

1993 AIAA Journal Index

How to Use the Index

In the Subject Index, pages 2388–2399, each technical paper is listed under a maximum of three appropriate headings. Note the number in boldface type following each paper title, and use that number to locate the paper in the Chronological Index. The Author Index, pages 2399–2401, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 2402–2414, lists all papers by their unique code numbers. This listing contains titles, authors and their affiliations, and volume, issue number and page where the paper appeared. It also gives the AIAA paper number, if any, on which the article was based, as well as the “CP” or conference volume number if the paper was published in a bound collection of meetings papers. Comments, Replies, and Errata are listed directly beneath the paper to which they refer. If the paper to which they refer was published prior to 1993, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index. The Book Review Index, page 2415, lists the books reviewed during 1993, the author, publisher, reviewer, and the issue, number, and page on which the review appeared.

Subject Index

Aircraft Technology, Conventional, STOL/VTOL

Aerodynamics

- Generalized Vortex Lattice Method for Oscillating Thin Airfoil in Subsonic Flow **J93-374**
Early Vortex Burst on a Delta Wing in Pitch **J93-358**
Model for Rotor Tip Vortex-Airframe Interaction, Part 2: Comparison with Experiment **J93-357**
Three-Dimensional Separated Flow over a Prolate Spheroid **J93-339**
Characteristics of Stretched Vortical Structures in Two-Dimensional Stagnation Flow **J93-325**
Three-Dimensional Navier-Stokes Analysis of Tip Clearance Flow in Linear Turbine Cascades **J93-324**
Oscillatory Blowing: A Tool to Delay Boundary-Layer Separation **J93-322**
Analysis of High Reynolds Number Inviscid/Viscid Interactions in Cascades **J93-311**
Thrust Imparted to an Airfoil by Passage Through a Sinusoidal Upwash Field **J93-292**
Prismatic Grid Generation for Three-Dimensional Complex Geometries **J93-290**
Observations of Liquid Jets Injected into a Highly Accelerated Supersonic Boundary Layer **J93-287**
Boundary Layer and Pressure Measurements on a Cylinder with Unsteady Circulation Control **J93-280**
Control of Circular Cylinder Flow by the Use of Dimples **J93-276**
Low Aspect Ratio Wing Code Validation Experiment **J93-275**
Effects of a Rear Stagnation Jet on the Wake Behind a Cylinder **J93-270**
Euler Calculations of Unsteady Interaction of Advancing Rotor with a Line Vortex **J93-260**
Thoughts on Conical Flow Asymmetry **J93-247**
Periodic Vortex Shedding over Delta Wings **J93-246**
Initial Acceleration Effects on Flow Evolution Around Airfoils Pitching to High Angles of Attack **J93-241**
Adaptive Refinement-Coarsening Scheme for Three-Dimensional Unstructured Meshes **J93-226**

- Downstream Evolution of Proper Orthogonal Decomposition Eigenfunctions in a Lobed Mixer **J93-220**
Instantaneous Topology of the Unsteady Leading-Edge Vortex at High Angle of Attack **J93-219**
Subsonic/Transonic Cascade Flutter Using a Full-Potential Solver **J93-211**
Front Body Effects on Drag and Flowfield of a Three-Dimensional Noncircular Cylinder **J93-210**
Low-Frequency Flow Oscillation over Airfoils near Stall **J93-208**
Lifting Line Theory for Supersonic Flow Applications **J93-152**
Aerodynamics of Maneuvering Slender Wings with Leading-Edge Separation **J93-151**
Experimental Investigations of Asymmetric Vortex Flows Behind Elliptic Cones at Incidence **J93-149**
TURNS: A Free-Wake Euler/Navier-Stokes Numerical Method for Helicopter Rotors **J93-146**
Asymptotic Methods for the Prediction of Transonic Wind-Tunnel Wall Interference **J93-137**
Study of Supersonic Intersection Flowfield at Modified Wing-Body Junctions **J93-133**
Round Incompressible Jets with Asymmetric Initial Velocity Distributions **J93-122**
Implicit Upwind Solution Algorithms for Three-Dimensional Unstructured Meshes **J93-119**
Grid-Independent Upwind Scheme for Multidimensional Flow **J93-095**
Experimental Investigation of a Three-Dimensional Bluff-Body Wake **J93-083**
Flowfield Measurements of a Two-Element Airfoil with Large Separation **J93-070**
Aerodynamic Applications of Pressure Sensitive Paint **J93-064**
Induced Drag of Wings of Finite Aspect Ratio **J93-059**
Hysteresis Effects on Wind Tunnel Measurements of a Two-Element Airfoil **J93-050**
Solution of the Steady Euler Equations in a Generalized Lagrangian Formulation **J93-042**
Helicopter Trim Analysis by Shooting and Finite Element Methods with Optimally Damped Newton Iterations **J93-038**
Modeling, Analysis, and Prediction of Flutter at Transonic Speeds **J93-022**

- Performance of Compressible Flow Codes at Low Mach Numbers **J93-009**
Acoustic Radiation from a Thin Airfoil in Non-uniform Subsonic Flows **J93-004**

Aeroelasticity and Aeroservoelasticity

- Numerical Simulations of Flutter and its Suppression by Active Control **J93-362**
Three-Dimensional Time-Marching Aeroelastic Analyses Using an Unstructured-Grid Euler Method **J93-256**
Supersonic Panel Flutter Analysis of Shallow Shells **J93-212**
Subsonic/Transonic Cascade Flutter Using a Full-Potential Solver **J93-211**
Aeroelastic Response, Loads, and Stability of a Composite Rotor in Forward Flight **J93-196**
Experimental and Theoretical Study for Nonlinear Aeroelastic Behavior of a Flexible Rotor Blade **J93-172**
Alternative Approximations for Integrated Control/Structure Aeroservoelastic Synthesis **J93-168**
Finite Element Analysis of Large-Amplitude Panel Flutter of Thin Laminates **J93-103**
Review of Unsteady Aerodynamic Methods for Turbomachinery Aeroelastic and Aeroacoustic Applications **J93-039**
Direct Solution of Two-Dimensional Navier-Stokes Equations for Static Aeroelasticity Problems **J93-023**

Aerospace Plane

- Model for Entropy Production and Pressure Variation in Confined Turbulent Mixing **J93-258**
Planar Measurement Technique for Compressible Flows Using Laser-Induced Iodine Fluorescence **J93-073**
Laser-Induced Fluorescence Diagnostics Using a Two-Line Excitation Method **J93-072**

Ground Effect Machines

- Compressible Two-Dimensional Solid Jets in Proximity to the Ground **J93-346**
Compressible Flow in a Hovercraft Air Cushion **J93-079**

Landing Dynamics

- Reduced-Basis Technique for Evaluating the Sensitivity Coefficients of the Nonlinear Tire Response **J93-056**

Noise

- Active Aerodynamic Control of Wake-Airfoil Interaction Noise—Experiment **J93-279**
 Sparse Distributed Associative Memory for the Identification of Aerospace Acoustic Sources **J93-250**
 Evaluation of Algebraic Eddy-Viscosity Models in Three-Dimensional Turbulent Boundary-Layer Flows **J93-245**
 Jet Mixing Enhancement by Hydrodynamic Excitation **J93-090**

Propeller and Rotor Systems

- Aeroelastic Response, Loads, and Stability of a Composite Rotor in Forward Flight **J93-196**

Rotorcraft

- Aeroelastic Response, Loads, and Stability of a Composite Rotor in Forward Flight **J93-196**
 Experimental and Theoretical Study for Nonlinear Aeroelastic Behavior of a Flexible Rotor Blade **J93-172**
 TURNS: A Free-Wake Euler/Navier-Stokes Numerical Method for Helicopter Rotors **J93-146**

STOL/VTOL/STOVL

- Unsteady Pressures Under Impinging Jets in Crossflows **J93-371**
 Nonlinear Large Amplitude Aeroelastic Behavior of Composite Rotor Blades **J93-232**
 Nonlinear Large Amplitude Vibration of Composite Helicopter Blade at Large Static Deflection **J93-142**
 Helicopter Trim Analysis by Shooting and Finite Element Methods with Optimally Damped Newton Iterations **J93-038**

Structural Design (Including Loads)

- Evaluation of Kowalski's Method of Calculating Stresses at Internal Thread Reliefs **J93-368**
 Boundary Formulations for Sensitivity Analysis Without Matrix Derivatives **J93-272**
 Delamination in Cross-Ply Laminated Composite Subjected to Low-Velocity Impact **J93-233**
 Flexure-Torsion Behavior of Prismatic Beams, Part I: Section Properties via Power Series **J93-026**

Structural Materials

- Delamination in Cross-Ply Laminated Composite Subjected to Low-Velocity Impact **J93-233**
 Eigenvalue Sensitivity with Respect to Location of Internal Stiffness and Mass Attachments **J93-118**
 In-Plane Response of Laminates with Spatially Varying Fiber Orientations: Variable Stiffness Concept **J93-110**
 Thin-Walled Tubes Subjected to Combined Internal Pressure and Axial Load **J93-057**
 Probabilistic Nonlinear Finite Element Analysis of Composite Structures **J93-055**

Testing, Flight and Ground

- Use of Previous Experience to Estimate Precision Uncertainty of Small Sample Experiments **J93-296**

- Relation Between Spectra of Hot-Wire Signals and Velocity Fluctuations **J93-150**
 Laser-Induced Fluorescence Diagnostics Using a Two-Line Excitation Method **J93-072**
 Aero-Optical Phase Measurements Using Fourier Transform Holographic Interferometry **J93-065**
 Aerodynamic Applications of Pressure Sensitive Paint **J93-064**

Vibration

- Evaluation of Algebraic Eddy-Viscosity Models in Three-Dimensional Turbulent Boundary-Layer Flows **J93-245**
 Improved Method for Evaluating Damping Ratios of a Vibrating System **J93-215**
 Forced Harmonic Response Analysis of Nonlinear Structures Using Describing Functions **J93-203**
 Second-Order Epsilon Decomposition Approach for System Identification **J93-180**
 Eigenvector Error Bounds and Their Applications to Structural Modification **J93-111**
 Vibration and Damping Analysis of Composite Laminates Using Shear Deformable Finite Element **J93-107**

Weather Hazards

- Mountain Valley Evacuation by Upper Level Flows: A Scale Model Study **J93-248**

Energy**Laser Integration/Systems**

- Effect of Gain Length on Hydrogen Fluoride Chemical Laser Amplifier Performance **J93-327**

Fluid Dynamics**Aeroacoustics**

- Effect of Acoustic Coupling on Random and Harmonic Plate Vibrations **J93-314**
 Developing Numerical Techniques for Solving Low Mach Number Fluid-Acoustic Problems **J93-313**
 Comparison of Confined, Compressible, Spatially Developing Mixing Layers with Temporal Mixing Layers **J93-312**
 Some Acoustic Features of Perforated Test Section Walls with Splitter Plates **J93-295**
 Thrust Imparted to an Airfoil by Passage Through a Sinusoidal Upwash Field **J93-292**
 Active Aerodynamic Control of Wake-Airfoil Interaction Noise—Experiment **J93-279**
 Sparse Distributed Associative Memory for the Identification of Aerospace Acoustic Sources **J93-250**
 Boundary Conditions for Direct Computation of Aerodynamic Sound Generation **J93-249**
 Evaluation of Algebraic Eddy-Viscosity Models in Three-Dimensional Turbulent Boundary-Layer Flows **J93-245**
 Low-Frequency Flow Oscillation over Airfoils near Stall **J93-208**
 Noise Transmission of Skin-Stringer Panels Using a Decaying Wave Method **J93-206**
 Damping of Surface Pressure Fluctuations in Hypersonic Turbulent Flow Past Expansion Corners **J93-191**
 Review of Crack Propagation Under Unsteady Loading **J93-166**
 Coupling Between a Supersonic Boundary Layer and a Flexible Surface **J93-104**
 Effect of Tabs on the Flow and Noise Field of an

- Axisymmetric Jet **J93-091**
 Jet Mixing Enhancement by Hydrodynamic Excitation **J93-090**
 Review of Unsteady Aerodynamic Methods for Turbomachinery Aeroelastic and Aeroacoustic Applications **J93-039**
 Acoustic Radiation from a Thin Airfoil in Non-uniform Subsonic Flows **J93-004**

Boundary Layers and Heat Transfer—Laminar

- Transition Correlation in Subsonic Flow over a Flat Plate **J93-304**
 Effect of Curvature on Stationary Crossflow Instability of a Three-Dimensional Boundary Layer **J93-254**
 Sphere Wakes in Still Surroundings at Intermediate Reynolds Numbers **J93-227**
 Laminar Boundary Layers Subjected to High-Frequency Traveling-Wave Fluctuations **J93-145**
 Numerical Study of Ignition Within Hydrogen-Air Supersonic Boundary Layers **J93-134**
 Calculation of Compressible Boundary Layers by a Hybrid Finite Element Method **J93-125**
 Coupling Between a Supersonic Boundary Layer and a Flexible Surface **J93-104**
 Unit-Reynolds-Number Effects on Boundary-Layer Transition **J93-029**
 Numerical Solution of the Compressible Boundary-Layer Equations Using the Finite Element Method **J93-001**

