## **Chronological Index**

C99-118 Equivalence Between Sideslip and Roll in Wind-Tunnel Model Testing. S. Tavoularis, University of Ottawa, Canada (36, 5, p. 895) Engineering Note Technical Comment by M. E. Beyers, Institute for Aerospace Research, Canada; and L. E. Ericsson (39, 4, p. 719) Reply (39, 4, p. 720)

C00-048 Moving-Wall Effect on Unsteady Boundary Layers. H. Dumitrescu and V. Cardos, Caius Iacob Institute of Applied Mathematics, Romania (37, 2, p. 342) Engineering Note Technical Comment by Lars E. Ericsson; and Martin E. Beyers, Institute for Aerospace Research, Canada (39, 4, p. 720)

**C01-031 Navier-Stokes** Computations of Limit-Cycle Oscillations for a B-1-Like Configuration. Peter M. Hartwich, Steven K. Dobbs, Alan E. Arslan, and Suk C. Kim, *The Boeing Company* (38, 2, p. 239) Article Technical Comment by Lars E. Ericsson (39, 3, p. 519) Reply (39, 3, p. 519)

**C01-103** Strength of Stiffened 2024-T3 Aluminum Panels with Multiple Site Damage. B. L. Smith, A. L. Hijazi, A. K. M. Haque, and R. Y. Myose, *Wichita State University* (38, 4, p. 764) Article Errata (39, 1, p. 192)

**C02-001 Airplane Design-Past, Present, and Future.** John H. McMasters, *The Boeing Company*; and Russell M. Cummings, *California Polytechnic State University* (**39**, 1, p. 10) Article

**C02-002 Evolution of U.S. Military Aircraft Structures Technology.** D. Paul, L. Kelly, and V. Venkayya, *U.S. Air Force Research Laboratory*, and Thomas Hess, *U.S. Naval Air Systems Command* (39, 1, p. 18) Article

**C02-003** Wind-Tunnel Testing of the Wright Brothers' Model B Airfoil. Drew Landman, Julian Alvarez, Robert Ash, and Spiros Blackburn, *Old Dominion University*; and Ken Hyde, *The Wright Experience* (39, 1, p. 30) Article

**C02-004 Some** Factors of Hypersonic Inlet/Airplane Interactions. Y. P. Goonko and I. I. Mazhul, *Russian Academy of Sciences, Russia* (39, 1, p. 37) Article

**C02-005** Airfoil Validation Using Coupled Navier-Stokes and *e<sup>N</sup>* Transition Prediction Methods. Hans W. Stock, *DLR*, *German Aerospace Center, Germany* (39, 1, p. 51) Article

**C02-006 Low-Order Method for Predicting Aerodynamic Performance Degradation Due to Ground Icing.** G. F. Syms, *National Research Council Canada, Canada* (**39**, 1, p. 59) Article based on AIAA Paper 2001-1005

**C02-007 Heat Transfer Correlation for Anti-Icing Systems.** J. M. Brown, S. Raghunathan, and J. K. Watterson, *Queen's University of Belfast, Northern Ireland, UK*; and A. J. Linton and D. Riordon, *Bombardier Aerospace Shorts, Northern Ireland, UK* (39, 1, p. 65) Article

**C02-008** Numerical Investigations of Dynamic Stall Active Control for Incompressible and Compressible Flows. John A. Ekaterinaris, *Foundation for Research and Technology Hellas, Greece* (**39**, 1, p. 71) Article based on AIAA Paper 2000-4333

**C02-009 An Engineering Flight-Test Course Emphasizing Flight Mechanics Concepts.** David F. Rogers, *U.S. Naval Academy* (**39**, 1, p. 79) Article based on AIAA Paper 2000-0530

C02-010 Nonlinear Analysis of Dynamic Stability and the Prediction of Wing Rock. Guowei Yang, Xiyun Lu, and Lixian Zhuang, *University of Science and Technology of China, People's ROC*; and Caroline Weishäupl and Boris Laschka, *Munich University of Technology, Germany* (39, 1, p. 84) Article

**C02-011 Match-Point Solutions for Robust Flutter Analysis.** Rick Lind, *NASA Dryden Flight Reserch Center* (**39**, 1, p. 91) Article

**C02-012 Tail Buffet Alleviation Through the Use of Wing-Strake Fillet Shapes.** Terence A. Ghee, Hugo A. Gonzalez, and David B. Findlay, *U.S. Naval Air Systems Command* (**39**, 1, p. 100) Article

C02-013 Predicting the Dynamic Behavior of a Coupled Structure Using Frequency-Response Functions. T. P. Gialamas, D. A. Manolas, and D. T. Tsahalis, *University of Patras, Greece* (39, 1, p. 109) Article

C02-014 Determation of Structural Modes of Vibration Using Digital Photogrammetry. T. G. Ryall, Aeronautical and Maritime Research Laboratory, Australia; and C. S. Fraser, University of Melbourne, Australia (39, 1, p. 114) Article

