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J06-138 Numerical Simulations of a Feedback-Controlled Circular Cylinder Wake
J06-104 Using an Adjoint Approach to Eliminate Mesh Sensitivities in Computational Design
J06-114 Stabilizing Linear Harmonic Flow Solvers for Turbomachinery Aeroelasicity with Complex Interative Algorithms
J06-034 Flame Acceleration in Narrow Channels: Applications for Micropropulsion in Low-Gravity Environments
J06-078 Turbulence Modeling for Very Large-Eddy Simulation
J06-077 Large-Eddy Simulations as a Design Tool for Gas Turbine Combustion Systems
J06-092 Direct Numerical Simulations of Transitional Supersonic Base Flows
J06-049 Toward Validation of Large Eddy Simulation for Turbulent Combustion
J06-050 Optically Accessible Pressurized Research Combustor for Computational Fluid Dynamics Model Validation
J06-046 Improved Prediction of Plane Transverse Jets in Supersonic Crossflows
J06-191 Three-Dimensional Global Linear Stability Analysis of Flow Around a Spheroid
J06-045 Nonreflecting Zonal Characteristic Boundary Condition for Direct Numerical Simulation of Aerodynamic Sound
J06-137 Skin Friction Measurements on the NASA Hump Model
J06-033 Application of a Nonlinear Computational Aeroacoustics Code to the Gust-Airfoil Problem
J06-064 Application of p-Multigrid to Discontinuous Galerkin Formulations of the Poisson Equation

Hydrodynamics

J06-336 Dynamics of a Three-Dimensional Oscillating Foil near the Free Surface

J06-184 One-Dimensional Drift-Flux Model at Reduced Gravity Conditions
J06-334 Steady Flows in the Slender, Noncircular, Combustion Chambers of Solid Propellant Rockets

Hypersonic Flow

J06-239 Bleed Lip Geometry Effects on the Flow in a Hypersonic Wind Tunnel
J06-090 Efficient Construction of Discrete Adjoint Operators on Unstructured Grids Using Complex Variables
J06-262 Flight Data Analysis of the HyShot 2 Scramjet Flight Experiment
J06-100 Reynolds Analogy in High-Enthalpy and High-Mach-Number Turbulent Flows
J06-323 Characterizing Laser-Generated Hot Spots for Receptivity Studies
J06-207 Stability of Hypersonic Boundary Layer on Porous Wall with Regular Microstructure

Inlet, Nozzle, Diffuser, and Channel Flows

J06-298 Design Optimization of a Two-Dimensional Subsonic Engine Air Intake
J06-312 Mean Velocity of Fully Developed Turbulent Pipe Flows
J06-103 Mass Flow Boundary Conditions for Subsonic Inflow and Outflow Boundary
J06-140 Structure of Underexpanded Jets from Square Nozzles
J06-182 Study of Moderately Underexpanded Supersonic Moist Air Jets
J06-065 Numerical Study of Restricted Shock Separation in a Compressed Truncated Perfect Nozzle
J06-212 Experimental Investigation of an Annular Injection Supersonic Ejector
J06-198 Empirical Model for Vane-Type Vortex Generators in a Navier-Stokes Code

