

1992 AIAA Journal Index

How to Use the Index

In the Subject Index, pages 3006–3019, 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, page 3020–3022, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 3023–3039, 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 1992, 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 3039, lists the books reviewed during 1992, the author, publisher, reviewer, and the issue, number, and page on which the review appeared.

Subject Index

- | | | |
|--|---|---|
| <p>Aircraft Technology, Conventional, STOL/VTOL</p> <p>Aerodynamics</p> <p>Crossflow Aerodynamic Characteristics of a Noncircular Cylinder with and Without Strakes J92-455</p> <p>Development of the Wake of an Airfoil with Riblets J92-448</p> <p>Determination of Vortex Burst Location on Delta Wings from Surface Pressure Measurements J92-428</p> <p>Generalized Vortex Lattice Method for Oscillating Lifting Surfaces in Subsonic Flow J92-426</p> <p>Analytical Solutions for Hypersonic Flow Past Slender Power-Law Bodies at Small Angle of Attack J92-421</p> <p>Implicit Navier-Stokes Solver for Three-Dimensional Compressible Flows J92-417</p> <p>Unsteady Turbulent Skin-Friction Measurement in an Adverse Pressure Gradient J92-416</p> <p>Generalized Multipoint Inverse Airfoil Design J92-412</p> <p>Far-Field Computational Boundary Conditions for Two-Dimensional External Flow Problems J92-407</p> <p>Efficient Iterative Methods for the Transonic Small Disturbance Equation J92-398</p> <p>Dynamical Scaling of a Model Unsteady Separating Flow J92-397</p> <p>Analysis of the Onset of Dynamic Stall J92-384</p> <p>Reduction of the Side Force on Pointed Forebodies Through Add-On Tip Devices J92-333</p> <p>Methodology for Calculating Aerodynamic Sensitivity Derivatives J92-376</p> <p>Flowfield of a Lifting Rotor in Hover: A Navier-Stokes Simulation J92-371</p> <p>Induced Drag of a Wing in a Circular Wind Tunnel J92-360</p> <p>Three-Dimensional Wings and Waveriders with Attached Shock Waves J92-355</p> <p>Fourier Functional Analysis for Unsteady Aerodynamic Modeling J92-346</p> <p>Stretching of Freestream Turbulence in the Stagnation Region J92-338</p> <p>Effect of Wing Tip Vortices on a Trailing Aircraft J92-336</p> | <p>Effects of a Leading-Edge Fillet on the Flow Past an Appendage-Body Junction J92-334</p> <p>Taylor Series Approximation of Geometric Shape Variation for the Euler Equations J92-331</p> <p>Effect of Model Cooling on Periodic Transonic Flow J92-315</p> <p>Parallel Computing Strategies for Block Multigrid Implicit Solution of the Euler Equations J92-309</p> <p>Joint Computational/Experimental Aerodynamics Research on a Hypersonic Vehicle, Part 2: Computational Results J92-306</p> <p>Joint Computational/Experimental Aerodynamics Research on a Hypersonic Vehicle, Part 1: Experimental Results J92-305</p> <p>Compact Higher Order Characteristic-Based Euler Solver for Unstructured Grids J92-304</p> <p>Simplified Linear Stability Transition Prediction Method for Separated Boundary Layers J92-298</p> <p>Streamlines, Vorticity Lines, and Vortices Around Three-Dimensional Bodies J92-272</p> <p>Three-Dimensional Unstructured Multigrid for the Euler Equations J92-263</p> <p>Aerodynamic Characteristics of Hoar Frost Roughness J92-255</p> <p>Nonuniform Motion of Leading-Edge Vortex Breakdown on Ramp Pitching Delta Wings J92-254</p> <p>Calculation of Potential Flow Around Airfoils Using a Discrete Vortex Method J92-253</p> <p>Effect of Tunnel Walls on Vortex Breakdown Location over Delta Wings J92-233</p> <p>Measurements in a Leading-Edge Separation Bubble due to a Simulated Airfoil Ice Accretion J92-216</p> <p>Domain-Decomposition Algorithm Applied to Multielement Airfoil Grids J92-215</p> <p>High Alpha Aerodynamic Control by Tangential Fuselage Blowing J92-196</p> <p>Compressible Turbulent Boundary Layers with Heat Addition by Homogeneous Condensation J92-191</p> <p>Multipoint Inverse Airfoil Design Method Based on Conformal Mapping J92-175</p> | <p>High Aerodynamic Loads on an Airfoil Submerged in an Unsteady Stream J92-161</p> <p>Experimental Investigations of the Vortex Flow on Delta Wings at High Incidence J92-151</p> <p>Calculation of Real-Gas Effects on Blunt Body Trim Angles J92-148</p> <p>Flow Near the Trailing Edge of an Airfoil J92-130</p> <p>Approximate Formula of Weak Oblique Shock Wave Angle J92-121</p> <p>Experimental Investigation of the Perpendicular Rotor Blade-Vortex Interaction at Transonic Speeds J92-108</p> <p>Effect of Airfoil (Trailing-Edge) Thickness on the Numerical Solution of Panel Methods Based on the Dirichlet Boundary Condition J92-102</p> <p>Numerical Investigation of Vortex Breakdown on a Delta Wing J92-088</p> <p>Numerical Investigation of Laminar Separated Trailing-Edge Flows J92-087</p> <p>Zonal Flow Analysis Method for Two-Dimensional Airfoils J92-075</p> <p>Unsteady Pressure Field and Vorticity Production over a Pitching Airfoil J92-056</p> <p>Local Solution Acceleration Method for the Euler and Navier-Stokes Equations J92-049</p> <p>Unsteady Circulation Control Aerodynamics of a Circular Cylinder with Periodic Jet Blowing J92-042</p> <p>Importance of Fresh Air in Manometer Tubing J92-040</p> <p>Interaction of a Planar Shock Wave with a Double-Wedge-Like Structure J92-038</p> <p>Turbulent Boundary-Layer Characteristics over a Flat-Plate/Wedge Configuration at Mach 6 J92-036</p> <p>Asymmetric Separated Flows at Supersonic Speeds J92-017</p> <p>Measurements of the Flow Around a Lifting-Wing/Body Junction J92-001</p> <p>Unsteady Separation over Maneuvering Bodies J90-340</p> <p>Aeroelasticity and Aeroservoelasticity</p> <p>Flutter Suppression of Thin Airfoils Using Active Acoustic Excitations J92-457</p> <p>Method of Simulating Unsteady Turbomachinery Flows with Multiple Perturbations J92-427</p> |
|--|---|---|

Nonlinear Vibration and Radiation from a Panel with Transition to Chaos J92-414
Vortical Flow Computations on a Flexible Blended Wing-Body Configuration J92-387

Aeroelastic Modal Characteristics of Mistuned Blade Assemblies: Mode Localization and Loss of Eigenstructure J92-386

Helicopter Rotor Blade Aeroelasticity in Forward Flight with an Implicit Structural Formulation J92-348

Sensitivity Analysis of Discrete Periodic Systems with Applications to Helicopter Rotor Dynamics J92-299

Spatial Adaptation of Unstructured Meshes for Unsteady Aerodynamic Flow Computations J92-186

Exploratory Design Studies of Actively Controlled Wings Using Integrated Multidisciplinary Synthesis J92-176

Nonlinear Vibrations of Rectangular Laminated Thin Plates J92-024

Time Domain Flutter Analysis of Cascades Using a Full-Potential Solver J92-022

Nonlinear Stall Flutter and Divergence Analysis of Cantilevered Graphite/Epoxy Wings J92-021

Streamwise Upwind Algorithm for Computing Unsteady Transonic Flows Past Oscillating Wings J91-263

Aerospace Plane

Navier-Stokes Computation of Wing/Rotor Interaction for a Tilt Rotor in Hover J92-408

Navier-Stokes Simulation for Cone-Derived Waverider J92-225

Similarity in Supersonic Mixing Layers J92-190

Noise

Effect of Modal Interaction on Sound Radiation from Vibrating Structures J92-449

Aeroacoustic Environment of an Advanced Short Takeoff and Vertical Landing Aircraft in Hover J92-410

Advanced Propeller Noise Prediction in the Time Domain J92-357

Direct Frequency Domain Calculation of Open Rotor Noise J92-356

Relationship Between Instability Waves and Noise of High-Speed Jets J92-262

High-Speed Propeller Noise Prediction—A Multidisciplinary Approach J92-258

Study of Intensification Zones in a Rectangular Acoustic Cavity J92-180

Asymptotic Modal Analysis of a Rectangular Acoustic Cavity Excited by Wall Vibration J92-179

Identification of Helicopter Noise Using a Neural Network J92-093

Models of Space-Averaged Energetics of Plates J92-092

Plate Acceleration and Sound Transmission Due to Random Acoustic and Boundary-Layer Excitation J92-090

Higher Approximations in the Asymptotic Theory of Propeller Noise J92-003

Powerplant Integration

Higher Approximations in the Asymptotic Theory of Propeller Noise J92-003

Propeller and Rotor Systems

Flowfield of a Lifting Rotor in Hover: A Navier-Stokes Simulation J92-371

Advanced Propeller Noise Prediction in the Time Domain J92-357

Direct Frequency Domain Calculation of Open Rotor Noise J92-356

Vibration of Spinning Ring-Stiffened Thin Cylindrical Shells J92-350

Sensitivity Analysis of Discrete Periodic Systems with Applications to Helicopter Rotor Dynamics J92-299

High-Speed Propeller Noise Prediction—A Multidisciplinary Approach J92-258

Boundary Element Method for the Analysis of the Unsteady Flow Around Extreme Propeller Geometries J92-101

Discretization Errors Inherent in Finite Difference Solution of Propeller Noise Problems J92-091

Extension-Bend-Twist Coupling Behavior of Nonhomogeneous Anisotropic Beams with Initial Twist J92-072

Rotorcraft

Helicopter Rotor Blade Aeroelasticity in Forward Flight with an Implicit Structural Formulation J92-348

Sensitivity Analysis of Discrete Periodic Systems with Applications to Helicopter Rotor Dynamics J92-299

Adequacy of Modeling Turbulence and Related Effects on Helicopter Response J92-217

Experimental Investigation of the Perpendicular Rotor Blade-Vortex Interaction at Transonic Speeds J92-108

Identification of Helicopter Noise Using a Neural Network J92-093

Extension-Bend-Twist Coupling Behavior of Nonhomogeneous Anisotropic Beams with Initial Twist J92-072

Safety

Analysis of Fastened Structural Connections J92-431

Selection of Noisy Measurement Locations for Error Reduction in Static Parameter Identification J92-351

Aerodynamic Characteristics of Hoar Frost Roughness J92-255

STOL/VTOL/STOVL

Aeroacoustic Environment of an Advanced Short Takeoff and Vertical Landing Aircraft in Hover J92-410

Navier-Stokes Computation of Wing/Rotor Interaction for a Tilt Rotor in Hover J92-408

Adequacy of Modeling Turbulence and Related Effects on Helicopter Response J92-217

Impingement Tones of Large Aspect Ratio Supersonic Rectangular Jets J92-044

Structural Design (Including Loads)

Analysis of Fastened Structural Connections J92-431

Selection of Noisy Measurement Locations for Error Reduction in Static Parameter Identification J92-351

Composite Laminated Shells Under Internal Pressure J92-250

Optimum Design of a Composite Structure with Three Types of Manufacturing Constraints J92-249

Influence of Geometric Nonlinearities on Skin-Stiffener Interface Stresses J92-154

Nonlinear Membership Functions in Multiojective Fuzzy Optimization of Mechanical and Structural Systems J92-032

Structural Materials

Role of Matrix in Viscoplastic Behavior of Thermoplastic Composites at Elevated Temperature J92-404

Influence of Geometric Nonlinearities on Skin-Stiffener Interface Stresses J92-154

Elastoviscoplastic Buckling Behavior of Simply Supported Columns J92-033

Testing, Flight and Ground

Importance of Fresh Air in Manometer Tubing J92-040

Vibration

Criterion for Decoupling Dynamic Equations of Motion of Linear Gyroscopic Systems J92-480

Active Control of Interior Noise in Model Aircraft Fuselages Using Piezoceramic Actuators J92-411

Aeroelastic Modal Characteristics of Mistuned Blade Assemblies: Mode Localization and Loss of Eigenstructure J92-386

Free Vibration Analysis of Rectangular Plates with Free Edges and Line Support Along Diagonals J92-363

Vibration of Spinning Ring-Stiffened Thin Cylindrical Shells J92-350

Accelerated Subspace Iteration for Eigenvector Derivatives J92-321

Dynamic Condensation Method for Structural Eigenvalue Analysis J92-154

Stability of Elastic Systems Under Follower Forces J92-111

Vibration Characteristics of Pretwisted Aerofoil Cross-Section Blade Packets Under Rotating Conditions J92-031

Nonlinear Vibrations of Rectangular Laminated Thin Plates J92-024

Weather Hazards

Aerodynamic Characteristics of Hoar Frost Roughness J92-255

Energy

Fuel Cells

Production of Oxygen on the Moon: Which Processes Are Best and Why J92-454

Rotating Machinery

Explicit Navier-Stokes Computation of Cascade Flows Using the $k-\epsilon$ Turbulence Model J92-002

Fluid Dynamics

Aeroacoustics

Flutter Suppression of Thin Airfoils Using Active Acoustic Excitations J92-457

Effect of Modal Interaction on Sound Radiation from Vibrating Structures J92-449

Nonlinear Vibration and Radiation from a Panel with Transition to Chaos J92-414

Optical Microphone for the Detection of Hidden Helicopters J92-413

Generalized Multipoint Inverse Airfoil Design J92-412

Active Control of Interior Noise in Model Aircraft Fuselages Using Piezoceramic Actuators J92-411

