

AIAA JOURNAL

VOLUME 45, NUMBER 1

JANUARY 2007

EDITORIALS

Announcements, Comments, and Acknowledgments	E. Oran	1
Reviewers for 1 October 2005–30 September 2006		10
Editorial Policy Statement on Numerical and Experimental Accuracy		13
Ethical Standards for Publication of Aeronautics and Astronautics Research		14
AIAA Manuscript Review Process		15

AEROSPACE LETTERS

Can We Predict the Occurrence of Extreme Fire Whirls?		
. K. Kuwana, K. Sekimoto, K. Saito, F. A. Williams, Y. Hayashi, H. Masuda		16

AIRCRAFT TECHNOLOGY, CONVENTIONAL, STOL/VTOL

Aerodynamics of a NACA4412 Airfoil in Ground Effect	M. R. Ahmed, T. Takasaki, Y. Kohama	37
Improved Method for Prediction of Noise from Single Jets	K. Viswanathan	151
Proportional Closed-Loop Feedback Control of Flow Separation	J. T. Pinier, J. M. Ausseur, M. N. Glauser, H. Higuchi	181
Aircraft Wake–Vortex Evolution in Ground Proximity: Analysis and Parameterization	F. Holzäpfel and M. Steen	218
Flow Patterns and Wake Structure of a Swept-Back Wing	S. C. Yen and C. M. Hsu	228
Influence of Stores on the Transonic Flutter of a Delta Wing Configuration	H. Terashima and K. Fujii	237
Sensitivity Analysis of Three-Gate Lifetime Pressure- and Temperature-Sensitive Paint Measurements (TN)	W. Ruyten	316

FLUID DYNAMICS

Turbulent Marginal Separation and the Turbulent Goldstein Problem	B. Scheichl and A. Kluwick	20
Competing Broadband Noise Mechanisms in Low-Speed Axial Fans	S. Moreau and M. Roger	48
Thrust Measurements from a Finite-Span Flapping Wing	K. Parker, J. Soria, K. D. von Ellenrieder	58

Table of Contents continued on back cover



A Publication of the American Institute of Aeronautics and Astronautics Devoted to Aerospace Research and Development
AIAJAH 45(1) 1–320 (2007)
ISSN 0001-1452

CONTENTS—continued

Development of Hybrid Simulation for Supersonic Chemical Oxygen–Iodine Laser	M. Endo, T. Masuda, T. Uchiyama	90
Evaluation of Tonal Aeroacoustic Sources in Subsonic Fans Using Inverse Models	A. Gérard, A. Berry, P. Masson, Y. Gervais	98
Control of Vortex Breakdown over a Delta Wing Using Forebody Slot Blowing	Y. D. Cui, T. T. Lim, H. M. Tsai	110
Computational Analysis of Semi-Elliptical Nozzle Arcjet Experiments: Calibration Plate, Wing Leading Edge	T. Gökçen and D. A. Stewart	128
Higher-Order Time-Integration Schemes for Aeroelastic Applications on Unstructured Meshes	Z. Yang and D. J. Mavriplis	138
Multiple Marching Direction Approach to Generate High-Quality Hybrid Meshes	Y. Ito, A. M. Shih, B. K. Soni, K. Nakahashi	162
Unstructured Viscous Layer Insertion Using Linear-Elastic Smoothing	S. L. Karman Jr.	168
Separation Control by Self-Activated Movable Flaps	R. Meyer, W. Hage, D. W. Bechert, M. Schatz, T. Knacke, F. Thiele	191
Flux-Corrected Transport Algorithms for an Adaptively Refined Cartesian Mesh	T. Ogawa and E. S. Oran	200
Expansion Tube Operation with Thin Secondary Diaphragm	T. Furukawa, T. Aochi, A. Sasoh	214
Effects of Cylinder Wake on Separated Boundary Layer of a Wing	R. F. Huang and J. S. Wu	247
Recommended Collision Integrals for Transport Property Computations Part 2: Mars and Venus Entries	M. J. Wright, H. H. Hwang, D. W. Schwenke	281
Time-Series and Time-Averaged Characteristics of Subsonic to Supersonic Base Flows	S. Kawai and K. Fujii	289
Characteristic Ghost-Cell Boundary Condition (TN)	A. Gross and H. F. Fasel	302
Boundary Layer on a Moving Wall (TN)	E. Menu and S. Tavoularis	313

GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY

Panel Flutter Detection and Control Using Eigenvector Orientation and Piezoelectric Layers	N. Sebastijanovic, T. Ma, H. T. Y. Yang	118
--------------------------------------------------------------------------------------------------	-----------------------------------------	-----

PROPULSION AND POWER

Toroidal Imploding Detonation Wave Initiator for Pulse Detonation Engines	S. I. Jackson and J. E. Shepherd	257
---------------------------------------------------------------------------------	----------------------------------	-----

STRUCTURAL MECHANICS AND MATERIALS

Structural Damage Localization Using Element Signature Recognition	F. P. Lopez and D. C. Zimmerman	71
Noise Reduction Using Smart Panel with Shunt Circuit	L. J. Zhao, H. S. Kim, J. Kim	79
Chaotic Response of an Airfoil due to Aeroelastic Coupling and Dynamic Stall	V. Laxman and C. Venkatesan	271
Observability of Self-Sensing System Using Extended Kalman Filter (TN)	K. Makihara, J. Onoda, T. Yabu	306
Bidirectional Evolutionary Topology Optimization for Structures with Geometrical and Material Nonlinearities (TN)	X. Huang and Y. M. Xie	308

TABLES OF CONTENTS OF NON-U.S. JOURNALS

<i>Journal of the Japan Society for Aeronautical and Space Sciences</i>		320
-------------------------------------------------------------------------------	--	-----