**C02-015** Experimental Investigation of Self-Actuating, Upper-Surface, High-Lift-Enhancing Effectors. Götz Bramesfeld and Mark D. Maughmer, *Pennsylvania State University* (**39**, 1, p. 120) Article

**C02-016** Wavelet Approach to Flutter Data Analysis. W. J. Staszewski, *University of Sheffield, England, UK*; and J. E. Cooper, *University of Manchester, England, UK* (39, 1, p. 125) Article

C02-017 Computational and Experimental Investigation of Limit Cycle Oscillations of Nonlinear Aeroelastic Systems. Essam F. Sheta and Vincent J. Harrand, *CFD Research Corporation*; and David E. Thompson and Thomas W. Strganac, *Texas A&M University* (39, 1, p. 133) Article

**C02-018** Simulation of Aircraft Landing Gears with a Nonlinear Dynamic Finite Element Code. Karen H. Lyle, Karen E. Jackson, and Edwin L. Fasanella, *NASA Langley Research Center* (39, 1, p. 142) Article

**C02-019 Load and Control Effects on Crack Growth in Flexible Aircraft.** Sibok Yu and Brett Newman, *Old Dominion University* (**39**, 1, p. 148) Article based on AIAA Paper 2000-4258

**C02-020 Structural Optimization of a Hat-Stiffened Panel Using Response Surfaces.** Roberto Vitali, Oung Park, Raphael T. Haftka, and Bhavani V. Sankar, *University of Florida*; and Cheryl A. Rose, *NASA Langley Research Center* (**39**, 1, p. 158) Article

**C02-021** Equivalent Level of Safety Approach to Damage-Tolerant Aircraft Structural Design. K. Y. Lin, David T. Rusk, and Jiaji Du, *University of Washington* (39, 1, p. 167) Article

- **C02-022** Residual Strength and Corrosion Rate Predictions of Aging Aircraft Panels: Neural Network Study. R. M. Pidaparti, S. Jayanti, and M. J. Palakal, *Indiana University-Purdue University at Indianapolis* (39, 1, p. 175) Article
- **C02-023** Three-Dimensional Wing Flow Computations Using Implicit Weno Euler Solvers. Jaw-Yen Yang, Ruey-Hor Yen, and Yeu-Ching Perng, *National Taiwan University, ROC*; (**39**, 1, p. 181) Engineering Note
- **C02-024 Propeller Momentum Theory with Slipstream Rotation.** W. F. Phillips, *Utah State University* (**39**, 1, p. 184)
  Engineering Note
- **C02-025** Active Control of Separation on a Wing with Oscillating Camber. David Munday and Jamey Jacob, *University of Kentucky* (39, 1, p. 187) Engineering Note
- **C02-026 Detailed Definitions and Guidance for Application of Technology Readiness Levels.** David J. Moorhouse, *Air Force Research Laboratory* (**39**, 1, p. 190) Engineering Note
- **C02-028** Flight-Path Management/Control Methodology to Reduce Helicopter Blade-Vortex Interaction Noise. Fredric H. Schmitz, Gaurav Gopalan, and Ben Wel-C. Sim, *University of Maryland* (39, 2, p. 193) Article
- **C02-029** Review of Active Techniques for Aerospace Vibro-Acoustic Control. Paolo Gardonio, *University of Southampton*, *UK* (39, 2, p. 206) Article
- C02-030 High-Speed Civil Transport Design Space Exploration Using Aerodynamic Response Surface Approximations. Chuck A. Baker, Bernard Grossman, Raphael T. Haftka, William H. Mason, and Layne T. Watson, Virginia Polytechnic Institute and State University (39, 2, p. 215) Article
- **C02-031 Control of Leading-Edge Vortex Breakdown by Trailing Edge Injection.** Anthony M. Mitchell, Didier Barberis, Pascal Molton, and Jean Delery, *ONERA, France* (**39**, 2, p. 221) Article based on AIAA Paper 99-3202
- C02-032 New Approach to Improving the Aircraft Structural Design Process. Valery A. Komarov, Samara State Aerospace University, Russia; and Terrence A. Weisshaar, Purdue University (39, 2, p. 227) Article
- **C02-033 Propeller Performance Tests of Wright Brothers'** "Bent-End" Propellers. Stanley J. Miley and Robert L. Ash, *Old Dominion University*; Kenneth W. Hyde, *The Wright Experience*; and Drew Landman and Amanda Kushko Sparks, *Old Dominion University* (39, 2, p. 234) Article
- C02-034 Aeroelastic Divergence of Stiffened Composite Multicell Wing Structures. Chyanbin Hwu and Z. S. Tsai, National Cheng-Kung University, Taiwan, ROC (39, 2, p. 242) Article
- **C02-035 Forebody Flow Control at Conditions of Naturally Occurring Separation Asymmetry.** Lars E. Ericsson; and Martin E. Beyers, *Institute for Aerospace Research, Canada* (**39**, 2, p. 252) Article

