research Center*; and Khaled S. Abdol-Hamid, *Analytical Services and Materials, Inc.* (10, 1, p. 95) Article based on AIAA Paper 91-3342

B94-013 Theoretical Study of Sensor-Actuator Schemes for Rotating Stall Control. G. J. Hendricks and D. L. Gysling, *Massachusetts Institute of Technology* (10, 1, p. 101) Article based on AIAA Paper 92-3486

B94-014 Installed F/A-18 Inlet Flow Calculations at a High Angle of Attack. James E. Bruns and C. Frederic Smith, *Sverdrup Technology, Inc.* (10, 1, p. 110) Article based on AIAA Paper 92-3175

B94-015 High-Alpha Vectoring Characteristics of the F-18/HARV. Scott C. Asbury and Francis J. Capone, *NASA Langley Research Center*

search Center (10, 1, p. 116) Article based on AIAA Paper 92-3095

B94-016 Internal Reversing Flow in a Tailpipe Offtake Configuration for ASTOVL Aircraft. Jack G. McArdle and Barbara S. Esker, *NASA Lewis Research Center*; and James A. Rhodes, *McDonnell-Douglas Aerospace Company* (10, 1, p. 122) Article based on AIAA Paper 92-3790

B94-017 Experimental Investigation of a Supersonic Swept Ramp Injector Using Laser-Induced Iodine Fluorescence. Roy J. Hartfield Jr., Steven D. Hollo, and James C. McDaniel, *University of Virginia* (10, 1, p. 129) Article based on AIAA Paper 90-1518

B94-018 Combustion and Environmental Challenges for Gas Turbines in the 1990s. Ashwani K. Gupta, *University of Maryland*; and David G. Lilley, *Oklahoma State University* (10, 2, p. 137) Survey Paper based on AIAA Paper 91-1964

B94-019 Velocity Characteristics of Reacting and Nonreacting Flows in a Dump Combustor. Robert S. Gabruk, *ARAP Group of Titan Research and Technology*; and Larry A. Roe, *University of Arkansas* (10, 2, p. 148) Article

B94-020 Inlet Velocity Profile Effects on Turbulent Swirling Flow Predictions. Mingchun Dong and David G. Lilley, *Oklahoma State University* (10, 2, p. 155) Article based on AIAA Paper 93-0133

B94-021 Prediction of NO_x Production in a Turbulent Hydrogen-Air Jet Flame. Suresh Menon, *Georgia Institute of Technology*; Patrick A. McMurtry, *University of Utah*; Alan R. Kerstein, *Sandia National Laboratories*; and J.-Y. Chen, *University of California, Berkeley* (10, 2, p. 161) Article based on AIAA Paper 92-0233

B94-022 Raman Measurements at the Exit of a Combustor Sector. Anil Gulati, *General Electric Corporate Research and Development Center* (10, 2, p. 169) Article based on AIAA Paper 92-3350

B94-023 Comparison of Optical Measurement Techniques for Turbomachinery Flowfields. John R. Fagan Jr. and Sanford Fleeter, *Purdue University* (10, 2, p. 176) Article based on AIAA Paper 89-2572

B94-024 Advanced Injection and Mixing Techniques for Scramjet Combustors. David W. Bogdanoff, *Eloret Institute* (10, 2, p. 183) Article

B94-025 Three-Dimensional Simulation of a Translating Strut Inlet. D. J. Singh, *Analytical Services and Materials, Inc.*; Carl A. Trexler, *NASA Langley Research Center*; and Julie A. Hudgens Young, *Analytical Services and Materials, Inc.* (10, 2, p. 191) Article based on AIAA Paper 92-0270

B94-026 Approximate Similarity Principle for a Full-Scale STOVL Ejector. Wendy S. Barankiewicz and Gail P. Perusek, *NASA Lewis Research Center*; and Mounir B. Ibrahim, *Cleveland State University* (10, 2, p. 198) Article based on AIAA Paper 92-3792