Boundary Layers and Heat Transfer—Turbulent

- Diverging Boundary Layers with Zero Streamwise Pressure Gradient and No Wall Curvature **J93-349**
 Structure of Crossing-Shock-Wave/Turbulent-Boundary-Layer Interactions **J93-348**
 Hypersonic Crossing Shock-Wave/Turbulent-Boundary-Layer Interactions **J93-347**
 Characteristics of Stretched Vortical Structures in Two-Dimensional Stagnation Flow **J93-325**
 Length Scales and the Energy Balance for Turbulence Near a Free Surface **J93-315**
 Observations of Liquid Jets Injected into a Highly Accelerated Supersonic Boundary Layer **J93-287**
 Low-Reynolds-Number $k-\epsilon$ Model for Unsteady Turbulent Boundary-Layer Flows **J93-281**
 Boundary Layer and Pressure Measurements on a Cylinder with Unsteady Circulation Control **J93-280**
 Evaluation of Baldwin-Barth Turbulence Model with an Axisymmetric Afterbody-Exhaust Jet Flowfield **J93-268**
 Testing a Low Reynolds Number $k-\epsilon$ Turbulence Model Based on Direct Simulation Data **J93-267**
 Skin Friction and Velocity Profile Family for Compressible Turbulent Boundary Layers **J93-252**
 Flow and Heat Transfer in a Turbulent Boundary Layer Through Skewed and Pitched Jets **J93-251**
 Decay of Aircraft Vortices near the Ground **J93-242**
 Sphere Wakes in Still Surroundings at Intermediate Reynolds Numbers **J93-227**
 Comparison of Two-Equation Turbulence Models for Boundary Layers with Pressure Gradient **J93-223**
 Large-Eddy Simulation of Turbulent Obstacle Flow Using a Dynamic Subgrid-Scale Model **J93-222**
 Organized Structure in a Compressible Turbulent Shear Layer **J93-221**

- Computation of Crossing Shock/Turbulent Boundary Layer Interaction at Mach 8.3 J93-217
- Damping of Surface Pressure Fluctuations in Hypersonic Turbulent Flow Past Expansion Corners J93-191
- Measurements in a Pressure-Driven Three-Dimensional Turbulent Boundary Layer During Development and Decay J93-188
- High-Speed Turbulence Modeling of Shock-Wave/Boundary-Layer Interaction J93-187
- New Time Scale Based k - ϵ Model for Near-Wall Turbulence J93-186
- Vortex-Induced Energy Separation in Shear Flows J93-177
- Rational Extension of the Clauser Eddy Viscosity Model to Compressible Boundary-Layer Flow J93-156
- Systematic Comparison of Mathematically Simple Turbulence Models for Three-Dimensional Boundary Layers J93-155
- Laminar Boundary Layers Subjected to High-Frequency Traveling-Wave Fluctuations J93-145
- Parameters Governing the Turbulent Wall Jet in an External Stream J93-129
- Comparison of Newton's and Quasi-Newton's Method Solvers for the Navier-Stokes Equations J93-127
- Aerodynamic Drag Reduction for Satellites in Low Earth Orbits J93-126
- Calculation of Compressible Boundary Layers by a Hybrid Finite Element Method J93-125
- Comparative Numerical Study of Two Turbulence Models for Airfoil Static and Dynamic Stall J93-115
- Quasiconical Free Interaction Between a Swept Shock and a Turbulent Boundary Layer J93-101
- Critical Comparison of Second-Order Closures with Direct Numerical Simulations of Homogeneous Turbulence J93-098
- Experimental Investigation of a Three-Dimensional Bluff-Body Wake J93-083
- Near-Wall Two-Equation Model for Compressible Turbulent Flows J93-030
- Effect of Sidewall Suction on Flow in Two-Dimensional Wind Tunnels J93-007
- Near-Wall Variable-Prandtl-Number Turbulence Model for Compressible Flows J93-006
- New Wall Treatment for Numerical Navier-Stokes Solution of Incompressible Turbulent Flows J93-005
- Three-Dimensional Hypersonic Shock Wave/Turbulent Boundary-Layer Interactions J93-002
- Numerical Solution of the Compressible Boundary-Layer Equations Using the Finite Element Method J93-001

Boundary-Layer Stability and Transition

- Theoretical Aspects of Transition and Turbulence in Boundary Layers J93-350
- Comparison of Confined, Compressible, Spatially Developing Mixing Layers with Temporal Mixing Layers J93-312
- Transition Correlation in Subsonic Flow over a Flat Plate J93-304
- Boundary Layer and Pressure Measurements on a Cylinder with Unsteady Circulation Control J93-280
- Effect of Curvature on Stationary Crossflow Instability of a Three-Dimensional Boundary Layer J93-254
- Secondary Instability Mechanisms in Compressible Axisymmetric Boundary Layers J93-253
- Mountain Valley Evacuation by Upper Level Flows: A Scale Model Study J93-248

- Fluid Column Stability in the Presence of Periodic Accelerations J93-237
- Optimization of Multiple-Panel Compliant Walls for Delay of Laminar-Turbulent Transition J93-184
- Common Vortical Structure of Turbulent Flows over Smooth and Rough Boundaries J93-128
- Experimental Investigation of Instability Wave Propagation in a Three-Dimensional Boundary-Layer Flow J93-094
- New Approach for the Calculation of Transitional Flows J93-093
- Outflow Boundary Conditions for Spatial Navier-Stokes Simulations of Transition Boundary Layers J93-092
- Linear Stability of the Confined Compressible Reacting Mixing Layer J93-085
- Supersonic Boundary-Layer Stability in a High-Area-Ratio Nozzle J93-080
- Unit-Reynolds-Number Effects on Boundary-Layer Transition J93-029

Computational Fluid Dynamics

- Pseudospectral Simulation of Shock-Turbulence Interactions J93-373
- Numerical Simulation of Confined Transonic Normal Shock Wave/Turbulent Boundary-Layer Interactions J93-353
- Computation of Unsteady Viscous Flow Using a Pressure-Based Algorithm J93-352
- Multidomain Spectral Solutions of High-Speed Flows over Blunt Cones J93-351
- Theoretical Aspects of Transition and Turbulence in Boundary Layers J93-350
- Lagrangian Random Choice Method for Steady Two-Dimensional Supersonic/Hypersonic Flow J93-345
- Three-Dimensional Navier-Stokes Analysis of Tip Clearance Flow in Linear Turbine Cascades J93-324
- Discontinuous Galerkin Finite Element Method for Euler and Navier-Stokes Equations J93-317
- Locally Implicit Total Variation Diminishing Schemes on Mixed Quadrilateral-Triangular Meshes J93-316
- Length Scales and the Energy Balance for Turbulence Near a Free Surface J93-315
- Developing Numerical Techniques for Solving Low Mach Number Fluid-Acoustic Problems J93-313
- Analysis of High Reynolds Number Inviscid/Viscid Interactions in Cascades J93-311
- Fast Three-Dimensional Vortex Method for Unsteady Wake Calculations J93-306
- Application of a Generalized Minimal Residual Method to Two-Dimensional Unsteady Flows J93-305
- Images Constructed from Computed Flowfields J93-294
- Unsteady Euler Solutions for Arbitrarily Moving Bodies and Boundaries J93-293
- Three-Dimensional Navier-Stokes/Full-Potential Coupled Analysis for Viscous Transonic Flow J93-291
- Prismatic Grid Generation for Three-Dimensional Complex Geometries J93-290
- Three-Dimensional Shock-Wave/Boundary-Layer Interactions with Bleed J93-286
- Space Marching Calculations About Hypersonic Configurations Using a Solution-Adaptive Mesh Algorithm J93-285
- Riemann Solvers for Perfect and Near-Perfect Gases J93-284
- Multigrid Acceleration of a Fractional-Step Solver in Generalized Curvilinear Coordinate Systems J93-283
- Multigrid Navier-Stokes Calculations for Three-Dimensional Cascades J93-282

- Zonal-Local Solution Method for the Turbulent Navier-Stokes Equations J93-278
- Effective Treatment of the Singular Line Boundary Problem for Three-Dimensional Grids J93-277
- Low Aspect Ratio Wing Code Validation Experiment J93-275
- Shock-Wave Reflection over a Semicircular Cylinder in a Dusty Gas J93-274
- Multigrid Techniques for Hypersonic Viscous Flows J93-271
- Effects of a Rear Stagnation Jet on the Wake Behind a Cylinder J93-270
- Parallelization of the Factored Implicit Finite Difference Technique J93-269
- Evaluation of Baldwin-Barth Turbulence Model with an Axisymmetric Afterbody-Exhaust Jet Flowfield J93-268
- Testing a Low Reynolds Number k - ϵ Turbulence Model Based on Direct Simulation Data J93-267
- Euler Calculations of Unsteady Interaction of Advancing Rotor with a Line Vortex J93-260
- Vortical Solutions in Supersonic Corner Flows J93-259
- Practical Aspects of Spatially High-Order Accurate Methods J93-257
- Three-Dimensional Time-Marching Aeroelastic Analyses Using an Unstructured-Grid Euler Method J93-256
- Upwind Finite-Volume Navier-Stokes Computations on Unstructured Triangular Meshes J93-255
- Secondary Instability Mechanisms in Compressible Axisymmetric Boundary Layers J93-253
- Skin Friction and Velocity Profile Family for Compressible Turbulent Boundary Layers J93-252
- Flow and Heat Transfer in a Turbulent Boundary Layer Through Skewed and Pitched Jets J93-251
- Boundary Conditions for Direct Computation of Aerodynamic Sound Generation J93-249
- Adaptive Refinement-Coarsening Scheme for Three-Dimensional Unstructured Meshes J93-226
- Vorticity Dynamics of Inviscid Shear Layers J93-225
- Stability Criteria for a General Class of Finite Difference Schemes J93-224
- Comparison of Two-Equation Turbulence Models for Boundary Layers with Pressure Gradient J93-223
- Numerical Investigation of Subsonic and Supersonic Asymmetric Vortical Flow J93-218
- Analysis of Hypersonic Nozzles Including Vibrational Nonequilibrium and Intermolecular Force Effects J93-193
- Spectral Solution of the Viscous Blunt-Body Problem J93-192
- Nonlinear Relaxation Navier-Stokes Solver for Three-Dimensional, High-Speed Internal Flows J93-190
- Accuracy of Flux-Split Algorithms in High-Speed Viscous Flows J93-189
- High-Speed Turbulence Modeling of Shock-Wave/Boundary-Layer Interaction J93-187
- New Time Scale Based k - ϵ Model for Near-Wall Turbulence J93-186
- Grid-Free Particle Method Applied to the Equations of Unsteady Compressible Fluid Motion J93-176
- Shock Wave Focusing in a Log-Spiral Duct J93-174
- Unsteady Transonic Two-Dimensional Euler Solutions Using Finite Elements J93-162
- Stabilization of the Burnett Equations and Application to Hypersonic Flows J93-160

Systematic Comparison of Mathematically Simple Turbulence Models for Three-Dimensional Boundary Layers **J93-155**

Lifting Line Theory for Supersonic Flow Applications **J93-152**

URNS: A Free-Wake Euler/Navier-Stokes Numerical Method for Helicopter Rotors **J93-146**

Deforming Grid Variational Principle for Unsteady Small Disturbance Flows in Cascades **J93-135**

Numerical Study of Shock-Wave/Boundary-Layer Interactions with Bleed **J93-132**

Comparison of Newton's and Quasi-Newton's Method Solvers for the Navier-Stokes Equations **J93-127**

Calculation of Compressible Boundary Layers by a Hybrid Finite Element Method **J93-125**

Results from a Conical Euler Methodology Developed for Unsteady Vortical Flows **J93-124**

Transonic Turbulent Separated Flow Predictions Using a Two-Layer Turbulence Model **J93-123**

Hypersonic Nonequilibrium Flow Computations Using the Roe Flux-Difference Split Scheme **J93-121**

Fluid Flow of a Row of Jets in Crossflow—A Numerical Study **J93-120**

Implicit Upwind Solution Algorithms for Three-Dimensional Unstructured Meshes **J93-119**

Implicit Treatment of Diffusion Terms in Lower-Upper Algorithms **J93-117**

Noniterative Implicit Method for Tracking Particles in Mixed Lagrangian-Eulerian Formulations **J93-114**

Grid-Independent Upwind Scheme for Multidimensional Flow **J93-095**

New Approach for the Calculation of Transitional Flows **J93-093**

Outflow Boundary Conditions for Spatial Navier-Stokes Simulations of Transition Boundary Layers **J93-092**

Rotational Compressible Inverse Design Method for Two-Dimensional, Internal Flow Configurations **J93-082**

Linearized Euler Predictions of Unsteady Aerodynamic Loads in Cascades **J93-081**

Improved Boundary Integral Method for Inviscid Boundary Condition Applications **J93-061**

Application of Scalar Implicit Approximate Factorization for Underwater Magnetohydrodynamic Propulsion Concept Analyses **J93-045**

Solution of the Steady Euler Equations in a Generalized Lagrangian Formulation **J93-042**

Structured Background Grids for Generation of Unstructured Grids by Advancing-Front Method **J93-041**