- **C02-036 Numerical Investigation of Dynamic Stall Control via Airfoil Thickness Variation.** Wandon Joo, Kwanjung Yee, and Dong-Ho Lee, *Seoul National University, Korea* (**39**, 2, p. 262) Article
- **C02-037 Parametric Optimization of Manufacturing Tolerances at the Aircraft Surface.** A. K. Kundu, John Watterson, and S. Raghunathan, *Queen's University of Belfast, Northern Ireland, UK*; and R. MacFadden, *Bombardier Aerospace-Shorts, Northern Ireland, UK* (**39**, 2, p. 271) Article
- **C02-038 Optimal Short Takeoff of Tiltrotor Aircraft in One Engine Failure.** Eric B. Carlson, *Bell Helicopter Textron*; and Yiyuan J. Zhao, *University of Minnesota* (**39**, 2, p. 280) Article
- **C02-039 Turbulent Near-Wake Studies Behind an Infinitely Swept Wing.** N. Subaschandar, *National Aerospace Laboratories, India*; and A. Prabhu, *Indian Institute of Science, India* (**39**, 2, p. 290) Article
- C02-040 Optimization of Helicopter Subfloor Components Under Crashworthiness Requirements Using Neural Networks. Chiara Bisagni, Luca Lanzi, and Sergio Ricci, *Politecnico di Milano, Italy* (39, 2, p. 296) Article
- **C02-041 Perturbation Analysis of Nonlinear Wheel Shimmy.** James T. Gordon, *The Boeing Company* (**39**, 2, p. 305) Article based on AIAA Paper 2001-1472
- C02-042 Effect of Microlift Force on the Performance of Ultralight Aircraft. Nicola de Divitiis, *University of Rome "La Sapienza," Italy* (39, 2, p. 318) Article
- **C02-043 Prediction of Airfoil Stall in Icing Conditions Using Wing Surface Pressures.** Arthur Hoadley and Erik Pederson, *Western Michigan University* (**39**, 2, p. 326) Article
- **C02-044 Comparison of Wing Characteristics at an Ultralow Reynolds Number.** S. Sunada, *Osaka Prefecture University, Japan*; T. Yasuda and K. Yasuda, *Nihon University, Japan*; and K. Kawachi, *University of Tokyo, Japan* (**39**, 2, p. 331) Article
- **C02-045** Advancement of Semispan Testing at the National Transonic Facility. Gregory M. Gatlin, Peter A. Parker, and Lewis R. Owens Jr., *NASA Langley Research Center* (**39**, 2, p. 339) Article based on AIAA Paper 2001-0759
- C02-046 Strength of 7075-T6 and 2024-T3 Aluminum Panels with Multiple-Site Damage. B. L. Smith, A. L. Hijazi, and R. Y. Myose, *Wichita State University* (39, 2, p. 354) Article
- C02-047 Computational Fluid Dynamics Evaluation of National Aerospace Laboratory Experimental Supersonic Airplane in Ascent. Takeshi Fujita, Yasushi Ito, and Kazuhiro Nakahashi, *Tohoku University, Japan*; and Toshiyuki Iwamiya, *National Aerospace Laboratory, Japan* (39, 2, p. 359) Article
- **C02-048 Horizontal Tail Maneuver Load Predictions Using Backpropagation Neural Networks.** David Kim and Maciej Marciniak, *Embry-Riddle Aeronautical University* (**39**, 2, p. 365) Article
- **C02-049** Effect of Thrust on Bending-Torsion Flutter of Wings. Dewey H. Hodges, Mayuresh J. Patil, and Seungmook Chae, *Georgia Institute of Technology* (**39**, 2, p. 371) Article

**C02-050** Effect of Strake Geometry and Centerbody on the Lift of Swept Wings. Michael P. Schultz and Karen A. Flack, *United States Naval Academy* (**39**, 2, p. 377) Engineering Note based on AIAA Paper 2001-2408

C02-051 Assessment of Simultaneous Perturbation Stochastic Approximation Method for Wing Design Optimization. X. Q. Xing and M. Damodaran, Singapore-Masschusæts Iinstitute of Technology Alliance (SMA), Singapore and Nanyang Technological University, Singapore (39, 2, p. 379) Engineering Note

**C02-052** Lift Augmentation of a Low-Aspect-Ratio Thick Wing in Ground Effect. N. A. Ahmed and J. Goonaratne, *University of New South Wales, Australia* (39, 2, p. 381) Engineering Note

C02-053 Lessons Learned During Solutions of Multidisciplinary Design Optimization Problems. Surya N. Patnaik, *Ohio Aerospace Institute*; Rula M. Coroneos, Dale A. Hopkins, and Thomas M. Lavelle, *NASA John H. Glenn Research Center at Lewis Field* (39, 3, p. 386) Article