B94-027 Forcing Function Generator Fluid Dynamic Effects on Compressor Blade Gust Response. Kuk H. Kim and Sanford Fleeter, *Purdue University* (10, 2, p. 204) Article based on AIAA Paper 93-0157

B94-028 Incipient Torsional Stall Flutter Aerodynamic Experiments on Three-Dimensional Wings. Peter J. Lorber and Franklin O. Carta, *United Technologies Research Center* (10, 2, p. 217) Article based on AIAA Paper 91-0935 CP911

B94-029 Damage-Mitigating Control of a Reusable Rocket Engine. Asok Ray, Xiaowen Dai, Min-Kuang Wu, and Marc Carpino, *Pennsylvania State University*; and Carl F. Lorenzo, *NASA Lewis Research Center* (10, 2, p. 225) Article

B94-030 Combustion Zone—Acoustic Cavity Interactions in Rocket Combustors. Thomas L. Acker and Charles E. Mitchell, *Colorado State University* (10, 2, p. 235) Article

B94-031 Axial Thrust Behavior in LOX-Pump of Rocket Engine. Junichi Kurokawa, *Yokohama National University, Japan*; and Kenjiro Kamijo and Takashi Shimura, *National Aerospace Laboratory, Japan* (10, 2, p. 244) Article based on AIAA Paper 91-2410

B94-032 Generalized Hall Acceleration. Akihiro Sasoh, *Tohoku University, Japan* (10, 2, p. 251) Article

B94-033 Demonstration and Evaluation of Carbon-Carbon Ion Optics. D. E. Hedges and J. S. Meserole, *Boeing Defense and Space Group* (10, 2, p. 255) Article

B94-034 Anode Power Deposition in an Applied-Field Segmented Anode MPD Thruster. A. D. Gallimore, *Princeton University*; R. M. Myers, *Sverdrup Technology, Inc.*; and A. J. Kelly and R. G. Jahn, *Princeton University* (10, 2, p. 262) Article based on AIAA Paper 91-2343

B94-035 Feasibility Study of a Contained Pulsed Nuclear Propulsion Engine. Alexander G. Parlos, *Texas A&M University*; and John D. Metzger, *Grumman Aerospace & Electronics* (10, 2, p. 269) Article

B94-036 Experimental Demonstration and Simulation of a Dual-Stage Solid Propellant Gun Concept. Boaz Brill, Shlomo Wald, David Kimchi, and Zvi Kaplan, *Soreq Nuclear Research Center, Israel* (10, 2, p. 279) Article

B94-037 Effect of Regenerative Cooling on Rocket Engine Specific Impulse. Takeshi Kanda, Goro Masuya, Yoshio Wakamatsu, Akio Kanmuri, Nobuo Chinzei, and Masayuki Niino, *National Aerospace Laboratory, Japan* (10, 2, p. 286) Technical Note

B94-038 Performance Evaluation of LE-7 High-Pressure Pumps. Kenjiro Kamijo and Makoto Yoshida, *National Aerospace Laboratory, Japan*; and Takaharu Nagao, *National Space Development Agency of Japan* (10, 2, p. 288) Technical Note

B94-039 Numerical Prediction of a Turbulent Evaporating Fuel Spray in a Recirculating Flow. Xi-Qing Chen and José Carlos Fernandes Pereira, *Instituto Superior Técnico/Technical University of Lisbon, Portugal* (10, 2, p. 290) Technical Note

B94-040 Effect of Impinging Jet Excitation on Curved Surface Heat Transfer. P. J. Disimile, *University of Cincinnati* (10, 2, p. 293) Technical Note

B94-041 Numerical Study of Mixing in Supersonic Combustors with Hypermixing Injectors. J. Lee, *Sverdrup Technology, Inc.* (10, 3, p. 297) Article