Aeroacoustic Environment of an Advanced Short Takeoff and Vertical Landing Aircraft in Hover J92-410

Broadband Shock Associated Noise from Supersonic Jets Measured by a Ground Observer J92-374

- Experimental Observations of Instability Modes in a Rectangular Jet J92-373
- Advanced Propeller Noise Prediction in the Time Domain J92-357
- Direct Frequency Domain Calculation of Open Rotor Noise J92-356
- Relationship Between Instability Waves and Noise of High-Speed Jets J92-262
- Two-Step Method for Evolving Nonlinear Acoustic Systems to a Steady State J92-259
- High-Speed Propeller Noise Prediction—A Multidisciplinary Approach J92-258
- Standing Acoustic Waves in a Low Mach Number Shear Flow J92-257
- Effect of Acoustic Excitation on Stalled Flows over an Airfoil J92-221
- Acoustic Sources in a Tripped Flow past a Resonator Tube J92-220
- Study of Intensification Zones in a Rectangular Acoustic Cavity J92-180
- Asymptotic Modal Analysis of a Rectangular Acoustic Cavity Excited by Wall Vibration J92-179
- Experimental Investigation of Supersonic Flow over Two Cavities in Tandem J92-178
- High Resolution Computation of Unsteady Flows in Pulsed Lasers J92-109
- Transition Control of Instability Waves over an Acoustically Excited Flexible Surface J92-098
- Identification of Helicopter Noise Using a Neural Network J92-093
- Models of Space-Averaged Energetics of Plates J92-092
- Discretization Errors Inherent in Finite Difference Solution of Propeller Noise Problems J92-091
- Plate Acceleration and Sound Transmission Due to Random Acoustic and Boundary-Layer Excitation J92-090
- Computing Boundary Forces Due to Unsteady, Inviscid, Incompressible Flow J92-089
- Preconditioned Upwind Methods to Solve Incompressible Navier-Stokes Equations J92-076
- Sound Transmission Through a High-Temperature Acoustic Probe Tube J92-046
- Sound Generation by a Stenosis in a Pipe J92-045
- Impingement Tones of Large Aspect Ratio Supersonic Rectangular Jets J92-044
- Removal of Spurious Reflections from Computational Fluid Dynamic Solutions with the Complex Cepstrum J92-004
- Higher Approximations in the Asymptotic Theory of Propeller Noise J92-003

Boundary Layers and Heat Transfer—Laminar

- Example of Second-Mode Instability Dominance at a Mach Number of 5.2 J92-473
- Curvature Corrections to Reynolds Stress Model for Computation of Turbulent Recirculating Flows J92-470
- Implementation of Vigneron's Streamwise Pressure Gradient Approximation in Parabolized Navier-Stokes Equations J92-433
- Unsteady Laminar Compressible Swirling Flow with Massive Blowing J92-409
- Linear Stability of Supersonic Cone Boundary Layers J92-375
- Crossflow Vortex and Transition Measurements by Use of Multielement Hot Films J92-340

- Effect of Model Cooling on Periodic Transonic Flow J92-315
- Flow Separation in Vicinity of a Moving Boundary J92-300
- Separated High Enthalpy Dissociated Laminar Hypersonic Flow Behind a Step—Pressure Measurements J92-286
- Effect of a Bulge on the Subharmonic Instability of Subsonic Boundary Layers J92-260
- Patterns of Vortex Shedding from an Oscillating Circular Cylinder J92-197
- Skin-Friction Gauge for Use in Hypervelocity Impulse Facilities J92-124
- Numerical Investigation of Laminar Separated Trailing-Edge Flows J92-087

Boundary Layers and Heat Transfer—Turbulent

- Downstream Influence Scaling of Turbulent Flow Past Expansion Corners J92-474
- Correlation of Type III Turbulent Shock Interaction Heating Data on a Hemisphere J92-472
- New Wall-Reflection Model Applied to the Turbulent Impinging Jet J92-471
- Experimental Study on the Evolution of a Wall Layer from a Wake J92-452
- Quasiconical Flowfield Structure of the Three-Dimensional Single Fin Interaction J92-447
- Correlation of Mean Velocity Measurements Downstream of a Swept Backward-Facing Step J92-423
- Unsteady Turbulent Skin-Friction Measurement in an Adverse Pressure Gradient J92-416
- Dilatation-Dissipation Corrections for Advanced Turbulence Models J92-415
- Numerical Simulation of Slot Injection into a Turbulent Supersonic Stream J92-379
- Assessment of Compressibility Corrections to the $k-\epsilon$ Model in High-Speed Shear Layers J92-370
- Stretching of Freestream Turbulence in the Stagnation Region J92-338
- Exploratory Study of Wall Pressure Fluctuations in a Mach 5, Sharp Fin-Induced Turbulent Interaction J92-337
- Effects of a Leading-Edge Fillet on the Flow Past an Appendage-Body Junction J92-334
- Viscous Eddies over a Grooved Surface Computed by a Gaussian-Integration Galerkin Boundary-Element Method J92-333
- Drag Reduction in Accelerating Flow J92-327
- Performance of Popular Turbulence Models for Attached and Separated Adverse Pressure Gradient Flows J92-313
- Interaction Between Crossing Oblique Shocks and a Turbulent Boundary Layer J92-297
- Reynolds Number Dependence of the Freestream Turbulence Effects on Turbulent Boundary Layers J92-284
- Study of Turbulence on Supersonic Compression Surfaces Using Reynolds Stress Model J92-261
- Eigenfunction Analysis of Turbulent Mixing Phenomena J92-256
- Influence of Freestream Values on $k-\omega$ Turbulence Model Predictions J92-244
- Extrapolation Procedures for the Time-Dependent Navier-Stokes Equations J92-243
- Second-Order Modeling of Boundary-Free Turbulent Shear Flows J92-229

- Effects of Gas Density on the Structure of Liquid Jets in Still Gases J92-227
- Renormalization Group Based Algebraic Turbulence Model for Three-Dimensional Turbomachinery Flows J92-222
- Hypersonic Shock-Wave/Turbulent-Boundary-Layer Interaction Flows J92-218
- Turbulent Flow Past a Backward-Facing Step: A Critical Evaluation of Two-Equation Models J92-195
- Three-Dimensional Strip-Integral Method for Incompressible Turbulent Boundary Layers J92-181
- Interaction of a Longitudinal Vortex with a Three-Dimensional, Turbulent Boundary Layer J92-177
- Cylinder-Induced Shock-Wave Boundary-Layer Interaction J92-166
- Viscous Drag Reduction Using Streamwise-Aligned Riblets J92-162
- Semiconductor Laser Doppler Anemometer for Applications in Aerodynamic Research J92-152
- Helical-Perturbation Device for Cylinder-Wing Vortex Generators J92-146
- Nonadiabatic and Three-Dimensional Effects in Compressible Turbulent Boundary Layers J92-135
- Structure of Supersonic Turbulent Flow Past a Swept Compression Corner J92-134
- Optimization of Bluff Body for Minimum Drag in Ground Proximity J92-133
- Flow Past a Wing-Body Junction—Experimental Evaluation of Turbulence Models J92-132
- Skin-Friction Gauge for Use in Hypervelocity Impulse Facilities J92-124
- Turbulence Model Effects on Separated Flow About a Prolate Spheroid J92-097
- Finite Element Navier-Stokes Solver for Unstructured Grids J92-096
- Streamwise Vortex Production by Pitched and Skewed Jets in a Turbulent Boundary Layer J92-095
- Algebraic Turbulence Modeling for Adaptive Unstructured Grids J92-094
- New Nonequilibrium Turbulence Model for Calculating Flows over Airfoils J92-086
- Model for Turbulent Backflows J92-079
- Application of a New $K-\epsilon$ Model to Near Wall Turbulent Flows J92-077
- Experimental Investigation of Turbulent Flow Through a Circular-to-Rectangular Transition Duct J92-052
- Critical Evaluation of Two-Equation Models for Near-Wall Turbulence J92-047
- Turbulence Measurements for a Longitudinal Vortex Interacting with a Three-Dimensional Turbulent Boundary Layer J92-007
- Turbulence Phenomena in a Multiple Normal Shock Wave/Turbulent Boundary-Layer Interaction J92-006
- Measurements of Turbulent Boundary Layer Prandtl Numbers and Space-time Temperature Correlations J92-005
- Modification of the van Driest Damping Function to Include the Effects of Surface Roughness J91-140

Boundary-Layer Stability and Transition

- Example of Second-Mode Instability Dominance at a Mach Number of 5.2 J92-473
- Surface Temperature Effects on Boundary-Layer Transition J92-436
- Coriolis Effects on Görtler Vortices in the Boundary-Layer Flow on Concave Wall J92-435

- Gaster's Transform J92-434
 Linear Stability of Supersonic Cone Boundary Layers J92-375
 Crossflow Vortex and Transition Measurements by Use of Multielement Hot Films J92-340
 Effect of Pressure Gradient on the Stability of Compressible Boundary Layers J92-339
 Görtler Instability and Supersonic Quiet Nozzle Design J92-317
 Numerical Method for Predicting Transition in Three-Dimensional Flows by Spatial Amplification Theory J92-301
 Simplified Linear Stability Transition Prediction Method for Separated Boundary Layers J92-298
 Reynolds Number Dependence of the Free-stream Turbulence Effects on Turbulent Boundary Layers J92-284
 Effect of a Bulge on the Subharmonic Instability of Subsonic Boundary Layers J92-260
 Stability of Plane Nonorthogonal Stagnation Flow J92-245
 Measurements in a Leading-Edge Separation Bubble due to a Simulated Airfoil Ice Accretion J92-216
 Evaluation of a Finite Volume Method for Compressible Shear Layers J92-182
 Use of Finite Volume Schemes for Transition Simulation J92-163
 Helical-Perturbation Device for Cylinder-Wing Vortex Generators J92-146
 Linear Stability of Three-Dimensional Boundary Layers over Axisymmetric Bodies at Incidence J92-136
 Numerical Simulation of Three-Dimensional Supersonic Free Shear Layers J92-131
 Transition Control of Instability Waves over an Acoustically Excited Flexible Surface J92-098
 Plate Acceleration and Sound Transmission Due to Random Acoustic and Boundary-Layer Excitation J92-090
 Boundary-Layer Transition-Detection in a Cryogenic Wind Tunnel Using Infrared Imaging J92-061
 Effect of Compliant Walls on Secondary Instabilities in Boundary-Layer Transition J92-048
- Computational Fluid Dynamics**
- New Wall-Reflection Model Applied to the Turbulent Impinging Jet J92-471
 Finite-Volume Implementation of High-Order Essentially Nonoscillatory Schemes in Two Dimensions J92-450
 Extension of the λ Formulation to Imperfect Gas Flows J92-438
 Fully Elliptic Incompressible Flow Calculations on Regular Grid J92-437
 Implementation of Vigneron's Streamwise Pressure Gradient Approximation in Parabolized Navier-Stokes Equations J92-433
 Method of Simulating Unsteady Turbomachinery Flows with Multiple Perturbations J92-427
 Comparison of Algebraic Turbulence Models for Afterbody Flows with Jet Exhaust J92-425
 Emergence of Three-Dimensional Separation over a Suddenly Started Prolate Spheroid at Incidence J92-424
 RIPPLE: A New Model for Incompressible Flows with Free Surfaces J92-422
 Fast, Adaptive Finite Element Scheme for Viscous Incompressible Flows J92-420
- Hybrid Grid Approach to Study Dynamic Stall J92-419
 Pressure-Based Multigrid Algorithm for Flow at All Speeds J92-418
 Implicit Navier-Stokes Solver for Three-Dimensional Compressible Flows J92-417
 Navier-Stokes Computation of Wing/Rotor Interaction for a Tilt Rotor in Hover J92-408
 Far-Field Computational Boundary Conditions for Two-Dimensional External Flow Problems J92-407
 Grid Studies for Thin-Layer Navier-Stokes Computations of Airfoil Flowfields J92-400
 Approximate Riemann Solver for Hypervelocity Flows J92-399
 Efficient Iterative Methods for the Transonic Small Disturbance Equation J92-398
 Interaction Between Chemical Reaction and Turbulence in Supersonic Nonpremixed H_2 -Air Combustion J92-396
 Statistical Modeling of Turbulent Dilute Combusting Sprays J92-395
 Probability Density Function Shape Sensitivity in the Statistical Modeling of Turbulent Particle Dispersion J92-394
 Numerical Simulation of Slot Injection into a Turbulent Supersonic Stream J92-379
 Numerical Study of Film Cooling in Supersonic Flow J92-378
 Time-Averaged, Three-Dimensional Flow in a Rectangular Sudden Expansion J92-377
 Methodology for Calculating Aerodynamic Sensitivity Derivatives J92-376
 Flowfield of a Lifting Rotor in Hover: A Navier-Stokes Simulation J92-371
 Comparison of Transonic Flow Models J92-358
 Asymmetric Turbulent Vortical Flows over Slender Bodies J92-347
 Application of a Solution Adaptive Grid Scheme to Complex Three-Dimensional Flows J92-342
 Characteristic-Based, Rotated Upwind Scheme for the Euler Equations J92-341
 Low Upper Implicit Total Variation Diminishing Solution of Viscous Hypersonic Flows J92-335
 Viscous Eddies over a Grooved Surface Computed by a Gaussian-Integration Galerkin Boundary-Element Method J92-333
 Effect of Velocity Ratio on Bluffbody Flow Dynamics J92-332
 Taylor Series Approximation of Geometric Shape Variation for the Euler Equations J92-331
 Modified k - ϵ Model for Compressible Free Shear Flows J92-330
 Alternating Direction Implicit Methods for the Navier-Stokes Equations J92-329
 Outflow Boundary Conditions Using Duhamel's Equation J92-328
 Parallel Computing Strategies for Block Multigrid Implicit Solution of the Euler Equations J92-309
 Explicit Runge-Kutta Method for Three-Dimensional Internal Incompressible Flows J92-308
 Hypersonic Rarefied Flow About a Delta Wing—Direct Simulation and Comparison with Experiment J92-307
 Joint Computational/Experimental Aerodynamics Research on a Hypersonic Vehicle, Part 2: Computational Results J92-306
 Joint Computational/Experimental Aerodynamics Research on a Hypersonic Vehicle, Part 1: Experimental Results J92-305
- Compact Higher Order Characteristic-Based Euler Solver for Unstructured Grids J92-304
 Adaptive Remeshing for Viscous Incompressible Flows J92-303
 Temporal Adaptive Euler/Navier-Stokes Algorithm Involving Unstructured Dynamic Meshes J92-302
 Flow Separation in Vicinity of a Moving Boundary J92-300
 Numerical Study of Junction Flows J92-269
 Viscous High-Speed Flow Computations by Adaptive Mesh Embedding Techniques J92-266
 Improved Method for Solving the Viscous Shock Layer Equations J92-265
 Three-Dimensional Unstructured Multigrid for the Euler Equations J92-263
 Relationship Between Instability Waves and Noise of High-Speed Jets J92-262
 Study of Turbulence on Supersonic Compression Surfaces Using Reynolds Stress Model J92-261
 Eigenfunction Analysis of Turbulent Mixing Phenomena J92-256
 Calculation of Potential Flow Around Airfoils Using a Discrete Vortex Method J92-253
 Extrapolation Procedures for the Time-Dependent Navier-Stokes Equations J92-243
 High-Resolution, Nonoscillatory Schemes for Unsteady Compressible Flows J92-231
 Computation of Saddle Point of Attachment J92-230
 Navier-Stokes Simulation for Cone-Derived Waverider J92-225
 Newton's Method Solver for the Axisymmetric Navier-Stokes Equations J92-223
 Renormalization Group Based Algebraic Turbulence Model for Three-Dimensional Turbomachinery Flows J92-222
 Hypersonic Shock-Wave/Turbulent-Boundary-Layer Interaction Flows J92-218
 Domain-Decomposition Algorithm Applied to Multielement Airfoil Grids J92-215
 Two- and Three-Dimensional Grid Generation by an Algebraic Homotopy Procedure J92-209
 High Alpha Aerodynamic Control by Tangential Fuselage Blowing J92-196
 Turbulent Flow Past a Backward-Facing Step: A Critical Evaluation of Two-Equation Models J92-195
 Characteristic-Based Algorithms for Flows in Thermochemical Nonequilibrium J92-194
 Numerical Simulation of Droplet Deformation in Convective Flows J92-192
 Compressible Turbulent Boundary Layers with Heat Addition by Homogeneous Condensation J92-191
 Second-Order, Far-Field Computational Boundary Conditions for Inviscid Duct Flow Problems J92-189
 Spatial Adaptation of Unstructured Meshes for Unsteady Aerodynamic Flow Computations J92-186
 Construction of Modified Third-Order Upwind Schemes for Stretched Meshes J92-185
 Locally Implicit Hybrid Algorithm for Steady and Unsteady Viscous Flows J92-184
 Accelerated Convergence to Steady State by Gradual Far-Field Damping J92-183
 Evaluation of a Finite Volume Method for Compressible Shear Layers J92-182
 Shock Wave Interaction with a Thermal Layer J92-173
 Semi-Inverse Marching Characteristics Scheme for Supersonic Flows J92-165