Higher-Order Accuracy for Upwind Methods by Using the Compatibility Equations **J93-040**

Crossflow Instability in a Spinning Disk Boundary Layer **J93-036**

Entropy Production in Finite-Difference Schemes **J93-035**

Nonparameterized 'Entropy Fix' for Roe's Method **J93-031**

Near-Wall Two-Equation Model for Compressible Turbulent Flows **J93-030**

Direct Solution of Two-Dimensional Navier-Stokes Equations for Static Aeroelasticity Problems **J93-023**

Numerical Prediction of Flap Losses in a Transonic Wind Tunnel **J93-021**

Eduction of Swirling Structure Using the Velocity Gradient Tensor **J93-016**

Adaptive Finite Volume Upwind Approach on Mixed Quadrilateral-Triangular Meshes **J93-011**

Nonlinear Relaxation/Quasi-Newton Algorithm for the Compressible Navier-Stokes Equations **J93-010**

Performance of Compressible Flow Codes at Low Mach Numbers **J93-009**

Spectral Element-Fourier Method for Transitional Flows in Complex Geometries **J93-008**

Near-Wall Variable-Prandtl-Number Turbulence Model for Compressible Flows **J93-006**

Numerical Simulation of Viscous Liquid Sloshing in Arbitrarily Shaped Reservoirs **J93-003**

Numerical Solution of the Compressible Boundary-Layer Equations Using the Finite Element Method **J93-001**

Hydrodynamics

Effect of Swirl on Jet Atomization **J93-372**

Stability of a Fluid Surface in a Microgravity Environment **J93-318**

Length Scales and the Energy Balance for Turbulence Near a Free Surface **J93-315**

Fluid Column Stability in the Presence of Periodic Accelerations **J93-237**

Vorticity Dynamics of Inviscid Shear Layers **J93-225**

Visualization of the Flows in Precessing Tanks with Internal Baffles **J93-048**

Near-Field Behavior of a Tip Vortex **J93-018**

Performance of Compressible Flow Codes at Low Mach Numbers **J93-009**

Spectral Element-Fourier Method for Transitional Flows in Complex Geometries **J93-008**

Hypersonic Flow

Hypersonic Crossing Shock-Wave/Turbulent-Boundary-Layer Interactions **J93-347**

Lagrangian Random Choice Method for Steady Two-Dimensional Supersonic/Hypersonic Flow **J93-345**

Numerical Investigation of Oscillatory Instability in Shock-Induced Combustion Around a Blunt Body **J93-288**

Effective Treatment of the Singular Line Boundary Problem for Three-Dimensional Grids **J93-277**

Multigrid Techniques for Hypersonic Viscous Flows **J93-271**

Skin Friction and Velocity Profile Family for Compressible Turbulent Boundary Layers **J93-252**

Computation of Crossing Shock/Turbulent Boundary Layer Interaction at Mach 8.3 **J93-217**

Analysis of Hypersonic Nozzles Including Vibrational Nonequilibrium and Intermolecular Force Effects **J93-193**

Spectral Solution of the Viscous Blunt-Body Problem **J93-192**

Damping of Surface Pressure Fluctuations in Hypersonic Turbulent Flow Past Expansion Corners **J93-191**

High-Speed Turbulence Modeling of Shock-Wave/Boundary-Layer Interaction **J93-187**

Method for Visualizing Gas Temperature Distributions Around Hypersonic Vehicles by Using Electric Discharge **J93-182**

Millisecond Aerodynamic Force Measurement with Side-Jet Model in the ISL Shock Tunnel **J93-164**

Stabilization of the Burnett Equations and Application to Hypersonic Flows **J93-160**

Aerodynamic Drag Reduction for Satellites in Low Earth Orbits **J93-126**

Hypersonic Nonequilibrium Flow Computations Using the Roe Flux-Difference Split Scheme **J93-121**

Atomic Resonance Absorption Spectroscopy Measurements on High-Temperature CO Dissociation Kinetics **J93-099**

Experimental Investigation of Hypersonic Three-Dimensional Corner Flow **J93-096**

Near-Wall Two-Equation Model for Compressible Turbulent Flows **J93-030**

Unit-Reynolds-Number Effects on Boundary-Layer Transition **J93-029**

Near-Wall Variable-Prandtl-Number Turbulence Model for Compressible Flows **J93-006**

Three-Dimensional Hypersonic Shock Wave/Turbulent Boundary-Layer Interactions **J93-002**

Inlet, Nozzle, Diffusor, and Channel Flows

Numerical Simulation of Confined Transonic Normal Shock Wave/Turbulent Boundary-Layer Interactions **J93-353**

Three-Dimensional Shock-Wave/Boundary-Layer Interactions with Bleed **J93-286**

Multigrid Navier-Stokes Calculations for Three-Dimensional Cascades **J93-282**

Testing a Low Reynolds Number $k-\epsilon$ Turbulence Model Based on Direct Simulation Data **J93-267**

Model for Entropy Production and Pressure Variation in Confined Turbulent Mixing **J93-258**

Phase Nonequilibrium Effects on the Gain of a Two-Phase Flow Gasdynamic Laser **J93-229**

Downstream Evolution of Proper Orthogonal Decomposition Eigenfunctions in a Lobed Mixer **J93-220**

Computation of Crossing Shock/Turbulent Boundary Layer Interaction at Mach 8.3 **J93-217**

Mach Disk of Dual Coaxial Axisymmetric Jets **J93-209**

Supersonic Jet Control via Point Disturbances Inside the Nozzle **J93-207**

Analysis of Hypersonic Nozzles Including Vibrational Nonequilibrium and Intermolecular Force Effects **J93-193**

Numerical Study of Shock-Wave/Boundary-Layer Interactions with Bleed **J93-132**

Rotational Compressible Inverse Design Method for Two-Dimensional, Internal Flow Configurations **J93-082**

Computation of Unsteady Supersonic Quasi-One-Dimensional Viscous-Inviscid Interacting Internal Flowfields **J93-062**

Mixing Enhancement in Compressible Mixing Layers: An Experimental Study **J93-044**

Specifying Exhaust Nozzle Contours with a Neural Network **J93-043**

Generalized One-Dimensional, Steady, Compressible Flow **J93-033**

Shock Oscillation in Two-Dimensional, Inviscid, Unsteady Channel Flow **J93-032**

Engineering Approach to the Prediction of Shock Patterns in Bounded High-Speed Flows **J93-014**

Jets, Wakes, and Viscid-Inviscid Flow Interactions

Unsteady Pressures Under Impinging Jets in Crossflows **J93-371**

Experiments in Non-Reacting Compressible Shear Layers **J93-354**

Theoretical Aspects of Transition and Turbulence in Boundary Layers **J93-350**

Structure of Crossing-Shock-Wave/Turbulent-Boundary-Layer Interactions **J93-348**

Compressible Two-Dimensional Solid Jets in Proximity to the Ground **J93-346**

Reynolds Stress Profiles in the Near Wake of an Oscillating Airfoil **J93-340**

Gas Temperature Measurements Using a Dual-Line Detection Rayleigh Scattering Technique **J93-328**

Three-Dimensional Simulations of Compressible Mixing Layers: Visualizations and Statistical Analysis **J93-320**

Enhancement of Mixing in High-Speed Heated Jets Using a Counterflowing Nozzle **J93-319**

Comparison of Confined, Compressible, Spatially Developing Mixing Layers with Temporal Mixing Layers **J93-312**

Analysis of High Reynolds Number Inviscid/Viscid Interactions in Cascades **J93-311**

Role of Turbulent Shear Stresses in Particle Dispersion **J93-307**

Effects of a Rear Stagnation Jet on the Wake Behind a Cylinder **J93-270**

Evaluation of Baldwin-Barth Turbulence Model with an Axisymmetric Afterbody-Exhaust Jet Flowfield **J93-268**

Spreading Rate of an Unsteady Turbulent Jet **J93-239**

Coherent Structure Interactions in Excited Coaxial Jet of Mean Velocity Ratio of 0.3 **J93-238**

Some Measurements on Dependence of Rectangular Cylinder Drag on Elevation **J93-236**

Sphere Wakes in Still Surroundings at Intermediate Reynolds Numbers **J93-227**

Organized Structure in a Compressible Turbulent Shear Layer **J93-221**

Supersonic Jet Control via Point Disturbances Inside the Nozzle **J93-207**

Influence of Stator-Rotor Gap on Axial-Turbine Unsteady Forcing Functions **J93-195**

Studies on the Flowfield of Multijet with Square Configuration **J93-185**

Wakes of Three Axisymmetric Bodies at Zero Angle of Attack **J93-175**

Millisecond Aerodynamic Force Measurement with Side-Jet Model in the ISL Shock Tunnel **J93-164**

Flip-Flop Jet Nozzle Extended to Supersonic Flows **J93-159**

Numerical Simulation of Nonswirling and Swirling Annular Liquid Jets **J93-158**

Investigation of a Contoured Wall Injector for Hypervelocity Mixing Augmentation **J93-157**

Correlation of Conical Interactions Induced by Sharp Fins and Semicones **J93-147**

Parameters Governing the Turbulent Wall Jet in an External Stream **J93-129**

Round Incompressible Jets with Asymmetric Initial Velocity Distributions **J93-122**

Fluid Flow of a Row of Jets in Crossflow—A Numerical Study **J93-120**

Critical Comparison of Second-Order Closures with Direct Numerical Simulations of Homogeneous Turbulence **J93-098**

Base Pressure of a Sudden Expansion from a Conical Converging Nozzle **J93-097**

Effect of Tabs on the Flow and Noise Field of an Axisymmetric Jet **J93-091**

Jet Mixing Enhancement by Hydrodynamic Excitation **J93-090**

Mixing Enhancement Due to Global Oscillations in Jets with Annular Counterflow **J93-084**

Experimental Investigation of a Three-Dimensional Bluff-Body Wake **J93-083**

Fundamental Turbulence Measurements by Relief Flow Tagging **J93-068**

Application of Particle Image Velocimetry in High-Speed Separated Flows **J93-067**

Computation of Unsteady Supersonic Quasi-One-Dimensional Viscous-Inviscid Interacting Internal Flowfields **J93-062**

Mixing Enhancement in Compressible Mixing Layers: An Experimental Study **J93-044**

Subharmonic and Harmonic Forced Response of the Wake of a Circular Cylinder **J93-034**

Near-Field Behavior of a Tip Vortex **J93-018**

Theoretical and Experimental Study on Two-Phase Structure of Planar Mixing Layer **J93-012**

Multiphase Flows

Disperse Phase Motion in Neutrally Bouyant and Zero-Gravity Pipe Flows **J93-375**

Effect of Swirl on Jet Atomization **J93-372**

Vibrational Nonequilibrium Effects on Diatomic Dissociation Rates **J93-321**

Role of Turbulent Shear Stresses in Particle Dispersion **J93-307**

Shock-Wave Reflection over a Semicircular Cylinder in a Dusty Gas **J93-274**

Multifluid Model of Turbulence for Li-SF₆ Submerged Combustion **J93-240**

Noniterative Implicit Method for Tracking Particles in Mixed Lagrangian-Eulerian Formulations **J93-114**

Noniterative Implicit Method for Tracking Particles in Mixed Lagrangian-Eulerian Formulations **J93-114**

MieScattering Imaging of a Transverse, Sonic Jet in Supersonic Flow **J93-020**

Theoretical and Experimental Study on Two-Phase Structure of Planar Mixing Layer **J93-012**

Plasmadynamics and MHD

Application of Scalar Implicit Approximate Factorization for Underwater Magnetohydrodynamic Propulsion Concept Analyses **J93-045**

Rarefied Flows

Method for Visualizing Gas Temperature Distributions Around Hypersonic Vehicles by Using Electric Discharge **J93-182**

Theoretical Estimates of Vibrational Relaxation in Nitrogen up to 40,000 K **J93-161**

Stabilization of the Burnett Equations and Application to Hypersonic Flows **J93-160**

Aerodynamic Drag Reduction for Satellites in Low Earth Orbits **J93-126**

Reacting Flows and Combustion

Analysis of Thermochemical Nonequilibrium Models for Carbon Dioxide Flows **J93-355**

Premixed Flame Propagation in an Optically Thick Gas **J93-341**

Vibrational Nonequilibrium Effects on Diatomic Dissociation Rates **J93-321**

Role of Turbulent Shear Stresses in Particle Dispersion **J93-307**

Numerical Investigation of Oscillatory Instability in Shock-Induced Combustion Around a Blunt Body **J93-288**

Practical Aspects of Spatially High-Order Accurate Methods **J93-257**

Multifluid Model of Turbulence for Li-SF₆ Submerged Combustion **J93-240**

Halogen Atom/Metal Trimer CW Laser Engineering Concept Overview **J93-228**

Theoretical Estimates of Vibrational Relaxation in Nitrogen up to 40,000 K **J93-161**

Ignition Analysis of Unpremixed Reactants with Chain Mechanism in a Supersonic Mixing Layer **J93-131**

Applications of Shock-Induced Mixing to Supersonic Combustion **J93-130**

Intensified Array Camera Imaging of Solid Surface Combustion Aboard the NASA Learjet **J93-116**