B94-042 Vane-Blade Interaction in a Transonic Turbine, Part I: Aerodynamics. K. V. Rao and R. A. Delaney, *Allison Gas Turbine Division*; and M. G. Dunn, *Calspan Advanced Technology Center* (10, 3, p. 305) Article based on AIAA Paper 92-3323

B94-043 Vane-Blade Interaction in a Transonic Turbine, Part II: Heat Transfer. K. V. Rao and R. A. Delaney, *Allison Gas Turbine Division*; and M. G. Dunn, *Calspan Advanced Technology Center* (10, 3, p. 312) Article

- B94-044 Localization of Aeroelastic Modes in Mistuned High-Energy Turbines.** Christophe Pierre, *University of Michigan*; Todd E. Smith, *Sverdrup Technology, Inc.*; and Durbha V. Murthy, *University of Toledo* (10, 3, p. 318) Article based on AIAA Paper 91-3379
- B94-045 Axial Compressor Performance During Surge.** I. J. Day, *University of Cambridge, England, UK* (10, 3, p. 329) Article
- B94-046 Efficient Method for Predicting Rotor/Stator Interaction.** S. H. Chen, A. H. Eastland, and E. D. Jackson, *Rockwell International Corporation* (10, 3, p. 337) Article
- B94-047 Experimental Investigation of Counter-Rotating Propfan Flutter at Cruise Conditions.** Oral Mehmed and Anatole P. Kurkov, *NASA Lewis Research Center* (10, 3, p. 343) Article based on AIAA Paper 93-1634 CP931
- B94-048 Dynamic Aeroelastic Stability of Vertical-Axis Wind Turbines Under Constant Wind Velocity.** Fred Nitzsche, *DLR, German Aerospace Research Establishment, Germany* (10, 3, p. 348) Article
- B94-049 Low-Noise, High-Strength, Spiral-Bevel Gears for Helicopter Transmission.** David G. Lewicki and Robert F. Handschuh, *NASA Lewis Research Center*; Zachary S. Henry, *Bell Helicopter Textron, Inc.*; and Faydor L. Litvin, *University of Illinois at Chicago* (10, 3, p. 356) Article based on AIAA Paper 93-2149
- B94-050 Estimation of Fatigue Strength Enhancement for Carburized and Shot-Peened Gears.** Katsumi Inoue and Masana Kato, *Tohoku University, Japan* (10, 3, p. 362) Article based on AIAA Paper 93-2294
- B94-051 Multiple Hole Ejector Performance with Short Wide Angle Diffusers.** Kenneth C. Cornelius and Gerald A. Lucius, *Wright State University* (10, 3, p. 369) Article
- B94-052 Planar KrF Laser-Induced OH Fluorescence Imaging in a Supersonic Combustion Tunnel.** T. M. Quagliaroli, G. Laufer, S. D. Hollo, R. H. Krauss, R. B. Whitehurst III, and J. C. McDaniel Jr., *University of Virginia* (10, 3, p. 377) Article based on AIAA Paper 92-3346
- B94-053 Injection of Bubbling Liquid Jets from Multiple Injectors into a Supersonic Stream.** Takakage Arai and Joseph A. Schetz, *Virginia Polytechnic Institute and State University* (10, 3, p. 382) Article based on AIAA Paper 92-5060
- B94-054 Structure and Penetration of a Supercritical Fluid Jet in Supersonic Flow.** J. C. Hermanson, P. Papas, and I. W. Kay, *United Technologies Research Center* (10, 3, p. 387) Article
- B94-055 Effect of External Forcing on Droplet Dispersion in a Developing Shear Layer.** S. K. Aggarwal and Y. Xiao, *University of Illinois at Chicago* (10, 3, p. 395) Article
- B94-056 Interlaboratory Comparison of Phase Doppler Measurements in a Research Simplex Atomizer Spray.** V. G. McDonnell and G. S. Samuelsen, *University of California, Irvine*; and M. R. Wang, C. H. Hong, and W. H. Lai, *National Cheng Kung University, Taiwan, ROC* (10, 3, p. 402) Article based on AIAA Paper 92-3233
- B94-057 Motor and Plume Particle Size Measurements in Solid Propellant Micromotors.** D. Laredo, J. D. McCrorie II, J. K. Vaughn, and D. W. Netzer, *Naval Postgraduate School* (10, 3, p. 410) Article
