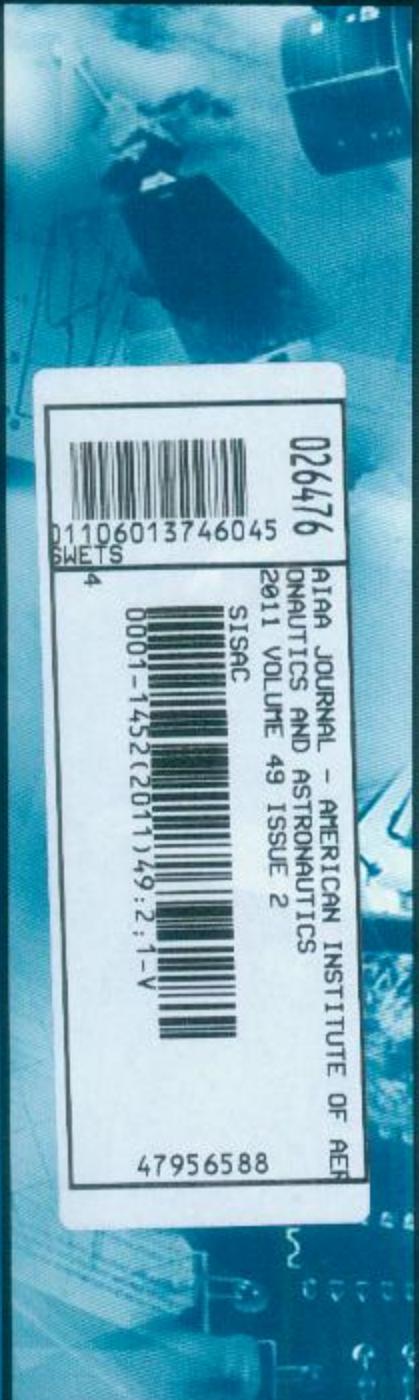


# AIAA JOURNAL

VOLUME 49, NUMBER 2

FEBRUARY 2011



## AIRCRAFT TECHNOLOGY, CONVENTIONAL, STOL/VTOL

- |  |                              |     |
|--|------------------------------|-----|
| Optimal Hovering Kinematics of Flapping Wings for Micro Air Vehicles ..... | Z. A. Khan and S. K. Agrawal | 257 |
| Dynamic Response of Highly Flexible Flying Wings .....                     | W. Su and C. E. S. Cesnik    | 324 |

## FLUID DYNAMICS

- |  |   |     |
|--|---|-----|
| Blowing Effects on the Separated Flow over a Moderately Swept Missile Fin .....                              | J. Riou, E. Garnier, C. Basdevant                         | 269 |
| Multifidelity Surrogate Modeling of Experimental and Computational Aerodynamic Data Sets .....               | Y. Kuya, K. Takeda, X. Zhang, A. I. J. Forrester          | 289 |
| Effects of Wall-Temperature Conditions on Effusion Cooling in a Supersonic Boundary Layer .....              | J. Linn and M. J. Kloker                                  | 299 |
| Aero-Optical Environment Around a Cylindrical Turret with a Flat Window .....                                | S. Gordeyev, J. A. Cress, E. J. Jumper, A. B. Cain        | 308 |
| Study of Emission Turbulence-Radiation Interaction in Hypersonic Boundary Layers .....                       | L. Duan, M. P. Martin, I. Sohn, D. A. Levin, M. F. Modest | 340 |
| Airfoil Data Fitting Using Multivariate Smoothing Thin Plate Splines .....                                   | R. Ponza and E. Benini                                    | 349 |
| Numerical Simulation of Two-Dimensional Acoustic Liners with High-Speed Grazing Flow .....                   | Q. Zhang and D. J. Bodony                                 | 365 |
| Numerical Investigation of Plasma-Based Control for Low-Reynolds-Number Airfoil Flows .....                  | D. P. Rizzetta and M. R. Visbal                           | 411 |
| Effect of Inflow Boundary Conditions on the Turbulence Solution in Internal Flows (TN) .....                 | U. K. Kaul  | 426 |
| Density Field Measurements of a Supersonic Impinging Jet with Microjet Control (TN) .....                    | L. Venkatakrishnan, A. Wiley, R. Kumar, F. Alvi           | 432 |
| Preliminary Assessment of Two-Fluid Model for Direct Numerical Simulation of Particle-Laden Flows (TN) ..... | B. Shotorban  | 438 |
| True Farfield for Dual-Stream Jet Noise Measurements (TN) .....  | K. Viswanathan  | 443 |

## INTERDISCIPLINARY TOPICS

- |  |   |     |
|--|---|-----|
| Fluid-Structure Interaction Model for Low-Frequency Synthetic Jets ..... | C. E. Seeley, Y. Utturkar, M. Arik, T. Icoz | 316 |
|--|---|-----|

Table of Contents continued on back cover

## CONTENTS—continued

**PROPULSION AND POWER**

- Experimental Investigation of the Unstart Process of a Generic Hypersonic Inlet ..... H.-j. Tan, L.-g. Li, Y.-f. Wen, Q.-f. Zhang 279

**STRUCTURAL MECHANICS AND MATERIALS**

- Improvement of Axial Buckling Capacity of Elliptical Lattice Cylinders ..... M. Paschero and M. W. Hyer 396

**THERMOPHYSICS AND HEAT TRANSFER**

- Quenching of a Boundary-Layer Laminar Diffusion Flame in Microgravity ..... H. Y. Wang and J. L. Florenciano Merino 383

**BOOK REVIEW**

- Review of *Gasoline, Diesel, and Ethanol Biofuels from Grasses and Plants* ..... F. Battaglia 448