



HISTORICAL REVIEW PAPER

Otto Lilienthal: "The Greatest of the Precursors" P. L. Jakab 601

AIRCRAFT TECHNOLOGY, CONVENTIONAL, STOL/VTOL

Evolution of Vortical Structure over Delta-Wing with Transient Along-Core Blowing C.-H. Kuo, N.-Y. Lu, D.-C. Lin 617

FLUID DYNAMICS

Numerical Algorithms for Acoustic Integrals with Examples for Rotor Noise Prediction K. S. Brentner 625

Quadratic-Reconstruction Finite Volume Scheme for Compressible Flows on Unstructured Adaptive Grids M. Delanaye and J. A. Essers 631

Adaptive Remeshing for the $k-\epsilon$ Model of Turbulence D. Pelletier and F. Ilinca 640

Using Controlled Unsteady Fluid Mass Addition to Enhance Jet Mixing G. Raman 647

Impulsively Started Turbulent Jets H. Johari, Q. Zhang, M. J. Rose, S. M. Bourque 657

Effects of Internal Nozzle Geometry on Compression-Ramp Mixing in Supersonic Flow Y. Haimovitch, E. Gartenberg, A. S. Roberts Jr., G. B. Northam 663

Proposed Inflow/Outflow Boundary Condition for Direct Computation of Aerodynamic Sound (TN) J. B. Freund 740

Diffusion Flame Adjacent to a Rotating Solid Fuel Disk in Zero Gravity (TN) J. M. Holcomb and J. S. T'ien 742

Orthogonalization of Measured Modes—Revisited (TN) M. Baruch 744

Near-Field Experiments on Tip Vortices at Mach 3.1 (TN) F. Y. Wang and P. M. Sforza 750

Numerical Simulation of the Interaction Between Leading-Edge Vortex and Vertical Tail (TN) D. P. Rizzetta 756

Comment on "Computation of Turbulent Axisymmetric and Nonaxisymmetric Jet Flows Using the $K-\epsilon$ Model" (RF) S. F. Birch 760

Reply by the Authors to S. F. Birch (RF) A. T. Thies and C. K. W. Tam 761

INTERDISCIPLINARY TOPICS

New Methodology for the Measurement of Surface Shear Stress Vector Distributions D. C. Reda, M. C. Wilder, D. J. Farina, G. Zilliac 608

Time-Resolved Wave Front Measurements Through a Compressible Free Shear Layer R. J. Hugo, E. J. Jumper, G. Havener, C. Stepanek 671

Table of Contents continued on back cover



A Publication of the American Institute of Aeronautics and Astronautics Devoted to Aerospace Research and Development
AIAJAH 35(4) 601-768 (1997)
ISSN 0001-1452

PERSONAL COPY FOR INDIVIDUAL USE.
LIBRARY USE PROHIBITED PRIOR TO APRIL 1999.

CONTENTS—continued

Simultaneous, Full-Surface Visualizations of Transition and Separation Using Liquid Crystal Coatings (TN)	D. C. Reda, M. C. Wilder, J. P. Crowder	615
Permissible Three-Dimensional Testing in a Two-Dimensional Adaptive Wall Wind Tunnel (TN)	D. Sumner and E. Brundrett	749
Comment on "Counter-Rotating Structures over a Delta Wing" (RF)	I. Gursul	758
Reply by the Authors to I. Gursul (RF)	N. M. Komerath and J. P. Hubner	759
PROPULSION		
OH Planar Laser-Induced Fluorescence Velocity Measurements in a Supersonic Combustor	G. Gauba, K. G. Klavuhn, J. C. McDaniel, K. G. Victor, R. H. Krauss, R. B. Whitehurst III	678
STRUCTURAL MECHANICS AND MATERIALS		
Conservative Load Projection and Tracking for Fluid-Structure Problems	J. R. Cebra and R. Löhner	687
Improved Damage Location Accuracy Using Strain Energy-Based Mode Selection Criteria	S. W. Doebling, F. M. Hemez, L. D. Peterson, C. Farhat	693
Geometric Approach to Nondestructive Identification of Faults in Stochastic Structural Systems	M. H. Sadeghi and S. D. Fassois	700
Transient Analysis of Crack in Composite Layered Medium Subjected to Dynamic Loadings	C.-C. Ma and Y.-S. Ing	706
Efficient Computation of Many Eigenvector Derivatives Using Dynamic Flexibility Method	D.-W. Zhang and F.-S. Wei	712
Parametric Identification of Nonlinear Structural Dynamic Systems Using Time Finite Element Method	R. K. Kapania and S. Park	719
Analysis of Uncertain Structural Systems Using Interval Analysis	S. S. Rao and L. Berke	727
Neural Network Approximator with Novel Learning Scheme for Design Optimization with Variable Complexity Data	S. Kodiyalam and R. Gurumoorthy	736
Flutter Prediction for Composite Wings Using Parametric Studies (TN)	G. A. Georghiades and J. R. Banerjee	746
Broadband Vibration Damping Using Highly Distributed Tuned Mass Absorbers (TN)	J. A. Zapfe and G. A. Lesieutre	753
BOOK REVIEW		
Review of <i>Fluid Mechanics Measurements</i>, Second Edition	A. J. Smits	762
INTERNATIONAL AEROSPACE LITERATURE		
Russian Abstracts: Aircraft Control		763
Japanese Abstracts: Control Systems, Neural Networks, and Artificial Intelligence		766