Freestream Capturing for Moving Coordinates in Three Dimensions J92-164
 Use of Finite Volume Schemes for Transition Simulation J92-163
 Calculation of Real-Gas Effects on Blunt-Body Trim Angles J92-148
 Effect of Surface Deformation on Thermocapillary Bubble Migration J92-147
 Calculations of the Dilution System in an Annular Gas Turbine Combustor J92-143
 Solution-Adaptive Grid Procedure for the Parabolized Navier-Stokes Equations J92-142
 Efficient Massively Parallel Euler Solver for Two-Dimensional Unstructured Grids J92-141
 Assessment of Total Variation Diminishing Schemes in Compressible Mixing Flow Computations J92-140
 Orthogonal Grids Around Difficult Bodies J92-139
 Second-Order Upwind and Central Difference Schemes for Recirculating Flow Computation J92-138
 Flux-Difference Split Algorithm for Unsteady Thin-Layer Navier Stokes Solutions J92-137
 Numerical Simulation of Three-Dimensional Supersonic Free Shear Layers J92-131
 Numerical Simulation of Vortex Unsteadiness on a Slender Body at High Incidence J92-123
 High Resolution Computation of Unsteady Flows in Pulsed Lasers J92-109
 Fast Solver for Systems of Axisymmetric Ring Vortices J92-107
 Aerodynamic Design Optimization Using Sensitivity Analysis and Computational Fluid Dynamics J92-105
 Effect of Airfoil (Trailing-Edge) Thickness on the Numerical Solution of Panel Methods Based on the Dirichlet Boundary Condition J92-102
 Boundary Element Method for the Analysis of the Unsteady Flow Around Extreme Propeller Geometries J92-101
 Cartesian Euler Method for Arbitrary Aircraft Configurations J92-100
 Boundary-Orthogonal Biharmonic Grids via Preconditioned Gradient Methods J92-099
 Turbulence Model Effects on Separated Flow About a Prolate Spheroid J92-097
 Finite Element Navier-Stokes Solver for Unstructured Grids J92-096
 Algebraic Turbulence Modeling for Adaptive Unstructured Grids J92-094
 Discretization Errors Inherent in Finite Difference Solution of Propeller Noise Problems J92-091
 Computing Boundary Forces Due to Unsteady, Inviscid, Incompressible Flow J92-089
 Numerical Investigation of Vortex Breakdown on a Delta Wing J92-088
 New Nonequilibrium Turbulence Model for Calculating Flows over Airfoils J92-086
 Model for Turbulent Backflows J92-079
 Wake of a Rotating Circular Cylinder J92-078
 Application of a New $K-\tau$ Model to Near Wall Turbulent Flows J92-077
 Preconditioned Upwind Methods to Solve Incompressible Navier-Stokes Equations J92-076
 Zonal Flow Analysis Method for Two-Dimensional Airfoils J92-075
 Integration-by-Parts Formulas for Boundary-Element Methods J92-069
 Finite Element Analysis of Oscillatory Flow with Heat Transfer Inside a Square Cavity J92-057

Modeling Ideally Expanded Supersonic Turbulent Jet Flows with Nonpremixed H_2 -Air Combustion J92-055
 Flow Past a Sphere: Topological Transitions of the Vorticity Field J92-050
 Local Solution Acceleration Method for the Euler and Navier-Stokes Equations J92-049
 Sound Generation by a Stenosis in a Pipe J92-045
 Enthalpy Damping for High Mach Number Euler Solutions J92-043
 Simplification of Beam and Warming's Implicit Scheme for Two-Dimensional Compressible Flows J92-034
 Instabilities of Flows over Bodies at Large Incidence J92-013
 Nonequilibrium Hypersonic Inviscid Steady Flows J92-012
 Newton's Method Solver for High-Speed Viscous Separated Flowfields J92-011
 Upwind Scheme for Solving the Euler Equations on Unstructured Tetrahedral Meshes J92-010
 Evaluation of a Bounded High-Resolution Scheme for Combustor Flow Computations J92-009
 Genuinely Upwind Algorithms for the Multidimensional Euler Equations J92-008
 Removal of Spurious Reflections from Computational Fluid Dynamic Solutions with the Complex Cepstrum J92-004
 Explicit Navier-Stokes Computation of Cascade Flows Using the $k-\epsilon$ Turbulence Model J92-002
 Modification of the van Driest Damping Function to Include the Effects of Surface Roughness J91-140
 Conservation Errors and Convergence Characteristics of Iterative Space-Marching Algorithms J91-031

Hydrodynamics

Coriolis Effects on Görtler Vortices in the Boundary-Layer Flow on Concave Wall J92-435
 Gaster's Transform J92-434
 Nonlinear Heating of a Magnetoplasma: Temperature of the Ionosphere J92-380
 Effects of a Leading-Edge Fillet on the Flow Past an Appendage-Body Junction J92-334
 Reynolds Number Dependence of the Free-stream Turbulence Effects on Turbulent Boundary Layers J92-284
 Boundary Element Method for the Analysis of the Unsteady Flow Around Extreme Propeller Geometries J92-101
 Wake of a Rotating Circular Cylinder J92-078
 High Reynolds Number Flows in Rotating and Nutating Cylinders: Spatial Eigenvalue Approach J92-058
 Effect of Compliant Walls on Secondary Instabilities in Boundary-Layer Transition J92-048
 Study of Junction and Tip Vortices Using Particle Displacement Velocimetry J92-020
 Drop-Tower Experiments for Capillary Surfaces in an Exotic Container J92-018

Hypersonic Flow

Comparison of Chemical Kinetic Rate Mechanisms for High-Temperature Air, Including Electronic Energy J92-476
 Downstream Influence Scaling of Turbulent Flow Past Expansion Corners J92-474

Example of Second-Mode Instability Dominance at a Mach Number of 5.2 J92-473
 Correlation of Type III Turbulent Shock Interaction Heating Data on a Hemisphere J92-472
 Coupled Euler/Boundary-Layer Method for Nonequilibrium, Chemically Reacting Hypersonic Flows J92-451
 Analytical Solutions for Hypersonic Flow Past Slender Power-Law Bodies at Small Angle of Attack J92-421
 Dilatation-Dissipation Corrections for Advanced Turbulence Models J92-415
 Approximate Riemann Solver for Hypervelocity Flows J92-399
 Application of a Parallel Direct Simulation Monte Carlo Method to Hypersonic Rarefied Flows J92-381
 Qualitative Model for Visualizing Shock Shapes J92-361
 Three-Dimensional Wings and Waveriders with Attached Shock Waves J92-355
 Application of a Solution Adaptive Grid Scheme to Complex Three-Dimensional Flows J92-342
 Low Upper Implicit Total Variation Diminishing Solution of Viscous Hypersonic Flows J92-335
 Modified $k-\epsilon$ Model for Compressible Free Shear Flows J92-330
 Measurement of Shock-Wave/Boundary-Layer Interaction in a Free-Piston Shock Tunnel J92-318
 Multiple Shock-Shock Interference on a Cylindrical Leading Edge J92-314
 Hypersonic Rarefied Flow About a Delta Wing—Direct Simulation and Comparison with Experiment J92-307
 Joint Computational/Experimental Aerodynamics Research on a Hypersonic Vehicle, Part 2: Computational Results J92-306
 Joint Computational/Experimental Aerodynamics Research on a Hypersonic Vehicle, Part 1: Experimental Results J92-305
 Separated High Enthalpy Dissociated Laminar Hypersonic Flow Behind a Step—Pressure Measurements J92-286
 Aerothermodynamics of a 1.6-Meter-Diameter Sphere in Hypersonic Rarefied Flow J92-267
 Viscous High-Speed Flow Computations by Adaptive Mesh Embedding Techniques J92-266
 Improved Method for Solving the Viscous Shock Layer Equations J92-265
 New High Reynolds Number Mach 8 Capability J92-248
 Navier-Stokes Simulation for Cone-Derived Waverider J92-225
 Hypersonic Shock-Wave/Turbulent-Boundary-Layer Interaction Flows J92-218
 Patterns of Vortex Shedding from an Oscillating Circular Cylinder J92-197
 Characteristic-Based Algorithms for Flows in Thermochemical Nonequilibrium J92-194
 Asymptotic Defect Boundary-Layer Theory Applied to Hypersonic Flows J92-187
 Solution-Adaptive Grid Procedure for the Parabolized Navier-Stokes Equations J92-142
 Oscillating Two-Dimensional Hypersonic Airfoils at Small Angles of Attack J92-103
 Enthalpy Damping for High Mach Number Euler Solutions J92-043
 Turbulent Boundary-Layer Characteristics over a Flat-Plate/Wedge Configuration at Mach 6 J92-036

Sonic Eddy—A Model for Compressible Turbulence J92-014

Nonequilibrium Hypersonic Inviscid Steady Flows J92-012

Newton's Method Solver for High-Speed Viscous Separated Flowfields J92-011

Conservation Errors and Convergence Characteristics of Iterative Space-Marching Algorithms J91-031

Inlet, Nozzle, Diffusor, and Channel Flows

Extension of the λ Formulation to Imperfect Gas Flows J92-438

Fast, Adaptive Finite Element Scheme for Viscous Incompressible Flows J92-420

Unsteady Laminar Compressible Swirling Flow with Massive Blowing J92-409

Effect of Streamwise Pressure Gradient on the Supersonic Mixing Layer J92-401

Experimental and Numerical Investigations of Low-Density Nozzle and Plume Flows of Nitrogen J92-382

Physical Model of the Swept Shock Wave/Boundary-Layer Interaction Flowfield J92-345

Taylor Series Approximation of Geometric Shape Variation for the Euler Equations J92-331

Measurement of Shock-Wave/Boundary-Layer Interaction in a Free-Piston Shock Tunnel J92-318

Görtler Instability and Supersonic Quiet Nozzle Design J92-317

Gas-Particle Nonequilibrium Nozzle Flows: Concept of Virtual Speed of Sound and Similar Solutions J92-311

Parallel Computing Strategies for Block Multigrid Implicit Solution of the Euler Equations J92-309