Jets, Wakes, and Viscid-Inviscid Flow Interactions

J06-300 Experimental Study of Underexpanded Supersonic Jet Impingement on an Inclined Flat Plate
J06-341 Crossplane Velocimetry of a Transverse Supersonic Jet in a Transonic Crossflow
J06-347 Evaluation of Modified Two-Equation Turbulence Models for Jet Flow Predictions
J06-301 Subsonic and Transonic Jet Control with Cross-Wire
J06-337 Analysis of k–ε Budgets for Film Cooling Using Direct Numerical Simulation
J06-169 Spanwise Characteristics of High-Aspect-Ratio Synthetic Jets
J06-345 Fan Flow Deflection in Simulated Turbofan Exhaust
J06-303 Scaling of Fully Pulsed Jets in Crossflow
J06-182 Study of Moderately Underexpanded Supersonic Moist Air Jets
J06-195 Numerical Study of the Evolution of Strongly Forced Axisymmetric Laminar Cold-Flow Jets
J06-215 Mach Number Effects on Jet Noise Sources and Radiation to Shallow Angles
J06-009 Fine-Scale Turbulence Noise from Dual-Stream Jets
J06-154 Theoretical Aerodynamics in Today's Real World: Opportunities and Challenges
J06-152 Impact of Subgrid-Scale Models on Jet Turbulence and Noise
J06-249 Sensing Flow Separation on a Circular Cylinder by Micro-Electrical-Mechanical-System Thermal-Film Sensors
J06-287 Large-Eddy Simulation of Flow over a Wall-Mounted Hump with Separation Control
J06-052 Linear Stochastic Estimation of a Swirling Jet
J06-310 Robustness of Acoustic Analogies for Predicting Mixing-Layer Noise
J06-268 New Generation of Synthetic Jet Actuators
J06-168 Computational Analysis of Gravitational Effects in Low-Density Gas Jets
J06-141 Optimization of Controlled Jets in Crossflow
J06-251 Comparison of Noise Mechanisms in High and Low Reynolds Number High-Speed Jets
J06-254 Scaling Laws and a Method for Identifying Components of Jet Noise
J06-355 Scaling of Trajectories of Elliptic Jets in Crossflow
J06-098 Incompressible Flow Model of Synthetic Jet Actuators
J06-142 Scaling Properties and Wave Interactions in Confined Supersonic Turbulent Bluff-Body Wakes
J06-092 Direct Numerical Simulations of Transitional Supersonic Base Flows
J06-138 Numerical Simulations of a Feedback-Controlled Circular Cylinder Wake
J06-126 Instrumentation Considerations for Accurate Jet Noise Measurements
J06-055 Wake Control Based on Spanwise Sinusoidal Perturbations
J06-068 Three-Gate Lifetime Imaging System for Pressure-Sensitive Paint Measurements
J06-115 Particle Response to Low-Reynolds-Number Oscillation of a Fluid in Microgravity
J06-058 Dimensional Analysis of Jet Noise Data
J06-066 Supersonic Coaxial Jet Experiment for Computational Fluid Dynamics Code Validation

Multiphase Flows

J06-069 Parametric Studies of an Aluminum Combustion Model for Simulations of Detonation Waves
J06-162 Turbulence Models for Flows with Free Surfaces and Interfaces
J06-093 Study of Wetting in an Asymmetrical Vane-Wall Gap in Propellant Tanks
J06-184 One-Dimensional Drift-Flux Model at Reduced Gravity Conditions
J06-079 Large-Eddy Simulation of Realistic Gas Turbine Combustors

Plasmadynamics and MHD

J06-125 Parameterization of Temporal Structure in the Single-Dielectric-Barrier Aerodynamic Plasma Actuator
J06-084 Characterization of Surface Plasma-Induced Wall Flows Through Velocity and Temperature Measurements
J06-175 Boundary Layer Control with Atmospheric Plasma Discharges
J06-012 Magnetohydrodynamic Power Generation Using Externally Ionized, Cold, Supersonic Air as Working Fluid

Reacting Flows and Combustion

J06-082 Large-Eddy Simulation and Acoustic Analysis of a Swirled Staged Turbulent Combustor
J06-069 Parametric Studies of an Aluminum Combustion Model for Simulations of Detonation Waves
J06-062 Control of High-Frequency Thermoacoustic Pulsations by Distributed Vortex Generators
J06-324 Flux Corrected Finite Volume Scheme for Preserving Scalar Boundedness in Reacting Large-Eddy Simulations
J06-001 Filtered Density Function for Subgrid Scale Modeling of Turbulent Combustion
J06-051 Boundary Conditions Effects on Nonreacting and Reacting Flows in a Multiswirl Combustor
J06-079 Large-Eddy Simulation of Realistic Gas Turbine Combustors
J06-334 Steady Flows in the Slender, Noncircular, Combustion Chambers of Solid Propellant Rockets
J06-241 Hypervelocity Fuel/Air Mixing in Mixed-Compression Inlets of Shcramjets
J06-034 Flame Acceleration in Narrow Channels: Applications for Micropropulsion in Low-Gravity Environments
J06-078 Turbulence Modeling for Very Large-Eddy Simulation
J06-077 Large-Eddy Simulations as a Design Tool for Gas Turbine Combustion Systems
J06-080 Subgrid Modeling for Simulation of Spray Combustion in Large-Scale Combustors
J06-049 Toward Validation of Large Eddy Simulation for Turbulent Combustion
J06-050 Optically Accessible Pressurized Research Combustor for Computational Fluid Dynamics Model Validation

