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How to Use the Index

In the Subject Index, pages 2658–2667, each technical paper is listed under a maximum of three appropriate headings. Note the locating number in boldface type preceding each paper title, and use that number to find the paper in the Chronological Index. The Author Index, pages 2668–2671 lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 2672–2683, also lists all papers by their locating 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 ISBN 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 2005, 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 2684, lists the books reviewed during 2005, the author, publisher, and reviewer, and the volume, issue number, and page on which the review appeared.

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J05-064 Effects of Numerics on Navier–Stokes Computations of Hypersonic Double-Cone Flows
J05-075 Flow Control of a Sharp-Edged Airfoil
J05-049 Correlation-Based Image Registration for Applications Using Pressure-Sensitive Paint
J05-021 Use of Vortex Generators to Control Internal Supersonic Flow Separation
J05-282 Direct Simulation Monte Carlo Simulations of Hypersonic Flows with Shock Interactions
J05-029 Modeling Pulsed-Blowing Systems for Flow Control
J05-271 Numerical Study of a Separated-Reattached Flow on a Blunt Plate
J05-054 High-Frequency Oscillating-Hot-Wire Sensor for Near-Wall Diagnostics in Separated Flows

Shock Waves and Detonations

J05-149 Planar Shock Generator for Wind Tunnels with Circular Cross Section
J05-159 Aerodynamic Modification of Supersonic Flow Around Truncated Cone Using a Pulsed Electrical Discharges
J05-189 Head-On Collision of a Planar Shock Wave with Deformable Porous Foams
J05-213 Performance of a Shock Tube with a Large-Area Contraction
J05-062 Interaction of Plume with Shock Waves in Laser Ablation
J05-111 Accurate Spatial Resolution Estimates for Reactive Supersonic Flow with Detailed Chemistry
J05-024 Control of Edney IV Interaction by Pulsed Laser Energy Deposition
J05-034 Aerodynamic Performance of Transonic Bethe–Zal'dovich–Thompson Flows past an Airfoil
J05-061 Modeling the Effect of Shock Unsteadiness in Shock/Turbulent Boundary-Layer Interactions
J05-117 Low Diffusion Efficient Upwind Scheme

Subsonic Flow

J05-229 Skin-Friction Reduction on Body of Revolution Using Boundary-Layer Alteration Devices
J05-073 Virtual Origin of Incompressible and Supersonic Turbulent Bluff-Body Wakes
J05-120 Experiments on Streamline-Curvature Instability in Boundary Layers on a Yawed Cylinder
J05-130 Validation Study of a Multidomain Spectral Code for Simulation of Turbulent Flows
J05-259 Kinetic Model Solution for Microscale Gas Flows
J05-083 Harmonic Balance Approach for an Airfoil with a Freeplay Control Surface
J05-097 Calibration and Data-Reduction Algorithms for Nonconventional Multihole Pressure Probes

Supersonic Flow

J05-185 Numerical-Experimental Comparisons of Second-Mode Behavior for Blunted Cones
J05-157 Flow Around an Object Projected from a Cavity into a Supersonic Freestream
J05-190 Direct Simulation Monte Carlo Modeling of Homogenous Condensation in Supersonic Plumes
J05-177 Passive Control of Plume Interference on Slender Axisymmetric Bodies
J05-205 Measurement of Flow Conductivity and Density Fluctuations in Supersonic Nonequilibrium Magnetohydrodynamic Flows
J05-236 Three-Dimensional Normal Shock-Wave/Boundary-Layer Interaction in a Rectangular Duct
J05-188 Planar Fluorescence Imaging of a Supersonic Axisymmetric Base Flow with Mass Bleed
J05-024 Control of Edney IV Interaction by Pulsed Laser Energy Deposition
J05-073 Virtual Origin of Incompressible and Supersonic Turbulent Bluff-Body Wakes
J05-168 Density Measurements in an Axisymmetric Underexpanded Jet by Background-Oriented Schlieren Technique
J05-081 Axisymmetric Jet Shear-Layer Excitation Induced by Laser Energy and Electric Arc Discharges
J05-118 Constant-Temperature and Constant-Voltage Anemometer Use in a Mach 2.5 Flow
J05-109 Eddy-Current-Based Momentum Transfer Method to Suppress Three-Dimensional Separation
J05-010 Temporal Linear Stability Analysis of Three- Dimensional Compressible Binary Shear Layers
J05-061 Modeling the Effect of Shock Unsteadiness in Shock/Turbulent Boundary-Layer Interactions
J05-021 Use of Vortex Generators to Control Internal Supersonic Flow Separation