Explicit Runge-Kutta Method for Three-Dimensional Internal Incompressible Flows J92-308

New Method of Swirl Control in a Diffusing S-Duct J92-287

Study of Separated Shear Layer in Moderate Reynolds Number Plane Sudden Expansion Flows J92-270

Standing Acoustic Waves in a Low Mach Number Shear Flow J92-257

Effect of Acoustic Excitation on Stalled Flows over an Airfoil J92-221

Second-Order, Far-Field Computational Boundary Conditions for Inviscid Duct Flow Problems J92-189

Multifractal Analysis of a Lobed Mixer Flowfield Utilizing the Proper Orthogonal Decomposition J92-188

Calculations of the Dilution System in an Annular Gas Turbine Combustor J92-143

Aerodynamic Design Optimization Using Sensitivity Analysis and Computational Fluid Dynamics J92-105

Transient Behavior of Supersonic Flow Through Inlets J92-104

Numerical Investigation of Unsteady Transonic Nozzle Flows J92-083

Experimental Investigation of Turbulent Flow Through a Circular-to-Rectangular Transition Duct J92-052

Experimental Investigation of Normal-Shock/Turbulent-Boundary-Layer Interactions with and without Mass Removal J92-051

Formation of Shocks Within Axisymmetric Nozzles J92-035

Turbulence Phenomena in a Multiple Normal Shock Wave/Turbulent Boundary-Layer Interaction J92-006

Jets, Wakes, and Viscid-Inviscid Flow Interactions

Correlation of Type III Turbulent Shock Interaction Heating Data on a Hemisphere J92-472

Crossflow Aerodynamic Characteristics of a Noncircular Cylinder with and Without Strakes J92-455

Streamwise Evolution of a Square Jet Cross Section J92-453

Experimental Study on the Evolution of a Wall Layer from a Wake J92-452

Development of the Wake of an Airfoil with Riblets J92-448

Quasiconical Flowfield Structure of the Three-Dimensional Single Fin Interaction J92-447

Correlation of Mean Velocity Measurements Downstream of a Swept Backward-Facing Step J92-423

Effect of Streamwise Pressure Gradient on the Supersonic Mixing Layer J92-401

Experimental and Numerical Investigations of Low-Density Nozzle and Plume Flows of Nitrogen J92-382

Numerical Simulation of Slot Injection into a Turbulent Supersonic Stream J92-379

Numerical Study of Film Cooling in Supersonic Flow J92-378

Broadband Shock Associated Noise from Supersonic Jets Measured by a Ground Observer J92-374

Experimental Observations of Instability Modes in a Rectangular Jet J92-373

Mixing Studies of Helium in Air at High Supersonic Speeds J92-343

Effect of Wing Tip Vortices on a Trailing Aircraft J92-336

Effect of Velocity Ratio on Bluffbody Flow Dynamics J92-332

Two-Stream, Supersonic, Wake Flowfield Behind a Thick Base, Part I: General Features J92-310

Breakup of a Liquid Jet in Supersonic Crossflow J92-288

Separated High Enthalpy Dissociated Laminar Hypersonic Flow Behind a Step—Pressure Measurements J92-286

Numerical Study of Junction Flows J92-269

Experimental Tests of a Laminar Mixing Theory J92-268

Eigenfunction Analysis of Turbulent Mixing Phenomena J92-256

Method for Visualizing Streamlines Around Hypersonic Vehicles by Using Electrical Discharge J92-246

Second-Order Modeling of Boundary-Free Turbulent Shear Flows J92-229

Spatial Instability of a Swirling Jet—Theory and Experiment J92-228

Effects of Gas Density on the Structure of Liquid Jets in Still Gases J92-227

Predictions of Turbulent Mixing in Axisymmetric Compressible Shear Layers J92-226

Modern Developments in Shear Flow Control with Swirl J92-219

Similarity in Supersonic Mixing Layers J92-190

Second-Order, Far-Field Computational Boundary Conditions for Inviscid Duct Flow Problems J92-189

Multifractal Analysis of a Lobed Mixer Flowfield Utilizing the Proper Orthogonal Decomposition J92-188

Cylinder-Induced Shock-Wave Boundary-Layer Interaction J92-166

Helical-Perturbation Device for Cylinder-Wing Vortex Generators J92-146

Corroboration of the New Method of Obtaining Dissipation in Wake Flow J92-145

Two- and Three-Dimensional Effects in the Supersonic Mixing Layer J92-144

Numerical Simulation of Three-Dimensional Supersonic Free Shear Layers J92-131

Spanwise Averaging of Plane Mixing Layer Properties J92-120

Fast Solver for Systems of Axisymmetric Ring Vortices J92-107

Streamwise Vortex Production by Pitched and Skewed Jets in a Turbulent Boundary Layer J92-095

Numerical Investigation of Laminar Separated Trailing-Edge Flows J92-087

Base Pressure in Supersonic Flow: Further Thoughts About a Theory J92-082

Wake of a Rotating Circular Cylinder J92-078

Zonal Flow Analysis Method for Two-Dimensional Airfoils J92-075

Control of Jet Structure by Crown-Shaped Nozzles J92-070

Concentration Imaging Measurements in Turbulent Concentric-Jet Flows J92-054

Impingement Tones of Large Aspect Ratio Supersonic Rectangular Jets J92-044

Unsteady Circulation Control Aerodynamics of a Circular Cylinder with Periodic Jet Blowing J92-042

Sonic Eddy—A Model for Compressible Turbulence J92-014

Instabilities of Flows over Bodies at Large Incidence J92-013

Multiphase Flows

Singular Behavior in Boundary-Layer Flow of a Dusty Gas J92-469

RIPPLE: A New Model for Incompressible Flows with Free Surfaces J92-422

Probability Density Function Shape Sensitivity in the Statistical Modeling of Turbulent Particle Dispersion J92-394

Gas-Particle Nonequilibrium Nozzle Flows: Concept of Virtual Speed of Sound and Similar Solutions J92-311

Exact Solutions for Hydromagnetic Flow of a Particulate Suspension J92-289

Efficiency of a Statistical Transport Model for Turbulent Particle Dispersion J92-210

Compressible Turbulent Boundary Layers with Heat Addition by Homogeneous Condensation J92-191

Pressure Drop in Fully Developed, Turbulent, Liquid-Vapor Annular Flows in Zero Gravity J92-150

Effect of Surface Deformation on Thermocapillary Bubble Migration J92-147

Laser Velocimetry Seed Particles Within Compressible, Vortical Flows J92-053

Plasmadynamics and MHD

Nonlinear Heating of a Magnetoplasma: Temperature of the Ionosphere J92-380

Numerical Simulation of Droplet Deformation in Convective Flows J92-192

Rarefied Flows

Flow of Rarefied Gas past a Liquid Sphere J92-475

Experimental and Numerical Investigations of Low-Density Nozzle and Plume Flows of Nitrogen J92-382

Application of a Parallel Direct Simulation Monte Carlo Method to Hypersonic Rarefied Flows J92-381

Hypersonic Rarefied Flow About a Delta Wing—Direct Simulation and Comparison with Experiment J92-307

Aerothermodynamics of a 1.6-Meter-Diameter Sphere in Hypersonic Rarefied Flow J92-267

Reacting Flows and Combustion

Comparison of Numerical Oblique Detonation Solutions with an Asymptotic Benchmark J92-478
 Preferential Thermal and Multicomponent Species Transport Effects in Strained Diffusion Flames J92-477
 Comparison of Chemical Kinetic Rate Mechanisms for High-Temperature Air, Including Electronic Energy J92-476
 Production of Oxygen on the Moon: Which Processes Are Best and Why J92-454
 Coupled Euler/Boundary-Layer Method for Nonequilibrium, Chemically Reacting Hypersonic Flows J92-451
 Surface Reaction Model for Catalyzed Composite Solid Propellants J92-439
 Dynamical Scaling of a Model Unsteady Separating Flow J92-397
 Interaction Between Chemical Reaction and Turbulence in Supersonic Nonpremixed H_2 -Air Combustion J92-396
 Statistical Modeling of Turbulent Dilute Combusting Sprays J92-395
 Numerical Study of Shock-Wave/Boundary-Layer Interactions in Premixed Combustible Gases J92-372
 Experiments on the Structure of an Annular Compressible Reacting Shear Layer J92-344
 Effect of Velocity Ratio on Bluffbody Flow Dynamics J92-332
 Characteristic-Based Algorithms for Flows in Thermochemical Nonequilibrium J92-194
 Burning-Rate Enhancement of Organic Diazide Propellants: Dihalide Addition and Pressure Elevation J92-193
 Multifractal Analysis of a Lobed Mixer Flowfield Utilizing the Proper Orthogonal Decomposition J92-188
 Modeling Supersonic Combustion Using a Fully Implicit Numerical Method J92-149
 Calculation of Real-Gas Effects on Blunt-Body Trim Angles J92-148
 Approximate Solutions for Oblique Detonations in the Hypersonic Limit J92-106
 Modeling Ideally Expanded Supersonic Turbulent Jet Flows with Nonpremixed H_2 -Air Combustion J92-055
 Concentration Imaging Measurements in Turbulent Concentric-Jet Flows J92-054
 Vortex Simulation of a Three-Dimensional Reacting Shear Layer with Infinite-Rate Kinetics J92-015
 Nonequilibrium Hypersonic Inviscid Steady Flows J92-012

Separated Flows

New Wall-Reflection Model Applied to the Turbulent Impinging Jet J92-471
 Curvature Corrections to Reynolds Stress Model for Computation of Turbulent Recirculating Flows J92-470
 Determination of Vortex Burst Location on Delta Wings from Surface Pressure Measurements J92-428
 Comparison of Algebraic Turbulence Models for Afterbody Flows with Jet Exhaust J92-425
 Emergence of Three-Dimensional Separation over a Suddenly Started Prolate Spheroid at Incidence J92-424
 Correlation of Mean Velocity Measurements Downstream of a Swept Backward-Facing Step J92-423

Hybrid Grid Approach to Study Dynamic Stall J92-419
 Pressure-Based Multigrid Algorithm for Flow at All Speeds J92-418
 Dilatation-Dissipation Corrections for Advanced Turbulence Models J92-415
 Vortical Flow Computations on a Flexible Blended Wing-Body Configuration J92-387
 Analysis of the Onset of Dynamic Stall J92-384
 Asymmetric Turbulent Vortical Flows over Slender Bodies J92-347
 Physical Model of the Swept Shock Wave/Boundary-Layer Interaction Flowfield J92-345
 Low Upper Implicit Total Variation Diminishing Solution of Viscous Hypersonic Flows J92-335
 Performance of Popular Turbulence Models for Attached and Separated Adverse Pressure Gradient Flows J92-313
 Computation of Turbulent, Separated, Unsteady Compression Ramp Interactions J92-312
 Two-Stream, Supersonic, Wake Flowfield Behind a Thick Base, Part I: General Features J92-310
 Flow Separation in Vicinity of a Moving Boundary J92-300
 Simplified Linear Stability Transition Prediction Method for Separated Boundary Layers J92-298
 New Method of Swirl Control in a Diffusing S-Duct J92-287
 Streamlines, Vorticity Lines, and Vortices Around Three-Dimensional Bodies J92-272
 Study of Separated Shear Layer in Moderate Reynolds Number Plane Sudden Expansion Flows J92-270
 Numerical Study of Junction Flows J92-269
 Experimental Tests of a Laminar Mixing Theory J92-268
 Viscous High-Speed Flow Computations by Adaptive Mesh Embedding Techniques J92-266
 Effect of Tunnel Walls on Vortex Breakdown Location over Delta Wings J92-233
 Computation of Saddle Point of Attachment J92-230
 Effect of Acoustic Excitation on Stalled Flows over an Airfoil J92-221
 Measurements in a Leading-Edge Separation Bubble due to a Simulated Airfoil Ice Accretion J92-216
 Turbulent Flow Past a Backward-Facing Step: A Critical Evaluation of Two-Equation Models J92-195
 Unsteady Flow Past an Airfoil Pitching at a Constant Rate J92-174
 Reactive Control of an Unsteady Separating Flow J92-167
 Cylinder-Induced Shock-Wave Boundary-Layer Interaction J92-166
 Experimental Investigations of the Vortex Flow on Delta Wings at High Incidence J92-151
 Second-Order Upwind and Central Difference Schemes for Recirculating Flow Computation J92-138
 Structure of Supersonic Turbulent Flow Past a Swept Compression Corner J92-134
 Flow Past a Wing-Body Junction—Experimental Evaluation of Turbulence Models J92-132
 Using Rankine Vortices to Model Flow Around a Body of Revolution J92-122
 Cartesian Euler Method for Arbitrary Aircraft Configurations J92-100

Base Pressure in Supersonic Flow: Further Thoughts About a Theory J92-082
 Effect of Leading-Edge Geometry on a Turbulent Separation Bubble J92-080
 Model for Turbulent Backflows J92-079
 Application of a New $K-\tau$ Model to Near Wall Turbulent Flows J92-077
 Unsteady Pressure Field and Vorticity Production over a Pitching Airfoil J92-056
 Flow Past a Sphere: Topological Transitions of the Vorticity Field J92-050
 Surface Flow Patterns on an Ogive-Cylinder at Incidence J92-037
 Turbulent Boundary-Layer Characteristics over a Flat-Plate/Wedge Configuration at Mach 6 J92-036
 Study of Junction and Tip Vortices Using Particle Displacement Velocimetry J92-020
 Detection of Flow State in an Unsteady Separating Flow J92-016
 Evaluation of a Bounded High-Resolution Scheme for Combustor Flow Computations J92-009