**C02-054** Aircraft Landing Impact Parametric Study with Emphasis on Nose Gear Landing Conditions. David H. Chester, *Israel Aircraft Industries, Ltd., Israel* (39, 3, p. 394) Article

**C02-055 Adaptive Estimation of Aircraft Flight Parameters for Engine Health Monitoring System.** Li-Farn Yang and Irina Ioachim, *Delta Air Lines* (**39**, 3, p. 404) Article

**C02-056** Hybrid Inverse Airfoil Design Method for Complex Three-Dimensional Lifting Surfaces. Ashok Gopalarathnam, *North Carolina State University*; and Michael S. Selig, *University of Illinois at Urbana-Champaign* (**39**, 3, p. 409) Article based on AIAA Paper 99-0401

**C02-057 Quantitative Comparison of Ice Accretion Shapes on Airfoils.** Gary A. Ruff, *Drexel University* (**39**, 3, p. 418) Article

**C02-058** Effect of Airfoil Characteristics on Aircraft **Performance.** Ashok Gopalarathnam and Christopher W. McAvoy, *North Carolina State University* (**39**, 3, p. 427) Article

**C02-059** Recent Results on Two-Dimensional Airfoils Using a Lattice Boltzmann-Based Algorithm. Richard A. Shock, S. Mallick, H. Chen, V. Yakhot, and R. Zhang, *Exa Corporation* (39, 3, p. 434) Article

**C02-060 Balanced Fuel-Injector Effects on In-Flight Aircraft Engine Vibration.** Colin P. Ratcliffe and David F. Rogers, *United States Naval Academy* (**39**, 3, p. 440) Article

**C02-061 Apparent Mass of Parafoils with Spanwise Camber.** Timothy M. Barrows, *Charles Stark Draper Laboratory, Inc.* (**39**, 3, p. 445) Article based on AIAA Paper 2001-2006

C02-062 Designing Compact Feedforward Neural Models with Small Training Data Sets. Roxana M. Greenman, Lawrence Livermore National Laboratory, Slawomir W. Stepniewski, SONY Electronics, and Charles C. Jorgensen and Karlin R. Roth, NASA Ames Research Center (39, 3, p. 452) Article based on AIAA Paper 2000-0170

C02-063 Automated Method for Transition Prediction on Wings in Transonic Flows. Marc Langlois, Bombardier Aerospace, Canada; Christian Masson, École de Technologie Supérieure, Canada; Fassi Kafyeke, Bomdardier Aerospace, Canada; and Ion Paraschivoiu, École Polytechnique de Montreal, Canada (39, 3, p. 460) Article

C02-064 Optimal Dynamic Response Control of Elastically Tailored Nonuniform Thin-Walled Adaptive Beams. Sungsoo Na, Korea University, Korea; and Liviu Librescu, Virginia Polytechnic Institute and State University (39, 3, p. 469) Article based on AIAA Paper 2000-1628

**C02-065 Testing and Analysis of Downscaled Composite Wing Box.** Cheol-Won Kong, Jae-Sung Park, Jae-Heon Cho, Chang-Sun Hong, and Chun-Gon Kim, *Korea Advanced Institute of Science and Technology, Korea* (**39**, 3, p. 480) Article

C02-066 Classification, Distribution, and Fatigue Life of Pitting Corrosion for Aircraft Materials. R. M. Pidaparti, S. Jayanti, C. A. Sowers, and M. J. Palakal, *Purdue University at Indianapolis* (39, 3, p. 486) Article

C02-067 Comparing Fatigue Life Estimates Using Experimental and Spectral Density Based Probability Distributions. S. M. Spottswood and H. F. Wolfe, *U.S. Air Force Research Laboratory* (39, 3, p. 493) Article based on AIAA Paper 2001-1609

**C02-068** Unified Hypersonic/Supersonic Panel Method for Aeroelastic Applications to Arbitrary Bodies. P. C. Chen and D. D. Liu, *ZONA Technology, Inc.* (39, 3, p. 499) Article

**C02-069 Pioneer Rocketplane Conceptual Design Study.** Daniel P. Raymer, *Conceptual Research Corporation*; and Mitchell Burnside Clapp, *Pioneer Rocketplane Solveng* (**39**, 3, p. 507) Design Forum

**C02-070 Development of a Wing Preliminary Structural Analysis Code.** Yavuz Yaman, *Middle East Technical University, Turkey*; and Süha Özgür DINCER, *Turkey* (**39**, 3, p. 512) Engineering Note

**C02-071 Analytical Solution for Wing Dihedral Effect.** W. F. Phillips, *Utah State University* (**39**, 3, p. 514) Engineering Note

**C02-072 Viscous Compressible Flow Through a Hole in a Plate, Including Entry Effects.** P. M. Galluzzo and H. Babinsky, *University of Cambridge, England, UK*; and G. R. Inger, *Iowa State University* (39, 3, p. 516) Engineering Note