- B94-058 Thermal Radiation in Gas Core Nuclear Reactors for Space Propulsion.** Stephen A. Slutz, Randall O. Gauntt, and Gary A. Harms, *Sandia National Laboratories*; and Thomas Latham, Ward Roman, and Richard J. Rodgers, *United Technologies Research Center* (10, 3, p. 419) Article
- B94-059 Hierarchical Analysis of Options for Lunar-Surface Power.** R. Bruce Matthews, *Los Alamos Laboratory*; Edmund P. Coomes, *Pacific Northwest Laboratory*; and Ehsan U. Khan, *Department of Energy* (10, 3, p. 425) Article
- B94-060 Preliminary Investigations on Improving Air-Augmented Rocket Performance.** K. N. Anil and K. A. Damodaran, *Indian Institute of Technology* (10, 3, p. 432) Technical Note
- B94-061 Turbulent Combustion Regimes for Hypersonic Propulsion Employing Hydrogen-Air Diffusion Flames.** G. Balakrishnan and F. A. Williams, *University of California, San Diego* (10, 3, p. 434) Technical Note
- B94-062 Experimental Study of a Model Gas Turbine Combustor Swirl Cup, Part I: Two-Phase Characterization.** Hongyu Wang, Vincent G. McDonnell, William A. Sowa, and Scott Samuelsen, *University of California, Irvine* (10, 4, p. 441) Article
- B94-063 Experimental Study of a Model Gas Turbine Combustor Swirl Cup, Part II: Droplet Dynamics.** Hongyu Wang, Vincent G. McDonnell, William A. Sowa, and Scott Samuelsen, *University of California, Irvine* (10, 4, p. 446) Article
- B94-064 Characteristics of Sprays Produced by Coaxial Airblast Atomizers.** Y. Hardalupas and J. H. Whitelaw, *Imperial College of Science, Technology and Medicine, England, UK* (10, 4, p. 453) Article based on AIAA Paper 93-0698
- B94-065 Nonequilibrium Combustion Model for Fuel-Rich Gas Generators.** Robert O. Foelsche, Joseph M. Keen, and Wayne C. Solomon, *University of Illinois at Urbana-Champaign*; and Parker L. Buckley and Edwin Corporan, *Wright-Patterson Air Force Base* (10, 4, p. 461) Article based on AIAA Paper 93-2041
- B94-066 Assumed Joint Probability Density Function Approach for Supersonic Turbulent Combustion.** R. A. Baurle, G. A. Alexopoulos, and H. A. Hassan, *North Carolina State University* (10, 4, p. 473) Article based on AIAA Paper 92-3844
- B94-067 Air Liquefaction and Enrichment System Propulsion in Reusable Launch Vehicles.** W. H. Bond and A. C. Yi, *Rockwell International Corporation* (10, 4, p. 485) Article based on AIAA Paper 93-2025
- B94-068 Hydrogen Recombination Kinetics and Nuclear Thermal Rocket Performance Prediction.** Kyle K. Wetzel and Wayne C. Solomon, *University of Illinois at Urbana-Champaign* (10, 4, p. 492) Article based on AIAA Paper 93-2499
- B94-069 Formulation, Predictions, and Sensitivity Analysis of a Pyrotechnically Actuated Pin Puller Model.** Keith A. Gonthier and Joseph M. Powers, *University of Notre Dame* (10, 4, p. 501) Article
- B94-070 Application of Dynamical Systems Theory to Nonlinear Combustion Instabilities.** Craig C. Jahnke, *Clarkson University*; and F. E. C. Culick, *California Institute of Technology* (10, 4, p. 508) Article based on AIAA Paper 93-0114
- B94-071 New Tube End Closure System for the Ram Accelerator.** David W. Bogdanoff, *Eloret Institute* (10, 4, p. 518) Article
- B94-072 Improved Method for Estimation of the Maximum Instantaneous Distortion Values.** D. W. Liang and S. Y. Zhang, *Nanjing University of Aeronautics and Astronautics, PRC* (10, 4, p. 522) Article