Linear Stability of the Compressible Reacting Mixing Layer **J93-100**

Atomic Resonance Absorption Spectroscopy Measurements on High-Temperature CO Dissociation Kinetics **J93-099**

Linear Stability of the Confined Compressible Reacting Mixing Layer **J93-085**

Comparison of Excitation Techniques for Quantitative Fluorescence Imaging of Reacting Flows **J93-077**

Two-Equation Turbulence Model for Compressible Reacting Flows **J93-060**

Computation of Unsteady Shock-Induced Combustion Using Logarithmic Species Conservation Equations **J93-046**

Strong Vibrational Nonequilibrium in Supersonic Nozzle Flows **J93-019**

Electron-Ion Three-Body Recombination Coefficient of Argon **J93-013**

Separated Flows

Early Vortex Burst on a Delta Wing in Pitch **J93-358**

Experiments in Non-Reacting Compressible Shear Layers **J93-354**

Hypersonic Crossing Shock-Wave/Turbulent-Boundary-Layer Interactions **J93-347**

Three-Dimensional Separated Flow over a Prolate Spheroid **J93-339**

Oscillatory Blowing: A Tool to Delay Boundary-Layer Separation **J93-322**

Skin-Friction Topology Over a Surface Mounted Semi-Ellipsoidal Wing at Incidence **J93-289**

Multigrid Navier-Stokes Calculations for Three-Dimensional Cascades **J93-282**

Control of Circular Cylinder Flow by the Use of Dimples **J93-276**

Thoughts on Conical Flow Asymmetry **J93-247**

Initial Acceleration Effects on Flow Evolution Around Airfoils Pitching to High Angles of Attack **J93-241**

Some Measurements on Dependence of Rectangular Cylinder Drag on Elevation **J93-236**

Large-Eddy Simulation of Turbulent Obstacle Flow Using a Dynamic Subgrid-Scale Model **J93-222**

Instantaneous Topology of the Unsteady Leading-Edge Vortex at High Angle of Attack **J93-219**

Front Body Effects on Drag and Flowfield of a Three-Dimensional Noncircular Cylinder **J93-210**

Low-Frequency Flow Oscillation over Airfoils near Stall **J93-208**

Control of Vortices on a Delta Wing by Leading-Edge Injection **J93-183**

Instantaneous Structure of Vortex Breakdown on a Delta Wing via Particle Image Velocimetry **J93-178**

Velocity and Vorticity Distributions over an Oscillating Airfoil Under Compressible Dynamic Stall **J93-153**

Experimental Investigations of Asymmetric Vortex Flows Behind Elliptic Cones at Incidence **J93-149**

Correlation of Conical Interactions Induced by Sharp Fins and Semicones **J93-147**

Study of Supersonic Intersection Flowfield at Modified Wing-Body Junctions **J93-133**

Numerical Study of Shock-Wave/Boundary-Layer Interactions with Bleed **J93-132**

Transonic Turbulent Separated Flow Predictions Using a Two-Layer Turbulence Model **J93-123**

Fluid Flow of a Row of Jets in Crossflow—A Numerical Study **J93-120**

Comparative Numerical Study of Two Turbulence Models for Airfoil Static and Dynamic Stall **J93-115**

Quasiconical Free Interaction Between a Swept Shock and a Turbulent Boundary Layer **J93-101**

Base Pressure of a Sudden Expansion from a Conical Converging Nozzle **J93-097**

Experimental Investigation of Hypersonic Three-Dimensional Corner Flow **J93-096**

- Flowfield Measurements of a Two-Element Airfoil with Large Separation J93-070
- Application of Particle Image Velocimetry in High-Speed Separated Flows J93-067
- Hysteresis Effects on Wind Tunnel Measurements of a Two-Element Airfoil J93-050
- Effects of Sweepback on Unsteady Separation in Mach 5 Compression Ramp Interactions J93-047
- Measurements of Circulation and Vorticity in the Leading-Edge Vortex of a Delta Wing J93-017
- Shock/Boundary-Layer Interaction Control with Vortex Generators and Passive Cavity J93-015
- Three-Dimensional Hypersonic Shock Wave/Turbulent Boundary-Layer Interactions J93-002

Shock Waves and Detonations

- Pseudospectral Simulation of Shock-Turbulence Interactions J93-373
- Reflection of Planar Shock Waves from Rubber Walls: Uniaxial Strain Case J93-343
- Three-Dimensional Shock-Wave/Boundary-Layer Interactions with Bleed J93-286
- Space Marching Calculations About Hypersonic Configurations Using a Solution-Adaptive Mesh Algorithm J93-285
- Shock-Wave Reflection over a Semicircular Cylinder in a Dusty Gas J93-274
- Some Measurements on Dependence of Rectangular Cylinder Drag on Elevation J93-236
- Grid-Free Particle Method Applied to the Equations of Unsteady Compressible Fluid Motion J93-176
- Shock Wave Focusing in a Log-Spiral Duct J93-174
- Oblique Shock Formation in Impulsively Started Wedge Flows J93-148
- Atomic Resonance Absorption Spectroscopy Measurements on High-Temperature CO Dissociation Kinetics J93-099
- Computation of Unsteady Shock-Induced Combustion Using Logarithmic Species Conservation Equations J93-046
- Entropy Production in Finite-Difference Schemes J93-035
- Shock/Boundary-Layer Interaction Control with Vortex Generators and Passive Cavity J93-015
- Engineering Approach to the Prediction of Shock Patterns in Bounded High-Speed Flows J93-014

Subsonic Flow

- Generalized Vortex Lattice Method for Oscillating Thin Airfoil in Subsonic Flow J93-374
- Multidomain Spectral Solutions of High-Speed Flows over Blunt Cones J93-351
- Diverging Boundary Layers with Zero Streamwise Pressure Gradient and No Wall Curvature J93-349
- Transition Correlation in Subsonic Flow over a Flat Plate J93-304
- Thrust Imparted to an Airfoil by Passage Through a Sinusoidal Upwash Field J93-292
- Zonal-Local Solution Method for the Turbulent Navier-Stokes Equations J93-278
- Control of Circular Cylinder Flow by the Use of Dimples J93-276
- Effect of Curvature on Stationary Crossflow Instability of a Three-Dimensional Boundary Layer J93-254
- Decay of Aircraft Vortices near the Ground J93-242
- Comparison of Two-Equation Turbulence Models for Boundary Layers with Pressure Gradient J93-223

- Front Body Effects on Drag and Flowfield of a Three-Dimensional Noncircular Cylinder J93-210
- Wakes of Three Axisymmetric Bodies at Zero Angle of Attack J93-175
- Linear Stability of the Compressible Reacting Mixing Layer J93-100
- New Approach for the Calculation of Transitional Flows J93-093
- Rotational Compressible Inverse Design Method for Two-Dimensional, Internal Flow Configurations J93-082
- Compressible Flow in a Hovercraft Air Cushion J93-079
- Induced Drag of Wings of Finite Aspect Ratio J93-059
- Measurements of Circulation and Vorticity in the Leading-Edge Vortex of a Delta Wing J93-017

Supersonic Flow

- Experiments in Non-Reacting Compressible Shear Layers J93-354
- Structure of Crossing-Shock-Wave/Turbulent-Boundary-Layer Int J93-348
- Lagrangian Random Choice Method for Steady Two-Dimensional Supersonic/Hypersonic Flow J93-345
- Two-Beam Multiplexed Laser-Induced Fluorescence Measurements of an Argon Arcjet Plume J93-326
- Three-Dimensional Velocity Field in a Compressible Mixing Layer J93-323
- Three-Dimensional Simulations of Compressible Mixing Layers: Visualizations and Statistical Analysis J93-320
- Observations of Liquid Jets Injected into a Highly Accelerated Supersonic Boundary Layer J93-287
- Space Marching Calculations About Hypersonic Configurations Using a Solution-Adaptive Mesh Algorithm J93-285
- Vortical Solutions in Supersonic Corner Flows J93-259
- Model for Entropy Production and Pressure Variation in Confined Turbulent Mixing J93-258
- Halogen Atom/Metal Trimer CW Laser Engineering Concept Overview J93-228
- Mach Disk of Dual Coaxial Axisymmetric Jets J93-209
- Supersonic Jet Control via Point Disturbances Inside the Nozzle J93-207
- Nonlinear Relaxation Navier-Stokes Solver for Three-Dimensional, High-Speed Internal Flows J93-190
- Accuracy of Flux-Split Algorithms in High-Speed Viscous Flows J93-189
- Supersonic Flutter Analysis of Composite Plates and Shells J93-169
- Flip-Flop Jet Nozzle Extended to Supersonic Flows J93-159
- Rational Extension of the Clauser Eddy Viscosity Model to Compressible Boundary-Layer Flow J93-156
- Lifting Line Theory for Supersonic Flow Applications J93-152
- Oblique Shock Formation in Impulsively Started Wedge Flows J93-148
- Correlation of Conical Interactions Induced by Sharp Fins and Semicones J93-147
- Study of Supersonic Intersection Flowfield at Modified Wing-Body Junctions J93-133
- Comparison of Newton's and Quasi-Newton's Method Solvers for the Navier-Stokes Equations J93-127
- Quasiconical Free Interaction Between a Swept Shock and a Turbulent Boundary Layer J93-101
- Linear Stability of the Compressible Reacting Mixing Layer J93-100

- Base Pressure of a Sudden Expansion from a Conical Converging Nozzle J93-097
- Effect of Tabs on the Flow and Noise Field of an Axisymmetric Jet J93-091
- Linear Stability of the Confined Compressible Reacting Mixing Layer J93-085
- Supersonic Boundary-Layer Stability in a High-Area-Ratio Nozzle J93-080
- Planar Measurement Technique for Compressible Flows Using Laser-Induced Iodine Fluorescence J93-073
- Miniature, Fast-Response Five-Hole Conical Probe for Supersonic Flowfield Measurements J93-069
- Effects of Sweepback on Unsteady Separation in Mach 5 Compression Ramp Interactions J93-047
- Mixing Enhancement in Compressible Mixing Layers: An Experimental Study J93-044
- Solution of the Steady Euler Equations in a Generalized Lagrangian Formulation J93-042
- MieScattering Imaging of a Transverse, Sonic Jet in Supersonic Flow J93-020
- Nonlinear Relaxation/Quasi-Newton Algorithm for the Compressible Navier-Stokes Equations J93-010

Transonic Flow

- Some Acoustic Features of Perforated Test Section Walls with Splitter Plates J93-295
- Three-Dimensional Navier-Stokes/Full-Potential Coupled Analysis for Viscous Transonic Flow J93-291
- Zonal-Local Solution Method for the Turbulent Navier-Stokes Equations J93-278
- Low Aspect Ratio Wing Code Validation Experiment J93-275
- Subsonic/Transonic Cascade Flutter Using a Full-Potential Solver J93-211
- Unsteady Transonic Two-Dimensional Euler Solutions Using Finite Elements J93-162
- Asymptotic Methods for the Prediction of Transonic Wind-Tunnel Wall Interference J93-137
- Numerical Study of Ignition Within Hydrogen-Air Supersonic Boundary Layers J93-134
- Transonic Turbulent Separated Flow Predictions Using a Two-Layer Turbulence Model J93-123
- Implicit Upwind Solution Algorithms for Three-Dimensional Unstructured Meshes J93-119
- Higher-Order Accuracy for Upwind Methods by Using the Compatibility Equations J93-040
- Shock Oscillation in Two-Dimensional, Inviscid, Unsteady Channel Flow J93-032
- Modeling, Analysis, and Prediction of Flutter at Transonic Speeds J93-022
- Numerical Prediction of Flap Losses in a Transonic Wind Tunnel J93-021
- Shock/Boundary-Layer Interaction Control with Vortex Generators and Passive Cavity J93-015

Unsteady Flows

- Generalized Vortex Lattice Method for Oscillating Thin Airfoil in Subsonic Flow J93-374
- Model for Rotor Tip Vortex-Airframe Interaction, Part 2: Comparison with Experiment J93-357
- Model for Rotor Tip Vortex-Airframe Interaction, Part 1: Theory J93-356
- Reynolds Stress Profiles in the Near Wake of an Oscillating Airfoil J93-340
- Developing Numerical Techniques for Solving Low Mach Number Fluid-Acoustic Problems J93-313
- Fast Three-Dimensional Vortex Method for Unsteady Wake Calculations J93-306
- Unsteady Euler Solutions for Arbitrarily Moving Bodies and Boundaries J93-293