Separated Flows

J06-339 Large-Eddy Simulations of Longitudinal Vortices Embedded in a Turbulent Boundary Layer
J06-349 Separation Control Using Plasma Actuators: Dynamic Stall Vortex Control on Oscillating Airfoil
J06-353 Optimum Drag Reduction Condition of Stepped-Nose Objects
J06-342 Evaluation of Detached Eddy Simulation for Turbulent Wake Applications

J06-318 Experimental Investigation of Separation Control Part 1. Baseline and Steady Suction
J06-260 Large Eddy Simulation of Transonic Flow with Shock Wave/Turbulent Boundary Layer Interaction
J06-179 Stability of Symmetric and Asymmetric Vortices Pairs over Slender Conical Wing-Body Combinations
J06-150 Computational Fluid Dynamics Evaluation of Bleed Slot of Purdue Mach 6 Quiet Tunnel
J06-196 Interaction of Synthetic Jet Propulsion with Airfoil Aerodynamics at Low Reynolds Numbers
J06-276 Direct Numerical and Large-Eddy Simulations of Turbulent Flows over Rough Surfaces
J06-319 Experimental Investigation of Separation Control Part 2: Zero Mass-Flux Oscillatory Blowing
J06-288 Reynolds-Averaged Navier–Stokes/Large-Eddy Simulations of Supersonic Base Flow
J06-005 Plasma Actuators for Separation Control of Low-Pressure Turbine Blades
J06-265 Reynolds Stress Transport Modeling for High-Lift Airfoil Flows
J06-226 Microphone-Array Measurements of the Floor Pressure in a Low-Speed Cavity Flow
J06-287 Large-Eddy Simulation of Flow over a Wall-Mounted Hump with Separation Control
J06-165 Unsteady Plasma Actuators for Separation Control of Low-Pressure Turbine Blades
J06-249 Sensing Flow Separation on a Circular Cylinder by Micro-Electrical-Mechanical-System Thermal-Film Sensors
J06-248 Control of Laminar Separation Bubbles Using Instability Waves
J06-070 Numerical Study of Transonic Buffet on a Supercritical Airfoil
J06-042 Low-Reynolds Number k-epsilon Model with Elliptic Relaxation Function
J06-194 Skin Friction and Heat Flux Measurements in Shock/Boundary Layer Interaction Flows
J06-316 Identification and Control of Three-Dimensional Separation on Low Swept Delta Wing
J06-325 Separation Flow Control by the Gas Injection Contrary Supersonic Stream
J06-116 Flow Around a Rotatable Square Cylinder-Plate Body
J06-110 Structure of Three-Dimensional Separated Flow on an Axisymmetric Bump
J06-027 Use of High-Speed Microjets for Active Separation Control in Diffusers
J06-046 Improved Prediction of Plane Transverse Jets in Supersonic Crossflows
J06-191 Three-Dimensional Global Linear Stability Analysis of Flow Around a Spheroid
J06-065 Numerical Study of Restricted Shock Separation in a Compressed Truncated Perfect Nozzle
J06-024 High-Order Numerical Simulation of Turbulent Flow Over a Wall-Mounted Hump
J06-003 Active Control of Separation from the Flap of a Supercritical Airfoil
J06-056 Control of Flow Structure on Delta Wing with Steady Trailing-Edge Blow