Transonic Flow

J05-235 Analysis and Characteristics of Choked Swirling Nozzle Flows
J05-094 Generalized Transonic Unsteady Aerodynamics via Computational-Fluid-Dynamics/Indicial Approach
J05-258 Large-Eddy Simulation of Transitional Boundary Layer with Impinging Shock Wave
J05-074 The Supercritical Peanut: The Navy's Pioneer in High-Speed Flight Research
J05-035 Penetration of a Transverse Supersonic Jet into a Subsonic Compressible Crossflow
J05-208 Constrained Aerodynamic Optimization of Three-Dimensional Wings Driven by Navier–Stokes Computations
J05-023 Euler Solution Using Cartesian Grid with a Gridless Least-Squares Boundary Treatment
J05-034 Aerodynamic Performance of Transonic Bethe–Zal'dovich–Thompson Flows past an Airfoil
J05-004 Nonlinear Aeroelastic Computation of a Wing/Pylon/Finned-Store Using Parallel Computing

Unsteady Flows

J05-260 Zonal-Detached-Eddy Simulation of the Flow Around a High-Lift Configuration
J05-131 Computational Study of a Supersonic Base Flow Using Hybrid Turbulence Methodology
J05-186 Compact Difference Scheme Applied to Simulation of Low-Sweep Delta Wing Flow
J05-130 Validation Study of a Multidomain Spectral Code for Simulation of Turbulent Flows
J05-124 Turbulence Correlation Length-Scale Relationships for the Prediction of Aeroacoustic Response
J05-126 Turbulent Flow Downstream of a Propeller, Part 2: Ingested, Propeller-Modified Turbulence

J05-125 Turbulent Flow Downstream of a Propeller, Part 1: Wake Turbulence
J05-112 Luminescence Lifetime Response of Pressure-Sensitive Paint to a Pressure Transient
J05-096 Synthetic Jets in Cross-Flow
J05-128 Three-Dimensionality in Reynolds-Averaged Navier–Stokes Solutions Around Two-Dimensional Geometries
J05-232 Space-Time Mapping Analysis of Airfoil Nonlinear Interaction with Unsteady Inviscid Flow
J05-095 Chaotic Flow Generated by an Oscillating Foil
J05-094 Generalized Transonic Unsteady Aerodynamics via Computational-Fluid-Dynamics/Indicial Approach
J05-209 Numerical Simulation of Separation Control for Transitional Highly Loaded Low-Pressure Turbines
J05-167 Strong Baroclinic Effects in a Light Jet in a Pulsed Coflow
J05-123 Experimental Application of an Active Control Loop on Backward-Facing Step Flow
J05-198 Self-Sustained Oscillations past Perforated and Slotted Plates: Effect of Plate Thickness
J05-067 High-Speed Digital-Particle-Image-Velocimetry Study of Vortex Breakdown
J05-006 Cartesian Grid Method for Moderate-Reynolds-Number Flows Around Complex Moving Objects
J05-105 Investigation of Three-Dimensional Dynamic Stall Using Computational Fluid Dynamics
J05-166 Numerical Simulation of Transonic Buffet over a Supercritical Airfoil
J05-119 Comparative Study of Single-Block versus Multiblock Jet Flow Computations
J05-108 Large-Structure Topology in a Three-Dimensional Supersonic Base Flow
J05-098 Analysis and Prediction of Thin-Airfoil Stall Phenomena with Hybrid Turbulence Methodology
J05-118 Constant-Temperature and Constant-Voltage Anemometer Use in a Mach 2.5 Flow
J05-187 Experimental and Numerical Studies of Dilution Systems for Low-Emission Combustors
J05-056 Computations of Wall Distances Based on Differential Equations
J05-081 Axisymmetric Jet Shear-Layer Excitation Induced by Laser Energy and Electric Arc Discharges
J05-278 Experimental Study on Aerodynamic Characteristics of Unsteady Wings Airfoils Low Reynolds Number
J05-280 Analysis and Stabilization of Fluid-Structure Interaction Algorithm for Rigid-Body Motion
J05-272 Direct Measurement of Unsteady Fluid Dynamic Forces for a Hovering Dragonfly
J05-206 Discrete Adjoint Approach for Modeling Unsteady Aerodynamic Design Sensitivities
J05-227 Formation Criterion for Synthetic Jets
J05-261 Turbulent Characteristics of a Transverse Supersonic Jet in a Subsonic Compressible Crossflow
J05-107 Fast Fourier Transform Convergence Criterion for Numerical Simulations of Periodic Fluid Flows
J05-082 Thrust Augmentation and Vortex Ring Evolution in a Fully-Pulsed Jet
J05-063 Antialiasing Filters for Coupled Reynolds-Averaged/Large-Eddy Simulations
J05-033 Reduced-Order Model for Efficient Simulation of Synthetic Jet Actuators
J05-065 Multistage Coupling for Unsteady Flows in Turbomachinery
J05-084 Unsteady Calibration of Fast-Response Pressure Probes, Part 1: Theoretical Studies
J05-085 Unsteady Calibration of Fast-Response Pressure Probes, Part 2: Water-Tunnel Experiments
J05-086 Unsteady Calibration of Fast-Response Pressure Probes, Part 3: Air Jet Experiments
J05-027 Calculation of Airfoil Flutter by an Euler Method with Approximate Boundary Conditions
J05-036 Experimental Investigation of a Pulse Detonation Engine with a Two-Dimensional Ejector
J05-032 Numerical Investigation of Reflected Shock/Vortex Interaction near an Open-Ended Duct
J05-025 Reduced-Order Modeling of a Heaving Airfoil
J05-054 High-Frequency Oscillating-Hot-Wire Sensor for Near-Wall Diagnostics in Separated Flows
J05-013 Experiments and Modeling of an Unsteady Turbulent Channel Flow
J05-015 Outflow Conditions for Intregrated Large Eddy Simulation/Reynolds-Averaged Navier–Stokes Simulations
J05-116 Use of Low-Dimensional Methods for Wake Flowfield Estimation from Dynamic Strain