**C02-073 Flexible Composite Wing with Internal Actuation for Roll Maneuver.** N. S. Khot, J. V. Zweber, and D. E. Veley, *Air Force Research Laboratory*, H. Öz, *Ohio State University*, and F. E. Eastep, *University of Dayton* (**39**, 4, p. 521) Article

**C02-074** Identifying Economically Optimal Flight Techniques of Transport Aircraft. Askin T. Isikveren, *Royal Institute of Technology (KTH) Stockholm, Sweden* (39, 4, p. 528) Article

**C02-075 Design and Manufacturing of Aerospace Composite Structures, State-of-the-Art Assessment.** Charles E. Harris, James H. Starnes, Jr., and Mark J. Shuart, *NASA Langley Research Center* (**39**, 4, p. 545) Article

C02-076 Control of a Miniducted-Fan Unmanned Aerial Vehicle Using Active Flow Control. Pearl Haiyan Fung, Georgia Institute of Technology, and Michael Amitay, Georgia Tech Research Institute (39, 4, p. 561) Article

**C02-077 Spatial Disorientation During a Coordinated Turn.** Howard Jaslow, *Innovative Algorithms* (**39**, 4, p. 572) Article

**C02-078** Helicopter Flight Dynamic Simulation with Refined Aerodynamics and Flexible Blade Modeling. Colin Theodore and Roberto Celi, *University of Maryland* (39, 4, p. 577) Article

C02-079 Reduction of Uncertainties in Prediction of Wake-Vortex Locations. Vernon J. Rossow, NASA Ames Research Center (39, 4, p. 587) Article based on AIAA Paper 2000-4130

**C02-080 Rapid Estimation of the Zero-Lift Drag Coefficient of Transport Aircraft.** Gerard W.H. van Es, *The Netherlands* (**39**, 4, p. 597) Design Forum

**C02-081** Estimating the Low-Speed Downwash Angle on an Aft Tail. W. F. Phillips, E. A. Anderson, J. C. Jenkins, and S. Sunouchi, *Utah State University* (**39**, 4, p. 600) Article based on AIAA Paper 2002-0830

**C02-082 Separation Control on a Cantilever Wing with a Self- Excited Vibrating Rod.** Rong F. Huang and Shih W. Mao, *National Taiwan University of Science and Technology, ROC* (39, 4, p. 609) Article

**C02-083 Separation Control in Duct Flows.** Michael Amitay, Georgia Tech Research Institute; Dale Pitt, The Boeing Corporation; and Ari Glezer, Georgia Tech Research Institute (39, 4, p. 616) Article

C02-084 Navier-Stokes Optimization of Supersonic Wings with Four Objectives Using Evolutionary Algorithm. Daisuke Sasaki, Shigeru Obayashi, and Kazuhiro Nakahashi, *Tohoku University, Japan* (39, 4, p. 621) Article

C02-085 Wake Turbulence Limits on Paired Approaches to Parallel Runways. David C. Burnham, Scientific and Engineering Solutions, Inc.; James N. Hallock, John A. Volpe National Transportation Systems Center; and George C. Greene, Federal Aviation Administration Research and Development Field Office (39, 4, p. 630) Article based on AIAA Paper 2000-4128

**C02-086 Contrail Formation and Propulsion Efficiency.** Andrew G. Detwiler, *Soth Dakota School of Mines and Technology*, and Arthur Jackson, *U.S. Air Force Research Laboratory* (**39**, 4, p. 638) Article

**C02-087 Rotor Wake Study Near the Horizontal Tail of a T-Tail Configuration.** Susan Althoff Gorton, *NASA Langley Research Center*; and John D. Berry, W. Todd Hodges, and Deane G. Reis, *U.S. Army Aviation and Missile Command* (39, 4, p. 645) Article

**C02-088 Design and Testing of a Winglet Airfoil for Low-Speed Aircraft.** Mark D. Maughmer, Timothy S. Swan, and Steven M. Willits, *The Pennsylvania State University* (**39**, 4, p. 654) Article based on AIAA Paper 2001-2478

**C02-089** Automated CFD Analysis of Two-Dimensional High-Lift Flows. Anutosh Moitra, *Boeing Commercial Airplane* (39, 4, p. 662) Article **C02-090** Helicopter Vibration Reduction Using Discrete Controllable-Stiffness Devices at the Rotor Hub. Farhan Gandhi and Phuriwat Anusonti-Inthra, *Pennsylvania State University* (39, 4, p. 668) Article based on AIAA Paper 2001-1438

**C02-091 Hover Test of Mach-Scale Active Twist Rotor Using Piezo-Bending-Torsion Actuators.** Andreas P. F. Bernhard and Inderjit Chopra, *University of Maryland* (**39**, 4, p. 678) Article

