

2009 AIAA Journal Index

How to Use the Index

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J09-026 Model for Deformation of Drops and Liquid Jets in Gaseous Crossflows
J09-042 Flat-Plate Interaction with the Near Wake of a Square Cylinder
J09-120 Vortex Roll-Up Criterion for Synthetic Jets
J09-009 Active Control of a High Reynolds Number Mach 0.9 Axisymmetric Jet
J09-004 Cross-Spectral Analysis of the Pressure in a Mach 0.85 Turbulent Jet
J09-012 Direct and Large-Eddy Simulations of Merging in Corotating Vortex System
J09-260 Assessment of Computational Fluid Dynamics for Supersonic Shock Containing Jets
J09-267 Hysteric Phenomenon of Underexpanded Moist Air Jet
J09-173 Simulation of Noise Generation in the Near-Nozzle Region of a Chevron Nozzle Jet

Multiphase Flows

J09-108 Interfacial-Area Transport Equation at Reduced-Gravity Conditions
J09-119 Development of Homogeneous Water Condensation Models Using Molecular Dynamics
J09-064 Incipient Cavitation Studied Under Strong Thermodynamic Effect
J09-236 Analysis of Ultraviolet Radiation Predictions from High Altitude Two-Phase Plumes
J09-264 Initial Perturbation Amplitude of Liquid Sheets Produced by Jet-Impingement Nozzles
J09-247 Novel Technique for Measurements of Continuous Liquid Jet Core in an Atomizer
J09-277 Ghost Fluid Methods for Strong Shock Interactions Part 1: Fluid-Fluid Interfaces
J09-278 Ghost Fluid Methods for Strong Shock Interactions Part 2: Immersed Solid Boundaries

Plasmadynamics and MHD

J09-154 Phase Synchronization of Vortex Shedding from Two Circular Cylinders Using Plasma Actuators
J09-128 Three-Dimensional Simulation of the Electric Field and Magnetohydrodynamic Power Generation During Reentry
J09-050 Asymptotic Solutions for Low-Magnetic-Reynolds-Number Gas Flows Inside a Two-Dimensional Channel
J09-091 Accurate and Robust Pressure Weight Advection Upstream Splitting Method for Magnetohydrodynamics Equations
J09-132 Spatially Distributed Forcing and Jet Vectoring with a Plasma Actuator
J09-147 Sensitivity Derivatives for Plasma Discharge Simulations
J09-253 Numerical Investigation of Decomposed Magnetofluid Dynamics Equations
J09-283 Interaction of a Microwave-Generated Plasma with a Hemisphere Cylinder at Mach 2.1
J09-013 Flow Separation Control by Plasma Actuator with Nanosecond Pulsed-Periodic Discharge
J09-106 Rotational and Vibrational Temperature Distributions for a Dielectric Barrier Discharge in Air

Rarefied Flows

J09-050 Asymptotic Solutions for Low-Magnetic-Reynolds-Number Gas Flows Inside a Two-Dimensional Channel

J09-119 Development of Homogeneous Water Condensation Models Using Molecular Dynamics
J09-023 Stagnation-Point Heat Transfer Near the Continuum Limit
J09-143 Extension of a Multiscale Particle Scheme to Near-Equilibrium Viscous Flows
J09-168 Hybrid Continuum/Molecular Simulations of Transient Gas Flows with Rarefaction

Reacting Flows and Combustion

J09-040 Effects of Scalar Dissipation Rate Fluctuations on Autoignition of Hydrogen/Air Mixture
J09-142 Unsteady Flamelet Response in the Near Field of High-Reynolds-Number Jets
J09-259 Combustion Analysis Using Roe's Scheme and the Spalart-Allmaras Model
J09-263 Fluidic Flame Stabilization in a Planar Combustor Using a Transverse Slot Jet
J09-280 Investigation of Dynamics of Lean Turbulent Premixed Flames by Rayleigh Scattering
J09-057 Computational-Fluid-Dynamics-Based Kriging Optimization Tool for Aeronautical Combustion Chambers

Separated Flows

J09-242 Toward Understanding and Optimizing Separation Control Using Microjets
J09-243 Numerical Analysis of Film Cooling in Advanced Rocket Nozzles
J09-154 Phase Synchronization of Vortex Shedding from Two Circular Cylinders Using Plasma Actuators
J09-100 Boundary-Layer Separation Due to Combustion-Induced Pressure Rise in a Supersonic Flow
J09-113 Open-Loop Control of Disk Wakes
J09-209 Aerodynamic Stall Suppression on Airfoil Sections Using Passive Air-Jet Vortex Generators
J09-110 Simulation and Optimization of Flow Control Strategies for Novel High-Lift Configurations
J09-082 Accuracy of Bhatnagar-Gross-Krook Scheme in Solving Laminar Viscous Flow Problems
J09-213 Flow Control Predictions Using Unsteady Reynolds-Averaged Navier-Stokes Modeling: A Parametric Study
J09-207 Fluidic Control of Separation Over a Hemispherical Turret
J09-248 Proper Orthogonal Decomposition Analysis of Separated and Reattached Pressure Gradient Flows
J09-152 Smoke-Wire Flow Visualization in Separated Flows at Relatively High Velocities
J09-174 Computational and Experimental Investigation of a Nonslender Delta Wing
J09-200 Measurements of Fluctuating Pressures on a Circular Cylinder in Subsonic Cross Flow
J09-056 Implicit Large-Eddy Simulation of Swept-Wing Flow Using High-Resolution Methods
J09-001 High-Resolution Reynolds-Averaged Navier-Stokes Flow Predictions over Axisymmetric Bodies with Tapered Tails
J09-107 Accuracy of Local and Nonlocal Linear Stability Theory in Swept Separation Bubbles