- Numerical Investigation of Oscillatory Instability in Shock-Induced Combustion Around a Blunt Body **J93-288**
- Multigrid Acceleration of a Fractional-Step Solver in Generalized Curvilinear Coordinate Systems **J93-283**
- Low-Reynolds-Number k - ϵ Model for Unsteady Turbulent Boundary-Layer Flows **J93-281**
- Euler Calculations of Unsteady Interaction of Advancing Rotor with a Line Vortex **J93-260**
- Three-Dimensional Time-Marching Aeroelastic Analyses Using an Unstructured-Grid Euler Method **J93-256**
- Initial Acceleration Effects on Flow Evolution Around Airfoils Pitching to High Angles of Attack **J93-241**
- Spreading Rate of an Unsteady Turbulent Jet **J93-239**
- Instantaneous Topology of the Unsteady Leading-Edge Vortex at High Angle of Attack **J93-219**
- Influence of Stator-Rotor Gap on Axial-Turbine Unsteady Forcing Functions **J93-195**
- Control of Vortices on a Delta Wing by Leading-Edge Injection **J93-183**
- Instantaneous Structure of Vortex Breakdown on a Delta Wing via Particle Image Velocimetry **J93-178**
- Vortex-Induced Energy Separation in Shear Flows **J93-177**
- Grid-Free Particle Method Applied to the Equations of Unsteady Compressible Fluid Motion **J93-176**
- Unsteady Transonic Two-Dimensional Euler Solutions Using Finite Elements **J93-162**
- Flip-Flop Jet Nozzle Extended to Supersonic Flows **J93-159**
- Velocity and Vorticity Distributions over an Oscillating Airfoil Under Compressible Dynamic Stall **J93-153**
- Aerodynamics of Maneuvering Slender Wings with Leading-Edge Separation **J93-151**
- Oblique Shock Formation in Impulsively Started Wedge Flows **J93-148**
- Laminar Boundary Layers Subjected to High-Frequency Traveling-Wave Fluctuations **J93-145**
- Deforming Grid Variational Principle for Unsteady Small Disturbance Flows in Cascades **J93-135**
- Results from a Conical Euler Methodology Developed for Unsteady Vortical Flows **J93-124**
- Comparative Numerical Study of Two Turbulence Models for Airfoil Static and Dynamic Stall **J93-115**
- Outflow Boundary Conditions for Spatial Navier-Stokes Simulations of Transition Boundary Layers **J93-092**
- Linearized Euler Predictions of Unsteady Aerodynamic Loads in Cascades **J93-081**
- Fundamental Turbulence Measurements by Relief Flow Tagging **J93-068**
- Computation of Unsteady Supersonic Quasi-One-Dimensional Viscous-Inviscid Interacting Internal Flowfields **J93-062**
- Effects of Sweepback on Unsteady Separation in Mach 5 Compression Ramp Interactions **J93-047**
- Review of Unsteady Aerodynamic Methods for Turbomachinery Aeroelastic and Aeroacoustic Applications **J93-039**
- Crossflow Instability in a Spinning Disk Boundary Layer **J93-036**
- Entropy Production in Finite-Difference Schemes **J93-035**
- Subharmonic and Harmonic Forced Response of the Wake of a Circular Cylinder **J93-034**
- Shock Oscillation in Two-Dimensional, Inviscid, Unsteady Channel Flow **J93-032**
- Spectral Element-Fourier Method for Transitional Flows in Complex Geometries **J93-008**
- Viscous Non-Boundary-Layer Flows**
- Disperse Phase Motion in Neutrally Bouyant and Zero-Gravity Pipe Flows **J93-375**
- Pseudospectral Simulation of Shock-Turbulence Interactions **J93-373**
- Three-Dimensional Navier-Stokes Analysis of Tip Clearance Flow in Linear Turbine Cascades **J93-324**
- Spectral Solution of the Viscous Blunt-Body Problem **J93-192**
- Hydrodynamics, Gravitational Sensitivity, and Transport Phenomena in Continuous Flow Electrophoresis **J93-154**
- Visualization of the Flows in Precessing Tanks with Internal Baffles **J93-048**
- Crossflow Instability in a Spinning Disk Boundary Layer **J93-036**
- Vortices**
- Effect of Swirl on Jet Atomization **J93-372**
- Experimental Investigation of Transitional Free Shear Layer Optics **J93-359**
- Early Vortex Burst on a Delta Wing in Pitch **J93-358**
- Model for Rotor Tip Vortex-Airframe Interaction, Part 2: Comparison with Experiment **J93-357**
- Model for Rotor Tip Vortex-Airframe Interaction Part, 1: Theory **J93-356**
- Diverging Boundary Layers with Zero Streamwise Pressure Gradient and No Wall Curvature **J93-349**
- Three-Dimensional Separated Flow over a Prolate Spheroid **J93-339**
- Characteristics of Stretched Vortical Structures in Two-Dimensional Stagnation Flow **J93-325**
- Three-Dimensional Simulations of Compressible Mixing Layers: Visualizations and Statistical Analysis **J93-320**
- Fast Three-Dimensional Vortex Method for Unsteady Wake Calculations **J93-306**
- Vortical Solutions in Supersonic Corner Flows **J93-259**
- Flow and Heat Transfer in a Turbulent Boundary Layer Through Skewed and Pitched Jets **J93-251**
- Thoughts on Conical Flow Asymmetry **J93-247**
- Periodic Vortex Shedding over Delta Wings **J93-246**
- Decay of Aircraft Vortices near the Ground **J93-242**
- Coherent Structure Interactions in Excited Coaxial Jet of Mean Velocity Ratio of 0.3 **J93-238**
- Vorticity Dynamics of Inviscid Shear Layers **J93-225**
- Downstream Evolution of Proper Orthogonal Decomposition Eigenfunctions in a Lobed Mixer **J93-220**
- Numerical Investigation of Subsonic and Supersonic Asymmetric Vortical Flow **J93-218**
- Control of Vortices on a Delta Wing by Leading-Edge Injection **J93-183**
- Instantaneous Structure of Vortex Breakdown on a Delta Wing via Particle Image Velocimetry **J93-178**
- Vortex-Induced Energy Separation in Shear Flows **J93-177**
- Shock Wave Focusing in a Log-Spiral Duct **J93-174**
- Velocity and Vorticity Distributions over an Oscillating Airfoil Under Compressible Dynamic Stall **J93-153**
- Aerodynamics of Maneuvering Slender Wings with Leading-Edge Separation **J93-151**
- Experimental Investigations of Asymmetric Vortex Flows Behind Elliptic Cones at Incidence **J93-149**
- Common Vortical Structure of Turbulent Flows over Smooth and Rough Boundaries **J93-128**
- Results from a Conical Euler Methodology Developed for Unsteady Vortical Flows **J93-124**
- Experimental Investigation of Hypersonic Three-Dimensional Corner Flow **J93-096**
- Resolution Characteristics of Holographic Particle Image Velocimetry **J93-066**
- Induced Drag of Wings of Finite Aspect Ratio **J93-059**
- Structure and Development of Streamwise Vortex Arrays Embedded in a Turbulent Boundary Layer **J93-049**
- Subharmonic and Harmonic Forced Response of the Wake of a Circular Cylinder **J93-034**
- Near-Field Behavior of a Tip Vortex **J93-018**
- Measurements of Circulation and Vorticity in the Leading-Edge Vortex of a Delta Wing **J93-017**
- Eduction of Swirling Structure Using the Velocity Gradient Tensor **J93-016**
- Wave Motion and Sloshing**
- Stability of a Fluid Surface in a Microgravity Environment **J93-318**
- Simulation of Three-Dimensional Liquid Sloshing Flows Using a Strongly Implicit Calculation Procedure **J93-136**
- Visualization of the Flows in Precessing Tanks with Internal Baffles **J93-048**
- Numerical Simulation of Viscous Liquid Sloshing in Arbitrarily Shaped Reservoirs **J93-003**
- Guidance, Control, and Dynamics Technology**
- Aircraft Dynamics**
- Noise Transmission of Skin-Stringer Panels Using a Decaying Wave Method **J93-206**
- Artificial Intelligence**
- Sparse Distributed Associative Memory for the Identification of Aerospace Acoustic Sources **J93-250**
- Specifying Exhaust Nozzle Contours with a Neural Network **J93-043**
- Control System Design**
- Improved Control Design Variable Linking for Optimization of Structural/Control Systems **J93-330**
- Optimal Placement of Active Elements in Control Augmented Structural Synthesis **J93-298**
- Stability Criteria of Structural Control with Systems Noncollocated Velocity Feedback **J93-213**
- Dynamics**
- Spin Stability of Undamped Flexible Structures Rotating About the Minor Axis **J93-336**
- Comparison of Advanced Reduced-Basis Methods for Transient Structural Analysis **J93-266**
- Stability Criteria of Structural Control with Systems Noncollocated Velocity Feedback **J93-213**
- Formulation and Solution of Inverse Spaghetti Problem: Application to Beam Deployment Dynamics **J93-052**
- Optimization Techniques**
- Structural Optimization with Frequency Constraints—A Review **J93-360**
- Boundary Formulations for Sensitivity Analysis Without Matrix Derivatives **J93-272**

- Actuator Placement Optimization by Genetic and Improved Simulated Annealing Algorithms **J93-181**

Spacecraft Dynamics

- Spin Stability of Undamped Flexible Structures Rotating About the Minor Axis **J93-336**
Mode Localization in Multispan Beams **J93-053**

Structural Control

- Analysis of Distributed Thermopiezoelectric Sensors and Actuators in Advanced Intelligent Structures **J93-198**
Alternative Approximations for Integrated Control/Structure Aeroservoelastic Synthesis **J93-168**

System Identification

- Approximation of Parameter Uncertainty in Nonlinear Optimization-Based Parameter Estimation Schemes **J93-143**

Interdisciplinary Topics

Analytical and Numerical Methods

- Improved Coordination in Nonhierarchical System Optimization **J93-370**
Images Constructed from Computed Flowfields **J93-294**
Prismatic Grid Generation for Three-Dimensional Complex Geometries **J93-290**
Dynamic Continuum Plate Representations of Large Thin Lattice Structures **J93-273**
Parallelization of the Factored Implicit Finite Difference Technique **J93-269**
Adaptive Refinement-Coarsening Scheme for Three-Dimensional Unstructured Meshes **J93-226**
Eigensolutions Sensitivity for Nonsymmetric Matrices with Repeated Eigenvalues **J93-204**
Second-Order Epsilon Decomposition Approach for System Identification **J93-180**
Optimum Design of Forging Die Shapes Using Nonlinear Finite Element Analysis **J93-113**
Constrained Conjugate Directions Methods for Design Optimization of Large Systems **J93-058**
Approximation-Based Global Optimization Strategy for Structural Synthesis **J93-027**
Eigensolutions Sensitivity for Nonsymmetric Matrices with Repeated Eigenvalues **J93-204**

Atmospheric and Space Sciences

- Experimental Investigation of Transitional Free Shear Layer Optics **J93-359**
Common Vortical Structure of Turbulent Flows over Smooth and Rough Boundaries **J93-128**

CAD/CAM

- Improved Coordination in Nonhierarchical System Optimization **J93-370**

Lasers and Laser Applications

- Experimental Investigation of Transitional Free Shear Layer Optics **J93-359**
Gas Temperature Measurements Using a Dual-Line Detection Rayleigh Scattering Technique **J93-328**
Effect of Gain Length on Hydrogen Fluoride Chemical Laser Amplifier Performance **J93-327**

- Effect of Gain Length on Hydrogen Fluoride Chemical Laser Amplifier Performance **J93-327**

- Two-Beam Multiplexed Laser-Induced Fluorescence Measurements of an Argon Arcjet Plume **J93-326**
Phase Nonequilibrium Effects on the Gain of a Two-Phase Flow Gasdynamic Laser **J93-229**
Halogen Atom/Metal Trimer CW Laser Engineering Concept Overview **J93-228**
Electric-Discharge Excited Blast Waves in a Flat Subsonic Nozzle **J93-163**
Experimental Study of Continuous Wave Hydrogen-Fluoride Chemical Laser Overtone Performance **J93-102**
Laser Selection Criteria for OH Fluorescence Measurements in Supersonic Combustion Test Facilities **J93-078**
Comparison of Excitation Techniques for Quantitative Fluorescence Imaging of Reacting Flows **J93-077**
Fluorescence Imaging of OH and NO in a Model Supersonic Combustor **J93-076**
Laser Absorption Measurements of OH Concentration and Temperature in Pulsed Facilities **J93-074**
Planar Measurement Technique for Compressible Flows Using Laser-Induced Iodine Fluorescence **J93-073**
Laser-Induced Fluorescence Diagnostics Using a Two-Line Excitation Method **J93-072**
Progress in Laser Spectroscopic Techniques for Aerodynamic Measurements: An Overview **J93-071**
Aero-Optical Phase Measurements Using Fourier Transform Holographic Interferometry **J93-065**
Mie Scattering Imaging of a Transverse, Sonic Jet in Supersonic Flow **J93-020**
Strong Vibrational Nonequilibrium in Supersonic Nozzle Flows **J93-019**

Research Facilities and Instrumentation

- Uncertainty Estimates for Pressure Sensitive Paint Measurements **J93-329**
Some Acoustic Features of Perforated Test Section Walls with Splitter Plates **J93-295**
Images Constructed from Computed Flowfields **J93-294**
Large-Field High-Brightness Focusing Schlieren System **J93-194**
Method for Visualizing Gas Temperature Distributions Around Hypersonic Vehicles by Using Electric Discharge **J93-182**
Millisecond Aerodynamic Force Measurement with Side-Jet Model in the ISL Shock Tunnel **J93-164**
Asymptotic Methods for the Prediction of Transonic Wind-Tunnel Wall Interference **J93-137**
Laser Selection Criteria for OH Fluorescence Measurements in Supersonic Combustion Test Facilities **J93-078**
Comparison of Excitation Techniques for Quantitative Fluorescence Imaging of Reacting Flows **J93-077**
Time-Resolved Infrared Emission Spectroscopy in High-Enthalpy Supersonic Air Flows **J93-075**
Laser Absorption Measurements of OH Concentration and Temperature in Pulsed Facilities **J93-074**
Progress in Laser Spectroscopic Techniques for Aerodynamic Measurements: An Overview **J93-071**
Flowfield Measurements of a Two-Element Airfoil with Large Separation **J93-070**
Miniature, Fast-Response Five-Hole Conical Probe for Supersonic Flowfield Measurements **J93-069**