Shock Waves and Detonations

J06-069 Parametric Studies of an Aluminum Combustion Model for Simulations of Detonation Waves
J06-122 Shock-Tube Operation with Laser-Beam-Induced Diaphragm Rupture
J06-270 Planar Detonation Wave Initiation in Large-Aspect-Ratio Channels
J06-038 Detonation in Mixtures of JP-10 Vapor and Air
J06-044 Characterization of Schlieren Light Source Using Laser -Induced Optical Breakdown in Argon
J06-035 Exact Solution for Multidimensional Compressible Reactive Flow for Verifying Numerical Algorithms
J06-113 Numerical Simulation of Vorticity Production in Shock Diffraction
J06-333 Compressible Vortex-Ring Interaction Studies with a Number of Generic Body Configurations
J06-037 Numerical Study of Detonation Stabilization by Finite Length Wedges

Subsonic Flow

J06-231 Statistics of Velocity Field in Laboratory-Simulated Downburst
J06-116 Flow Around a Rotatable Square Cylinder-Plate Body
J06-355 Scaling of Trajectories of Elliptic Jets in Crossflow
J06-273 Self-Similarity in the Outer Region of Adverse-Pressure-Gradient Turbulent Boundary Layers

Supersonic Flow

J06-340 Turbulent Supersonic Channel Flow: Direct Numerical Simulation and Modeling
J06-109 Jet Screech Noise Computation
J06-300 Experimental Study of Underexpanded Supersonic Jet Impingement on an Inclined Flat Plate
J06-215 Mach Number Effects on Jet Noise Sources and Radiation to Shallow Angles
J06-232 Investigation of Supersonic Wakes Using Conventional and Hybrid Turbulence Models
J06-256 High-Order Unstructured Essentially Nonoscillatory and Weighted Essentially Nonoscillatory Schemes for Aerodynamic Flows
J06-122 Shock-Tube Operation with Laser-Beam-Induced Diaphragm Rupture
J06-107 Boundary-Layer Transition on an Axisymmetric Body at Incidence at Mach 1.2
J06-182 Study of Moderately Underexpanded Supersonic Moist Air Jets
J06-067 Variable Turbulent Schmidt-Number Formulation for Scramjet Applications
J06-047 Effects of Aerodynamic Tabs on Screech Reduction of a Supersonic Jet
J06-083 Aerodynamics of Recirculating Flow Control Devices for Normal Shock/Boundary-Layer Interactions
J06-193 Computational Study of Shock Mitigation and Drag Reduction by Pulsed Energy Lines
J06-219 Experimental Investigation of Reynolds and Favre Averaging in High-Speed Jets
J06-214 Extension of the Incompressible n = 2 Vortex into Compressible
J06-190 Simplified Approach of Jet Aerodynamics with a View to Acoustics
J06-212 Experimental Investigation of an Annular Injection Supersonic Ejector
J06-261 Experimental Study of Supersonic Inlet Buzz
J06-112 New Scheme for the Computation of Compressible Flows
J06-142 Scaling Properties and Wave Interactions in Confined Supersonic Turbulent Bluff-Body Wakes
J06-194 Skin Friction and Heat Flux Measurements in Shock/Boundary Layer Interaction Flows
J06-092 Direct Numerical Simulations of Transitional Supersonic Base Flows
J06-113 Numerical Simulation of Vorticity Production in Shock Diffraction
J06-325 Separation Flow Control by the Gas Injection Contrary Supersonic Stream
J06-066 Supersonic Coaxial Jet Experiment for Computational Fluid Dynamics Code Validation
J06-029 Transverse Supersonic Controlled Swirling Jet in a Supersonic Cross Stream
J06-046 Improved Prediction of Plane Transverse Jets in Supersonic Crossflows

Transonic Flow

J06-260 Large Eddy Simulation of Transonic Flow with Shock Wave/Turbulent Boundary Layer Interaction
J06-243 Airfoil Shape Optimization Using a Nonuniform Rational B-Splines Parametrization Under Thickness Constraint
J06-315 Wind-Tunnel Setup for Investigations of Normal Shock Wave/Boundary Layer Interaction Control
J06-070 Numerical Study of Transonic Buffet on a Supercritical Airfoil
J06-229 An Investigation over CFD–Based Models for the Identification of Nonlinear Unsteady Aerodynamics Responses
J06-256 High-Order Unstructured Essentially Nonoscillatory and Weighted Essentially Nonoscillatory Schemes for Aerodynamic Flows