C02-092 Bayesian Updating of Damage Size Probablilities for Aircraft Structural Life-Cycle Management. David T. Rusk, Naval Air Systems Command; Kuen Y. Lin, University of Washington, David D. Swartz, Federal Aviation Administration, and Greg K. Ridgeway, Rand Coporation (39, 4, p. 689) Article based on AIAA Paper 2001-1646

**C02-093** Linear and Nonlinear Aeroelastic Analysis of Fighter-Type Wing with Control Surface. Jae-Sung Bae, Seung-Man Yang, and In Lee, *Korea Advanced Institute of Science and Technology, Korea*; (39, 4, p. 697) Article

**C02-094** Finite Element Model Updating Using Wavelet Data and Genetic Algorithm. Tshilidzi Marwala, *Imperial College, England, UK* (39, 4, p. 709) Engineering Note

**C02-095** Aeroelastic Response of an Airfoil-Aileron Combination with Freeplay in Aileron Hinge. H. Alighanbari, *Ryerson University, Canada* (39, 4, p. 711) Engineering Note

**C02-096 Camber Effects on the Near Wake of Oscillating Airfoils.** Jo Won Chang, *Hankuk Aviation University, Korea*; and Yong Hyun Yoon, *Korea Air Force Academy, Korea* (**39**, 4, p. 713)
Engineering Note based on AIAA Paper 2002-0116

**C02-097** Side Force on an Ogive Cylinder: Effects of Surface Roughness. S. C. Luo and K. B. Lua, *National University of Singapore, Singapore*; and E. K. R. Goh, *DSO National Laboratories* (39, 4, p. 716) Engineering Note

**C02-098** Assessment of Rotor Blade Angle of Attack from Experimental Inflow Data. Susan Althoff Gorton, *NASA Langley Research Center*; and Danny R. Hoad, *U.S. Army Research Laboratory* (39, 5, p. 722) Article

**C02-099** Velocity Field Above a Rotor Disk by a New Dynamic Inflow Model. Jorge A. Morillo and David A. Peters, *Washington University* (39, 5, p. 731) Article

**C02-100 Formation of a Rotor Tip Vortex.** Hui Li, O. R. Burggraf, and A. T. Conlisk, *Ohio State University* (**39**, 5, p. 739) Article

**C02-101 Nature of Locally Steady Rotor Wakes.** Santosh Kini and A. T. Conlisk, *Ohio State University* (**39**, 5, p. 750) Article

C02-102 Free-Vortex Filament Methods for the Analysis of Helicopter Rotor Wakes. J. Gordon Leishman, University of Maryland; Mahendra J. Bhagwat, Advanced Rotorcraft Technology; and Ashish Bagai, Sikorsky Aircraft Corporation (39, 5, p. 759) Article

- **C02-103** Boundary Conforming Discontinuous Galerkin Finite Element Approach for Rotorcraft Simulations. O. J. Boelens, H. van der Ven, and B. Oskam, *National Aerospace Laboratory/NLR*, *The Netherlands*, and A. A. Hassan, *The Boeing Company* (**39**, 5, p. 776) Article based on AIAA Paper 2000-0112
- **C02-104 Computational Modeling of Hovering Rotor and Wake Aerodynamics.** Roger C. Strawn, *U.S. Army Aviation and Missile Command*; and M. Jahed Djomehri, *NASA Ames Research Center* (39, 5, p. 786) Article
- **C02-105 Improved Method for Rotor Wake Capturing.** Haedong Kim, Marc H. Williams, and Anastasios S. Lyrintzis, *Purdue University* (**39**, 5, p. 794) Article
- **C02-106** Recent Improvements to a Hybrid Method for Rotors in Forward Flight. Zhong Yang, Lakshmi N. Sankar, Marilyn J. Smith, and Oliver Bauchau, *Georgia Institute of Technology* (**39**, 5, p. 804) Article based on AIAA Paper 2000-0260
- **C02-107** Navier-Stokes Analysis of Helicopter Rotor Aerodynamics in Hover and Forward Flight. Hubert Pomin and Siegfried Wagner, *University of Stuttgart, Germany* (**39**, 5, p. 813) Article based on AIAA Paper 2001-0998
- C02-108 Rotary-Wing Wake Capturing: High-Order Schemes Toward Minimizing Numerical Vortex Dissipation. Nathan Hariharan, *United Technologies Research Center* (39, 5, p. 822)
- **C02-109 Computational-Fluid-Dynamics Based Advanced Ship-Airwake Database for Helicopter Flight Simulators.** M. C. Bogstad, W. G. Habashi, I. Akel, and D. Ait-Ali-Yahia, *Newmerical Techologies, Int., Canada*; and N. Giannias and V. Longo, *CAE Electronics Ltd., Canada*; (39, 5, p. 830) Article
- C02-110 Encounters with Aircraft Vortex Wakes: The Impact on Helicopter Handling Qualities. Graham P. Turner, *QinetiQ*, *England*, *UK*; Gareth D. Padfield, *University of Liverpool*, *England*, *UK*; and Michael Harris, *QinetiQ*, *England*, *UK* (39, 5, p. 839) Article
- **C02-111 Axial Detection of Aircraft Wake Vortices Using Doppler Lidar.** Michael Keane, Daniel Buckton, and Michael Redfern, *National University of Ireland, Ireland*; Christoph Bollig, Carsten WSedekind, and Friedrick Köpp, *DLR, German Aerospace Research Center, Germany;* and Francois Berni, *SEXTANT, France* (39, 5, p. 850) Article
- **C02-112** Quantitative Measurements of Wake Vortex Motion in a Water Tunnel. Kamran Rokhsaz and Renaud Rebours, *Wichita State University*; and Scott R. Foster, *Cessna Aircraft Company* (39, 5, p. 862) Article based on AIAA Paper 2001-0111
- C02-113 Unsteady Separation Processes and Leading Edge Vortex Precursors: Pitch Rate and Reynolds Number Influences. Scott J. Schreck, National Wind Technology Center; William E. Faller, Applied Simulation Technologies, and Michael C. Robinson, National Wind Technology Center (39, 5, p. 868) Article based on AIAA Paper 2000-2605