J09-030 Improvement of Delayed-Detached Eddy Simulation Applied to Separated Flow over Missile Fin

J09-039 Flow Models for a Vortex Cell

J09-071 Active Control of Tip-Flap Loads

J09-218 Optical Characterization of a Simulated Weakly Compressible Shear Layer: Unforced and Forced

J09-255 High-Fidelity Simulation of Transitional Flows Past a Plunging Airfoil

J09-028 Airfoil Stall Suppression by Use of a Bubble Burst Control Plate

Shock Waves and Detonations

J09-205 Compressible Boundary-Layer Predictions at High Reynolds Number Using Hybrid LES/RANS Methods

J09-032 Experimental Study of a Mach 3 Compression Ramp Interaction at $Re\{\theta\} = 2400$

J09-121 Viscous Effects in Steady Reflection of Strong Shock Waves

J09-131 Equation of State for Energetic Structural Materials

J09-051 2-D Euler Shape Design on Nonregular Flows Using Adjoint Rankine-Hugoniot Relations

J09-112 Direct Numerical Simulation of a Reflected-Shock-Wave/Turbulent-Boundary-Layer Interaction

J09-249 Effects of Meteorological Variability on Sonic Boom Propagation from Hypersonic Aircraft

J09-277 Ghost Fluid Methods for Strong Shock Interactions Part 1: Fluid-Fluid Interfaces

J09-278 Ghost Fluid Methods for Strong Shock Interactions Part 2: Immersed Solid Boundaries

Subsonic Flow

J09-165 Acoustically Nonreflecting and Reflecting Boundary Conditions for Vorticity Injection in Compressible Solvers

J09-139 Flowfield Downstream of Circular Cylinders Immersed Within Thick Boundary Layers

J09-200 Measurements of Fluctuating Pressures on a Circular Cylinder in Subsonic Cross Flow

J09-026 Model for Deformation of Drops and Liquid Jets in Gaseous Crossflows

J09-010 Laplacian Equivalents to Subsonic Potential Flows

J09-137 Implicit Weighted Essentially Non-oscillatory Schemes with Antidiffusive Flux for Compressible Viscous Flows

J09-287 Modeled Lattice Boltzmann Equation and the Constant-Density Assumption

J09-005 Geometrical Installation and Deformation Effects in High-Lift Flows

J09-015 Extremum-Seeking Control of Subsonic Cavity Flow

Supersonic Flow

J09-032 Experimental Study of a Mach 3 Compression Ramp Interaction at $Re\{\theta\} = 2400$

J09-078 Pressure, Temperature and Velocity Measurements in Underexpanded Free Jets Using Laser-Induced Fluorescence Imaging

J09-220 Supersonic Flutter Analysis Based on a Local Piston Theory

J09-281 Pressure Oscillations from Cavities with Ramp

J09-127 Dynamics of Shock Dispersion and Interactions in Supersonic Freestreams with Counterflowing Jets

J09-162 Shock-Wave/Boundary-Layer Interactions in a Model Scramjet Intake

J09-235 Experimental Studies on the Limiting Tab

J09-003 Evaluation of Euler Fluxes for Hypersonic Flow Computations

J09-060 Microramp Control of Supersonic Oblique Shock-Wave/Boundary-Layer Interactions

J09-141 Acoustic Measurements of High-Speed Jets from Rectangular Nozzle with Thrust Vectoring

J09-112 Direct Numerical Simulation of a Reflected-Shock-Wave/Turbulent-Boundary-Layer Interaction

J09-019 Procedure to Validate Direct Numerical Simulations of Wall-Bounded Turbulence Including Finite-Rate Reactions

J09-109 Suppression of Cavity Loads Using Leading-Edge Blowing

J09-077 Density Measurements in a Supersonic Microjet Using Miniature Rainbow Schlieren Deflectometry

J09-203 Aero-Optic Distortion in Transonic and Hypersonic Turbulent Boundary Layers

J09-225 Shock-Train Structure Resolved with Absorption Spectroscopy Part I: System Design and Validation

J09-267 Hysteretic Phenomenon of Underexpanded Moist Air Jet

J09-245 Bifurcation Behavior of Airfoil Undergoing Stall Flutter Oscillations in Low-Speed Wind Tunnel

J09-181 Adjoint-Based Sensitivity Formulation for Fully Coupled Unsteady Aeroelasticity Problems