Viscous Non-Boundary-Layer Flows

J05-173 Burger's Original Model of Turbulence

Vortices

J05-160 Flow Structure on Diamond and Lambda Planforms: Trailing-Edge Region
J05-186 Compact Difference Scheme Applied to Simulation of Low-Sweep Delta Wing Flow
J05-292 Laser Doppler Measurements of a Highly Curved Flow
J05-095 Chaotic Flow Generated by an Oscillating Foil
J05-151 Control of Vortical Flow over a Rounded Leading-Edge Delta Wing
J05-110 Reduced-Order Structure of Reacting Rectangular Jets
J05-067 High-Speed Digital-Particle-Image-Velocimetry Study of Vortex Breakdown
J05-105 Investigation of Three-Dimensional Dynamic Stall Using Computational Fluid Dynamics
J05-228 Vectoring of Adjacent Synthetic Jets
J05-261 Turbulent Characteristics of a Transverse Supersonic Jet in a Subsonic Compressible Crossflow
J05-075 Flow Control of a Sharp-Edged Airfoil
J05-145 Time Decay of n Family of Vortices
J05-082 Thrust Augmentation and Vortex Ring Evolution in a Fully-Pulsed Jet
J05-235 Analysis and Characteristics of Choked Swirling Nozzle Flows
J05-221 Control of Vortex Breakdown over Highly Swept Wings
J05-035 Penetration of a Transverse Supersonic Jet into a Subsonic Compressible Crossflow
J05-057 Vortex Buffeting of Aircraft Tail: Interpretation via Proper Orthogonal Decomposition
J05-077 Experimental Study of Incompressible Jets with Different Initial Swirl Distributions: Mean Results
J05-002 Accuracy of the Induced Velocity from Helicoidal Wake Vortices Using Straight-Line Segmentation
J05-032 Numerical Investigation of Reflected Shock/Vortex Interaction near an Open-Ended Duct
J05-049 Correlation-Based Image Registration for Applications Using Pressure-Sensitive Paint

Wave Motion and Sloshing

J05-262 Experimental Study on Capillary Flow in a Vane-Wall Gap Geometry

GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY

Aircraft Guidance

J05-080 Autonomous Control of Micro Aircraft Vehicles Falling Through an Atmospheric Boundary Layer

