

AIAA JOURNAL



VOLUME 45, NUMBER 7

JULY 2007



AEROSPACE LETTERS

- Is Re_θ/M_e a Meaningful Transition Criterion? E. Reshotko 1441

AIRCRAFT TECHNOLOGY, CONVENTIONAL, STOL/VTOL

- Flutter-Boundary Identification for Time-Domain Computational Aeroelasticity J. J. McNamara and P. P. Friedmann 1546
Trailing-Edge Flap Control of Dynamic Pitching Moment P. Gerontakos and T. Lee 1688

FLUID DYNAMICS

- Optimization of Mass Bleed for Base-Drag Reduction Y.-K. Lee, H.-D. Kim, S. Raghunathan 1472
Optimum Shape Design for Unsteady Flows with Time-Accurate Continuous and Discrete Adjoint Methods S. K. Nadarajah and A. Jameson 1478
Laminar-Turbulent Transition of a Low Reynolds Number Rigid or Flexible Airfoil Y. Lian and W. Shyy 1501
Aero-Optical Environment Around a Conformal-Window Turret S. Gordeyev, M. L. Post, T. McLaughlin, J. Ceniceros, E. J. Jumper 1514
Attenuation of Low-Speed Flow-Induced Cavity Tones Using Plasma Actuators S. Chan, X. Zhang, S. Gabriel 1525
Hydraulic Analogy Study of Supersonic Rectangular-Jet Screech Control with Cylinders A. Buchanan, R. Macartney, M. C. Thompson, E. Brocher, K. Hourigan 1539
Electric Charge Buildup in Hypersonic Wind Tunnels with Electron-Beam Energy Addition M. N. Shneider, S. O. Macheret, R. B. Miles 1556
Plasma Actuator Force Measurements C. O. Porter, J. W. Baughn, T. E. McLaughlin, C. L. Enloe, G. I. Font 1562
Wake-Structure Formation of a Heaving Two-Dimensional Elliptic Airfoil K. B. Lua, T. T. Lim, K. S. Yeo, G. Y. Oo 1571
Comparison of Iterative Deconvolution Algorithms for the Mapping of Acoustic Sources K. Ehrenfried and L. Koop 1584
Characterization of a Direct-Current Glow Discharge Plasma Actuator in Low-Pressure Supersonic Flow J. Shin, V. Narayanaswamy, L. L. Raja, N. T. Clemens 1596
Zonal-Detached-Eddy Simulation of Projectiles in the Subsonic and Transonic Regimes F. Simon, S. Deck, P. Guillen, R. Cayzac, A. Merlen 1606

Table of Contents continued on back cover

AIAA

A Publication of the American Institute of Aeronautics and Astronautics Devoted to Aerospace Research and Development
AIAJAH 45(7) 1441-1792 (2007)
ISSN 0001-1452

CONTENTS—continued

Aero-Optical Interactions Along Laser Beam Propagation Paths in Compressible Turbulence	F. R. Zubair and H. J. Catrakis	1663
Numerical Study of Mixing Enhancement in a Supersonic Round Jet	N. Chauvet, S. Deck, L. Jacquin	1675
Mechanisms Influencing the Efficiency of Oscillating Airfoil Propulsion	J. Young and J. C. S. Lai	1695
Lattice Boltzmann Method Simulation of Aeroacoustics and Nonreflecting Boundary Conditions	E. W. S. Kam, R. M. C. So, R. C. K. Leung	1703
Visualization and Measurement of Flow over a Cylindrical Surface with a Bump	M. Tutkun, P. B. V. Johansson, B. A. P. Reif	1763
Overset Adaptive Cartesian/Prism Grid Method for Stationary and Moving-Boundary Flow Problems (TN)	R. Kannan and Z. J. Wang	1774
Period-Doubling Phenomenon Observed in the Dynamic Stall Vortex Patterns (TN)	S. Sarkar and K. Venkatraman	1786

INTERDISCIPLINARY TOPICS

Computational Fluid Dynamics-Based Aerodynamic Analysis with Hyper-X Applications	K. K. Gupta and C. Bach	1459
Photogrammetry in Oil-Film Interferometry	J. W. Naughton and T. Liu	1620
Refinements in a New Adaptive Ordinal Approach to Continuous-Variable Probabilistic Optimization	V. J. Romero and C.-H. Chen	1630
Multidisciplinary Design Optimization for Hypersonic Experimental Vehicle	T. Tsuchiya, Y. Takenaka, H. Taguchi	1655

PROPULSION AND POWER

Tip Gap Effects on the Unsteady Behavior of a Tip Leakage Vortex	R. Ma and W. J. Devenport	1713
Prediction of Postcontact Parameters of Fluid Droplet Impact on a Smooth Surface	B. F. Bathel, N. Stephen, L. Johnson, A. Ratner, M. Huisenga	1725
Real-Time Prediction of Incipient Lean Blowout in Gas Turbine Combustors	T. Yi and E. J. Gutmark	1734

SPACE TECHNOLOGY

Dynamic Effects of a Radar Panel Mounted on a Truss Satellite	A. Salehian, T. M. Seigler, D. J. Inman	1642
---	---	------

STRUCTURAL MECHANICS AND MATERIALS

Load Updating for Nonlinear Finite Element Models	J. Li and R. K. Kapania	1444
Estimating the Loss Factors of Plates with Constrained Layer Damping Treatments	P. J. Torvik and B. D. Runyon	1492
Space Frames with Multiple Stable Configurations	T. Schioler and S. Pellegrino	1740
Matrix Variate Distributions for Probabilistic Structural Dynamics	S. Adhikari	1748
Testing of Inflatable-Structure Shape Control Using Genetic Algorithms and Neural Networks (TN)	F. Peng, Y.-R. Hu, A. Ng	1771
Vertically Reinforced 1-3 Piezoelectric Composites for Active Damping of Functionally Graded Plates (TN)	M. C. Ray and R. C. Batra	1779
Simple Formulation to Predict Thermal Postbuckling Load of Circular Plates (TN)	G. V. Rao and R. R. Varma	1784

TABLES OF CONTENTS OF NON-U.S. JOURNALS

<i>Journal of the Japan Society for Aeronautical and Space Sciences</i>	1792
---	------