- Fundamental Turbulence Measurements by Relief Flow Tagging **J93-068**
Application of Particle Image Velocimetry in High-Speed Separated Flows **J93-067**
Resolution Characteristics of Holographic Particle Image Velocimetry **J93-066**
Aero-Optical Phase Measurements Using Fourier Transform Holographic Interferometry **J93-065**
Aerodynamic Applications of Pressure Sensitive Paint **J93-064**
Hysteresis Effects on Wind Tunnel Measurements of a Two-Element Airfoil **J93-050**
Numerical Prediction of Flap Losses in a Transonic Wind Tunnel **J93-021**
Effect of Sidewall Suction on Flow in Two-Dimensional Wind Tunnels **J93-007**

Safety

- Mountain Valley Evacuation by Upper Level Flows: A Scale Model Study **J93-248**

Launch Vehicle and Missile (LV/M) Technology

Aerodynamics

- Numerical Investigation of Subsonic and Supersonic Asymmetric Vortical Flow **J93-218**
Wakes of Three Axisymmetric Bodies at Zero Angle of Attack **J93-175**

Testing, Flight and Ground

- Use of Previous Experience to Estimate Precision Uncertainty of Small Sample Experiments **J93-296**

Vibration

- Static and Dynamic, Local and Global, Bifurcations in Nonlinear Autonomous Structural Systems **J93-230**
Vibration of a Sandwich Plate Strip of Linearly Varying Thickness **J93-054**

Propulsion

Airbreathing Propulsion

- Numerical Simulation of Confined Transonic Normal Shock Wave/Turbulent Boundary-Layer Interactions **J93-353**
Three-Dimensional Velocity Field in a Compressible Mixing Layer **J93-323**
Influence of Stator-Rotor Gap on Axial-Turbine Unsteady Forcing Functions **J93-195**
Nonlinear Relaxation Navier-Stokes Solver for Three-Dimensional, High-Speed Internal Flows **J93-190**
Deforming Grid Variational Principle for Unsteady Small Disturbance Flows in Cascades **J93-135**
Round Incompressible Jets with Asymmetric Initial Velocity Distributions **J93-122**
Linearized Euler Predictions of Unsteady Aerodynamic Loads in Cascades **J93-081**
Fluorescence Imaging of OH and NO in a Model Supersonic Combustor **J93-076**
Two-Equation Turbulence Model for Compressible Reacting Flows **J93-060**

Combustion and Combustor Designs

- Premixed Flame Propagation in an Optical-Thick Gas **J93-341**

- Gas Temperature Measurements Using a Dual-Line Detection Rayleigh Scattering Technique **J93-328**
 Multifluid Model of Turbulence for Li-SF₆ Submerged Combustion **J93-240**
 Ignition Analysis of Unpremixed Reactants with Chain Mechanism in a Supersonic Mixing Layer **J93-131**

Combustion Instability

- Premixed Flame Propagation in an Optically Thick Gas **J93-341**
 Computation of Unsteady Shock-Induced Combustion Using Logarithmic Species Conservation Equations **J93-046**

Electric and Advanced Space Propulsion

- Two-Beam Multiplexed Laser-Induced Fluorescence Measurements of an Argon Arcjet Plume **J93-326**

Environmental Effects

- Anomalous Swelling Behavior of FM 5055 Carbon Phenolic Composite **J93-087**

Ignition and Ignitor Design

- Ignition Analysis of Unpremixed Reactants with Chain Mechanism in a Supersonic Mixing Layer **J93-131**

Ramjets and Scramjets

- Three-Dimensional Velocity Field in a Compressible Mixing Layer **J93-323**
 Applications of Shock-Induced Mixing to Supersonic Combustion **J93-130**
 Engineering Approach to the Prediction of Shock Patterns in Bounded High-Speed Flows **J93-014**

Solid Rocket Motors and Missile Systems

- Anomalous Swelling Behavior of FM 5055 Carbon Phenolic Composite **J93-087**

Supersonic Combustion

- Numerical Study of Ignition Within Hydrogen-Air Supersonic Boundary Layers **J93-134**
 Applications of Shock-Induced Mixing to Supersonic Combustion **J93-130**
 Laser Selection Criteria for OH Fluorescence Measurements in Supersonic Combustion Test Facilities **J93-078**
 Fluorescence Imaging of OH and NO in a Model Supersonic Combustor **J93-076**
 Time-Resolved Infrared Emission Spectroscopy in High-Enthalpy Supersonic Air Flows **J93-075**
 Two-Equation Turbulence Model for Compressible Reacting Flows **J93-060**

Space Technology

Space Experiments

- Stability of a Fluid Surface in a Microgravity Environment **J93-318**
 Hydrodynamics, Gravitational Sensitivity, and Transport Phenomena in Continuous Flow Electrophoresis **J93-154**

Space Processing

- Fluid Column Stability in the Presence of Periodic Accelerations **J93-237**

- Intensified Array Camera Imaging of Solid Surface Combustion Aboard the NASA Learjet **J93-116**

Spacecraft Structural Configuration, Design, and Analysis

- Multiobjective Optimization of Large-Scale Structures **J93-205**
 Modified Solution for Finding the Optimal Angle of Spacecraft Walls Under Orbital Debris Impacts **J93-179**

Spacecraft Test and Evaluation

- Mode Localization Experiments on a Ribbed Antenna **J93-301**
 Sensor Placement for On-Orbit Modal Identification via a Genetic Algorithm **J93-300**
 Use of Previous Experience to Estimate Precision Uncertainty of Small Sample Experiments **J93-296**

Spacecraft Thermal Management

- Disperse Phase Motion in Neutrally Bouyant and Zero-Gravity Pipe Flows **J93-375**

Structural Mechanics and Materials

Aeroelasticity and Control

- Numerical Simulations of Flutter and its Suppression by Active Control **J93-362**
 Reliability and Nonlinear Supersonic Flutter of Uncertain Laminated Plates **J93-361**
 Flutter Analysis of Stiffened Laminated Composite Plates and Shells in Supersonic Flow **J93-297**
 Stability of Fluttered Panels Subjected to In-Plane Harmonic Forces **J93-261**
 Nonlinear Large Amplitude Aeroelastic Behavior of Composite Rotor Blades **J93-232**
 Nonlinear Flutter of Orthotropic Composite Panel Under Aerodynamic Heating **J93-231**
 Supersonic Panel Flutter Analysis of Shallow Shells **J93-212**
 Supersonic Flutter Analysis of Composite Plates and Shells **J93-169**
 Alternative Approximations for Integrated Control/Structure Aeroservoelastic Synthesis **J93-168**
 Large-Amplitude Finite Element Flutter Analysis of Composite Panels in Hypersonic Flow **J93-167**
 Parameter-Transfer Finite Element Method for Structural Analysis **J93-140**
 Coupling Between a Supersonic Boundary Layer and a Flexible Surface **J93-104**
 Finite Element Analysis of Large-Amplitude Panel Flutter of Thin Laminates **J93-103**
 Structure-Attached Corotational Fluid Grid for Transient Aeroelastic Computations **J93-089**
 Helicopter Trim Analysis by Shooting and Finite Element Methods with Optimally Damped Newton Iterations **J93-038**
 Finite Element Nonlinear Panel Flutter with Arbitrary Temperatures in Supersonic Flow **J93-024**
 Direct Solution of Two-Dimensional Navier-Stokes Equations for Static Aeroelasticity Problems **J93-023**
 Modeling, Analysis, and Prediction of Flutter at Transonic Speeds **J93-022**

Dynamic Model Analysis

- Reflection of Planar Shock Waves from Rubber Walls: Uniaxial Strain Case **J93-343**
 Spin Stability of Undamped Flexible Structures Rotating About the Minor Axis **J93-336**
 Mass-Additive Modal Test Method for Verification of Constrained Structural Models **J93-335**
 Mode Localization Experiments on a Ribbed Antenna **J93-301**
 Dynamic Continuum Plate Representations of Large Thin Lattice Structures **J93-273**
 Comparison of Advanced Reduced-Basis Methods for Transient Structural Analysis **J93-266**
 Updating Finite Element Dynamic Models Using an Element-by-Element Sensitivity Methodology **J93-265**
 Forced Harmonic Response Analysis of Nonlinear Structures Using Describing Functions **J93-203**
 Eigenvector Error Bounds and Their Applications to Structural Modification **J93-111**
 Multisine Multiexcitation in Frequency Response Function Estimation **J93-037**

Flexible and Active Structures

- Prestressing a Space Structure **J93-308**
 Sensor Placement for On-Orbit Modal Identification via a Genetic Algorithm **J93-300**
 Optimal Placement of Active Elements in Control Augmented Structural Synthesis **J93-298**
 Structural Modeling of Composite Beams with Induced-Strain Actuators **J93-264**
 Exact Solutions for Static Analysis of Intelligent Structures **J93-263**
 Stability Criteria of Structural Control with Systems Noncollocated Velocity Feedback **J93-213**
 Enhancing Induced Strain Actuator Authority Through Discrete Attachment to Structural Elements **J93-199**
 Analysis of Distributed Thermopiezoelectric Sensors and Actuators in Advanced Intelligent Structures **J93-198**
 Optimal Location of Actuators for Active Damping of Vibration **J93-197**
 Finite Element Modeling of Piezoelectric Sensors and Actuators **J93-141**
 Optimal Selection of Weighting Matrices in Integrated Design of Structures/Controls **J93-105**

Materials Structural Properties

- Behavior of Laminated Composites Under Monotonically Increasing Random Load **J93-364**
 Smooth Contact of Orthotropic Laminates by Rigid Cylinders **J93-299**
 Material Model for Composites Using Neural Networks **J93-243**
 Analysis of Passive Damping in Thick Composite Structures **J93-234**
 Delamination in Cross-Ply Laminated Composite Subjected to Low-Velocity Impact **J93-233**
 Enhanced Composite Plate Damping Using Intercalated Graphite Fiber **J93-109**
 Thin-Walled Tubes Subjected to Combined Internal Pressure and Axial Load **J93-057**

Structural Composite Materials

- Free Vibration Analysis of Laminated Plates Using a Layerwise Theory **J93-365**
 Behavior of Laminated Composites Under Monotonically Increasing Random Load **J93-364**
 Thermoviscoelastic Analysis of Delamination Onset and Free Edge Response in Laminated Composites **J93-363**

- Reliability and Nonlinear Supersonic Flutter of Uncertain Laminated Plates **J93-361**
- Reliability Analysis of Laminated Ceramic Matrix Composites Using Shell Subelement Techniques **J93-342**
- Analysis of Instability-Related Delamination Growth Using a Crack Tip Element **J93-332**
- Approximate Elasticity Solution for Laminated Anisotropic Finite Cylinders **J93-331**
- Transverse Shear Deformation in Exact Buckling and Vibration of Composite Plate Assemblies **J93-309**
- Strain Energy of Thermally Stressed Multilayer Panels and Its Sensitivity Coefficients **J93-303**
- Application of Lamination Parameters to Reliability-Based Stiffness Design of Composites **J93-302**
- Smooth Contact of Orthotropic Laminates by Rigid Cylinders **J93-299**
- Flutter Analysis of Stiffened Laminated Composite Plates and Shells in Supersonic Flow **J93-297**
- Structural Modeling of Composite Beams with Induced-Strain Actuators **J93-264**
- Exact Solutions for Static Analysis of Intelligent Structures **J93-263**
- Application of the Variational-Asymptotical Method to Laminated Composite Plates **J93-262**
- Postbuckling Analysis of Composite Laminated Cylindrical Panels Under Axial Compression **J93-244**
- Material Model for Composites Using Neural Networks **J93-243**
- Analysis of Passive Damping in Thick Composite Structures **J93-234**
- Nonlinear Flutter of Orthotropic Composite Panel Under Aerodynamic Heating **J93-231**
- Nonlinear Response of Asymmetrically Laminated Plates in Cylindrical Bending **J93-214**
- Efficient Higher Order Composite Plate Theory for General Lamination Configurations **J93-201**
- Postbuckling Failure of Composite Plates with Holes **J93-200**
- Comparison of Eight Variations of a Higher-Order Theory for Cylindrical Shells **J93-171**
- Interlaminar Stresses Around a Hole in Symmetric Cross-Ply Laminates Under Bending/Torsion **J93-170**
- Supersonic Flutter Analysis of Composite Plates and Shells **J93-169**
- Optimization of Laminate Stacking Sequence for Buckling Load Maximization by Genetic Algorithm **J93-144**
- Nonlinear Large Amplitude Vibration of Composite Helicopter Blade at Large Static Deflection **J93-142**
- Optimum Design of Laminated Composite Plates Using Lamination Parameters **J93-139**
- Optimum Fiber Orientation Angle of Multiaxially Laminated Composites Based on Reliability **J93-138**
- Eigenvalue Sensitivity with Respect to Location of Internal Stiffness and Mass Attachments **J93-118**
- Refined Shear Deformation Theory of Laminated Shells **J93-112**
- In-Plane Response of Laminates with Spatially Varying Fiber Orientations: Variable Stiffness Concept **J93-110**
- Enhanced Composite Plate Damping Using Intercalated Graphite Fiber **J93-109**
- Dynamic Analysis and Design of Laminated Composite Beams with Multiple Damping Layers **J93-108**
- Vibration and Damping Analysis of Composite Laminates Using Shear Deformable Finite Element **J93-107**
- Analysis of Delamination Initiation in Postbuckled Dropped-Ply Laminates **J93-106**
- Compression Buckling Response of Tailored Rectangular Composite Plates **J93-088**
- Anomalous Swelling Behavior of FM 5055 Carbon Phenolic Composite **J93-087**
- Optimal Design of Laminated Composite Plates in a Fuzzy Environment **J93-086**
- Axisymmetric Buckling of Antisymmetrically Laminated Spherical Caps **J93-063**
- Probabilistic Nonlinear Finite Element Analysis of Composite Structures **J93-055**
- Vibration of a Sandwich Plate Strip of Linearly Varying Thickness **J93-054**
- Layer-Wise Approach for the Bifurcation Problem in Laminated Composites with Delaminations **J93-051**
- Buckling or Transverse Deflections of Unsymmetrically Laminated Plates Subjected to In-Plane Loads **J93-028**
- Transverse Shear Effects on Buckling and Postbuckling of Laminated and Delaminated Plates **J93-025**