Control System Design

J05-285 New Model Correcting Method for Quadratic Eigenvalue Problems Using a Symmetric Eigenstructure Assignment

Dynamics

J05-134 Reliability-Based Optimization of Active Nonstationary Random Vibration Control
J05-237 Alternative Formulations for Transient Dynamic Response Optimization
J05-083 Harmonic Balance Approach for an Airfoil with a Freeplay Control Surface
J05-150 Davidson Method for Eigenpairs and Their Derivatives
J05-087 Optimization of Flexible Multibody Dynamic Systems Using the Equivalent Static Load Method
J05-060 Sensitivity of Repeated Eigenvalues to Perturbations
J05-214 Forced Vibrations of Functionally Graded Plates in the Three-Dimensional Setting
J05-238 Analysis of Eigenvalues and Modal Interaction of Stochastic Systems

Optimization Techniques

J05-191 Pointwise Bias Error Bounds and Min–Max Design for Response Surface Approximations
J05-237 Alternative Formulations for Transient Dynamic Response Optimization
J05-239 Alternative Formulations for Structural Optimization: An Evaluation by Using Trusses
J05-026 Application of Simultaneous Perturbation Stochastic Approximation Method for Aerodynamic Shape Design Optimization
J05-181 Reliability Estimation and Design with Insufficient Data Based on Possibility Theory
J05-134 Reliability-Based Optimization of Active Nonstationary Random Vibration Control
J05-208 Constrained Aerodynamic Optimization of Three-Dimensional Wings Driven by Navier–Stokes Computations
J05-263 Efficient Response Surface Modeling by Using Moving Least-Squares Method and Sensitivity
J05-254 Optimization of Flapping Airfoils For Maximum Thrust and Propulsive Efficiency

State Estimation

J05-192 Real-Time Structural Damage Monitoring by Input Error Function

Structural Control

J05-264 Nonlinear Perturbation Theory for Structural Dynamic Systems
J05-285 New Model Correcting Method for Quadratic Eigenvalue Problems Using a Symmetric Eigenstructure Assignment
J05-240 Energy Optimization in Local Shape Control of Structures with Nonlinear Peizoelectric Actuators
J05-182 Low Energy-Consumption Hybrid Vibration Suppression Based on Energy-Recycling Approach
J05-134 Reliability-Based Optimization of Active Nonstationary Random Vibration Control

System Identification

J05-274 Aeroelastic Model Reduction for Affordable Computational Fluid Dynamics-Based Flutter Analysis
J05-156 Efficient Reduced-Order System Identification for Linear Systems with Multiple Inputs
J05-192 Real-Time Structural Damage Monitoring by Input Error Function
J05-225 Approximation of Unsteady Aerodynamic Forces Q(k, M) by Use of Fuzzy Techniques

INTERDISCIPLINARY TOPICS

Analytical and Numerical Methods

J05-156 Efficient Reduced-Order System Identification for Linear Systems with Multiple Inputs
J05-191 Pointwise Bias Error Bounds and Min–Max Design for Response Surface Approximations
J05-193 Multiscale Modeling for the Long-Term Behavior of Laminated Composite Structures
J05-069 High-Performance Domainwise Parallel Direct Solver for Large-Scale Structural Analysis
J05-112 Luminescence Lifetime Response of Pressure-Sensitive Paint to a Pressure Transient
J05-136 Extended Radial Basis Functions: More Flexible and Effective Metamodeling
J05-111 Accurate Spatial Resolution Estimates for Reactive Supersonic Flow with Detailed Chemistry
J05-165 Influence of Jet Inlet Conditions on Time-Average Behavior of Transverse Jets
J05-247 Numerical Evaluation of Optimization Algorithms for Low-Reynolds-Number Aerodynamic Shape Optimization
J05-174 Finite Element-Based Boundary Treatment in the Hybrid Particle Method
J05-083 Harmonic Balance Approach for an Airfoil with a Freeplay Control Surface
J05-068 Fuzzy Finite Element Approach for Analysis of Fiber-Reinforced Laminated Composite Beams
J05-169 Mixed-Discrete Fuzzy Multiobjective Programming for Engineering Optimization Using Hybrid Genetic Algorithm
J05-206 Discrete Adjoint Approach for Modeling Unsteady Aerodynamic Design Sensitivities
J05-246 Genetic-Algorithm Optimization of a Chemistry Mechanism for Oxidation of Liquid Hydrocarbons
J05-135 Mode Traces in Degenerate Eigensystems and Augmented Assurance
J05-016 Beam Steering and Shaping of Smart Cylindrical Antenna
J05-088 Use of Kriging Models to Approximate Deterministic Computer Models