- **C02-114** Numerical Investigation of Slat and Compressibility Effects for a High-Lift Wing. M. David Baker, Donovan L. Mathias, and Karlin R. Roth, *NASA Ames Research Center*; and Russell M. Cummings, *California Polytechnic State University* (39, 5, p. 876) Article
- **C02-115** Limit-Cycle Hysteresis Response for a High-Aspect-Ratio Wing Model. Deman Tang and Earl H. Dowell, *Duke University* (39, 5, p. 885) Article
- C02-116 Nonlinear Flutter Characteristics of Composite Missile Wing in Transonic/Low-Supersonic Flows. Dong-Hyun Kim and In Lee, *Korea Advanced Institute of Science and Technology, Korea* (39, 5, p. 889) Engineering Note
- **C02-117 Parameter Estimation from Flight Data of an Unstable Aircraft Using Neural Networks.** A. K. Ghosh and S. C. Raisinghani, *Indian Institute of Technology Kanpur, India* (**39**, 5, p. 892) Engineering Note based on AIAA Paper 2000-4102
- **C02-118 Flight Testing Radar Detection of the Saab 105 in Level Flight.** Martin Norsell, *Royal Institute of Technology, Sweden* (39, 5, p. 894) Engineering Note
- C02-119 Maximum Steady Roll Rate in Zero-Sideslip Roll Manuevers of Aircraft. Nandan K. Sinha and N. Ananthkrishnan, *Indian Institute of Technology, India* (39, 5, p. 897) Engineering Note
- **C02-120 Wing Rock Suppression Using Recessed Angle Spanwise Blowing.** A. G. Sreenatha and T. K. Ong, *Australian Defence Force Academy, Australia* (39, 5, p. 900) Engineering Note
- **C02-121 Computational Investigation of Flow Through a Louvered Inlet Configuration.** Ismail H. Tuncer, *Middle East Technical University, Turkey*; and Max F. Platzer, *Naval Postgraduate School* (**39**, 5, p. 903) Engineering Note based on AIAA Paper 01-2477
- **C02-122 Angle-of-Attack Effect on Transonic/Supersonic Aeroelasticity of Wing-Box Model.** Jae-Han Yoo, Dong-Hyun Kim, and In Lee, *Korea Advanced Institute of Science and Technology, Korea* (**39**, 5, p. 906) Engineering Note
- **C02-123** Explicit Modal Analysis of Axially Loaded Composite Timoshenko Beams Using Symbolic Computation. J. R. Banerjee, *City University, England, UK* (**39**, 5, p. 909) Engineering Note based on AIAA Paper 2001-1383
- **C02-124 From Water Tunnel to Poststall Flight Simulation: The F/A-18 Investigation.** Martin E. Beyers, *Institute for Aerospace Research, Canada* (**39**, 6, p. 913) Survey based on AIAA Paper 2002-0699
- C02-125 Drag Prediction of Engine-Airframe Interference Effects Using Unstructured Navier-Stokes Calculations. O. Brodersen, *DLR*, *German Aerospace Research Center, Germany* (39, 6, p. 927) Article based on AIAA Paper 2002-2414
- **C02-126** In-Flight Visualization of Supersonic Flow Transition Using Infrared Imaging. C. P. van Dam and H. J. Shiu, *University of California*; D. W. Banks, *NASA Dryden Flight Research Center*; and R. R. Tracy and J. Chase, *Reno Aeronautical Corporation* (39, 6, p. 936) Article