J09-233 Computations of Flow Past a Circular Cylinder Using a Continuous-Turbulence Model

J09-165 Acoustically Nonreflecting and Reflecting Boundary Conditions for Vorticity Injection in Compressible Solvers

J09-239 Effect of Rotation Kinematics and Angle of Attack on Flapping Flight

J09-042 Flat-Plate Interaction with the Near Wake of a Square Cylinder

J09-043 Self-Induced Roll Oscillations of Nonslender Wings

J09-189 Experimental Study of Shock Oscillation over a Transonic Supercritical Profile

J09-018 Large Eddy Simulation of Self-Sustained Flow Instabilities in Cavities Using the Lattice-Boltzmann Method

J09-031 Implicit Nonlinear Frequency-Domain Spectral-Difference Scheme for Periodic Euler Flow

J09-046 Numerical Study of an Oscillating Airfoil in Transonic Buffeting Flows

J09-255 High-Fidelity Simulation of Transitional Flows Past a Plunging Airfoil

J09-283 Interaction of a Microwave-Generated Plasma with a Hemisphere Cylinder at Mach 2.1

J09-286 Lift Response of a Stalled Wing to Pulsatile Disturbances

Viscous Non-Boundary-Layer Flows

J09-288 Flow Visualization Study of the Aerodynamics of Modeled Dragonfly Wings

J09-287 Modeled Lattice Boltzmann Equation and the Constant-Density Assumption

J09-121 Viscous Effects in Steady Reflection of Strong Shock Waves

Vortices

J09-099 Side Force Suppression by Dimples on Ogive-Cylinder Body

J09-195 Mode Conversion in Acoustically Modulated Confined Jets

J09-179 Solution Adaptive Mesh Generation Using Feature-Aligned Embedded Surface Meshes

J09-104 Experimental Investigation of the Jets in Crossflow: Nonswirling Flow Case

J09-065 Large Eddy Simulation of Plasma-Based Control Strategies for Bluff Body Flow

J09-216 Axisymmetric Synthetic Jets: An Experimental and Theoretical Examination

J09-200 Measurements of Fluctuating Pressures on a Circular Cylinder in Subsonic Cross Flow

J09-219 Criteria for Vortex Breakdown Above High-Sweep Delta Wings

J09-174 Computational and Experimental Investigation of a Nonslender Delta Wing

J09-233 Computations of Flow Past a Circular Cylinder Using a Continuous-Turbulence Model

J09-043 Self-Induced Roll Oscillations of Nonslender Wings

J09-175 Turbulent Tip Vortex Measurements Using Dual-Plane Stereoscopic Particle Image Velocimetry

J09-167 Planar Velocimetry of a Fin Trailing Vortex in Subsonic Compressible Flow

Unsteady Flows

J09-065 Large Eddy Simulation of Plasma-Based Control Strategies for Bluff Body Flow

J09-195 Mode Conversion in Acoustically Modulated Confined Jets

J09-111 Large-Eddy Simulation of a Round Jet in Crossflow

J09-258 Variable-Frequency Fluidic Oscillator Driven by a Piezoelectric Bender

J09-281 Pressure Oscillations from Cavities with Ramp

J09-274 Numerical Prediction of Exhaust Fan-Tone Noise from High-Bypass Aircraft Engines

J09-066 Experimental and Numerical Study of Forward Flight Aerodynamics of Insect Flapping Wing

J09-201 Alleviation of Pressure Rise from a High-Speed Train Entering a Tunnel

J09-230 Helmholtz Resonance of Pitot Pressure Measurements in Impulsive Hypersonic Test Facilities

J09-012 Direct and Large-Eddy Simulations of Merging in Corotating Vortex System
J09-041 Compressibility Effect in Vortex Identification

J09-038 Manipulating the Flow over Spherical Protuberance in a Turbulent Boundary Layer
J09-218 Optical Characterization of a Simulated Weakly Compressible Shear Layer: Unforced and Forced

J09-255 High-Fidelity Simulation of Transitional Flows Past a Plunging Airfoil
J09-039 Flow Models for a Vortex Cell

Wave Motion and Sloshing

J09-201 Alleviation of Pressure Rise from a High-Speed Train Entering a Tunnel

GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY

Control System Design

J09-190 Active Aeroelastic Control Over a Multisurface Wing: Modeling and Wind-Tunnel Testing

J09-242 Toward Understanding and Optimizing Separation Control Using Microjets

Control Theory

J09-015 Extremum-Seeking Control of Subsonic Cavity Flow

J09-180 QZ-Based Algorithm for System Pole, Transmission Zero, and Residue Derivatives

J09-102 Matrix-Free Methods for the Stability and Control of Boundary Layers

Dynamics

J09-090 Joint Uncertainty Propagation in Linear Structural Dynamics Using Stochastic Reduced Basis Methods

J09-020 Efficient Mode Based Computational Approach for Jointed Structures: Joint Interface Modes

J09-261 Numerical Investigation of Constrained Direct Solutions Using Hamilton's Law