Unsteady Flows

J06-342 Evaluation of Detached Eddy Simulation for Turbulent Wake Applications
J06-303 Scaling of Fully Pulsed Jets in Crossflow
J06-336 Dynamics of a Three-Dimensional Oscillating Foil near the Free Surface
J06-302 Vortex Rings Generated by a Shrouded Hartmann-Sprenger Tube
J06-240 Fast Estimation of Unsteady Flows in Turbomachinery at Multiple Interblade Phase Angles
J06-289 Atmospheric Winds and Their Implications for Microair Vehicles

J06-233 Field Velocity Approach and Geometric Conservation Law for Unsteady Flow Simulations
J06-291 Flutter Analysis of Contra-Rotating Blade Rows
J06-125 Parameterization of Temporal Structure in the Single-Dielectric-Barrier Aerodynamic Plasma Actuator
J06-232 Investigation of Supersonic Wakes Using Conventional and Hybrid Turbulence Models
J06-133 Comparison of Hybrid Turbulence Models for a Circular Cylinder and a Cavity
J06-122 Shock-Tube Operation with Laser-Beam-Induced Diaphragm Rupture
J06-171 Aerodynamic Force Generation in Hovering Flight in a Tiny Insect
J06-063 Space-Time Least-Squares Spectral Elements for Convection Dominated Unsteady Flows
J06-021 Quasi-One-Dimsensional Model for Realistic Three-Dimensional Synthetic Jet Actuators
J06-025 Prediction of Separated Flow Characteristics over a Hump
J06-354 Synthetic Jet Flowfield Database for Computational Fluid Dynamics Validation
J06-117 Unsteady Periodic Behavior of a Disturbed Tip-Leakage Flow
J06-159 Demonstration of Nonlinear Frequency Domain Methods
J06-226 Microphone-Array Measurements of the Floor Pressure in a Low-Speed Cavity Flow
J06-288 Reynolds-Averaged Navier–Stokes/Large-Eddy Simulations of Supersonic Base Flow
J06-261 Experimental Study of Supersonic Inlet Buzz
J06-023 Unsteady Simulation of Synthetic Jet in a Crossflow
J06-268 New Generation of Synthetic Jet Actuators
J06-070 Numerical Study of Transonic Buffet on a Supercritical Airfoil
J06-121 Geometrical Description of Subgrid-Scale Stress Tensor Based on Euler Axis/Angle
J06-220 Design of Flapping Airfoil for Optimal Aerodynamic Performance in Low-Reynolds Number Flows
J06-114 Stabilizing Linear Harmonic Flow Solvers for Turbomachinery Aeroelasicity with Complex Interative Algorithms
J06-053 Dynamic Stall Flow Control via a Trailing-Edge Flap
J06-333 Compressible Vortex-Ring Interaction Studies with a Number of Generic Body Configurations
J06-024 High-Order Numerical Simulation of Turbulent Flow Over a Wall-Mounted Hump
J06-033 Application of a Nonlinear Computational Aeroacoustics Code to the Gust-Airfoil Problem
J06-138 Numerical Simulations of a Feedback-Controlled Circular Cylinder Wake

Viscous Non-Boundary-Layer Flows

J06-334 Steady Flows in the Slender, Noncircular, Combustion Chambers of Solid Propellant Rockets
J06-269 Asymptotic Suction Flow with Partial Anisotropic Slip
J06-231 Statistics of Velocity Field in Laboratory-Simulated Downburst
J06-115 Particle Response to Low-Reynolds-Number Oscillation of a Fluid in Microgravity
J06-093 Study of Wetting in an Asymmetrical Vane-Wall Gap in Propellant Tanks
J06-089 Internal Flow Temperature and Vorticity Dynamics Due to Transient Mass Addition