- **C02-127** Effects of Surface Ice Roughness on Dynamic Stall. Wade W. Huebsch, *West Virginia University*; and Alric P. Rothmayer, *Iowa State University* (39, 6, p. 945) Article
- **C02-128** Extension of Wake-Survey Analysis Method to Cover Compressible Flows. Kazuhiro Kusunose and James P. Crowder, *The Boeing Company* (39, 6, p. 954) Article
- **C02-129 Time-Linearized Transonic Computations Including Shock Wave Motion Effects.** Eddie Ly, *National Aerospace Laboratory of Japan, Japan*; and John Anthony Gear, *RMIT University, Australia* (39, 6, p. 964) Article
- **C02-130 Aircraft** Small-Disturbance Theory with **Longitudinal-Lateral Coupling.** W. F. Phillips and B. W. Santana, *Utah State University* (**39**, 6, p. 973) Article
- C02-131 Automated Cruise Flap for Airfoil Drag Reduction over a Large Lift Range. Christopher W. McAvoy and Ashok Gopalarathnam, *North Carolina State University* (39, 6, p. 981) Article
- C02-132 Inverse Design Method for Designing Isolated and Wing-Mounted Engine Nacelles. Roland Wilhelm, *DLR*, *German Aerospace Center, Germany* (39, 6, p. 989) Article
- **C02-133 Transition Measurements on the Natural Laminar Flow Wing at Mach 2.** Hiroki Sugiura, Kenji Yoshida, Naoko Tokugawa, Shohei Takagi, and Akira Nishizawa, *National Aerospace Laboratory, Japan* (**39**, 6, p. 996) Article based on AIAA Paper 2001-2782
- **C02-134 Rapid Transonic Aerodynamic Prediction for Hypersonic Lifting Bodies.** Timothy F. O'Brien and Mark J. Lewis, *University of Maryland* (39, 6, p. 1003) Article
- **C02-135 Investigation on Transonic Convex-Corner Flows.** Kung-Ming Chung, *National Cheng Kung University, Taiwan, ROC* (**39**, 6, p. 1014) Article
- **C02-136 Aspects of Flow Transition Detection When Flight Testing Engine Nacelles.** Hansgeorg Riedel and Martin Sitzmann, *DLR, German Aerospace Researach Center, Germany* (**39**, 6, p. 1019) Article
- C02-137 Unsteady Aerodynamic Analysis of Tandem Flat Plates in Ground Effect. Cheolheui Han, *Hanyang University, Korea*; Younghyun Yoon, *Korea Air Force Academy, Korea*; and Jinsoo Cho, *Hanyang University, Korea* (39, 6, p. 1028) Article based on AIAA Paper 2001-2471

- **C02-138 Hingeless Flow Control over a Delta-Wing Planform.** E. B. Moeller and O. K. Rediniotis, *Texas A&M University* (**39**, 6, p. 1035) Article
- **C02-139** Effects of Reynolds Number on Flow over 76/40-Degree Double-Delta Wings. Niek G. Verhaagen, *Delft University of Technology, The Netherlands* (**39**, 6, p. 1045) Article based on AIAA Paper 99-3117
- **C02-140 Discussion of Knowledge-Based Design.** Richard M. Wood and Steven X. S. Bauer, *NASA Langley Research Center* (**39**, 6, p. 1053) Article based on AIAA Paper 98-4944
- **C02-141 Jig-Shape Static Aeroelastic Wing Design Problem: A Decoupled Approach.** Sherif Aly, *PTC Global Services*; Madara
  Ogot and Richard Pelz, *Rutgers University*; and Mike Siclari, *Northrup Grumman Corporation* (39, 6, p. 1061) Article
- **C02-142** Sigma Limiting Effects on the Response of a Ceramic Matrix Beam. Howard F. Wolfe, Michael P. Camden, Dansen L. Brown, and Larry W. Simmons, *U.S. Air Force Research Laboratory* (39, 6, p. 1067) Article based on AIAA Paper 99-1456
- **C02-143 Aeroelastic Design Optimization of a Two-Spar Flexible Wind-Tunnel Model.** Dan Borglund, *Kungliga Tekniska Högskolan, Sweden*; and Ilan M. Kroo, *Stanford University* (**39**, 6, p. 1074) Engineering Note
- C02-144 Speed-Sensitivity Analysis by a Genetic Multiobjective Optimization Technique. Luciano Blasi, Luigi Iuspa, and Giuseppe Del Core, Second University of Naples, Italy (39, 6, p.1076) Engineering Note
- **C02-145 Flow Past an Airfoil with a Leading-Edge Rotation Cylinder.** X. Du and T. Lee, *McGill University, Canada;* and F. Mokhtarian and F. Kafyeke, *Bombardier Aerospace, Canada* (39, 6, p. 1079) Engineering Note
- **C02-146** Analytical Approximation for the Mechanics of Airplane Spin. W. F. Phillips and E. A. Anderson, *Utah State University* (39, 6, p. 1084) Engineering Note
- C02-147 Estimating the Low-Speed Sidewash Gradient on a Vertical Stabilizer. W. F. Phillips, *Utah State University* (39, 6, p. 1088) Engineering Note