J09-262 Theorem of Expended Power and Finite Element Formulation: Hamiltonian Mechanics Framework

J09-053 Eigensensitivity-Based Optimal Dumper Location in Variable Geometry Trusses

Flight Mechanics

J09-054 Dynamics Modeling and Simulation of Flexible Airships

Intelligent Control

J09-025 Control of Beams and Chains Through Distributed Gyroscopes

Launch Vehicle Dynamics

J09-222 Statistical Combination of Time-Varying Loads

Optimization Techniques

J09-058 Problem Formulations and Treatment of Uncertainties in Aerodynamic Design

J09-053 Eigensensitivity-Based Optimal Dumper Location in Variable Geometry Trusses

J09-116 Concise Airfoil Representation via Case-Based Knowledge Capture

Signal Processing

J09-279 Physics-Based Foundation for Empirical Mode Decomposition

Spacecraft Dynamics

J09-172 Blunted-Cone Heat Shields of Atmospheric Entry Vehicles

Spacecraft Guidance and Control

J09-074 Planar Fluorescence Imaging and Three-Dimensional Reconstructions of Capsule Reaction-Control-System Jets

Structural Control

J09-158 How Membrane Loads Influence the Modal Damping of Flexural Structures

J09-228 Modeling and Analysis of Semi-Active Dampers in Periodic Working Environments

J09-270 Analysis and Simulation of Optimal Vibration Attenuation for Underactuated Mechanical Systems

J09-044 Nonlinear Control of a Membrane Mirror Strip Actuated Axially and in Bending

J09-025 Control of Beams and Chains Through Distributed Gyroscopes

System Identification

J09-088 Bayesian Wavelet Methodology for Damage Detection of Thermal Protection System Panels

J09-279 Physics-Based Foundation for Empirical Mode Decomposition

J09-133 Time-Domain In Situ Characterization of Acoustic Liners in a Flow Duct

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Analytical and Numerical Methods

J09-170 Power Balance in Aerodynamic Flows

J09-097 Hybrid Representations of Coupled Nonparametric and Parametric Models for Dynamic Systems

J09-088 Bayesian Wavelet Methodology for Damage Detection of Thermal Protection System Panels

J09-115 Application of p-Multigrid to Discontinuous Galerkin Formulations of the Euler Equations

J09-240 Noise Source Localization and Optimization of Phased-Array Results

J09-055 Nonlinear Analytical Approach for Preliminary Sizing of Discrete Composite Stringer Terminations

J09-186 Hermite-Based Mesh Adaptation for Functional Outputs Improvement in Fluid Flow Simulation

J09-180 QZ-Based Algorithm for System Pole, Transmission Zero, and Residue Derivatives

J09-223 Continuum Aeroelastic Model for a Folding-Wing Configuration

J09-117 Direct Quadrature Method of Moments Solution of Fokker-Planck Equations in Aeroelasticity

J09-150 Probability Distributions of Natural Frequencies of Uncertain Dynamic Systems

J09-168 Hybrid Continuum/Molecular Simulations of Transient Gas Flows with Rarefaction

J09-184 External Mean Flow Influence on Noise Transmission Through Double-Leaf Aeroelastic Plates

J09-045 Efficient Methods for Time-Dependent Fatigue Reliability Analysis

J09-058 Problem Formulations and Treatment of Uncertainties in Aerodynamic Design

J09-007 Uncertainty and Reliability Analysis of Fluid-Structure Stability Boundaries

Lasers and Laser Applications

J09-079 Multi-Property Measurements at High Sampling Rates Using Rayleigh Scattering

J09-078 Pressure, Temperature and Velocity Measurements in Underexpanded Free Jets Using Laser-Induced Fluorescence Imaging

J09-273 Development of a High-Speed Three-Dimensional Flow Visualization Technique

J09-246 Molecular Tagging Using vibrationally Excited Nitric Oxide in an Underexpanded Jet Flowfield

J09-247 Novel Technique for Measurements of Continuous Liquid Jet Core in an Atomizer

J09-125 Effect of Laser-Induced Upstream Cylindrical Blast Waves on a High-Velocity Rocket

Multidisciplinary Design Optimization

J09-016 Multiresponse and Multistage Meta-modeling Approach for Design Optimization

J09-116 Concise Airfoil Representation via Case-Based Knowledge Capture

J09-164 Dimensionality Reduction Approach for Response Surface Approximations: Application to Thermal Design

J09-198 Optimization of a Morphing Wing Based on Coupled Aerodynamic and Structural Constraints

J09-251 Globally Convergent Optimization Algorithm Using Conservative Convex Separable Diagonal Quadratic Approximations

J09-093 Reduction of Ordering Effect in Reliability-Based Design Optimization Using Dimension Reduction Method

J09-147 Sensitivity Derivatives for Plasma Discharge Simulations

J09-149 Geometry Parameterization Method for Multidisciplinary Applications

J09-022 Multiple-Surrogate Approach to Helicopter Rotor Blade Vibration Reduction

J09-057 Computational-Fluid-Dynamics-Based Kriging Optimization Tool for Aeronautical Combustion Chambers