Shock Waves and Detonations

Comparison of Numerical Oblique Detonation Solutions with an Asymptotic Benchmark J92-478
 Analytical Solutions for Hypersonic Flow Past Slender Power-Law Bodies at Small Angle of Attack J92-421
 Double Piston Shock-Wave Valve J92-403
 Numerical Study of Shock-Wave/Boundary-Layer Interactions in Premixed Combustible Gases J92-372
 Qualitative Model for Visualizing Shock Shapes J92-361
 Multiple Shock-Shock Interference on a Cylindrical Leading Edge J92-314
 Interaction Between Crossing Oblique Shocks and a Turbulent Boundary Layer J92-297
 High-Resolution, Nonoscillatory Schemes for Unsteady Compressible Flows J92-231
 Newton's Method Solver for the Axisymmetric Navier-Stokes Equations J92-223
 Shock Wave Interaction with a Thermal Layer J92-173
 Structure of Supersonic Turbulent Flow Past a Swept Compression Corner J92-134
 Approximate Formula of Weak Oblique Shock Wave Angle J92-121
 Approximate Solutions for Oblique Detonations in the Hypersonic Limit J92-106
 Planar Laser-Induced Fluorescence Imaging of Shock-Tube Flows with Vibrational Nonequilibrium J92-060
 Experimental Investigation of Normal-Shock/Turbulent-Boundary-Layer Interactions with and without Mass Removal J92-051
 Interaction of a Planar Shock Wave with a Double-Wedge-Like Structure J92-038
 Turbulence Phenomena in a Multiple Normal Shock Wave/Turbulent Boundary-Layer Interaction J92-006

Subsonic Flow

Crossflow Aerodynamic Characteristics of a Noncircular Cylinder with and Without Strakes J92-455
 Experimental Study on the Evolution of a Wall Layer from a Wake J92-452
 Generalized Vortex Lattice Method for Oscillating Lifting Surfaces in Subsonic Flow J92-426
 Reduction of the Side Force on Pointed Forebodies Through Add-On Tip Devices J92-383

Crossflow Vortex and Transition Measurements by Use of Multielement Hot Films J92-340

Performance of Popular Turbulence Models for Attached and Separated Adverse Pressure Gradient Flows J92-313

New Method of Swirl Control in a Diffusing S-Duct J92-287

Study of Separated Shear Layer in Moderate Reynolds Number Plane Sudden Expansion Flows J92-270

Influence of Freestream Values on k - ω Turbulence Model Predictions J92-244

High Alpha Aerodynamic Control by Tangential Fuselage Blowing J92-196

Viscous Drag Reduction Using Streamwise-Aligned Riblets J92-162

Efficient Massively Parallel Euler Solver for Two-Dimensional Unstructured Grids J92-141

Numerical Simulation of Vortex Unsteadiness on a Slender Body at High Incidence J92-123

Using Rankine Vortices to Model Flow Around a Body of Revolution J92-122

Spanwise Averaging of Plane Mixing Layer Properties J92-120

Effect of Airfoil (Trailing-Edge) Thickness on the Numerical Solution of Panel Methods Based on the Dirichlet Boundary Condition J92-102

Transition Control of Instability Waves over an Acoustically Excited Flexible Surface J92-098

Effect of Leading-Edge Geometry on a Turbulent Separation Bubble J92-080

Preconditioned Upwind Methods to Solve Incompressible Navier-Stokes Equations J92-076

Reliability of Uncertain Flexible Laminated Skewed Plates Under Random Compressions J92-065

Instabilities of Flows over Bodies at Large Incidence J92-013

Supersonic Flow

Downstream Influence Scaling of Turbulent Flow Past Expansion Corners J92-474

Quasiconical Flowfield Structure of the Three-Dimensional Single Fin Interaction J92-447

Double Piston Shock-Wave Valve J92-403

Linear Stability of Supersonic Cone Boundary Layers J92-375

Broadband Shock Associated Noise from Supersonic Jets Measured by a Ground Observer J92-374

Assessment of Compressibility Corrections to the k - ϵ Model in High-Speed Shear Layers J92-370

High-Velocity Measurements via Laser Doppler Anemometer Using Single- and Multiaxial-Mode Lasers J92-359

Physical Model of the Swept Shock Wave/Boundary-Layer Interaction Flowfield J92-345

Experiments on the Structure of an Annular Compressible Reacting Shear Layer J92-344

Characteristic-Based, Rotated Upwind Scheme for the Euler Equations J92-341

Effect of Pressure Gradient on the Stability of Compressible Boundary Layers J92-339

Exploratory Study of Wall Pressure Fluctuations in a Mach 5, Sharp Fin-Induced Turbulent Interaction J92-337

Computation of Turbulent, Separated, Un-swept Compression Ramp Interactions J92-312

Two-Stream, Supersonic, Wake Flowfield Behind a Thick Base, Part I: General Features J92-310

Interaction Between Crossing Oblique Shocks and a Turbulent Boundary Layer J92-297

Breakup of a Liquid Jet in Supersonic Crossflow J92-288

Improved Method for Solving the Viscous Shock Layer Equations J92-265

Study of Turbulence on Supersonic Compression Surfaces Using Reynolds Stress Model J92-261

Predictions of Turbulent Mixing in Axisymmetric Compressible Shear Layers J92-226

Newton's Method Solver for the Axisymmetric Navier-Stokes Equations J92-223

Two- and Three-Dimensional Grid Generation by an Algebraic Homotopy Procedure J92-209

Similarity in Supersonic Mixing Layers J92-190

Experimental Investigation of Supersonic Flow over Two Cavities in Tandem J92-178

Approximate Formula of Weak Oblique Shock Wave Angle J92-121

Base Pressure in Supersonic Flow: Further Thoughts About a Theory J92-082

Prandtl-Meyer Function for Dense Gases J92-081

Planar Laser-Induced Fluorescence Imaging of Shock-Tube Flows with Vibrational Nonequilibrium J92-060

Modeling Ideally Expanded Supersonic Turbulent Jet Flows with Nonpremixed H_2 -Air Combustion J92-055

Enthalpy Damping for High Mach Number Euler Solutions J92-043

Asymmetric Separated Flows at Supersonic Speeds J92-017

Sonic Eddy—A Model for Compressible Turbulence J92-014

Newton's Method Solver for High-Speed Viscous Separated Flowfields J92-011

Conservation Errors and Convergence Characteristics of Iterative Space-Marching Algorithms J91-031

Transonic Flow

Comparison of Algebraic Turbulence Models for Afterbody Flows with Jet Exhaust J92-425

Pressure-Based Multigrid Algorithm for Flow at All Speeds J92-418

Implicit Navier-Stokes Solver for Three-Dimensional Compressible Flows J92-417

Far-Field Computational Boundary Conditions for Two-Dimensional External Flow Problems J92-407

Grid Studies for Thin-Layer Navier-Stokes Computations of Airfoil Flowfields J92-400

Efficient Iterative Methods for the Transonic Small Disturbance Equation J92-398

Comparison of Transonic Flow Models J92-358

Experimental Investigation of the Parallel Vortex-Airfoil Interaction at Transonic Speeds J92-316

Effect of Model Cooling on Periodic Transonic Flow J92-315

Compact Higher Order Characteristic-Based Euler Solver for Unstructured Grids J92-304

Temporal Adaptive Euler/Navier-Stokes Algorithm Involving Unstructured Dynamic Meshes J92-302

Accelerated Convergence to Steady State by Gradual Far-Field Damping J92-183

Flux-Difference Split Algorithm for Unsteady Thin-Layer Navier Stokes Solutions J92-137

Cartesian Euler Method for Arbitrary Aircraft Configurations J92-100

Finite Element Navier-Stokes Solver for Unstructured Grids J92-096

New Nonequilibrium Turbulence Model for Calculating Flows over Airfoils J92-086

Numerical Investigation of Unsteady Transonic Nozzle Flows J92-083

Local Solution Acceleration Method for the Euler and Navier-Stokes Equations J92-049

Streamwise Upwind Algorithm for Computing Unsteady Transonic Flows Past Oscillating Wings J91-263

Unsteady Flows

Finite-Volume Implementation of High-Order Essentially Nonoscillatory Schemes in Two Dimensions J92-450

Method of Simulating Unsteady Turbomachinery Flows with Multiple Perturbations J92-427

Generalized Vortex Lattice Method for Oscillating Lifting Surfaces in Subsonic Flow J92-426

Emergence of Three-Dimensional Separation over a Suddenly Started Prolate Spheroid at Incidence J92-424

Hybrid Grid Approach to Study Dynamic Stall J92-419

Unsteady Turbulent Skin-Friction Measurement in an Adverse Pressure Gradient J92-416

Unsteady Laminar Compressible Swirling Flow with Massive Blowing J92-409

Dynamical Scaling of a Model Unsteady Separating Flow J92-397

Analysis of the Onset of Dynamic Stall J92-384

Reduction of the Side Force on Pointed Forebodies Through Add-On Tip Devices J92-383

Fourier Functional Analysis for Unsteady Aerodynamic Modeling J92-346

Exploratory Study of Wall Pressure Fluctuations in a Mach 5, Sharp Fin-Induced Turbulent Interaction J92-337

Experimental Investigation of the Parallel Vortex-Airfoil Interaction at Transonic Speeds J92-316

Computation of Turbulent, Separated, Un-swept Compression Ramp Interactions J92-312

Temporal Adaptive Euler/Navier-Stokes Algorithm Involving Unstructured Dynamic Meshes J92-302

Standing Acoustic Waves in a Low Mach Number Shear Flow J92-257

Nonuniform Motion of Leading-Edge Vortex Breakdown on Ramp Pitching Delta Wings J92-254

High-Resolution, Nonoscillatory Schemes for Unsteady Compressible Flows J92-231

Computation of Saddle Point of Attachment J92-230

Spatial Adaptation of Unstructured Meshes for Unsteady Aerodynamic Flow Computations J92-186

Evaluation of a Finite Volume Method for Compressible Shear Layers J92-182

Experimental Investigation of Supersonic Flow over Two Cavities in Tandem J92-178

Unsteady Flow Past an Airfoil Pitching at a Constant Rate J92-174

Shock Wave Interaction with a Thermal Layer J92-173

Reactive Control of an Unsteady Separating Flow J92-167

Freestream Capturing for Moving Coordinates in Three Dimensions J92-164

High Aerodynamic Loads on an Airfoil Submerged in an Unsteady Stream J92-161

Semiconductor Laser Doppler Anemometer for Applications in Aerodynamic Research J92-152

Assessment of Total Variation Diminishing Schemes in Compressible Mixing Flow Computations J92-140

Flux-Difference Split Algorithm for Unsteady Thin-Layer Navier Stokes Solutions J92-137

Numerical Simulation of Vortex Unsteadiness on a Slender Body at High Incidence J92-123

Transient Behavior of Supersonic Flow Through Inlets J92-104

Oscillating Two-Dimensional Hypersonic Airfoils at Small Angles of Attack J92-103

Computing Boundary Forces Due to Unsteady, Inviscid, Incompressible Flow J92-089

Numerical Investigation of Unsteady Transonic Nozzle Flows J92-083

Unsteady Pressure Field and Vorticity Production over a Pitching Airfoil J92-056

Flow Past a Sphere: Topological Transitions of the Vorticity Field J92-050

Unsteady Circulation Control Aerodynamics of a Circular Cylinder with Periodic Jet Blowing J92-042

Simplification of Beam and Warming's Implicit Scheme for Two-Dimensional Compressible Flows J92-034

Detection of Flow State in an Unsteady Separating Flow J92-016

Removal of Spurious Reflections from Computational Fluid Dynamic Solutions with the Complex Cepstrum J92-004

Streamwise Upwind Algorithm for Computing Unsteady Transonic Flows Past Oscillating Wings J91-263

Unsteady Separation over Maneuvering Bodies J90-340

Viscous Non-Boundary-Layer Flows

Development of the Wake of an Airfoil with Riblets J92-448

Fast, Adaptive Finite Element Scheme for Viscous Incompressible Flows J92-420

Assessment of Compressibility Corrections to the $k-\epsilon$ Model in High-Speed Shear Layers J92-370

Mixing Studies of Helium in Air at High Supersonic Speeds J92-343

Nature of Buoyancy-Driven Flows in a Reduced-Gravity Environment J92-271

Pressure Drop in Fully Developed, Turbulent, Liquid-Vapor Annular Flows in Zero Gravity J92-150

Using Rankine Vortices to Model Flow Around a Body of Revolution J92-122

Finite Element Analysis of Oscillatory Flow with Heat Transfer Inside a Square Cavity J92-057

Vortices

Surface Flow Patterns on an Ogive-Cylinder at Incidence J92-037

Coriolis Effects on Görtler Vortices in the Boundary-Layer Flow on Concave Wall J92-435

Determination of Vortex Burst Location on Delta Wings from Surface Pressure Measurements J92-428

Comparison of Transonic Flow Models J92-358

Asymmetric Turbulent Vortical Flows over Slender Bodies J92-347

Stretching of Freestream Turbulence in the Stagnation Region J92-338

Effect of Wing Tip Vortices on a Trailing Aircraft J92-336

Viscous Eddies over a Grooved Surface Computed by a Gaussian-Integration Galerkin Boundary-Element Method J92-333

Experimental Investigation of the Parallel Vortex-Airfoil Interaction at Transonic Speeds J92-316

Streamlines, Vorticity Lines, and Vortices Around Three-Dimensional Bodies J92-272

Nonuniform Motion of Leading-Edge Vortex Breakdown on Ramp Pitching Delta Wings J92-254

Calculation of Potential Flow Around Airfoils Using a Discrete Vortex Method J92-253