- B94-073 Sensor Biases Effect on the Estimation Algorithm for Performance-Seeking Controllers.** Martin D. España, *National Research Council/NASA Dryden Flight Research Facility* (10, 4, p. 527) Article based on AIAA Paper 93-1823
- B94-074 Experimental and Computational Results for the External Flowfield of a Scramjet Inlet.** D. A. Ault and D. M. Van Wie, *Johns Hopkins University Applied Physics Laboratory* (10, 4, p. 533) Article based on AIAA Paper 92-5100
- B94-075 Three-Dimensional Analysis of Scramjet Nozzle Flows.** Tomiko Ishiguro and Ryouji Takaki, *National Aerospace Laboratory, Japan*; and Tohru Mitani and Tetsuo Hiraiwa, *Kakuda Research Center, Japan* (10, 4, p. 540) Article based on AIAA Paper 93-5059
- B94-076 Direct Simulation Monte Carlo Model of Low Reynolds Number Nozzle Flows.** Donna Zelesnik, Michael M. Micci, and Lyle N. Long, *Pennsylvania State University* (10, 4, p. 546) Article
- B94-077 Use of Permanent Magnets to Reduce Anode Losses in MPD Thrusters.** A. D. Gallimore, A. J. Kelly, and R. G. Jahn, *Princeton University* (10, 4, p. 554) Article based on AIAA Paper 92-3461
- B94-078 Lag Model for Turbulent Boundary Layers over Rough Bleed Surfaces.** J. Lee, M. L. Sloan, and G. C. Paynter, *Boeing Commercial Airplane Group* (10, 4, p. 562) Article based on AIAA Paper 93-2988
- B94-079 Hysteresis and Bristle Stiffening Effects in Brush Seals.** P. Basu, A. Datta, R. Loewenthal, and J. Short, *EG&G Fluid Components Technology Group*; and R. Johnson, *EG&G Sealol* (10, 4, p. 569) Article based on AIAA Paper 93-1996
- B94-080 Solution-Adaptive Structured-Unstructured Grid Method for Unsteady Turbomachinery Analysis, Part I: Methodology.** Sanjay R. Mathur, *Iowa State University*; Nateri K. Madavan, *NASA Ames Research Center*; and R. Ganesh Rajagopalan, *Iowa State University* (10, 4, p. 576) Article based on AIAA Paper 93-0387
- B94-081 Solution-Adaptive Structured-Unstructured Grid Method for Unsteady Turbomachinery Analysis, Part II: Results.** Sanjay R. Mathur, *Iowa State University*; Nateri K. Madavan, *NASA Ames Research Center*; and R. Ganesh Rajagopalan, *Iowa State University* (10, 4, p. 585) Article based on AIAA Paper 93-3015
- B94-082 Review of Shock-Induced Supersonic Combustion Research and Hypersonic Applications.** P. M. Rubins, *Engineering Management Consultants*; and R. C. Bauer, *Arvin/Calspan Corporation* (10, 5, p. 593) Article based on AIAA Paper 93-2326
- B94-083 Analysis of External Burning on Inclined Surfaces in Supersonic Flow.** J. A. Schetz, F. S. Billig, and S. Favin, *Johns Hopkins University* (10, 5, p. 602) Article based on AIAA Paper 91-2390
- B94-084 Computation of Shock-Induced Combustion Using a Detailed Methane-Air Mechanism.** Shaye Yungster and Martin J. Rabinowitz, *NASA Lewis Research Center* (10, 5, p. 609) Article based on AIAA Paper 93-1917
- B94-085 Effect of Film Cooling/Regenerative Cooling on Scramjet Engine Performances.** Takeshi Kanda, Goro Masuya, Fumiei Ono, and Yoshio Wakamatsu, *National Aerospace Laboratory, Kakuda Research Center, Japan* (10, 5, p. 618) Article