Atmospheric and Space Sciences

J05-101 Key Links to Space Weather: Forecasting Solar-Generated Shocks and Proton Acceleration

Environmental Effects

J05-226 Framework for Aircraft Conceptual Design and Environmental Performance Studies

Lasers and Laser Applications

J05-053 Uncertainty Analysis of Laser-Doppler-Velocimetry Measurements fin a Swirling Flowfield
J05-047 Nonstationary Collisional Dynamics in Determining Nitric Oxide Laser-Induced Flourescence Spectra
J05-046 Narrow-Linewidth Ultraviolet Source for Rayleigh and Raman Applications
J05-212 Temporal and Spatial Evolution of a Laser Spark in Air
J05-147 Experimental Laser Sensing for Aircraft Vibration Suppression
J05-062 Interaction of Plume with Shock Waves in Laser Ablation
J05-052 Development of Megahertz-Rate Planar Doppler Velocimetry for High Speed Flows
J05-050 Planar Particle Imaging Doppler Velocimetry: A Three Component Velocity Measurement Technique
J05-048 Assimilation of Physical Chemistry Models for Lifetime Analysis of Pressure-Sensitive Paint

Multidisciplinary Design Optimization

J05-239 Alternative Formulations for Structural Optimization: An Evaluation by Using Trusses
J05-226 Framework for Aircraft Conceptual Design and Environmental Performance Studies
J05-265 Hybrid Variable Fidelity Optimization by Using a Kriging-Based Scaling Function
J05-136 Extended Radial Basis Functions: More Flexible and Effective Metamodeling
J05-191 Pointwise Bias Error Bounds and Min–Max Design for Response Surface Approximations
J05-237 Alternative Formulations for Transient Dynamic Response Optimization
J05-251 Minimum-State Unsteady Aerodynamics for Aeroservoelastic Configuration Shape Optimization of Flight Vehicles
J05-137 Multiobjective Optimization Using Coupled Response Surface Model and Evolutionary Algorithm
J05-247 Numerical Evaluation of Optimization Algorithms for Low-Reynolds-Number Aerodynamic Shape Optimization
J05-089 Probabilistic Structural Optimization Under Reliability, Manufacturability, and Cost Constraints
J05-169 Mixed-Discrete Fuzzy Multiobjective Programming for Engineering Optimization Using Hybrid Genetic Algorithm
J05-215 Multidisciplinary Design Optimization of Aircraft Combustor Structure: An Industry Application
J05-180 Design of a Comfortable Rotor Airfoil Using Distributed Piezoelectric Actuators
J05-037 Efficient Finite Difference Design Sensitivities
J05-088 Use of Kriging Models to Approximate Deterministic Computer Models

Reliability, Maintainability, and Logistics Support

J05-181 Reliability Estimation and Design with Insufficient Data Based on Possibility Theory
J05-090 Enriched Performance Measure Approach for Reliability-Based Design Optimization

Research Facilities and Instrumentation

J05-213 Performance of a Shock Tube with a Large-Area Contraction
J05-046 Narrow-Linewidth Ultraviolet Source for Rayleigh and Raman Applications
J05-138 Compensation of Anelastic Error in Force Measurement
J05-052 Development of Megahertz-Rate Planar Doppler Velocimetry for High Speed Flows
J05-048 Assimilation of Physical Chemistry Models for Lifetime Analysis of Pressure-Sensitive Paint
J05-051 Three Dimensional Planar Doppler Velocity Measurements in a Full-Scale Rotor Wake

Sensor Systems

J05-138 Compensation of Anelastic Error in Force Measurement
J05-266 High-Frequency Response Functions for Composite Plate Monitoring with Ultrasonic Validation
J05-054 High-Frequency Oscillating-Hot-Wire Sensor for Near-Wall Diagnostics in Separated Flows
J05-097 Calibration and Data-Reduction Algorithms for Nonconventional Multihole Pressure Probes
J05-178 Dual-Stiffness Sensor for Damage Detection, Localization, and Prognostics