Structural Design

- Optimization of Boundary Conditions for Maximum Fundamental Frequency of Vibrating Structures **J93-367**
- Design Sensitivity Analysis for Repeated Eigenvalues in Structural Design **J93-366**
- Structural Optimization with Frequency Constraints—A Review **J93-360**
- Shape Optimization by Using Simulated Biological Growth Approaches **J93-334**
- Implementation of Design Sensitivity Analysis for Nonlinear Elastic Structures **J93-333**
- Prestressing a Space Structure **J93-308**
- Multiobjective Optimization of Large-Scale Structures **J93-205**
- Semi-Analytical Static Nonlinear Structural Sensitivity Analysis **J93-202**
- Optimal Location of Actuators for Active Damping of Vibration **J93-197**
- Modified Solution for Finding the Optimal Angle of Spacecraft Walls Under Orbital Debris Impacts **J93-179**
- Comparison of Eight Variations of a Higher-Order Theory for Cylindrical Shells **J93-171**
- Approximation of Parameter Uncertainty in Nonlinear Optimization-Based Parameter Estimation Schemes **J93-143**
- Optimum Fiber Orientation Angle of Multiaxially Laminated Composites Based on Reliability **J93-138**
- In-Plane Response of Laminates with Spatially Varying Fiber Orientations: Variable Stiffness Concept **J93-110**
- Optimal Selection of Weighting Matrices in Integrated Design of Structures/Controls **J93-105**
- Compression Buckling Response of Tailored Rectangular Composite Plates **J93-088**
- Constrained Conjugate Directions Methods for Design Optimization of Large Systems **J93-058**
- Buckling or Transverse Deflections of Unsymmetrically Laminated Plates Subjected to In-Plane Loads **J93-028**
- Approximation-Based Global Optimization Strategy for Structural Synthesis **J93-027**

Structural Durability (Including Fatigue, Fracture, and Environmental Degradation)

- Thermoviscoelastic Analysis of Delamination Onset and Free Edge Response in Laminated Composites **J93-363**
- Reliability and Nonlinear Supersonic Flutter of Uncertain Laminated Plates **J93-361**

- Shape Optimization by Using Simulated Biological Growth Approaches **J93-334**
- Modified Solution for Finding the Optimal Angle of Spacecraft Walls Under Orbital Debris Impacts **J93-179**
- Review of Crack Propagation Under Unsteady Loading **J93-166**

Structural Dynamics and Characterization

- Investigation of the Stress Distributions in Corner Tensioned Rectangular Membranes **J93-369**
- Optimization of Boundary Conditions for Maximum Fundamental Frequency of Vibrating Structures **J93-367**
- Design Sensitivity Analysis for Repeated Eigenvalues in Structural Design **J93-366**
- Free Vibration Analysis of Laminated Plates Using a Layerwise Theory **J93-365**
- Reflection of Planar Shock Waves from Rubber Walls: Uniaxial Strain Case **J93-343**
- Mass-Additive Modal Test Method for Verification of Constrained Structural Models **J93-335**
- Improved Control Design Variable Linking for Optimization of Structural/Control Systems **J93-330**
- Effect of Acoustic Coupling on Random and Harmonic Plate Vibrations **J93-314**
- Design Sensitivity Analysis of Structural Frequency Response **J93-310**
- Mode Localization Experiments on a Ribbed Antenna **J93-301**
- Sensor Placement for On-Orbit Modal Identification via a Genetic Algorithm **J93-300**
- Smooth Contact of Orthotropic Laminates by Rigid Cylinders **J93-299**
- Boundary Formulations for Sensitivity Analysis Without Matrix Derivatives **J93-272**
- Comparison of Advanced Reduced-Basis Methods for Transient Structural Analysis **J93-266**
- Updating Finite Element Dynamic Models Using an Element-by-Element Sensitivity Methodology **J93-265**
- Passive Damping of Large Space Structures **J93-235**
- Analysis of Passive Damping in Thick Composite Structures **J93-234**
- Nonlinear Large Amplitude Aeroelastic Behavior of Composite Rotor Blades **J93-232**
- Nonlinear Flutter of Orthotropic Composite Panel Under Aerodynamic Heating **J93-231**
- Improved Method for Evaluating Damping Ratios of a Vibrating System **J93-215**
- Noise Transmission of Skin-Stringer Panels Using a Decaying Wave Method **J93-206**
- Eigensolutions Sensitivity for Nonsymmetric Matrices with Repeated Eigenvalues **J93-204**
- Forced Harmonic Response Analysis of Nonlinear Structures Using Describing Functions **J93-203**
- Second-Order Epsilon Decomposition Approach for System Identification **J93-180**
- Large-Amplitude Finite Element Flutter Analysis of Composite Panels in Hypersonic Flow **J93-167**
- Nonlinear Large Amplitude Vibration of Composite Helicopter Blade at Large Static Deflection **J93-142**
- Eigenvalue Sensitivity with Respect to Location of Internal Stiffness and Mass Attachments **J93-118**
- Eigenvector Error Bounds and Their Applications to Structural Modification **J93-111**
- Enhanced Composite Plate Damping Using Intercalated Graphite Fiber **J93-109**
- Dynamic Analysis and Design of Laminated Composite Beams with Multiple Damping Layers **J93-108**

- Vibration and Damping Analysis of Composite Laminates Using Shear Deformable Finite Element J93-107
- Finite Element Analysis of Large-Amplitude Panel Flutter of Thin Laminates J93-103
- Vibration of a Sandwich Plate Strip of Linearly Varying Thickness J93-054
- Mode Localization in Multispan Beams J93-053
- Formulation and Solution of Inverse Spaghetti Problem: Application to Beam Deployment Dynamics J93-052
- Multisine Multiexcitation in Frequency Response Function Estimation J93-037

Structural Finite Elements

- Thermoviscoelastic Analysis of Delamination Onset and Free Edge Response in Laminated Composites J93-363
- Large Displacement Axisymmetric Element for Nonaxisymmetric Deformation J93-344
- Design Sensitivity Analysis of Structural Frequency Response J93-310
- Application of Lamination Parameters to Reliability-Based Stiffness Design of Composites J93-302
- Flutter Analysis of Stiffened Laminated Composite Plates and Shells in Supersonic Flow J93-297
- Updating Finite Element Dynamic Models Using an Element-by-Element Sensitivity Methodology J93-265
- Postbuckling Analysis of Composite Laminated Cylindrical Panels Under Axial Compression J93-244
- Passive Damping of Large Space Structures J93-235
- Nonlinear Response of Asymmetrically Laminated Plates in Cylindrical Bending J93-214
- Supersonic Panel Flutter Analysis of Shallow Shells J93-212
- Analysis of Distributed Thermopiezoelectric Sensors and Actuators in Advanced Intelligent Structures J93-198
- Error Analysis of Finite Element Results on Plates with Nonuniform Grids J93-165
- Refined Shear Deformation Theory of Laminated Shells J93-112
- Analysis of Delamination Initiation in Postbuckled Dropped-Ply Laminates J93-106
- Optimal Design of Laminated Composite Plates in a Fuzzy Environment J93-086
- Reduced-Basis Technique for Evaluating the Sensitivity Coefficients of the Nonlinear Tire Response J93-056
- Probabilistic Nonlinear Finite Element Analysis of Composite Structures J93-055
- Formulation and Solution of Inverse Spaghetti Problem: Application to Beam Deployment Dynamics J93-052
- Layer-Wise Approach for the Bifurcation Problem in Laminated Composites with Delaminations J93-051

Structural Modeling

- Investigation of the Stress Distributions in Corner Tensioned Rectangular Membranes J93-369
- Evaluation of Kowalski's Method of Calculating Stresses at Internal Thread Reliefs J93-368
- Free Vibration Analysis of Laminated Plates Using a Layerwise Theory J93-365
- Implementation of Design Sensitivity Analysis for Nonlinear Elastic Structures J93-333
- Analysis of Instability-Related Delamination Growth Using a Crack Tip Element J93-332
- Structural Modeling of Composite Beams with Induced-Strain Actuators J93-264

- Exact Solutions for Static Analysis of Intelligent Structures J93-263
- Application of the Variational-Asymptotical Method to Laminated Composite Plates J93-262
- Material Model for Composites Using Neural Networks J93-243
- Passive Damping of Large Space Structures J93-235
- Efficient Higher Order Composite Plate Theory for General Lamination Configurations J93-201
- Postbuckling Failure of Composite Plates with Holes J93-200
- Comparison of Eight Variations of a Higher-Order Theory for Cylindrical Shells J93-171
- Optimum Design of Forging Die Shapes Using Nonlinear Finite Element Analysis J93-113
- Analysis of Delamination Initiation in Postbuckled Dropped-Ply Laminates J93-106
- Axisymmetric Buckling of Antisymmetrically Laminated Spherical Caps J93-063
- Thin-Walled Tubes Subjected to Combined Internal Pressure and Axial Load J93-057
- Reduced-Basis Technique for Evaluating the Sensitivity Coefficients of the Nonlinear Tire Response J93-056
- Multisine Multiexcitation in Frequency Response Function Estimation J93-037
- Flexure-Torsion Behavior of Prismatic Beams, Part I: Section Properties via Power Series J93-026
- Transverse Shear Effects on Buckling and Postbuckling of Laminated and Delaminated Plates J93-025

Structural Optimization

- Improved Coordination in Nonhierarchical System Optimization J93-370
- Optimization of Boundary Conditions for Maximum Fundamental Frequency of Vibrating Structures J93-367
- Design Sensitivity Analysis for Repeated Eigenvalues in Structural Design J93-366
- Structural Optimization with Frequency Constraints—A Review J93-360
- Alternative Approximation for Stresses in Plate Structures J93-338
- Optimization of Frequencies Spectrum in Vibrations of Flexible Structures J93-337
- Shape Optimization by Using Simulated Biological Growth Approaches J93-334
- Implementation of Design Sensitivity Analysis for Nonlinear Elastic Structures J93-333
- Improved Control Design Variable Linking for Optimization of Structural/Control Systems J93-330
- Design Sensitivity Analysis of Structural Frequency Response J93-310
- Transverse Shear Deformation in Exact Buckling and Vibration of Composite Plate Assemblies J93-309
- Prestressing a Space Structure J93-308
- Optimal Placement of Active Elements in Control Augmented Structural Synthesis J93-298
- Dynamic Continuum Plate Representations of Large Thin Lattice Structures J93-273
- Mesh Distortion Control in Shape Optimization J93-216
- Eigensolutions Sensitivity for Nonsymmetric Matrices with Repeated Eigenvalues J93-204
- Multiobjective Optimization of Large-Scale Structures J93-205
- Eigensolutions Sensitivity for Nonsymmetric Matrices with Repeated Eigenvalues J93-204
- Semi-Analytical Static Nonlinear Structural Sensitivity Analysis J93-202
- Optimal Location of Actuators for Active Damping of Vibration J93-197

- Actuator Placement Optimization by Genetic and Improved Simulated Annealing Algorithms J93-181
- Design of Frames Against Buckling Using a Rayleigh Quotient Approximation J93-173
- Optimization of Laminated Stacking Sequence for Buckling Load Maximization by Genetic Algorithm J93-144
- Approximation of Parameter Uncertainty in Nonlinear Optimization-Based Parameter Estimation Schemes J93-143
- Optimum Design of Laminated Composite Plates Using Lamination Parameters J93-139
- Optimum Design of Forging Die Shapes Using Nonlinear Finite Element Analysis J93-113
- Optimal Selection of Weighting Matrices in Integrated Design of Structures/Controls J93-105
- Optimal Design of Laminated Composite Plates in a Fuzzy Environment J93-086
- Constrained Conjugate Directions Methods for Design Optimization of Large Systems J93-058
- Approximation-Based Global Optimization Strategy for Structural Synthesis J93-027