J09-096 Consequences of Material Addition for a Beam Strip in a Thermal Environment

J09-215 Cross Validation Can Estimate How Well Prediction Variance Correlates with Error

J09-052 Interval-Based Multi-Objective Optimization of Aircraft Wings Under Gust Loads

Reliability, Maintainability, and Logistics Support

J09-088 Bayesian Wavelet Methodology for Damage Detection of Thermal Protection System Panels

J09-093 Reduction of Ordering Effect in Reliability-Based Design Optimization Using Dimension Reduction Method

J09-150 Probability Distributions of Natural Frequencies of Uncertain Dynamic Systems

J09-197 Localization of a Breathing Crack Using Super-Harmonic Signals due to System Nonlinearity

J09-007 Uncertainty and Reliability Analysis of Fluid-Structure Stability Boundaries

J09-045 Efficient Methods for Time-Dependent Fatigue Reliability Analysis

J09-067 Nonprobabilistic Interval Reliability Analysis of Wing Flutter

Research Facilities and Instrumentation

J09-273 Development of a High-Speed Three-Dimensional Flow Visualization Technique
J09-079 Multi-Property Measurements at High Sampling Rates Using Rayleigh Scattering
J09-076 Using Pressure- and Temperature-Sensitive Paint on the Aftbody of a Capsule Entry Vehicle
J09-230 Helmholtz Resonance of Pitot Pressure Measurements in Impulsive Hypersonic Test Facilities

Safety

J09-045 Efficient Methods for Time-Dependent Fatigue Reliability Analysis

Sensor Systems

J09-238 Flow-Induced Vibrations of Pressure/Temperature Sensors
J09-027 Two-Dimensional Visualization of Turbulent Wall Shear Stress Using Micropillars
J09-188 Extension of the Shear-Lag Solution for Structurally Attached Ultrasonic Active Sensors

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY**Aerodynamics**

J09-222 Statistical Combination of Time-Varying Loads

Launch Vehicle and Sounding Rocket Systems

J09-138 Hybrid Empirical/Computational Aeroacoustics Methodology for Rocket Noise Modeling

Propulsion and Propellant Systems

J09-126 Hydrogen-Helium Leak Detection at Elevated Pressures and Low Temperatures

Simulation

J09-222 Statistical Combination of Time-Varying Loads

Structural Design (Including Loads)

J09-238 Flow-Induced Vibrations of Pressure/Temperature Sensors

Thermal Protection Systems

J09-118 Design-Oriented Thermostructural Analysis with External and Internal Radiation, Part 2: Transient Response

PROPELLION**Airbreathing Propulsion**

J09-130 Instantaneous Flame Anchor Measurements Behind a Rearward-Facing Step
J09-226 Shock-Train Structure Resolved with Absorption Spectroscopy Part II: Analysis and CFD Comparison
J09-225 Shock-Train Structure Resolved with Absorption Spectroscopy Part I: System Design and Validation
J09-280 Investigation of Dynamics of Lean Turbulent Premixed Flames by Rayleigh Scattering

Combustion and Combustor Designs

J09-130 Instantaneous Flame Anchor Measurements Behind a Rearward-Facing Step

J09-104 Experimental Investigation of the Jets in Crossflow: Nonswirling Flow Case
J09-257 Comparison of Direct and Indirect Combustion Noise Mechanisms in a Model Combustor

J09-263 Fluidic Flame Stabilization in a Planar Combustor Using a Transverse Slot Jet
J09-280 Investigation of Dynamics of Lean Turbulent Premixed Flames by Rayleigh Scattering

J09-142 Unsteady Flamelet Response in the Near Field of High-Reynolds-Number Jets

Combustion Instability

J09-161 Acoustic Damping of a Helmholtz Resonator with an Oscillating Volume

Droplet and Spray Characterization

J09-224 Comparison of Hot-Fire and Cold-Flow Observations of Nitrogen Tetroxide/Monomethylhydrazine Impinging Combustion
J09-247 Novel Technique for Measurements of Continuous Liquid Jet Core in an Atomizer
J09-026 Model for Deformation of Drops and Liquid Jets in Gaseous Crossflows
J09-047 Influence of Breakup Regimes on the Droplet Size Produced by Splash-Plate Nozzles

Emissions and Noises

J09-194 Acoustic Scattering by a Localized Thermal Disturbance
J09-257 Comparison of Direct and Indirect Combustion Noise Mechanisms in a Model Combustor
J09-014 Algorithm for the Nonlinear Propagation of Broadband Jet Noise
J09-135 Pylon-Based Jet Noise Suppressors
J09-037 Sound Radiation from a Bypass Duct with Bifurcations

Engine Cooling and Heat Transfer

J09-241 Numerical Analysis of Three-Dimensional Flow of Supercritical Fluid in Cooling Channels

Fuels and Propellants, Properties of

J09-126 Hydrogen-Helium Leak Detection at Elevated Pressures and Low Temperatures

