

FLUID DYNAMICS

| | | |
|---|---|-----|
| Jet Mixing Noise from Fine-Scale Turbulence | C. K. W. Tam and L. Auriault | 145 |
| Noise Measurements in Supersonic Jets Treated with the Mach Wave Elimination Method | D. Papamoschou and M. Debiasi | 154 |
| Calculation of Basic Sound Radiation of Axisymmetric Jets by Direct Numerical Simulations | E. J. Avital, N. D. Sandham, K. H. Luo, R. E. Musafir | 161 |
| Multiblock Approach for Calculating Incompressible Fluid Flows on Unstructured Grids | C. Sheng, D. L. Whitfield, W. K. Anderson | 169 |
| Finite Volume Discretization Aspects for Viscous Flows on Mixed Unstructured Grids | A. Haselbacher, J. J. McGuirk, G. J. Page | 177 |
| Airfoil Design on Unstructured Grids for Turbulent Flows | W. K. Anderson and D. L. Bonhaus | 185 |
| Near Exit Plane Effects Caused by Primary and Primary-Plus-Secondary Tabs | D. G. Bohl and J. F. Foss | 192 |
| Three-Dimensional Temporal Instability of Compressible Gas Jets Injected in Liquids | K. Subramaniam, R. N. Parthasarathy, K.-M. Chiang | 202 |
| Chemical Kinetics and Self-Ignition in a Model Supersonic Hydrogen-Air Combustor | C. J. Sung, J. G. Li, G. Yu, C. K. Law | 208 |
| Molecular Dynamics Simulation of Piston-Driven Shock Wave in Hard Sphere Gas | M. Woo and I. Greber | 215 |
| Prediction of Developing Turbulent Pipe Flow by a Modified $k-\epsilon-\gamma$ Model (TN) ... | Y. Q. Wang and R. W. Derksen | 268 |
| Sound Amplification by a Supersonic Jet (TN) | V. G. Pimshtein | 270 |
| Numerical Stability Conditions in the Calculation of Potential Velocity Fields (TN) | T. Belamri, F. Bakir, S. Kouidri, R. Noguera, R. Rey | 272 |
| Forward Flight Effects on Counterflow Thrust Vector Control of a Supersonic Jet (TN) | F. S. Alvi and P. J. Strykowski | 279 |
| Streamwise Vortices in the Outer Layer of Wall Jets with Convex Curvature (TN) ... | P. Pajayakrit and R. J. Kind | 281 |
| Two-Layer Approach Combining Reynolds Stress and Low-Reynolds-Number $k-\epsilon$ Models (TN) | W. D. Hsieh and K. C. Chang | 283 |

STRUCTURAL MECHANICS AND MATERIALS

| | | |
|--|--|-----|
| Perturbation Technique for Non-Self-Adjoint Systems with Repeated Eigenvalues | J. K. Liu | 222 |
| Failure of Sandwich to Laminate Tapered Composite Structures | S. K. Kuczma and A. J. Vizzini | 227 |
| Response of Composite Shells with Cutouts to Internal Pressure and Compression Loads | M. W. Hilburger, A. M. Waas, J. H. Starnes Jr. | 232 |

Table of Contents continued on back cover



CONTENTS—continued

| | | |
|--|--|-----|
| Thermoviscoelastic Analysis of Composite Structures Using a Triangular Flat Shell Element | D. C. Hammerand and R. K. Kapania | 238 |
| Dynamics of Delaminated Composite Plates with Piezoelectric Actuators | A. Chattopadhyay, H. Gu, D. Dragomir-Daescu | 248 |
| Use of Fracture Mechanics and Shape Optimization for Component Designs | L. Gani and S. D. Rajan | 255 |
| Using the Two-Branch Tournament Genetic Algorithm for Multiobjective Design | W. A. Crossley, A. M. Cook, D. W. Fanjoy, V. B. Venkayya | 261 |
| Experimental Buckling of Thin Composite Cylinders in Compression (TN) | C. Bisagni | 276 |
| BOOK REVIEW | | |
| Review of <i>Adaptive Structures: Dynamics and Control</i> | J. L. Junkins | 288 |