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY

Launch Vehicle and Sounding Rocket Systems

J05-017 Duel-Band Infared Imagery of an Atlas 5 Launch Vehicle in Flight

Structural Design (Including Loads)

J05-194 Toward a Probabilistic Preliminary Design Criterion for Buckling Critical Composite Shells

Testing, Flight and Ground

J05-017 Duel-Band Infared Imagery of an Atlas 5 Launch Vehicle in Flight

PROPULSION

Advanced Space Propulsion

J05-066 Experimental and Numerical Determination of Micropropulsion Device Efficiencies at Low Reynolds Numbers

Airbreathing Propulsion

J05-010 Temporal Linear Stability Analysis of Three- Dimensional Compressible Binary Shear Layers
J05-036 Experimental Investigation of a Pulse Detonation Engine with a Two-Dimensional Ejector
J05-241 Novel Two-Stage Injector for Flame Stabalization in Supersonic Flows

Combustion and Combustor Designs

J05-267 Effect of Uniform Magnetic Field on Equilibrium Combustion Compositions: Constant Volume
J05-022 Influence of Gravity on Combustion Synthesis of Advanced Materials
J05-215 Multidisciplinary Design Optimization of Aircraft Combustor Structure: An Industry Application
J05-241 Novel Two-Stage Injector for Flame Stabalization in Supersonic Flows

Combustion Instability

J05-133 Pulsating Mode of Flame Propagation in Two-Dimensional Channels

Detonation

J05-170 Formation and Stability of Near Chapman-Jouguet Standing Oblique Detonation Waves
J05-132 Single-Cycle Performance of Idealized Liquid-Fueled Pulse Detonation Engines
J05-036 Experimental Investigation of a Pulse Detonation Engine with a Two-Dimensional Ejector
J05-233 Direct Calculation of Wave Implosion for Detonation Initiation

Droplet and Spray Characterization

J05-211 Hybrid Compressible-Incompressible Numerical Method for Transient Drop-Gas Flows

Emissions and Noises

J05-008 Ninety-Degree Acoustic Spectrum of a High Speed Air Jet
J05-158 Experiments and Analyses of Distributed Exhaust Nozzles
J05-104 Nozzle Shaping for Reduction of Jet Noise from Single Jets

Gas Turbine Engines

J05-038 Minimizing Blade Dynamic Response in a Bladed Disk Through Design Optimization
J05-187 Experimental and Numerical Studies of Dilution Systems for Low-Emission Combustors
J05-053 Uncertainty Analysis of Laser-Doppler-Velocimetry Measurements fin a Swirling Flowfield

Hypersonic Propulsion

J05-170 Formation and Stability of Near Chapman-Jouguet Standing Oblique Detonation Waves

Ignition

J05-241 Novel Two-Stage Injector for Flame Stabalization in Supersonic Flows
J05-287 Thermal-Runaway Approximation for Ignition Times of Branched-Chain Explosions

Supersonic Combustion

J05-111 Accurate Spatial Resolution Estimates for Reactive Supersonic Flow with Detailed Chemistry

Transient Combustion

J05-133 Pulsating Mode of Flame Propagation in Two-Dimensional Channels

Turbomachinery

J05-209 Numerical Simulation of Separation Control for Transitional Highly Loaded Low-Pressure Turbines
J05-231 Evaluation of Near-Wall Turbulence Models for Deliberately Roughened Liquid Annular Seals
J05-137 Multiobjective Optimization Using Coupled Response Surface Model and Evolutionary Algorithm
J05-065 Multistage Coupling for Unsteady Flows in Turbomachinery
J05-011 Acoustic Propagation on Irrotational Mean Flows Using Transient Finite and Infinite Elements

SPACE TECHNOLOGY

Space Processing

J05-022 Influence of Gravity on Combustion Synthesis of Advanced Materials
J05-262 Experimental Study on Capillary Flow in a Vane-Wall Gap Geometry

Spacecraft Radiation Protection

J05-101 Key Links to Space Weather: Forecasting Solar-Generated Shocks and Proton Acceleration