Gas Turbine Engines

J09-057 Computational-Fluid-Dynamics-Based Kriging Optimization Tool for Aeronautical Combustion Chambers
J09-161 Acoustic Damping of a Helmholtz Resonator with an Oscillating Volume

Hypersonic Propulsion

J09-145 Experimental Investigation of Unstart in an Inlet/Isolator Model in Mach 5 Flow

Ignition

J09-040 Effects of Scalar Dissipation Rate Fluctuations on Autoignition of Hydrogen/Air Mixture
J09-224 Comparison of Hot-Fire and Cold-Flow Observations of Nitrogen Tetroxide/Monomethylhydrazine Impinging Combustion

Liquid Rocket Engines

J09-224 Comparison of Hot-Fire and Cold-Flow Observations of Nitrogen Tetroxide/Monomethylhydrazine Impinging Combustion

J09-243 Numerical Analysis of Film Cooling in Advanced Rocket Nozzles

Micro Propulsion and Power

J09-050 Asymptotic Solutions for Low-Magnetic-Reynolds-Number Gas Flows Inside a Two-Dimensional Channel

Ramjets and Scramjets

J09-145 Experimental Investigation of Unstart in an Inlet/Isolator Model in Mach 5 Flow

J09-100 Boundary-Layer Separation Due to Combustion-Induced Pressure Rise in a Supersonic Flow

Solid Rocket Motors

J09-138 Hybrid Empirical/Computational Aeroacoustics Methodology for Rocket Noise Modeling

Supersonic Combustion

J09-100 Boundary-Layer Separation Due to Combustion-Induced Pressure Rise in a Supersonic Flow

Transient Combustion

J09-040 Effects of Scalar Dissipation Rate Fluctuations on Autoignition of Hydrogen/Air Mixture

J09-142 Unsteady Flamelet Response in the Near Field of High-Reynolds-Number Jets

Turbomachinery

J09-063 Inverse Approach to Turbomachinery Blade Design

J09-192 Investigation of Rotor Wake Turbulence Through Cyclostationary Spectral Analysis

J09-124 Turbulent Flow over Low-Order Models of Highly Irregular Surface Roughness

REAL-TIME SYSTEMS**Sensor Systems**

J09-080 Aero-Micro-Electromechanical System Sensor Arrays for Time Resolved Wall Pressure Measurements

J09-185 Reference-Free Damage Detection Using Instantaneous Baseline Measurements

J09-191 Monitoring Impact Events Using a System-Identification Method

Signal Processing

J09-185 Reference-Free Damage Detection Using Instantaneous Baseline Measurements

J09-191 Monitoring Impact Events Using a System-Identification Method

SPACE TECHNOLOGY**Aerobraking Configurations/Aerothermodynamics**

J09-076 Using Pressure- and Temperature-Sensitive Paint on the Aftbody of a Capsule Entry Vehicle

J09-172 Blunted-Cone Heat Shields of Atmospheric Entry Vehicles

Aerobraking Flight Mechanics

J09-172 Blunted-Cone Heat Shields of Atmospheric Entry Vehicles

Spacecraft Sensor Systems

J09-191 Monitoring Impact Events Using a System-Identification Method

Spacecraft Test and Evaluation

J09-017 Dimensional Stability Testing on a Space Optical Bench Structure

STRUCTURAL MECHANICS AND MATERIALS**Aeroelasticity and Control**

J09-117 Direct Quadrature Method of Moments Solution of Fokker-Planck Equations in Aeroelasticity

J09-006 Dynamic Aeroelasticity of Structurally Nonlinear Configurations Using Linear Modally Reduced Aerodynamic Generalized Forces

J09-190 Active Aeroelastic Control Over a Multisurface Wing: Modeling and Wind-Tunnel Testing

J09-266 Effects of Turbulent Boundary Layer on Panel Flutter

J09-007 Uncertainty and Reliability Analysis of Fluid-Structure Stability Boundaries

J09-067 Nonprobabilistic Interval Reliability Analysis of Wing Flutter

Dynamic Model Analysis

J09-261 Numerical Investigation of Constrained Direct Solutions Using Hamilton's Law

J09-097 Hybrid Representations of Coupled Nonparametric and Parametric Models for Dynamic Systems

J09-117 Direct Quadrature Method of Moments Solution of Fokker-Planck Equations in Aeroelasticity

J09-020 Efficient Mode Based Computational Approach for Jointed Structures: Joint Interface Modes

J09-228 Modeling and Analysis of Semi-Active Dampers in Periodic Working Environments

J09-180 QZ-Based Algorithm for System Pole, Transmission Zero, and Residue Derivatives

J09-206 Modeling and Dynamics of Sandwich Beams with a Viscoelastic Soft Core

J09-153 Wrinkling Analysis Using Improved Dynamic Relaxation Method

J09-008 Detection of the Crack in Cantilever Structures Using Fuzzy Gaussian Inference Technique

J09-095 Modal Analysis of a Nonlinear Periodic Structure with Cyclic Symmetry

J09-212 Identification of Structural Systems Using an Iterative, Improved Method for System Reduction

Flexible and Active Structures

J09-285 Efficient Laminate Theory for Predicting Transverse Shear Stresses in Piezoelectric Composite Plates