- B94-086 Calculation of Scramjet Inlet with Thick Boundary-Layer Ingestion.** Hien T. Lai and Suk C. Kim, *Sverdrup Technology, Inc.*; and Henry T. Nagamatsu, *Rensselaer Polytechnic Institute* (10, 5, p. 625) Article
- B94-087 Droplet Transport in a Swirl-Stabilized Spray Flame.** C. Presser, A. K. Gupta, H. G. Semerjian, and C. T. Avedisian, *National Institute of Standards and Technology* (10, 5, p. 631) Article
- B94-088 Simultaneous Velocity and Temperature Measurements in a Premixed Dump Combustor.** Richard D. Gould, *North Carolina State University*; and Warren H. Stevenson and H. Doyle Thompson, *Purdue University* (10, 5, p. 639) Article
- B94-089 Bipropellant Performance of N_2H_4 /MMH Mixed Fuel in a Regeneratively Cooled Engine.** Shuichi Ueda, Yukio Kuroda, and Hiroshi Miyajima, *National Aerospace Laboratory, Kakuda Research Center, Japan*; and Takuo Kuwahara, *Nissan Motor Co., Ltd., Japan* (10, 5, p. 646) Article
- B94-090 On-Orbit Propellant Motion Resulting from an Impulsive Acceleration.** John I. Hochstein, *Memphis State University*; John C. Aydelott, *NASA Lewis Research Center*; and Raymond C. Mjolsness and Martin D. Torrey, *Los Alamos National Laboratory* (10, 5, p. 653) Article
- B94-091 Study on Computing Separating Flows Within a Diffusing Inlet S-Duct.** B. H. Anderson, D. R. Reddy, and K. Kapoor, *NASA Lewis Research Center* (10, 5, p. 661) Article based on AIAA Paper 93-2154
- B94-092 Study of the Compressible Flow in a Diffusing S-Duct.** Steven R. Wellborn, *Iowa State University*; Bruce A. Reichert, *NASA Lewis Research Center*; and Theodore H. Okiishi, *Iowa State University* (10, 5, p. 668) Article based on AIAA Paper 92-3622
- B94-093 Design of Optimum Propellers.** Charles N. Adkins; and Robert H. Liebeck, *Douglas Aircraft Company* (10, 5, p. 676) Article based on AIAA Paper 83-0190
- B94-094 Analytic Design Methods for Wave Rotor Cycles.** Edwin L. Resler Jr., Jeffrey C. Mocsari, and M. Razi Nalim, *Cornell University* (10, 5, p. 683) Article based on AIAA Paper 93-2523
- B94-095 Single-Passage Euler Analysis of Oscillating Cascade Aerodynamics for Arbitrary Interblade Phase.** James M. Wolff and Sanford Fleeter, *Purdue University* (10, 5, p. 690) Article based on AIAA Paper 93-0389
- B94-096 Compressor Unsteady Aerodynamic Response to Rotating Stall and Surge Excitations.** Kuk H. Kim and Sanford Fleeter, *Purdue University* (10, 5, p. 698) Article
- B94-097 Characterization of Abrupt Rotating Stall Initiation in an Axial Flow Compressor.** Patrick B. Lawless, Kuk H. Kim, and Sanford Fleeter, *Purdue University* (10, 5, p. 709) Article based on AIAA Paper 93-2238
- B94-098 Hot Dynamic Test Rig for Measuring Hypersonic Engine Seal Flow and Durability.** Jeffrey H. Miller, *Sverdrup Technology, Inc.*; Bruce M. Steinetz, *NASA Lewis Research Center*; Paul J. Sirocky, *Sverdrup Technology, Inc.*; and Lawrence A. Kren, *Case Western Reserve University* (10, 5, p. 716) Article based on AIAA Paper 93-1346 CP931
- B94-099 Theoretical vs Experimental Rotordynamic Coefficients of Incompressible Flow Labyrinth Seals.** E. A. Baskharone and A. Ghali, *Texas A&M University* (10, 5, p. 721) Article
- B94-100 Design of Axisymmetric Channels with Rotational Flow.** M. Koumandakis, V. Dedoussis, P. Chaviaropoulos, and K.

