

# AIAA Journal

VOLUME 37, NUMBER 6

JUNE 1999

## SPECIAL SECTION: AERODYNAMIC MEASUREMENT TECHNOLOGY

Introduction to Aerodynamic Measurement Technology Special Section . . . . .	J. M. Seitzman and R. P. Lucht	665
Miniature Multi-hole Pressure Probes and Their Neural-Network-Based Calibration . . . . .	O. K. Rediniotis and R. Vijayagopal	666
Seven-Hole Pressure Probe Calibration Method Utilizing Look-Up Error Tables . . . . .	C. W. Wenger and W. J. Devenport	675
Laser Doppler Anemometer for In-Flight Velocity Measurements on Airplane Wings . . . . .	S. Becker, F. Durst, H. Lienhart	680
Image Processing for Interferometric Mie and Rayleigh Scattering Velocity Measurements . . . . .	D. Bivolaru, M. V. Ötügen, A. Tzes, G. Papadopoulos	688
Velocity Measurements by Modulated Filtered Rayleigh Scattering Using Diode Lasers . . . . .	J. Mach and P. L. Varghese	695
Planar Doppler Velocimetry: Three-Component Velocimetry in Supersonic Jets . . . . .	P. S. Clancy, M. Samimy, W. R. Erskine	700
Ozone Tagging Velocimetry Using Narrowband Excimer Lasers . . . . .	L. A. Ribarov, J. A. Wehrmeyer, F. Batliwala, R. W. Pitz, P. A. DeBarber	708
Numerical Simulation of Laser-Induced Fluorescence Imaging in Shock-Layer Flows . . . . .	P. M. Danehy, P. C. Palma, R. R. Boyce, A. F. P. Houwing	715
Density Matrix and Rate Equation Analyses for Picosecond Pump/Probe Combustion Diagnostics . . . . .	T. Settersten, M. Linne, J. Gord, G. Fiechtner	723
Diode-Laser Sensors for Real-Time Control of Pulsed Combustion Systems . . . . .	E. R. Furlong, R. M. Mihalcea, M. E. Webber, D. S. Baer, R. K. Hanson	732
Soot Measurements in a Simulated Engine Exhaust Using Laser-Induced Incandescence . . . . .	R. T. Wainner, J. M. Seitzman, S. R. Martin	738
Coherent Anti-Stokes Raman Scattering Temperature Measurements on an Air-Breathing Ramjet Model . . . . .	M. Fischer, E. Magens, H. Weisgerber, A. Winandy, S. Cordes	744

## FLUID DYNAMICS

Mixing Model for the Calculation of Extinction in Oscillating Flames . . . . .	K. Sardi, A. M. K. P. Taylor, J. H. Whitelaw	751
Shapes of Nonbuoyant Round Luminous Laminar-Jet Diffusion Flames in Coflowing Air . . . . .	K.-C. Lin and G. M. Faeth	759
Robust Implicit Multigrid Method for the Simulation of Turbulent Supersonic Mixing (TN) . . . . .	P. Gerlinger, P. Stoll, D. Brüggemann	766
Elliptic Grid Generation (TN) . . . . .	R. Lehtimäki	768

Table of Contents continued on back cover



A Publication of the American Institute of Aeronautics and Astronautics Devoted to Aerospace Research and Development  
AIAJAH 37(6) 665-784 (1999)  
ISSN 0001-1452

## CONTENTS—continued

Evaluation of Renormalization Group Turbulence Models for Dynamic Stall Simulation (TN) .....	Y.-Y. Niu	770
Dynamic Response of Pressure Sensing Systems in Slip-Flow with Temperature Gradients (TN) .....	S. A. Whitmore and B. J. Petersen	772

## STRUCTURAL MECHANICS AND MATERIALS

Postbuckling of Delaminated Composites Under Compressive Loads Using Global-Local Approach (TN) .....	J.-S. Kim and M. Cho	774
Buckling of Filament-Wound Laminated Conical Shells Under Axial Compression (TN) .....	L. Tong	778

## BOOK REVIEWS

Review of <i>Optimum Aerodynamic Design &amp; Parallel Navier-Stokes Computations</i> .....	O. Baysal	782
Review of <i>Stress Analysis of Fiber-Reinforced Composite Materials</i> .....	J. N. Reddy	783