J09-153 Wrinkling Analysis Using Improved Dynamic Relaxation Method

J09-136 Control of Nonlinear Vibrations of Functionally Graded Plates Using 1-3 Piezoelectric Composite

J09-134 Exploitation of Higher-Order Membrane Modes for Improved Synthetic Jet Performance

J09-198 Optimization of a Morphing Wing Based on Coupled Aerodynamic and Structural Constraints

J09-098 New Look at Kirchoff's Theory of Plates

J09-036 Buckling of Sandwich Plates with Random Material Properties Using Improved Plate Model

J09-069 Flexural Stiffness Control of Multi-layered Beams

J09-270 Analysis and Simulation of Optimal Vibration Attenuation for Underactuated Mechanical Systems

J09-025 Control of Beams and Chains Through Distributed Gyroscopes

J09-048 Topological Optimization of Compliant Adaptive Wing Structure

Materials Structural Properties

J09-155 Code Verification for Energetic Structural Material Simulations

J09-163 Effect of Stacking Sequence on Open-Hole Tensile Strength of Composite Laminates

J09-265 Graphite Nanoplatelets Interlayered Carbon/Epoxy Composites

J09-086 Hilbert Transform and Its Engineering Applications

J09-021 Nonlinear Constitutive Relations of Cellular Materials

J09-061 Impact Response of Titanium and Titanium Boride Monolithic and Functionally Graded Composite Plates

J09-214 Pressurized Hollow Spherical Vessels with Arbitrary Radial Nonhomogeneity

Structural Composite Materials

J09-171 Asymptotic Solution for Nonlinear Buckling of Orthotropic Shells on Elastic Foundation

J09-275 Cyclic Buckling Tests Under Combined Compression and Shear on Composite Stiffened Panels

J09-183 Fracture Mechanics Analysis of Composite Structures Using the Boundary Element Shape Sensitivities

J09-265 Graphite Nanoplatelets Interlayered Carbon/Epoxy Composites

J09-166 Polymer Nanofabric Interleaved Composite Laminates

J09-214 Pressurized Hollow Spherical Vessels with Arbitrary Radial Nonhomogeneity

J09-163 Effect of Stacking Sequence on Open-Hole Tensile Strength of Composite Laminates

J09-070 Geometrically Nonlinear First-Order Shear Deformation Theory for General Anisotropic Shells

J09-085 Maximization of Fundamental Frequencies of Axially Compressed Laminated Plates Against Fiber Orientation

J09-136 Control of Nonlinear Vibrations of Functionally Graded Plates Using 1-3 Piezoelectric Composite

J09-285 Efficient Laminate Theory for Predicting Transverse Shear Stresses in Piezoelectric Composite Plates

J09-062 Hierarchical Evaluation of Failure Parameters in Composite Plates

J09-073 Energy Absorption and Deformation in Textile Composite Cellular Structures

Structural Design

J09-187 Heuristic Thermal Postbuckling and Large-Amplitude Vibration Formulations of Beams

J09-011 Improvement of Axial Load Capacity of Elliptical Cylindrical Shells

J09-094 Approach for Increasing the Static Dimensional Stability of Composite Space Structures

J09-156 Optimal Morphing-Wing Design Using Parallel Nondominated Sorting Genetic Algorithm II

J09-237 Reinvestigation of Intuitive Approach for Thermal Postbuckling of Circular Plates

J09-282 Optimal Design of Constrained-Layer Damping Structures Considering Material and Operational Condition Variability

J09-096 Consequences of Material Addition for a Beam Strip in a Thermal Environment

J09-073 Energy Absorption and Deformation in Textile Composite Cellular Structures

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

J09-244 Fatigue Damage Prediction in Metallic Materials Based on Multiscale Modeling

J09-166 Polymer Nanofabric Interleaved Composite Laminates

J09-148 Enhanced 2-D Modeling Technique for Single-Side Patch Repairs

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J09-123 Experimental Mistuning Identification in Bladed Disks Using a Component-Mode-Based Reduced-Order Model

J09-279 Physics-Based Foundation for Empirical Mode Decomposition

J09-054 Dynamics Modeling and Simulation of Flexible Airships

J09-086 Hilbert Transform and Its Engineering Applications

J09-197 Localization of a Breathing Crack Using Super-Harmonic Signals due to System Nonlinearity

J09-212 Identification of Structural Systems Using an Iterative, Improved Method for System Reduction

J09-158 How Membrane Loads Influence the Modal Damping of Flexural Structures

J09-136 Control of Nonlinear Vibrations of Functionally Graded Plates Using 1-3 Piezoelectric Composite

J09-150 Probability Distributions of Natural Frequencies of Uncertain Dynamic Systems

J09-134 Exploitation of Higher-Order Membrane Modes for Improved Synthetic Jet Performance

J09-044 Nonlinear Control of a Membrane Mirror Strip Actuated Axially and in Bending