Vortices

J06-349 Separation Control Using Plasma Actuators: Dynamic Stall Vortex Control on Oscillating Airfoil
J06-341 Crossplane Velocimetry of a Transverse Supersonic Jet in a Transonic Crossflow
J06-186 Inviscid Model of the Formation of a Rotor Tip Vortex
J06-179 Stability of Symmetric and Asymmetric Vortices Pairs over Slender Conical Wing-Body Combinations
J06-302 Vortex Rings Generated by a Shrouded Hartmann-Sprenger Tube
J06-307 Managing Flap Vortices via Separation Control
J06-208 Laboratory Investigation of Detrainment in Vortex Wakes
J06-195 Numerical Study of the Evolution of Strongly Forced Axisymmetric Laminar Cold-Flow Jets
J06-168 Computational Analysis of Gravitational Effects in Low-Density Gas Jets
J06-198 Empirical Model for Vane-Type Vortex Generators in a Navier-Stokes Code
J06-214 Extension of the Incompressible n = 2 Vortex into Compressible
J06-135 Large-Eddy Simulation of a Wing Tip Vortex on Overset Grids
J06-142 Scaling Properties and Wave Interactions in Confined Supersonic Turbulent Bluff-Body Wakes
J06-106 Analysis of Delta-Wing Vortical Substructures Using Detached-Eddy Simulation
J06-316 Identification and Control of Three-Dimensional Separation on Low Swept Delta Wing
J06-333 Compressible Vortex-Ring Interaction Studies with a Number of Generic Body Configurations
J06-116 Flow Around a Rotatable Square Cylinder-Plate Body
J06-110 Structure of Three-Dimensional Separated Flow on an Axisymmetric Bump
J06-247 Exact Solution of the Bidirectional Vortex
J06-056 Control of Flow Structure on Delta Wing with Steady Trailing-Edge Blow
J06-088 Formation of Secondary Vortices in Turbulent Square-Duct Flow
J06-055 Wake Control Based on Spanwise Sinusoidal Perturbations

GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY

Control System Design

J06-094 Effective Development of Reconfigurable Systems Using Linear State-Feedback Control

Control Theory

J06-143 New Methods for Finite Element Model Updating Problems
J06-193 Computational Study of Shock Mitigation and Drag Reduction by Pulsed Energy Lines

Dynamics

J06-144 Elastodynamic Analysis of Aerial Refueling Hose Using Curved Beam Element
J06-283 Cracking-Induced Mistuning in Bladed Disks

Optimization Techniques

J06-338 Effect of Various Approximations of the Discrete Adjoint on Gradient-Based Optimization
J06-305 Computational Fluid Dynamics Driven Optimization of Blended Wing Body Aircraft
J06-351 Parallel Simulated Annealing Using Simplex Method
J06-223 General Implementation of Multilevel Parallelization in a Gradient-Based Design Optimization Algorithm
J06-327 Extensive Experiments on Genetic Algorithms for the Optimization of Piezoelectric Actuator Locations

Signal Processing

J06-085 Hilbert–Huang Transform Stability Spectral Analysis Applied to Flutter Flight Test Data

Structural Control

J06-129 Adaptive Control of Nonlinear Free Vibrations of Composite Plates Using Piezoelectric Actuators
J06-313 Similarities Between Variable Stiffness Springs and Piezoceramic Switching Shunts

System Identification

J06-258 Stochastic Nonparametric Models of Uncertain Hysteretic Oscillators
J06-129 Adaptive Control of Nonlinear Free Vibrations of Composite Plates Using Piezoelectric Actuators
J06-211 Reduced Order Nonlinear System Identification Methodology