Structural Stability

- Transverse Shear Deformation in Exact Buckling and Vibration of Composite Plate Assemblies J93-309
- Stability of Fluttered Panels Subjected to In-Plane Harmonic Forces J93-261
- Postbuckling Analysis of Composite Laminated Cylindrical Panels Under Axial Compression J93-244
- Static and Dynamic, Local and Global, Bifurcations in Nonlinear Autonomous Structural Systems J93-230
- Static and Dynamic, Local and Global, Bifurcations in Nonlinear Autonomous Structural Systems J93-230
- Nonlinear Response of Asymmetrically Laminated Plates in Cylindrical Bending J93-214
- Semi-Analytical Static Nonlinear Structural Sensitivity Analysis J93-202
- Postbuckling Failure of Composite Plates with Holes J93-200
- Design of Frames Against Buckling Using a Rayleigh Quotient Approximation J93-173
- Optimization of Laminated Stacking Sequence for Buckling Load Maximization by Genetic Algorithm J93-144
- Compression Buckling Response of Tailored Rectangular Composite Plates J93-088
- Axisymmetric Buckling of Antisymmetrically Laminated Spherical Caps J93-063
- Layer-Wise Approach for the Bifurcation Problem in Laminated Composites with Delaminations J93-051
- Buckling or Transverse Deflections of Unsymmetrically Laminated Plates Subjected to In-Plane Loads J93-028
- Transverse Shear Effects on Buckling and Postbuckling of Laminated and Delaminated Plates J93-025

Thermal Effects

- Strain Energy of Thermally Stressed Multilayer Panels and Its Sensitivity Coefficients J93-303

Thermophysics and Heat Transfer

Aerothermodynamics/Thermal Protection

- Analysis of Thermochemical Nonequilibrium Models for Carbon Dioxide Flows J93-355

Mixed Convection

Hydrodynamics, Gravitational Sensitivity, and Transport Phenomena in Continuous Flow Electrophoresis **J93-154**

Nonintrusive Diagnostics

Intensified Array Camera Imaging of Solid Surface Combustion Aboard the NASA Learjet **J93-116**

Laser Absorption Measurements of OH Concentration and Temperature in Pulsed Facilities **J93-074**

Progress in Laser Spectroscopic Techniques for Aerodynamic Measurements: An Overview **J93-071**

Thermochemistry and Chemical Kinetics

Analysis of Thermochemical Nonequilibrium Models for Carbon Dioxide Flows **J93-355**

Vibrational Nonequilibrium Effects on Diatomic Dissociation Rates **J93-321**

Phase Nonequilibrium Effects on the Gain of a Two-Phase Flow Gasdynamic Laser **J93-229**

Theoretical Estimates of Vibrational Relaxation in Nitrogen up to 40,000 K **J93-161**

Hypersonic Nonequilibrium Flow Computations Using the Roe Flux-Difference Split Scheme **J93-121**

Strong Vibrational Nonequilibrium in Supersonic Nozzle Flows **J93-019**

Author Index

- Abbas, J. F., **J93-231**
 Abbud-Madrid, A., **J93-341**
 Abou-Elail, M. M. M., **J93-240**
 Acar, H., **J93-175**
 Achar, N. S., **J93-038**
 Acharya, S., **J93-285**
 Admire, J. R., **J93-335**
 Affes, H., **J93-356, J93-357**
 Ahmed, A., **J93-034, J93-083**
 Ahmed, S., **J93-153**
 Ahuja, K. K., **J93-090, J93-166**
 Allen, J. J., **J93-143**
 Allen, M. G., **J93-075, J93-076**
 Alwar, R. S., **J93-063**
 Amon, C. H., **J93-008**
 Anderson, M. S., **J93-309**
 Annen, K. D., **J93-328**
 Argrow, B. M., **J93-035**
 Arora, J. S., **J93-058, J93-333**
 Arruda, J. R. de França, **J93-037**
 Atassi, H. M., **J93-004**
 Atilgan, A. R., **J93-262**
 Atli, V., **J93-175**
 Ayer, T. C., **J93-311**
 Azevedo, D. J., **J93-014**
 Bachar, T., **J93-322**
 Baeder, J. D., **J93-146**
 Bakhle, M. A., **J93-211**
 Barboni, R., **J93-140**
 Barnett, M., **J93-281, J93-311**
 Barnwell, R. W., **J93-007**
 Barry, J. W., **J93-242**
 Batina, J. T., **J93-119, J93-124, J93-256**
 Batt, R. G., **J93-236**
 Bayliss, A., **J93-104**
 Bays-Muchmore, B., **J93-083**
 Bearman, P. W., **J93-276**
 Bedard, A. J., Jr., **J93-248**
 Beddini, R. A., **J93-013**
 Belegundu, A. D., **J93-216**
 Belk, D. M., **J93-218**
 Bello, M. S., **J93-154**
 Ben-Dor, G., **J93-343**
 Bendiksen, O. O., **J93-053, J93-162**
 Benson, T. J., **J93-120**
 Berdahl, C. H., **J93-016**
 Bernal, L. P., **J93-066**
 Bettelini, M. S. G., **J93-155**
 Bharadvaj, B. K., **J93-291**
 Bharatram, G., **J93-205**
 Bhargava, R. R., **J93-054**
 Bhattacharya, R., **J93-263**
 Biber, K., **J93-050, J93-070**
 Biggers, S. B., **J93-088**
 Bilanin, A. J., **J93-242**
 Bippes, H., **J93-094**
 Bismarck-Nasr, M. N., **J93-212**
 Bloesch, E., **J93-353**
 Bogdanovich, A. E., **J93-364**
 Bostic, S. W., **J93-266**
 Bozzola, R., **J93-324**
 Bradshaw, P., **J93-188, J93-252**
 Bragg, M. B., **J93-208, J93-358**
 Braun, S. G., **J93-111**
 Bray, D., **J93-371**
 Brown, W. H., **J93-090**
 Bryan, H. H., **J93-166**
 Buning, P. G., **J93-268**
 Burmeister, M., **J93-099**
 Burr, R. F., **J93-320**
 Burrell, R. E., **J93-296**
 Busby, H. R., **J93-336**
 Cabell, R. H., **J93-250**
 Caillé, J., **J93-005**
 Camarero, R., **J93-293**
 Candler, G. V., **J93-193, J93-355**
 Canfield, R. A., **J93-173**
 Canupp, P. W., **J93-193**
 Carpenter, P. W., **J93-184**
 Carrera, E., **J93-214**
 Carroll, B. F., **J93-353**
 Carroll, D. L., **J93-102**
 Casademunt, J., **J93-318**
 Cathcart, G. P., **J93-126**
 Cattafesta, L. N., III, **J93-069**
 Cavolowsky, J. A., **J93-074**
 Champion, M., **J93-134**
 Chan, S. H., **J93-240**
 Chandra, R., **J93-264**
 Chandrasekhara, M. S., **J93-153**
 Chang, K.-C., **J93-012**
 Chao, B. T., **J93-375**
 Chao, J.-C., **J93-299**
 Chapman, D. R., **J93-160**
 Chaudhry, Z., **J93-199**
 Chaviaropoulos, P., **J93-082**
 Cheer, A. Y., **J93-176**
 Chen, F. Y., **J93-261**
 Chen, H.-P., **J93-025**
 Chen, J. L., **J93-334**
 Chen, K.-H., **J93-136**
 Chen, T.-Y., **J93-366**
 Cheng, J.-C., **J93-255**
 Chew, L., **J93-359**
 Chieng, C. C., **J93-123**
 Chin, Y.-S., **J93-317**
 Cho, M., **J93-201**
 Choi, D., **J93-045**
 Choi, K. Y., **J93-221**
 Chopra, I., **J93-196, J93-264**
 Chow, W. L., **J93-097**
 Christiansen, D., **J93-109**
 Christiansen, W., **J93-359**
 Chua, K., **J93-306**
 Chuang, C. C., **J93-123**
 Chuech, S. G., **J93-158**
 Chung, K.-M., **J93-191**
 Chyu, W. J., **J93-117, J93-132, J93-286**
 Clark, W. S., **J93-081**
 Coakley, T. J., **J93-252**
 Cole, J. D., **J93-137**
 Coleman, H. W., **J93-296**
 Collins, M. W., **J93-251**
 Colonus, T., **J93-249**
 Conlisk, A. T., **J93-356, J93-357**
 Constantinescu, V. N., **J93-152**
 Cox, R. A., **J93-035**
 Crawford, J. M., **J93-369**
 Crites, R. C., **J93-064**
 Cunningham, W. J., Jr., **J93-248**
 Cutler, A. D., **J93-349**
 Dagher, S. N., **J93-080**
 Damelin, S. B., **J93-145**
 Damodaran, K. A., **J93-209**
 Dasgupta, A., **J93-114**
 Davidson, B. D., **J93-332**
 Dávila, C. G., **J93-106**
 Davis, C. M., **J93-004**
 Davis, G. A., **J93-162**
 Davis, S. J., **J93-076**
 de Gavelle de Roany, A. C., **J93-019**
 Dedoussis, V., **J93-082**
 Deng, X.-Y., **J93-147**
 Deshaies, B., **J93-134**
 Deshpande, A. S., **J93-235**
 Deyhle, H., **J93-094**
 Dimotakis, P. E., **J93-354**
 Dixon, I. R., **J93-103**
 Dohrmann, C. R., **J93-336**
 Dolling, D. S., **J93-047, J93-221**
 Donovan, J. F., **J93-064**
 Dowell, E. H., **J93-172**
 Downer, J. D., **J93-052**
 Drikakis, D., **J93-278**
 Dubois, F., **J93-031**
 Duffy, S. F., **J93-342**
 Dugundji, J., **J93-142, J93-232**
 Duke, R., **J93-270**
 Dumitrescu, L. Z., **J93-130**
 Dusey, M., **J93-004**
 Dutton, J. C., **J93-067, J93-320, J93-323**
 Dzenis, Y. A., **J93-364**
 Eaton, J. K., **J93-349**
 Eberhardt, D. S., **J93-312**
 Edwards, J. R., **J93-010, J93-190**
 Eidelman, S., **J93-274**
 Elbay, M. K., **J93-175**
 Elwi, A. E., **J93-344**
 Emanuel, G., **J93-228**
 Ende, H., **J93-164**
 Engelstad, S. P., **J93-055**
 Erengil, M. E., **J93-047**
 Erickson, W. D., **J93-193**
 Ericsson, L. E., **J93-247**
 Faeth, G. M., **J93-227**
 Falconi, D., **J93-187**
 Falcovitz, J., **J93-148**
 Fan, S., **J93-281**
 Fanneløp, T. K., **J93-155**
 Farhat, C., **J93-089, J93-265**
 Fasel, H., **J93-092**
 Felker, F. F., **J93-023**
 Fernando, E. M., **J93-044**
 Ferziger, J. H., **J93-085, J93-100, J93-222**
 Fico, N. G. C. R., Jr., **J93-021**
 Figueira da Silva, L. F., **J93-134**
 Flament, C., **J93-019**
 Foutter, R. R., **J93-075, J93-076**
 Frendi, A., **J93-104, J93-314**
 Friedmann, P. P., **J93-053**
 Fu, T. C., **J93-018**
 Fujiwara, T., **J93-288**
 Fuller, C. R., **J93-250**
 Fung, K.-Y., **J93-022**
 Gabriele, G. A., **J93-370**
 Gaitonde, D., **J93-121, J93-189**
 Gaonkar, G. H., **J93-038**
 Garrison, T. J., **J93-348**
 Gaudenzi, P., **J93-140**
 George, A., **J93-164**
 Gibson, R. F., **J93-231**
 Glauser, M., **J93-220**
 Godfrey, A. G., **J93-257**
 Goo, N. S., **J93-086**
 Gordon, S. J., **J93-102**
 Gorman, D. G., **J93-215**
 Gorman, D. J., **J93-369**
 Graham, W. B., **J93-369**
 Grandhi, R. V., **J93-113, J93-205, J93-360**
 Grass, A. J., **J93-128**
 Grasso, F., **J93-187, J93-271**
 Gray, C. E., Jr., **J93-167**
 Greber, I., **J93-049**
 Greenblatt, D., **J93-145**
 Griffin, O. H., Jr., **J93-051**
 Gruber, M. R., **J93-323**
 Gu, W., **J93-183**
 Gunzburger, M., **J93-001**
 Gupta, A. P., **J93-054**
 Gürdal, Z., **J93-051, J93-110**
 Gyekenyesi, J. P., **J93-342**
 Haftka, Raphael T., **J93-144, J93-202**
 Hahn, T. O., **J93-132**
 Hailye, M., **J93-159**
 Hall, J. L., **J93-354**
 Hall, K. C., **J93-081, J93-135**
 Han, C. S., **J93-113**
 Hanawa, Y., **J93-181**
 Handler, R. A., **J93-315**