D. Papailiou, *National Technical University of Athens, Greece* (10, 5, p. 729) Article based on AIAA Paper 93-3117

B94-101 Investigation of Supersonic Jet Plumes Using an Improved Two-Equation Turbulence Model. B. Lakshmanan, *Old Dominion University*; and K. S. Abdol-Hamid, *Analytical Services and Materials, Inc.* (10, 5, p. 736) Article based on AIAA Paper 92-2604 CP926

B94-102 Supersonic-Ejector Characteristics Using a Petal Nozzle. A. K. Narayanan and K. A. Damodaran, *Indian Institute of Technology* (10, 5, p. 742) Technical Note

B94-103 Combustion of Microemulsion Sprays. I. Ahmad and S. R. Gollahalli, *University of Oklahoma* (10, 5, p. 744) Technical Note

B94-104 Pulsed Jets in Supersonic Crossflow. Howard Randolph and Larry Chew, *University of Central Florida*; and Hamid Johari, *Worcester Polytechnic Institute* (10, 5, p. 746) Technical Note

B94-105 Effect of Multidimensional Flamelets in Composite Propellant Combustion. Sung-Taick Lee, Edward W. Price, and Robert K. Sigman, *Georgia Institute of Technology* (10, 6, p. 761) Article

B94-106 Coupling Between Vorticity and Pressure Oscillations in Combustion Instability. Habib N. Najm and Ahmed F. Ghoniem, *Massachusetts Institute of Technology* (10, 6, p. 769) Article based on AIAA Paper 89-2665

B94-107 Modeling of Supersonic Turbulent Combustion Using Assumed Probability Density Functions. R. A. Baurle, G. A. Alexopoulos, and H. A. Hassan, *North Carolina State University* (10, 6, p. 777) Article based on AIAA Papers 93-2197 and 93-2198

B94-108 OH Laser-Induced Fluorescence Velocimetry Technique for Steady, High-Speed, Reacting Flows. Kurt G. Klavuhn, Gautam Gauba, and James C. McDaniel, *University of Virginia* (10, 6, p. 787) Article based on AIAA Paper 92-3422

B94-109 Multifunction Droplet Imaging and Velocimetry System for Spray Jets. Tzong H. Chen, Larry A. Roe, and Abdollah S. Nejad, *Wright Laboratory* (10, 6, p. 798) Article based on AIAA Paper 93-0415

B94-110 Thrust Loss Due to Supersonic Mixing. Dimitri Papamoschou, *University of California, Irvine* (10, 6, p. 804) Article

B94-111 Optimization of Heat Transfer in a High-Energy Booster Rocket. Christopher Tarpley and Mark J. Lewis, *University of Maryland* (10, 6, p. 810) Article based on AIAA Paper 92-4689 CP9213

B94-112 Pellet Bed Reactor Concepts for Nuclear Propulsion Applications. Mohamed S. El-Genk, Nicholas J. Morley, Dennis G. Pelaccio, and Albert Juhasz, *University of New Mexico* (10, 6, p. 817) Article based on AIAA Paper 93-2112

B94-113 Launch Vehicle Performance Using Metallized Propellants. Bryan Palaszewski, *NASA Lewis Research Center*; and Richard Powell, *NASA Langley Research Center* (10, 6, p. 828) Article based on AIAA Paper 91-2050