UAVs

J06-289 Atmospheric Winds and Their Implications for Microair Vehicles

INTERDISCIPLINARY TOPICS

Analytical and Numerical Methods

J06-158 Parallel Implementation of Structural Dynamic Analysis for Parachute Simulation
J06-335 Sensitivity Analysis and Optimal Design of Smart Peizolaminated Composite Beams
J06-297 Topology Optimization for an Evolutionary Design of a Thermal Protection System
J06-090 Efficient Construction of Discrete Adjoint Operators on Unstructured Grids Using Complex Variables
J06-123 Efficient Shape Optimization Under Uncertainty Using Polynomial Chaos Expansions and Local Sensitivities
J06-176 Stability Analysis of Stitched Composite Plate System with Delamination Under Hygrothermal Pressure
J06-235 Effects of Bridging on Buckling of Trilayer Beams with Separated Delaminations
J06-285 Generalized Approach for Incorporating Normalization Conditions in Design Sensitivity Analysis of Eigenvectors
J06-324 Flux Corrected Finite Volume Scheme for Preserving Scalar Boundedness in Reacting Large-Eddy Simulations
J06-225 Scattering of Sound by Liner Splices: A Kirchhoff Model with Numerical Verification
J06-282 Multiple Crack Analysis in Finite Plates
J06-250 Heterogeneous Domain Decomposition for Computational Aeroacoustics
J06-246 Lagrangian Coordination for Enhancing the Convergence of Analytical Target Cascading
J06-145 Fast Meshless Reanalysis Using Combined Approximations, Preconditioned Conjugate Gradient, and Taylor Series
J06-144 Elastodynamic Analysis of Aerial Refueling Hose Using Curved Beam Element
J06-139 Mesh Generation Using Unstructured Computational Meshes and Elliptic Partial Differential Equation Smoothing
J06-263 Model Predictive Capability Assessment Under Uncertainty
J06-247 Exact Solution of the Bidirectional Vortex
J06-031 Application of Probabilistic Fracture Mechanics to Prognosis of Aircraft Engine Components
J06-183 Neural Networks for Inverse Problems Using Principal Component Analysis and Orthogonal Arrays
J06-064 Application of p-Multigrid to Discontinuous Galerkin Formulations of the Poisson Equation
J06-071 Proper Estimation of Random Uncertainties in Steady-State Testing
J06-134 Improving the Predictive Capability of Turbulence Models Using Evidence Theory

CAD/CAM

J06-028 Supervised Learning Approach to Parametric Computer-Aided Design Geometry Repair

Lasers and Laser Applications

J06-178 Role of $O_2(b)$ and I_2 (A', A) in Chemical Oxygen–Iodine Laser Dissociation Process
J06-157 Inverse Evaluation of Material Constants for Piezoceramics by Out-of-Plane Vibration
J06-013 Pulsed-Laser-Induced Vibration of Pressurized Thin Walled Cylinder
J06-044 Characterization of Schlieren Light Source Using Laser -Induced Optical Breakdown in Argon

Multidisciplinary Design Optimization

J06-311 Aerodynamic Optimization Under a Range of Operating Conditions
J06-243 Airfoil Shape Optimization Using a Nonuniform Rational B-Splines Parametrization Under Thickness Constraint
J06-348 Design of Postbuckled Spinal Structures for Airfoil Camber and Shape Control
J06-305 Computational Fluid Dynamics Driven Optimization of Blended Wing Body Aircraft
J06-111 Shape Optimization for Delay of Laminar–Turbulent Transition
J06-173 Design of a Morphing Airfoil Using Aerodynamic Shape Optimization
J06-204 Combined Direct/Adjoint Reduced-Order Approximations for Design-Oriented Structural-Acoustics
J06-285 Generalized Approach for Incorporating Normalization Conditions in Design Sensitivity Analysis of Eigenvectors
J06-118 New Approach for System Reliability-Based Design Optimization
J06-095 Statistical Improvement Criteria for Use in Multiobjective Design Optimization
J06-230 Airfoil Shape Design and Optimization Using Multifidelity Analysis and Embedded Inverse Design
J06-246 Lagrangian Coordination for Enhancing the Convergence of Analytical Target Cascading
J06-259 Design and Analysis of "Noisy" Computer Experiments
J06-299 Inverse Possibility Analysis Method for Possibility-Based Design Optimization
J06-328 Optimized Design of Piezoelectric Flap Actuators for Active Flow Control
J06-004 Multigrid Solution of the Discrete Adjoint for Optimization Problems on Unstructured Meshes
J06-170 New Decoupled Framework For Reliability-Based Design Optimization
J06-060 Identifying Interfaces in Engineering Systems
J06-304 Stacking Sequence Design of Flat Composite Panel for Flutter and Thermal Buckling
J06-007 Target Exploration for Disconnected Feasible Regions in Enterprise-Driven Multilevel Product Design
J06-039 Reliability-Based Design Optimization of a Transonic Compressor
J06-094 Effective Development of Reconfigurable Systems Using Linear State-Feedback Control