Symmetry Breaking in Vortex Flows on Conical Bodies J92-232

Acoustic Sources in a Tripped Flow past a Resonator Tube J92-220

Patterns of Vortex Shedding from an Oscillating Circular Cylinder J92-197

Interaction of a Longitudinal Vortex with a Three-Dimensional, Turbulent Boundary Layer J92-177

High Aerodynamic Loads on an Airfoil Submerged in an Unsteady Stream J92-161

Experimental Investigations of the Vortex Flow on Delta Wings at High Incidence J92-151

Assessment of Total Variation Diminishing Schemes in Compressible Mixing Flow Computations J92-140

Flow Past a Wing-Body Junction—Experimental Evaluation of Turbulence Models J92-132

Spanwise Averaging of Plane Mixing Layer Properties J92-120

Experimental Investigation of the Perpendicular Rotor Blade-Vortex Interaction at Transonic Speeds J92-108

Fast Solver for Systems of Axisymmetric Ring Vortices J92-107

Streamwise Vortex Production by Pitched and Skewed Jets in a Turbulent Boundary Layer J92-095

Numerical Investigation of Vortex Breakdown on a Delta Wing J92-088

Control of Jet Structure by Crown-Shaped Nozzles J92-070

Laser Velocimetry Seed Particles Within Compressible, Vortical Flows J92-053

Experimental Investigation of Turbulent Flow Through a Circular-to-Rectangular Transition Duct J92-052

Surface Flow Patterns on an Ogive-Cylinder at Incidence J92-037

Asymmetric Separated Flows at Supersonic Speeds J92-017

Turbulence Measurements for a Longitudinal Vortex Interacting with a Three-Dimensional Turbulent Boundary Layer J92-007

Wave Motion and Sloshing

RIPPLE: A New Model for Incompressible Flows with Free Surfaces J92-422

Acoustic Sources in a Tripped Flow past a Resonator Tube J92-220

High Reynolds Number Flows in Rotating and Nutating Cylinders: Spatial Eigenvalue Approach J92-058

Drop-Tower Experiments for Capillary Surfaces in an Exotic Container J92-018

Guidance, Control, and Dynamics Technology

Computer Science

Programming Probabilistic Structural Analysis for Parallel Processing Computers J92-456

Efficient Massively Parallel Euler Solver for Two-Dimensional Unstructured Grids J92-141

Control System Design

Substructure Decomposition Method for the Control Design of Large Flexible Structures J92-405

Improved Approximations for Control Augmented Structural Synthesis J92-023

Control System Effectors

Active Control of Interior Noise in Model Aircraft Fuselages Using Piezoceramic Actuators J92-411

Nonlinear Instability of Corrugated Diaphragms J92-354

Dynamics

Accelerated Subspace Iteration for Eigenvector Derivatives J92-321

Study of the Coupled Free Vibration of Helical Springs J92-213

Optimization Techniques

Methodology for Calculating Aerodynamic Sensitivity Derivatives J92-376

Control-Structure Integrated Design J92-323

Spacecraft Dynamics

Mobilities of Periodic Structures in Terms of Asymptotic Modal Properties J92-390

Structural Control

Eigenvalue Error Analysis of Viscously Damped Structures Using a Ritz Reduction Method J92-465

Active, Passive, and Semiactive Vibration Suppression by Stiffness Variation J92-463

Control-Structure Integrated Design J92-323

Control Design Variable Linking for Optimization of Structural/Control Systems J92-281

Dynamic Condensation Method for Structural Eigenvalue Analysis J92-154

System Identification

Higher Order Eigenpair Perturbations J92-279

Eigenstructure Assignment Approach for Structural Damage Detection J92-276

Improvement of Normalization Methods for Eigenvector Derivatives J92-237

Nonlinear Damping Estimation from Rotor Stability Data Using Time and Frequency Domain Techniques J92-203

Issues in Modal Identification of Flexible Structures J92-028

Interdisciplinary Topics

Analytical and Numerical Methods

- Beam Deflection J92-483
Eigenvalue Error Analysis of Viscously Damped Structures Using a Ritz Reduction Method J92-465
Inverse Eigenvalue Problem in Structural Design J92-459
Programming Probabilistic Structural Analysis for Parallel Processing Computers J92-456
Two-Step Method for Evolving Nonlinear Acoustic Systems to a Steady State J92-259
Structural Shape Sensitivity Analysis: Relationship Between Material Derivative and Control Volume Approaches J92-241
Inclusion Principle for the Rayleigh-Ritz Based Substructure Synthesis J92-199
Accelerated Convergence to Steady State by Gradual Far-Field Damping J92-183
Three-Dimensional Axisymmetric Vibrations of Orthotropic and Cross-Ply Laminated Hollow Cylinders J92-158
Variational Principle for Shape Design Sensitivity Analysis J92-074
Integration-by-Parts Formulas for Boundary-Element Methods J92-069
Nonlinear Membership Functions in Multiobjective Fuzzy Optimization of Mechanical and Structural Systems J92-032

CAD/CAM

- Fuzzy Goal Programming Approach for Structural Optimization J92-208

Lasers and Laser Applications

- Optical Microphone for the Detection of Hidden Helicopters J92-413
Study of Compressible Mixing Layers Using Filtered Rayleigh Scattering Based Visualizations J92-402
Laser Propulsion Using Free Electron Lasers J92-385
High-Velocity Measurements via Laser Doppler Anemometer Using Single- and Multiaxial-Mode Lasers J92-359
Simple Method for Determining the Laser-Velocimeter Focal Point with the Aid of a Hot-Wire Anemometer J92-247
Semiconductor Laser Doppler Anemometer for Applications in Aerodynamic Research J92-152
Scanning Laser Doppler Technique for Modal Testing of Distributed-Parameter Systems J92-110
High Resolution Computation of Unsteady Flows in Pulsed Lasers J92-109
Planar Laser-Induced Fluorescence Imaging of Shock-Tube Flows with Vibrational Nonequilibrium J92-060
Heat Removal in a Gas Cooled Solid-State Laser Disk Amplifier J92-059
Laser Velocimetry Seed Particles Within Compressible, Vortical Flows J92-053
Hydrogen Fluoride Chemical Laser Amplifier Performance: Experiment J92-019

Reliability, Maintainability, and Logistics Support

- Optimum Fiber Angle of Unidirectional Composites for Load with Variations J92-025

Research Facilities and Instrumentation

- Double Piston Shock-Wave Valve J92-403

- Qualitative Model for Visualizing Shock Shapes J92-361
Induced Drag of a Wing in a Circular Wind Tunnel J92-360
Measurement of Shock-Wave/Boundary-Layer Interaction in a Free-Piston Shock Tunnel J92-318
Görtler Instability and Supersonic Quiet Nozzle Design J92-317
New High Reynolds Number Mach 8 Capability J92-248
Effect of Tunnel Walls on Vortex Breakdown Location over Delta Wings J92-233
Force Measurement on Rotating, Ablating Models Using an Air Bearing Balance J92-153
Skin-Friction Gauge for Use in Hypervelocity Impulse Facilities J92-124
Boundary-Layer Transition-Detection in a Cryogenic Wind Tunnel Using Infrared Imaging J92-061
Importance of Fresh Air in Manometer Tubing J92-040
Simple Method of Supersonic Flow Visualization Using Smoke J92-039
Study of Junction and Tip Vortices Using Particle Displacement Velocimetry J92-020

Sensor Systems

- Importance of Coatings to Optical Fiber Sensors Embedded in "Smart" Structures J92-198
Scanning Laser Doppler Technique for Modal Testing of Distributed-Parameter Systems J92-110

Launch Vehicle and Missile (LV/M) Technology

Aerodynamics

- New High Reynolds Number Mach 8 Capability J92-248

Testing, Flight and Ground

- Force Measurement on Rotating, Ablating Models Using an Air Bearing Balance J92-153

Vibration

- Study of the Coupled Free Vibration of Helical Springs J92-213

Propulsion

Airbreathing Propulsion

- Surface Reaction Model for Catalyzed Composite Solid Propellants J92-439
Extension of the λ Formulation to Imperfect Gas Flows J92-438
Aeroelastic Modal Characteristics of Mistuned Blade Assemblies: Mode Localization and Loss of Eigenstructure J92-386
Mixing Studies of Helium in Air at High Supersonic Speeds J92-343
Renormalization Group Based Algebraic Turbulence Model for Three-Dimensional Turbomachinery Flows J92-222

Combustion and Combustor Designs

- Preferential Thermal and Multicomponent Species Transport Effects in Strained Diffusion Flames J92-477
Calculations of the Dilution System in an Annular Gas Turbine Combustor J92-143

Droplet Characterization

- Statistical Modeling of Turbulent Dilute Combusting Sprays J92-395
Probability Density Function Shape Sensitivity in the Statistical Modeling of Turbulent Particle Dispersion J92-394
Burning-Rate Enhancement of Organic Diazide Propellants: Dihalide Addition and Pressure Elevation J92-193
Numerical Simulation of Droplet Deformation in Convective Flows J92-192

Engine Performance

- Transient Behavior of Supersonic Flow Through Inlets J92-104

Fuels and Propellants, Properties of

- Surface Reaction Model for Catalyzed Composite Solid Propellants J92-439
Burning-Rate Enhancement of Organic Diazide Propellants: Dihalide Addition and Pressure Elevation J92-193

Injector Design and Characterization

- Effects of Gas Density on the Structure of Liquid Jets in Still Gases J92-227

Ramjets and Scramjets

- Effect of Streamwise Pressure Gradient on the Supersonic Mixing Layer J92-401
Modified $k-\epsilon$ Model for Compressible Free Shear Flows J92-330
Aerodynamic Design Optimization Using Sensitivity Analysis and Computational Fluid Dynamics J92-105

Solid Rocket Motors and Missile Systems

- Gas-Particle Nonequilibrium Nozzle Flows: Concept of Virtual Speed of Sound and Similar Solutions J92-311
Equilibrated Moisture Content of Several Carbon Phenolic Composites J92-235

Supersonic Combustion

- Comparison of Numerical Oblique Detonation Solutions with an Asymptotic Benchmark J92-478
Interaction Between Chemical Reaction and Turbulence in Supersonic Nonpremixed H_2 -Air Combustion J92-396
Numerical Study of Shock-Wave/Boundary-Layer Interactions in Premixed Combustible Gases J92-372
Experiments on the Structure of an Annular Compressible Reacting Shear Layer J92-344
Modeling Supersonic Combustion Using a Fully Implicit Numerical Method J92-149

Space Technology

Space Experiments

- Drop-Tower Experiments for Capillary Surfaces in an Exotic Container J92-018

Space Processing

- Production of Oxygen on the Moon: Which Processes Are Best and Why J92-454

Spacecraft Structural Configuration, Design, and Analysis

- Fully Nonlinear Model of Cables J92-482
Eigenvalue and Eigenvector Approximate Analysis for Repeated Eigenvalue Problems J92-353

- Damage Detection in Elastic Structures Using Vibratory Residual Forces and Weighted Sensitivity J92-352
- Composite Laminated Shells Under Internal Pressure J92-250
- Generation and Comparison of Globally Isotropic Space-Filling Truss Structures J92-207
- Analytical Evaluation of Lattice Space Structures for Accuracy J92-041

Spacecraft Test and Evaluation

- Damage Detection in Elastic Structures Using Vibratory Residual Forces and Weighted Sensitivity J92-352

Spacecraft Thermal Management

- Pressure Drop in Fully Developed, Turbulent, Liquid-Vapor Annular Flows in Zero Gravity J92-150

Structural Mechanics and Materials

Aeroelasticity and Control

- Supersonic Flutter of Composite Sandwich Panels J92-479
- Application of Adaptive Technology to Static Aeroelastic Control of Wing Structures J92-458
- Flutter Suppression of Thin Airfoils Using Active Acoustic Excitations J92-457
- Flutter of Composite Laminated Beam Plates with Delamination J92-388
- Vortical Flow Computations on a Flexible Blended Wing-Body Configuration J92-387
- Helicopter Rotor Blade Aeroelasticity in Forward Flight with an Implicit Structural Formulation J92-348
- Vibration Mode Shape Control by Prestressing J92-290
- Importance of Coatings to Optical Fiber Sensors Embedded in "Smart" Structures J92-198
- Stability of Elastic Systems Under Follower Forces J92-111
- Reliability of Uncertain Flexible Laminated Skewed Plates Under Random Compressions J92-065
- Time Domain Flutter Analysis of Cascades Using a Full-Potential Solver J92-022
- Nonlinear Stall Flutter and Divergence Analysis of Cantilevered Graphite/Epoxy Wings J92-021

Dynamic Model Analysis

- Exact Vibration Solutions for Nonuniform Timoshenko Beams with Attachments J92-464
- Inverse Eigenvalue Problem in Structural Design J92-459
- Derivation of Green's Functions of Complex Structures Using Computer Algebra J92-393
- Vibration Mode Shape Control by Prestressing J92-290
- Frequency Modification Using Newton's Method and Inverse Iteration Eigenvector Updating J92-281
- Eigenstructure Assignment Approach for Structural Damage Detection J92-276
- Matrix Transformation Method for Updating Dynamic Model J92-212
- Prediction and Measurement of Modal Damping Factors for Viscoelastic Space Structures J92-204
- Inclusion Principle for the Rayleigh-Ritz Based Substructure Synthesis J92-199