B94-114 Production and Use of Metals and Oxygen for Lunar Propulsion. Aloysius F. Hepp, Dianne L. Linne, Geoffrey A. Landis, and Mary F. Wadel, *NASA Lewis Research Center*; and James E. Colvin, *University of Arizona* (10, 6, p. 834) Article

B94-115 Numerical Study of the Performance of Swept, Curved Compression Surface Scramjet Inlets. John J. Korte, *NASA Langley Research Center*; D. J. Singh, *Analytical Services and Materials, Inc.*; Ajay Kumar, *NASA Langley Research Center*; and Aaron H. Auslender, *Lockheed Engineering and Sciences Company, Inc.* (10, 6, p. 841) Article based on AIAA Paper 93-1837

B94-116 F/A-18 Inlet Calculations at 60-Deg Angle of Attack and 10-Deg Sideslip. S. D. Podleski, *NYMA, Inc.* (10, 6, p. 848) Article based on AIAA Paper 93-1806

B94-117 Nonlinear Dynamic Simulation of Single- and Multi-spool Core Engines, Part I: Computational Method. M. T. Schobeiri, M. Attia, and C. Lippke, *Texas A&M University* (10, 6, p. 855) Article based on AIAA Paper 93-2580

B94-118 Nonlinear Dynamic Simulation of Single- and Multi-spool Core Engines, Part II: Simulation, Code Validation. M. T. Schobeiri, M. Attia, and C. Lippke, *Texas A&M University* (10, 6, p. 863) Article based on AIAA Paper 93-2580

B94-119 High Reynolds Number and Turbulence Effects on Turbine Heat Transfer. Frederick C. Yeh, Steven A. Hippensteele, G. James Van Fossen, and Philip E. Poinsatte, *NASA Lewis Research Center*; and Ali Ameri, *University of Kansas* (10, 6, p. 868) Article based on AIAA Paper 93-2252

B94-120 Numerical Solutions of Two-Dimensional Multistage Rotor/Stator Unsteady Flow Interactions. R.-J. Yang and S.-J. Lin, *Rockwell International* (10, 6, p. 876) Article

B94-121 Development of Hypersonic Engine Seals: Flow Effects of Preload and Engine Pressures. Zhong Cai, Rajakkannu Mutharasan, and Frank K. Ko, *Drexel University*; and Bruce M. Steinetz, *NASA Lewis Research Center* (10, 6, p. 884) Article based on AIAA Paper 93-1998

B94-122 Adaptive Modeling of Jet Engine Performance with Application to Condition Monitoring. B. Lambiris, K. Mathioudakis, A. Stamatis, and K. Papailiou, *National Technical University of Athens, Greece* (10, 6, p. 890) Article

B94-123 Ply Layup Optimization and Micromechanics Tailoring of Composite Aircraft Engine Structures. Srinivas Kodiyalam and V. N. Parthasarathy, *General Electric Corporate R&D Center*; and Michael S. Hartle and Richard L. McKnight, *General Electric Aircraft Engines* (10, 6, p. 897) Article based on AIAA Paper 93-1583

B94-124 Similarity Relation for Maximal Gas Compression by Strong Ionizing Shocks. I. M. Rutkevich and M. Mond, *Ben-Gurion University of the Negev, Israel* (10, 6, p. 906) Technical Note

B94-125 Solid Rocket Motor Temperature Sensitivity. J. R. Osborn and S. D. Heister, *Purdue University* (10, 6, p. 908) Technical Note

B94-126 Pyrometry for Turbine Applications in the Presence of Reflection and Combustion. E. Suarez, *Pratt & Whitney* (10, 6, p. 911) Technical Note based on AIAA Paper 93-2374

B94-127 Stationkeeping with Two-Way Electromagnetic Launchers. Gerald David Nordley (10, 6, p. 912) Technical Note

B94-128 Simple Estimation Algorithm for Performance-Seeking Controllers. Martín D. España, *National Research Council, NASA Dryden Flight Research Center* (10, 6, p. 914) Technical Note