Reliability, Maintainability, and Logistics Support

J06-299 Inverse Possibility Analysis Method for Possibility-Based Design Optimization
J06-031 Application of Probabilistic Fracture Mechanics to Prognosis of Aircraft Engine Components
J06-118 New Approach for System Reliability-Based Design Optimization

Research Facilities and Instrumentation

J06-137 Skin Friction Measurements on the NASA Hump Model
J06-072 Effect of Quenching Kinetics on Unsteady Response of Pressure-Sensitive Paint
J06-071 Proper Estimation of Random Uncertainties in Steady-State Testing

Safety

J06-040 Increasing Allowable Flight Loads by Improved Structural Modeling

Sensor Systems

J06-183 Neural Networks for Inverse Problems Using Principal Component Analysis and Orthogonal Arrays
J06-314 Detection of Corrosion Using Piezoelectric Impedance-Based Structural Health Monitoring

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY

Propulsion and Propellant Systems

J06-140 Structure of Underexpanded Jets from Square Nozzles

Simulation

J06-258 Stochastic Nonparametric Models of Uncertain Hysteretic Oscillators

Structural Design (Including Loads)

J06-213 Tension Buckling in Shear-Flexible Composite Beams

Testing, Flight and Ground

J06-071 Proper Estimation of Random Uncertainties in Steady-State Testing
J06-262 Flight Data Analysis of the HyShot 2 Scramjet Flight Experiment

Vibration

J06-013 Pulsed-Laser-Induced Vibration of Pressurized Thin Walled Cylinder

PROPULSION

Advanced Space Propulsion

J06-014 Air Pressure Effect on Propulsion with Transversly Excited Atmospheric CO_2 Laser

Airbreathing Propulsion

J06-103 Mass Flow Boundary Conditions for Subsonic Inflow and Outflow Boundary
J06-350 Hybrid Reynolds-Averaged Navier-Stokes/Large Eddy Simulation Approach for Predicting Jet Noise
J06-039 Reliability-Based Design Optimization of a Transonic Compressor
J06-038 Detonation in Mixtures of JP-10 Vapor and Air
J06-015 Combustion Enhancement via Stabilized Piecewise Nonequilibrium Gliding Arc Plasma Discharge

Combustion and Combustor Designs

J06-052 Linear Stochastic Estimation of a Swirling Jet
J06-080 Subgrid Modeling for Simulation of Spray Combustion in Large-Scale Combustors
J06-163 Laser Ignition and Combustion Properties of Composite Propellant Containing Nanometal Powders
J06-015 Combustion Enhancement via Stabilized Piecewise Nonequilibrium Gliding Arc Plasma Discharge

Combustion Instability

J06-062 Control of High-Frequency Thermoacoustic Pulsations by Distributed Vortex Generators
J06-081 Systematic Analysis of Lean-Premixed Swirl-Stabilized Combustion
J06-051 Boundary Conditions Effects on Nonreacting and Reacting Flows in a Multiswirl Combustor
J06-082 Large-Eddy Simulation and Acoustic Analysis of a Swirled Staged Turbulent Combustor

Detonation

J06-037 Numerical Study of Detonation Stabilization by Finite Length Wedges
J06-038 Detonation in Mixtures of JP-10 Vapor and Air
J06-035 Exact Solution for Multidimensional Compressible Reactive Flow for Verifying Numerical Algorithms

Droplet and Spray Characterization

J06-252 Optical Observation for the Impingements of Nitrogen Tetroxide/Monomethylhydrazine Simulants
J06-073 Spray Characteristics of Angled Liquid Injection into Subsonic Crossflows

Electric Propulsion

J06-012 Magnetohydrodynamic Power Generation Using Externally Ionized, Cold, Supersonic Air as Working Fluid

Emissions and Noises

J06-345 Fan Flow Deflection in Simulated Turbofan Exhaust
J06-254 Scaling Laws and a Method for Identifying Components of Jet Noise
J06-047 Effects of Aerodynamic Tabs on Screech Reduction of a Supersonic Jet
J06-009 Fine-Scale Turbulence Noise from Dual-Stream Jets

Engine Cooling and Heat Transfer

J06-337 Analysis of k–ε Budgets for Film Cooling Using Direct Numerical Simulation

Gas Turbine Engines

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