- Study of Intensification Zones in a Rectangular Acoustic Cavity J92-180
- Asymptotic Modal Analysis of a Rectangular Acoustic Cavity Excited by Wall Vibration J92-179
- Three-Dimensional Axisymmetric Vibrations of Orthotropic and Cross-Ply Laminated Hollow Cylinders J92-158
- Random Response of Symmetric Cross-Ply Composite Beams with Arbitrary Boundary Conditions J92-157
- Dynamic Condensation Method for Structural Eigenvalue Analysis J92-154
- Modal Sensitivities for Repeated Eigenvalues and Eigenvalue Derivatives J92-126
- Effect of Structural Damping on Flutter of Plates with a Follower Force J92-118
- Analytical Method for Vibration of Angle-Ply Cylindrical Shells Having Arbitrary Edges J92-114
- Nonlinear Dynamic Response of Frame-Type Structures with Hysteretic Damping at the Joints J92-030
- Improvement of Structural Models Using Covariance Analysis and Nonlinear Generalized Least Squares J92-029
- Issues in Modal Identification of Flexible Structures J92-028
- Compatibility of Measured and Predicted Vibration Modes in Model Improvement Studies J91-122

Flexible and Active Structures

- Fully Nonlinear Model of Cables J92-482
- Active, Passive, and Semiactive Vibration Suppression by Stiffness Variation J92-463
- Application of Adaptive Technology to Static Aeroelastic Control of Wing Structures J92-458
- Effect of Modal Interaction on Sound Radiation from Vibrating Structures J92-449
- Substructure Decomposition Method for the Control Design of Large Flexible Structures J92-405
- Derivation of Green's Functions of Complex Structures Using Computer Algebra J92-393
- Nonlinear Instability of Corrugated Diaphragms J92-354
- Control Design Variable Linking for Optimization of Structural/Control Systems J92-281
- Importance of Coatings to Optical Fiber Sensors Embedded in "Smart" Structures J92-198
- Influence of Geometric Nonlinearities on Skin-Stiffener Interface Stresses J92-154
- Finite Element Analysis of Composite Structures Containing Distributed Piezoceramic Sensors and Actuators J92-112
- Identification of Flexible Joints in Vehicle Structures J92-067
- Experiments on Active Control of Vibrational Power Flow Using Piezoceramic Actuators/Sensors J92-064
- Effect of Dropped Plies on the Strength of Graphite-Epoxy Laminates J92-063
- Effect of Compliant Walls on Secondary Instabilities in Boundary-Layer Transition J92-048
- Improved Approximations for Control Augmented Structural Synthesis J92-023

Materials Structural Properties

- Effects of Interply Damping Layers on the Dynamic Characteristics of Composite Plates J92-461
- Buckling Testing of Composite Columns J92-443

- Stiffness Design Method of Symmetric Laminates Using Lamination Parameters J92-440
- Scaling Effects in the Flexural Response and Failure of Composite Beams J92-319
- Prediction and Measurement of Modal Damping Factors for Viscoelastic Space Structures J92-204
- Large Deflections of Sandwich Plates with Orthotropic Cores—A New Approach J92-129

Structural Composite Materials

- Nonlinear Free Vibration Characteristics of Laminated Anisotropic Thin Plates J92-481
- Supersonic Flutter of Composite Sandwich Panels J92-479
- Buckling of Symmetrically Laminated Plates with Compression, Shear, and In-Plane Bending J92-468
- Simplified Theory for Composite Thin-Walled Beams J92-466
- Structural Behavior of Two-Cell Composite Rotor Blades with Elastic Couplings J92-462
- Effects of Interply Damping Layers on the Dynamic Characteristics of Composite Plates J92-461
- Postbuckling Response of Stiffened Composite Cylindrical Shells J92-460
- Application of Adaptive Technology to Static Aeroelastic Control of Wing Structures J92-458
- Buckling Testing of Composite Columns J92-443
- Fourier Analysis of Clamped Moderately Thick Arbitrarily Laminated Plates J92-442
- Vibration of Compressively Loaded Shear Deformable Flat Panels Exhibiting Initial Geometric Imperfections J92-441
- Stiffness Design Method of Symmetric Laminates Using Lamination Parameters J92-440
- Scale Effects in Buckling, Postbuckling, and Crippling of Graphite-Epoxy Z-section Stiffeners J92-430
- Prediction of Interlaminar Stresses in Laminated Plates Using Global Orthogonal Interpolation Polynomials J92-429
- Role of Matrix in Viscoplastic Behavior of Thermoplastic Composites at Elevated Temperature J92-404
- Flutter of Composite Laminated Beam Plates with Delamination J92-388
- Vibration and Buckling of Laminated Plates with a Cutout in Hygrothermal Environment J92-364
- Accuracy of Critical-Temperature Sensitivity Coefficients Predicted by Multilayered Composite Plate Theories J92-349
- Layer-Wise Shell Theory for Postbuckling of Laminated Circular Cylindrical Shells J92-326
- Stacking Sequence Optimization of Simply Supported Laminates with Stability and Strain Constraints J92-324
- Thin Film Modeling of Delamination Buckling in Pressure Loaded Laminated Cylindrical Shells J92-322
- Postbuckling Response and Failure Prediction of Graphite-Epoxy Plates Loaded in Compression J92-320
- Scaling Effects in the Flexural Response and Failure of Composite Beams J92-319
- Approximate Vibrational Analysis of Non-circular Cylinders Having Varying Thickness J92-292

- Partial Hybrid Strip Model for Higher-Order Laminated Plate Theory J92-291
- Analysis of Damping in Composite Laminates J92-285
- Buckling and Postbuckling of Delaminated Composite Sandwich Beams J92-283
- Efficient Stress Solutions at Skin Stiffener Interfaces of Composites Stiffened Panels J92-274
- Impact Response of Graphite/Epoxy Cylindrical Panels J92-273
- Bending of Tapered Anisotropic Sandwich Plates with Arbitrary Edge Conditions J92-264
- Composite Laminated Shells Under Internal Pressure J92-250
- Optimum Design of a Composite Structure with Three Types of Manufacturing Constraints J92-249
- Finite Element/Penalty Function Method for Computing Stresses near Debonds J92-239
- Axially Symmetric Pulse Propagation in Semi-Infinite Hollow Cylinders J92-238
- Interlaminar Fracture Characteristics of Bonding Concepts for Thermoplastic Primary Structures J92-236
- Equilibrated Moisture Content of Several Carbon Phenolic Composites J92-235
- Impact Response of Orthotropic Composite Plates Predicted from a One-Parameter Differential Equation J92-234
- Strength of Laminated Composites with Internal Discontinuities Parallel to the Applied Load J92-224
- Collapse Characteristics of Cylindrical Composite Panels Under Axial Loads J92-214
- Cylindrical Bending of Unsymmetric Composite Laminates J92-211
- Free Vibrations of Delaminated Beams J92-201
- Postbuckling of Shear Deformable Composite Flat Panels Taking Into Account Geometrical Imperfections J92-200
- Effect of Transverse Shear Deformation on Imperfection Sensitivity of Cylindrical Panels J92-169
- Random Response of Symmetric Cross-Ply Composite Beams with Arbitrary Boundary Conditions J92-157
- Strength Scaling in Fiber Composites J92-156
- Interlayer Shear Slip Theory for Cross-Ply Laminates with Nonrigid Interfaces J92-155
- Large Deflections of Sandwich Plates with Orthotropic Cores—A New Approach J92-129
- Shear Deformable Theories for Cylindrical Laminates—Equilibrium and Buckling with Applications J92-119
- Stacking-Sequence Optimization for Buckling of Laminated Plates by Integer Programming J92-117
- Multiobjective Shape and Material Optimization of Composite Structures Including Damping J92-116
- Analytical Method for Vibration of Angle-Ply Cylindrical Shells Having Arbitrary Edges J92-114
- Finite Element Analysis of Composite Structures Containing Distributed Piezoceramic Sensors and Actuators J92-112
- Elastic-Plastic Finite Element Analysis of Thermoplastic Composite Plates and Shells J92-071
- Reliability of Uncertain Flexible Laminated Skewed Plates Under Random Compressions J92-065
- Effect of Dropped Plies on the Strength of Graphite-Epoxy Laminates J92-063
- Dynamic Analysis of Delamination Growth J92-062
- Effect of Composite Fabrication Method on Structural Response and Impact Damage J92-027
- Method for Calculating the Interlaminar Stresses in Symmetric Laminates Containing a Circular Hole J92-026
- Optimum Fiber Angle of Unidirectional Composites for Load with Variations J92-025
- Nonlinear Vibrations of Rectangular Laminated Thin Plates J92-024
- Nonlinear Stall Flutter and Divergence Analysis of Cantilevered Graphite/Epoxy Wings J92-021
- Structural Design**
- Structural Behavior of Two-Cell Composite Rotor Blades with Elastic Couplings J92-462
- Programming Probabilistic Structural Analysis for Parallel Processing Computers J92-456
- Stiffness Design Method of Symmetric Laminates Using Lamination Parameters J92-440
- Scale Effects in Buckling, Postbuckling, and Crippling of Graphite-Epoxy Z-section Stiffeners J92-430
- Generalized Compound Scaling Algorithm and Application to Minimum Weight Design of Plate Structures J92-392
- Displacement Approximations for Optimization of Beams Defined in Nonprincipal Coordinate Systems J92-367
- Optimal Shape Design of Lattice Structures for Accuracy J92-366
- Torsional Stiffness for Circular Orthotropic Beams J92-365
- Stacking Sequence Optimization of Simply Supported Laminates with Stability and Strain Constraints J92-324
- Accelerated Subspace Iteration for Eigenvector Derivatives J92-321
- Three-Dimensional Shape Optimization Using Fully Automatic Mesh Generation J92-293
- Reduced Basis Technique for Calculating Sensitivity Coefficients of Nonlinear Structural Response J92-275
- Bending of Tapered Anisotropic Sandwich Plates with Arbitrary Edge Conditions J92-264
- Structural Shape Sensitivity Analysis: Relationship Between Material Derivative and Control Volume Approaches J92-241
- Interlaminar Fracture Characteristics of Bonding Concepts for Thermoplastic Primary Structures J92-236
- Fuzzy Goal Programming Approach for Structural Optimization J92-208
- Constructive Solid Geometry Approach to Three-Dimensional Structural Shape Optimization J92-206
- Identification of Time-Varying Structural Dynamic Systems: An Artificial Intelligence Approach J92-202
- Continuum Design Sensitivity of Transient Responses Using Ritz and Mode Acceleration Methods J92-159
- Large Deflections of Sandwich Plates with Orthotropic Cores—A New Approach J92-129
- Multiobjective Shape and Material Optimization of Composite Structures Including Damping J92-116
- Variational Principle for Shape Design Sensitivity Analysis J92-074
- Numerical Study of Vibration Localization in Disordered Cyclic Structures J92-066
- Analytical Evaluation of Lattice Space Structures for Accuracy J92-041
- Effect of Composite Fabrication Method on Structural Response and Impact Damage J92-027
- Structural Durability (including Fatigue and Fracture, and Environmental Degradation)**
- Analysis of Fastened Structural Connections J92-431
- Analysis of Forced Bilinear Oscillators and the Application to Cracked Beam Dynamics J92-389
- Thin Film Modeling of Delamination Buckling in Pressure Loaded Laminated Cylindrical Shells J92-322
- Eigenstructure Assignment Approach for Structural Damage Detection J92-276
- Efficient Stress Solutions at Skin Stiffener Interfaces of Composites Stiffened Panels J92-274
- Interlaminar Fracture Characteristics of Bonding Concepts for Thermoplastic Primary Structures J92-236
- Strength of Laminated Composites with Internal Discontinuities Parallel to the Applied Load J92-224
- Free Vibrations of Delaminated Beams J92-201
- Viscoplastic Analysis of an Experimental Cylindrical Thrust Chamber Liner J92-113
- Structural Dynamics and Characterization**
- Fully Nonlinear Model of Cables J92-482
- Nonlinear Free Vibration Characteristics of Laminated Anisotropic Thin Plates J92-481
- Criterion for Decoupling Dynamic Equations of Motion of Linear Gyroscopic Systems J92-480
- Supersonic Flutter of Composite Sandwich Panels J92-479
- Improved Fixed Interface Method for Modal Synthesis J92-467
- Eigenvalue Error Analysis of Viscously Damped Structures Using a Ritz Reduction Method J92-465
- Exact Vibration Solutions for Nonuniform Timoshenko Beams with Attachments J92-464
- Active, Passive, and Semiactive Vibration Suppression by Stiffness Variation J92-463
- Effects of Interply Damping Layers on the Dynamic Characteristics of Composite Plates J92-461
- Inverse Eigenvalue Problem in Structural Design J92-459
- Vibration of Compressively Loaded Shear Deformable Flat Panels Exhibiting Initial Geometric Imperfections J92-441
- Dynamics of Skin-Stringer Panels Using Modified Wave Methods J92-432
- Modal Analysis of Structures with Holonomic Constraints J92-391
- Mobilities of Periodic Structures in Terms of Asymptotic Modal Properties J92-390
- Analysis of Forced Bilinear Oscillators and the Application to Cracked Beam Dynamics J92-389
- Flutter of Composite Laminated Beam Plates with Delamination J92-388