J09-095 Modal Analysis of a Nonlinear Periodic Structure with Cyclic Symmetry

J09-085 Maximization of Fundamental Frequencies of Axially Compressed Laminated Plates Against Fiber Orientation

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J09-148 Enhanced 2-D Modeling Technique for Single-Side Patch Repairs

J09-163 Effect of Stacking Sequence on Open-Hole Tensile Strength of Composite Laminates

J09-153 Wrinkling Analysis Using Improved Dynamic Relaxation Method

J09-073 Energy Absorption and Deformation in Textile Composite Cellular Structures

J09-156 Optimal Morphing-Wing Design Using Parallel Nondominated Sorting Genetic Algorithm II

J09-196 Accurate Stick Model Development for Static Analysis of Complex Aircraft Wing-Box Structures

J09-061 Impact Response of Titanium and Titanium Boride Monolithic and Functionally Graded Composite Plates

J09-036 Buckling of Sandwich Plates with Random Material Properties Using Improved Plate Model

Structural Modeling

J09-061 Impact Response of Titanium and Titanium Boride Monolithic and Functionally Graded Composite Plates

J09-086 Hilbert Transform and Its Engineering Applications

J09-011 Improvement of Axial Load Capacity of Elliptical Cylindrical Shells

J09-055 Nonlinear Analytical Approach for Preliminary Sizing of Discrete Composite Stringer Terminations

J09-098 New Look at Kirchoff's Theory of Plates

J09-158 How Membrane Loads Influence the Modal Damping of Flexural Structures

J09-206 Modeling and Dynamics of Sandwich Beams with a Viscoelastic Soft Core

J09-183 Fracture Mechanics Analysis of Composite Structures Using the Boundary Element Shape Sensitivities

J09-070 Geometrically Nonlinear First-Order Shear Deformation Theory for General Anisotropic Shells

J09-217 Prebuckling and Buckling of Unsymmetrically Laminated Composite Panels with Stringer Run-Outs

J09-285 Efficient Laminate Theory for Predicting Transverse Shear Stresses in Piezoelectric Composite Plates

Structural Optimization

J09-016 Multiresponse and Multistage Metamodeling Approach for Design Optimization

J09-156 Optimal Morphing-Wing Design Using Parallel Nondominated Sorting Genetic Algorithm II

J09-212 Identification of Structural Systems Using an Iterative, Improved Method for System Reduction

J09-251 Globally Convergent Optimization Algorithm Using Conservative Convex Separable Diagonal Quadratic Approximations

J09-093 Reduction of Ordering Effect in Reliability-Based Design Optimization Using Dimension Reduction Method

J09-085 Maximization of Fundamental Frequencies of Axially Compressed Laminated Plates Against Fiber Orientation

J09-094 Approach for Increasing the Static Dimensional Stability of Composite Space Structures

J09-282 Optimal Design of Constrained-Layer Damping Structures Considering Material and Operational Condition Variability

J09-052 Interval-Based Multi-Objective Optimization of Aircraft Wings Under Gust Loads

J09-048 Topological Optimization of Compliant Adaptive Wing Structure

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J09-090 Joint Uncertainty Propagation in Linear Structural Dynamics Using Stochastic Reduced Basis Methods

J09-011 Improvement of Axial Load Capacity of Elliptical Cylindrical Shells

J09-036 Buckling of Sandwich Plates with Random Material Properties Using Improved Plate Model

J09-017 Dimensional Stability Testing on a Space Optical Bench Structure

J09-211 Buckling Mosaic of Concentrically Hinged or Cracked Circular Plates on Elastic Foundation

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J09-118 Design-Oriented Thermostructural Analysis with External and Internal Radiation, Part 2: Transient Response

J09-064 Incipient Cavitation Studied Under Strong Thermodynamic Effect

J09-096 Consequences of Material Addition for a Beam Strip in a Thermal Environment

THERMOPHYSICS AND HEAT TRANSFER

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J09-059 Dynamics of Plumes Generated by Local Injection of Ablated Material

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J09-127 Dynamics of Shock Dispersion and Interactions in Supersonic Freestreams with Counterflowing Jets

Forced Convection

J09-023 Stagnation-Point Heat Transfer Near the Continuum Limit

Mixed Convection

J09-075 Simultaneous Measurements of Droplet Size and Transient Temperature Within Surface Water Droplets

Nonintrusive Diagnostics

J09-114 Arc Wind-Tunnel Flow Diagnostics by Cavity-Enhanced Absorption Spectroscopy

J09-078 Pressure, Temperature and Velocity Measurements in Underexpanded Free Jets Using Laser-Induced Fluorescence Imaging

J09-075 Simultaneous Measurements of Droplet Size and Transient Temperature Within Surface Water Droplets

J09-077 Density Measurements in a Supersonic Microjet Using Miniature Rainbow Schlieren Deflectometry

J09-079 Multi-Property Measurements at High Sampling Rates Using Rayleigh Scattering

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J09-164 Dimensionality Reduction Approach for Response Surface Approximations: Application to Thermal Design

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J09-246 Molecular Tagging Using vibrationally Excited Nitric Oxide in an Underexpanded Jet Flowfield