STRUCTURAL MECHANICS AND MATERIALS

Aeroelasticity and Control

J05-273 Computation of Actuation Power Requirements for Smart Wings with Morphing Airfoils
J05-222 Feedback Linearization Control for Panel Flutter Suppression with Piezoelectric Actuators
J05-216 Flutter and Thermal Deflection Suppression of Composite Plates Using Shape Memory Alloy
J05-058 Reduced-Order-Model Approach for Aeroelastic Analysis Involving Aerodynamic and Structural Nonlinearities
J05-276 Modeling of Aeroservoelastic Systems with Structural and Aerodynamic Variations
J05-275 Identifying Parameter-Dependent Volterra Kernels to Predict Aeroelastic Instabilities
J05-155 Influence of Joint Relaxation on Deterministic and Stochastic Panel Flutter
J05-004 Nonlinear Aeroelastic Computation of a Wing/Pylon/Finned-Store Using Parallel Computing
J05-070 Active Control of Nonlinear Panel Flutter Under Yawed Supersonic Flow

Dynamic Model Analysis

J05-242 Parallel Multispecies Genetic Algorithm for Physics and Parameter Estimation in Structural Dynamics
J05-238 Analysis of Eigenvalues and Modal Interaction of Stochastic Systems
J05-039 Direct Least-Squares Formulation of a Stiffness Adjustment Method
J05-264 Nonlinear Perturbation Theory for Structural Dynamic Systems
J05-135 Mode Traces in Degenerate Eigensystems and Augmented Assurance
J05-214 Forced Vibrations of Functionally Graded Plates in the Three-Dimensional Setting
J05-275 Identifying Parameter-Dependent Volterra Kernels to Predict Aeroelastic Instabilities

Flexible and Active Structures

J05-248 Optimal Loading of a Tension Kite
J05-290 Cross-Sectional Analysis of Nonhomogeneous Anisotropic Active Slender Structures
J05-273 Computation of Actuation Power Requirements for Smart Wings with Morphing Airfoils
J05-147 Experimental Laser Sensing for Aircraft Vibration Suppression
J05-289 Shear Lag Micromechanics Model for Effective Properties of Piezoelectric Composites
J05-240 Energy Optimization in Local Shape Control of Structures with Nonlinear Peizoelectric Actuators
J05-280 Analysis and Stabilization of Fluid-Structure Interaction Algorithm for Rigid-Body Motion
J05-288 Electroelastic Analysis and Layer-by-Layer Modeling of a Smart Beam
J05-070 Active Control of Nonlinear Panel Flutter Under Yawed Supersonic Flow
J05-018 Performance of Smart Damping Treatment Using Piezoelectric Fiber-Reinforced Composites
J05-091 Coupled High-Order Shear Layerwise Analysis of Adaptive Sandwich Piezoelectric Composite Beams
J05-020 Efficient Modification Scheme of Stress-Strain Tensor for Wrinkled Membranes
J05-180 Design of a Comfortable Rotor Airfoil Using Distributed Piezoelectric Actuators
J05-019 Spectrum Evaluation Method for Wrinkled Membranes

Materials Structural Properties

J05-289 Shear Lag Micromechanics Model for Effective Properties of Piezoelectric Composites
J05-268 Impact Damage in Fiber Metal Laminates, Part 1: Experiment
J05-195 Effect of Nanotube Functionalization on the Elastic Properties of Polyethylene Nanotube Composites
J05-102 Strain Rate Effect on Four-Step Three-Dimensional Braided Composite Compressive Behavior
J05-163 Ballistic Impact Behavior of Thick Composites: Analytical Formulation
J05-092 Improved Transverse Shear Calculations for Rate-Dependent Analyses of Polymer Matrix Composites
J05-238 Analysis of Eigenvalues and Modal Interaction of Stochastic Systems
J05-139 Critical Void Content for Polymer Composite Laminates
J05-016 Beam Steering and Shaping of Smart Cylindrical Antenna
J05-022 Influence of Gravity on Combustion Synthesis of Advanced Materials
J05-040 Effect of Pressure Distribution on Energy Dissipation in a Mechanical Lap Joint

Structural Composite Materials

J05-291 Approximate Solution for the Compression Buckling of Fully-Anisotropic Cylindrical Shells
J05-266 High-Frequency Response Functions for Composite Plate Monitoring with Ultrasonic Validation
J05-268 Impact Damage in Fiber Metal Laminates, Part 1: Experiment