- Vibration and Buckling of Laminated Plates with a Cutout in Hygrothermal Environment J92-364
- Free Vibration Analysis of Rectangular Plates with Free Edges and Line Support Along Diagonals J92-363
- Decoupling Approximation of Nonclassically Damped Structures J92-362
- Eigenvalue and Eigenvector Approximate Analysis for Repeated Eigenvalue Problems J92-353
- Damage Detection in Elastic Structures Using Vibratory Residual Forces and Weighted Sensitivity J92-352
- Selection of Noisy Measurement Locations for Error Reduction in Static Parameter Identification J92-351
- Vibration of Spinning Ring-Stiffened Thin Cylindrical Shells J92-350
- Eigenvalue Sensitivity Analysis of Planar Frames with Variable Joint and Support Locations J92-325
- Approximate Vibrational Analysis of Noncircular Cylinders Having Varying Thickness J92-292
- Frequency Modification Using Newton's Method and Inverse Iteration Eigenvector Updating J92-281
- Higher Order Eigenpair Perturbations J92-279
- Characterization of Damping of Materials and Structures from Nanostrain Levels to One Thousand Microstrain J92-277
- Axially Symmetric Pulse Propagation in Semi-Infinite Hollow Cylinders J92-238
- Improvement of Normalization Methods for Eigenvector Derivatives J92-237
- Impact Response of Orthotropic Composite Plates Predicted from a One-Parameter Differential Equation J92-234
- Study of the Coupled Free Vibration of Helical Springs J92-213
- Matrix Transformation Method for Updating Dynamic Model J92-212
- Statistical Distribution of Frequency Response in Disordered Periodic Structures J92-205
- Prediction and Measurement of Modal Damping Factors for Viscoelastic Space Structures J92-204
- Nonlinear Damping Estimation from Rotor Stability Data Using Time and Frequency Domain Techniques J92-203
- Free Vibrations of Delaminated Beams J92-201
- Inclusion Principle for the Rayleigh-Ritz Based Substructure Synthesis J92-199
- Frequency Analysis of Axially Loaded Structures J92-168
- Continuum Design Sensitivity of Transient Responses Using Ritz and Mode Acceleration Methods J92-159
- Three-Dimensional Axisymmetric Vibrations of Orthotropic and Cross-Ply Laminated Hollow Cylinders J92-158
- Random Response of Symmetric Cross-Ply Composite Beams with Arbitrary Boundary Conditions J92-157
- Effects of Attached Masses on Free Vibration of Rigid Point Supported Rectangular Plates J92-127
- Modal Sensitivities for Repeated Eigenvalues and Eigenvalue Derivatives J92-126
- Free Vibrations of a Thin, Stiffened, Cylindrical Shallow Shell J92-125
- Effect of Structural Damping on Flutter of Plates with a Follower Force J92-118
- Analytical Method for Vibration of Angle-Ply Cylindrical Shells Having Arbitrary Edges J92-114
- Stability of Elastic Systems Under Follower Forces J92-111
- Scanning Laser Doppler Technique for Modal Testing of Distributed-Parameter Systems J92-110
- Models of Space-Averaged Energetics of Plates J92-092
- Convergence Improvement for Component Mode Synthesis J92-068
- Identification of Flexible Joints in Vehicle Structures J92-067
- Numerical Study of Vibration Localization in Disordered Cyclic Structures J92-066
- Dynamic Analysis of Delamination Growth J92-062
- Vibration Characteristics of Pretwisted Aerofoil Cross-Section Blade Packets Under Rotating Conditions J92-031
- Nonlinear Dynamic Response of Frame-Type Structures with Hysteretic Damping at the Joints J92-030
- Improvement of Structural Models Using Covariance Analysis and Nonlinear Generalized Least Squares J92-029
- Issues in Modal Identification of Flexible Structures J92-028
- Improved Approximations for Control Augmented Structural Synthesis J92-023
- Compatibility of Measured and Predicted Vibration Modes in Model Improvement Studies J91-122
- Structural Finite Elements**
- Beam Deflection J92-483
- Improved Fixed Interface Method for Modal Synthesis J92-467
- Simplified Theory for Composite Thin-Walled Beams J92-466
- Prediction of Interlaminar Stresses in Laminated Plates Using Global Orthogonal Interpolation Polynomials J92-429
- Generalized Compound Scaling Algorithm and Application to Minimum Weight Design of Plate Structures J92-392
- Postbuckling Response and Failure Prediction of Graphite-Epoxy Plates Loaded in Compression J92-320
- Partial Hybrid Strip Model for Higher-Order Laminated Plate Theory J92-291
- Reduced Basis Technique for Calculating Sensitivity Coefficients of Nonlinear Structural Response J92-275
- Approximate Reanalysis Based on the Exact Analytic Expressions J92-240
- Finite Element/Penalty Function Method for Computing Stresses near Debonds J92-239
- Collapse Characteristics of Cylindrical Composite Panels Under Axial Loads J92-214
- Constructive Solid Geometry Approach to Three-Dimensional Structural Shape Optimization J92-206
- Nonlinear Postbuckling Analysis of Plates and Shells by Four-Noded Strain Element J92-160
- Continuum Design Sensitivity of Transient Responses Using Ritz and Mode Acceleration Methods J92-159
- Objective Functions for the Nonlinear Curve Fit of Frequency Response Functions J92-128
- Corotational Total Lagrangian Formulation for Three-Dimensional Beam Element J92-115
- Viscoplastic Analysis of an Experimental Cylindrical Thrust Chamber Liner J92-113
- Finite Element Analysis of Composite Structures Containing Distributed Piezoceramic Sensors and Actuators J92-112
- Elastic-Plastic Finite Element Analysis of Thermoplastic Composite Plates and Shells J92-071
- Integration-by-Parts Formulas for Boundary-Element Methods J92-069
- Effect of Dropped Plies on the Strength of Graphite-Epoxy Laminates J92-063
- Dynamic Analysis of Delamination Growth J92-062
- Vibration Characteristics of Pretwisted Aerofoil Cross-Section Blade Packets Under Rotating Conditions J92-031
- Structural Modeling**
- Beam Deflection J92-483
- Buckling of Symmetrically Laminated Plates with Compression, Shear, and In-Plane Bending J92-468
- Simplified Theory for Composite Thin-Walled Beams J92-466
- Structural Behavior of Two-Cell Composite Rotor Blades with Elastic Couplings J92-462
- Postbuckling Response of Stiffened Composite Cylindrical Shells J92-460
- Dynamics of Skin-Stringer Panels Using Modified Wave Methods J92-432
- Prediction of Interlaminar Stresses in Laminated Plates Using Global Orthogonal Interpolation Polynomials J92-429
- Derivation of Green's Functions of Complex Structures Using Computer Algebra J92-393
- Generalized Compound Scaling Algorithm and Application to Minimum Weight Design of Plate Structures J92-392
- Analysis of Forced Bilinear Oscillators and the Application to Cracked Beam Dynamics J92-389
- Torsional Stiffness for Circular Orthotropic Beams J92-365
- Thin Film Modeling of Delamination Buckling in Pressure Loaded Laminated Cylindrical Shells J92-322
- Three-Dimensional Shape Optimization Using Fully Automatic Mesh Generation J92-293
- Approximate Vibrational Analysis of Noncircular Cylinders Having Varying Thickness J92-292
- Validation of Finite Difference Boundary Condition Models for Solid Mechanics Applications J92-278
- Efficient Stress Solutions at Skin Stiffener Interfaces of Composites Stiffened Panels J92-274
- Axially Symmetric Pulse Propagation in Semi-Infinite Hollow Cylinders J92-238
- Strength of Laminated Composites with Internal Discontinuities Parallel to the Applied Load J92-224
- Matrix Transformation Method for Updating Dynamic Model J92-212
- Generation and Comparison of Globally Isotropic Space-Filling Truss Structures J92-207
- Constructive Solid Geometry Approach to Three-Dimensional Structural Shape Optimization J92-206
- Statistical Distribution of Frequency Response in Disordered Periodic Structures J92-205
- Nonlinear Postbuckling Analysis of Plates and Shells by Four-Noded Strain Element J92-160
- Corotational Total Lagrangian Formulation for Three-Dimensional Beam Element J92-115
- Extension-Bend-Twist Coupling Behavior of Nonhomogeneous Anisotropic Beams with Initial Twist J92-072

- Identification of Flexible Joints in Vehicle Structures J92-067
 Analytical Evaluation of Lattice Space Structures for Accuracy J92-041
 Elastoviscoplastic Buckling Behavior of Simply Supported Columns J92-033
 Compatibility of Measured and Predicted Vibration Modes in Model Improvement Studies J91-122

Structural Optimization

- Improved Fixed Interface Method for Modal Synthesis J92-467
 Substructure Decomposition Method for the Control Design of Large Flexible Structures J92-405
 Displacement Approximations for Optimization of Beams Defined in Nonprincipal Coordinate Systems J92-367
 Optimal Shape Design of Lattice Structures for Accuracy J92-366
 Eigenvalue and Eigenvector Approximate Analysis for Repeated Eigenvalue Problems J92-353
 Eigenvalue Sensitivity Analysis of Planar Frames with Variable Joint and Support Locations J92-325
 Stacking Sequence Optimization of Simply Supported Laminates with Stability and Strain Constraints J92-324
 Control-Structure Integrated Design J92-323
 Three-Dimensional Shape Optimization Using Fully Automatic Mesh Generation J92-293
 Vibration Mode Shape Control by Prestressing J92-290
 Frequency Modification Using Newton's Method and Inverse Iteration Eigenvector Updating J92-281
 Control Design Variable Linking for Optimization of Structural/Control Systems J92-281
 Sparse Approach to Simultaneous Analysis and Design of Geometrically Nonlinear Structures J92-280
 Higher Order Eigenpair Perturbations J92-279
 Optimum Design of a Composite Structure with Three Types of Manufacturing Constraints J92-249
 Structural Shape Sensitivity Analysis: Relationship Between Material Derivative and Control Volume Approaches J92-241
 Approximate Reanalysis Based on the Exact Analytic Expressions J92-240
 Improvement of Normalization Methods for Eigenvector Derivatives J92-237
 Fuzzy Goal Programming Approach for Structural Optimization J92-208
 Generation and Comparison of Globally Isotropic Space-Filling Truss Structures J92-207
 Exploratory Design Studies of Actively Controlled Wings Using Integrated Multidisciplinary Synthesis J92-176

- Stacking-Sequence Optimization for Buckling of Laminated Plates by Integer Programming J92-117
 Multiobjective Shape and Material Optimization of Composite Structures Including Damping J92-116
 Variational Principle for Shape Design Sensitivity Analysis J92-074
 Shape-Sensitivity Analysis and Design Optimization of Linear, Thermoelastic Solids J92-073
 Nonlinear Membership Functions in Multiobjective Fuzzy Optimization of Mechanical and Structural Systems J92-032

Structural Stability

- Buckling of Symmetrically Laminated Plates with Compression, Shear, and In-Plane Bending J92-468
 Postbuckling Response of Stiffened Composite Cylindrical Shells J92-460
 Buckling Testing of Composite Columns J92-443
 Vibration of Compressively Loaded Shear Deformable Flat Panels Exhibiting Initial Geometric Imperfections J92-441
 Scale Effects in Buckling, Postbuckling, and Crippling of Graphite-Epoxy Z-section Stiffeners J92-430
 Nonlinear Vibration and Radiation from a Panel with Transition to Chaos J92-414
 Vibration and Buckling of Laminated Plates with a Cutout in Hygrothermal Environment J92-364
 Nonlinear Instability of Corrugated Diaphragms J92-354
 Accuracy of Critical-Temperature Sensitivity Coefficients Predicted by Multilayered Composite Plate Theories J92-349
 Layer-Wise Shell Theory for Postbuckling of Laminated Circular Cylindrical Shells J92-326
 Postbuckling Response and Failure Prediction of Graphite-Epoxy Plates Loaded in Compression J92-320
 Buckling and Postbuckling of Delaminated Composite Sandwich Beams J92-283
 Reduced Basis Technique for Calculating Sensitivity Coefficients of Nonlinear Structural Response J92-275
 Stability Characteristics of Laminated Cylindrical Panels Under Transverse Loading J92-242
 Collapse Characteristics of Cylindrical Composite Panels Under Axial Loads J92-214
 Postbuckling of Shear Deformable Composite Flat Panels Taking Into Account Geometrical Imperfections J92-200
 Effect of Transverse Shear Deformation on Imperfection Sensitivity of Cylindrical Panels J92-169
 Nonlinear Postbuckling Analysis of Plates and Shells by Four-Noded Strain Element J92-160

- Shear Deformable Theories for Cylindrical Laminates—Equilibrium and Buckling with Applications J92-119
 Effect of Structural Damping on Flutter of Plates with a Follower Force J92-118
 Stacking-Sequence Optimization for Buckling of Laminated Plates by Integer Programming J92-117
 Elastoviscoplastic Buckling Behavior of Simply Supported Columns J92-033

Thermal Effects

- Accuracy of Critical-Temperature Sensitivity Coefficients Predicted by Multilayered Composite Plate Theories J92-349

Thermophysics and Heat Transfer

Ablation, Pyrolysis, Thermal Decomposition and Degradation

- Force Measurement on Rotating, Ablating Models Using an Air Bearing Balance J92-153

Aerothermodynamics/Thermal Protection

- Coupled Euler/Boundary-Layer Method for Nonequilibrium, Chemically Reacting Hypersonic Flows J92-451
 Measurements of Turbulent Boundary Layer Prandtl Numbers and Space-time Temperature Correlations J92-005

Computational Heat Transfer

- Numerical Study of Film Cooling in Supersonic Flow J92-378

Cryogenics

- Boundary-Layer Transition-Detection in a Cryogenic Wind Tunnel Using Infrared Imaging J92-061

Natural Convection

- Nature of Buoyancy-Driven Flows in a Reduced-Gravity Environment J92-271

Nonintrusive Diagnostics

- High-Velocity Measurements via Laser Doppler Anemometer Using Single- and Multiaxial-Mode Lasers J92-359

Thermochemistry and Chemical Kinetics

- Comparison of Chemical Kinetic Rate Mechanisms for High-Temperature Air, Including Electronic Energy J92-476
 Modeling Supersonic Combustion Using a Fully Implicit Numerical Method J92-149

Thermophysical Properties

- Preferential Thermal and Multicomponent Species Transport Effects in Strained Diffusion Flames J92-477
 Equilibrated Moisture Content of Several Carbon Phenolic Composites J92-235