J05-140 Probability of Failure of Composite Cylinders Subjected to Axisymmetric Loading
J05-193 Multiscale Modeling for the Long-Term Behavior of Laminated Composite Structures
J05-289 Shear Lag Micromechanics Model for Effective Properties of Piezoelectric Composites
J05-114 Postbuckling of Laminated Cylindrical Shells in Different Formulations
J05-099 Microstructural Effects in Multilayers with Large Moduli Contrast Loaded by Flat Punch
J05-163 Ballistic Impact Behavior of Thick Composites: Analytical Formulation
J05-223 Effect of Imperfections on Thermal Buckling of Functionally Graded Cylindrical Shells
J05-216 Flutter and Thermal Deflection Suppression of Composite Plates Using Shape Memory Alloy
J05-093 Approximate Solution and Optimum Design of Compression-Loaded, Postbuckled Laminated Composite Plates
J05-171 Three-Dimensional Thermomechanical Buckling of Functionally Graded Materials
J05-195 Effect of Nanotube Functionalization on the Elastic Properties of Polyethylene Nanotube Composites
J05-279 Free Vibrations of Bonded Single Lap Joints in Composite Shallow Cylindrical Shell Panels
J05-068 Fuzzy Finite Element Approach for Analysis of Fiber-Reinforced Laminated Composite Beams
J05-139 Critical Void Content for Polymer Composite Laminates
J05-141 Optimum Shape Design of Composite Structures Using Boundary-Element Method
J05-243 Transverse Normal Strain Effect on Thermal Stress Analysis of Homogeneous and Layered Plates
J05-217 Consistent Third-Order Shell Theory with Application to Composite Cylindrical Cylinders
J05-059 Structural Behavior of Thin- and Thick-Walled Composite Blades with Multicell Sections
J05-092 Improved Transverse Shear Calculations for Rate-Dependent Analyses of Polymer Matrix Composites
J05-113 Stability and Vibration of Mindlin Sector Plates: An Analytical Approach
J05-196 Stiffness Degradation in Hygrothermal Aged Cross-Ply Laminate with Transverse Cracks
J05-041 Ballistic Perforation of Conically Cylindrical Steel Projectile into Three-Dimensional Braided Composites
J05-018 Performance of Smart Damping Treatment Using Piezoelectric Fiber-Reinforced Composites
J05-091 Coupled High-Order Shear Layerwise Analysis of Adaptive Sandwich Piezoelectric Composite Beams

Structural Design

J05-140 Probability of Failure of Composite Cylinders Subjected to Axisymmetric Loading
J05-291 Approximate Solution for the Compression Buckling of Fully-Anisotropic Cylindrical Shells
J05-194 Toward a Probabilistic Preliminary Design Criterion for Buckling Critical Composite Shells
J05-223 Effect of Imperfections on Thermal Buckling of Functionally Graded Cylindrical Shells
J05-172 Damage Tolerance and Fail Safety of Welded Aircraft Wing Panels
J05-113 Stability and Vibration of Mindlin Sector Plates: An Analytical Approach
J05-218 Fracture Analysis of Stiffened Panels Under Combined Tensile, Bending, and Shear Loads
J05-215 Multidisciplinary Design Optimization of Aircraft Combustor Structure: An Industry Application
J05-009 Modeling the Buckling of Axially Compressed Elastic Cylindrical Shells
J05-037 Efficient Finite Difference Design Sensitivities
J05-089 Probabilistic Structural Optimization Under Reliability, Manufacturability, and Cost Constraints

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

J05-172 Damage Tolerance and Fail Safety of Welded Aircraft Wing Panels
J05-266 High-Frequency Response Functions for Composite Plate Monitoring with Ultrasonic Validation
J05-268 Impact Damage in Fiber Metal Laminates, Part 1: Experiment
J05-218 Fracture Analysis of Stiffened Panels Under Combined Tensile, Bending, and Shear Loads
J05-139 Critical Void Content for Polymer Composite Laminates
J05-244 Investigation of Delamination Caused by Impact Using a Cohesive-Layer Model

Structural Dynamics and Characterization

J05-292 Predictive Elastothermodynami Damping in Finite Element Models Using a Perturbation Formulation
J05-264 Nonlinear Perturbation Theory for Structural Dynamic Systems
J05-242 Parallel Multispecies Genetic Algorithm for Physics and Parameter Estimation in Structural Dynamics
J05-290 Cross-Sectional Analysis of Nonhomogeneous Anisotropic Active Slender Structures
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