

2009 *Journal of Aircraft* Index

How to Use the Index

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C09-131 Automatic Transition Prediction in Hybrid Flow Solver, Part 1: Methodology and Sensitivities
C09-132 Automatic Transition Prediction in Hybrid Flow Solver, Part 2: Practical Application

Computational Fluid Dynamics

- C09-100** Self-Adaptive Upwinding for Large Eddy Simulation of Turbulent Flows on Unstructured Elements
C09-060 Optimization of Flapping Motion Parameters for Two Airfoils in a Biplane Configuration
C09-066 Robust Aerodynamic Design Optimization Using Polynomial Chaos
C09-079 Simulation of Heat Transfer from Hot-Air Jets Impinging a Three-Dimensional Concave Surface
C09-218 Industrial Computational Fluid Dynamics Tools for the Evaluation of Aerodynamic Coefficients
C09-021 Thickness Effect on the Thrust Generation of Heaving Elliptic Airfoils
C09-073 Stowability Constraint Within a Two-Dimensional Aerodynamic Optimization Method
C09-053 Numerical Study of High-Resolution Scheme Based on Preconditioning Method
C09-213 Parametric Study of an Axisymmetric Busemann Biplane Configuration
C09-230 Prediction of Wall Pressure Fluctuation over a Backward-Facing Step Using Detached Eddy Simulation
C09-143 Detached-Eddy Simulation of a Wing Tip Vortex at Dynamic Stall Conditions
C09-087 Two-Level Multifidelity Design Optimization Studies for Supersonic Jets
C09-023 Numerical Simulations of a Wingtip Vortex in the Near Field
C09-102 Grid Quality and Resolution Issues from the Drag Prediction Workshop Series
C09-146 Aerodynamic Analysis of a Generic Fighter Using Delayed Detached-Eddy Simulation
C09-153 Numerical Investigation of Circulation Control Airfoils
C09-167 Numerical Investigation on Blade/Wake-Interaction Noise Generation

- C09-224** Overset Euler/Boundary-Layer Solver with Panel-Based Aerodynamic Modeling for Aeroelastic Applications

- C09-198** Numerical Analysis on Aerodynamic Force Generation of Biplane Counter-Flapping Flexible Airfoils

- C09-145** Passive Control of the Flow Around the Stratospheric Observatory for Infrared Astronomy
C09-148 Active Flow Control for Practical High-Lift Systems

- C09-180** Multistep Results in ICECREMO2

- C09-132** Automatic Transition Prediction in Hybrid Flow Solver, Part 2: Practical Application

- C09-194** Three-Dimensional Aerodynamic Simulations of Jumping Paratroopers and Falling Cargo Payloads

- C09-126** Numerical and Mesh Resolution Requirements for Accurate Sonic Boom Prediction
C09-043 Reynolds-Averaged Navier-Stokes Solutions for the CAWAPI F-16XL Using Different Hybrid Grids

- C09-117** Multipoint Optimization of a Short-Range Quiet Passenger Aircraft

- C09-131** Automatic Transition Prediction in Hybrid Flow Solver, Part 1: Methodology and Sensitivities

- C09-168** Evaluation of Computations and Transition Prediction Method for Aircraft High-Lift Configuration

- C09-064** Computational Modeling of Variable-Droop Leading Edge in Forward Flight

- C09-054** Comparative Study of Three-Dimensional Wing Drag Minimization by Different Optimization Techniques

- C09-015** Advanced Design by Numerical Methods and Wind-Tunnel Verification Within European High-Lift Program

- C09-041** Comparison of Measured and Block Structured Simulation Results for the F-16XL Aircraft

- C09-040** F16-XL Geometry and Computational Grids Used in Cranked-Arrow Wing Aerodynamics Project International

- C09-221** Computational Study of Flexible Wing Ornithopter Flight

- C09-239** Improved Iteration Algorithm for Nonlinear Vortex Lattice Method

- C09-042** Standard Unstructured Grid Solutions for Cranked Arrow Wing Aerodynamics Project International F-16XL

- C09-197** Prediction of Helicopter Maneuver Loads Using a Fluid-Structure Analysis

- C09-201** Effect of Microtab on Reduction of Noise Due to Aircraft High-Lift Devices

- C09-211** Three-Dimensional Aerodynamic Design of Low-Wave-Drag Supersonic Biplane Using Inverse Problem Method

Hydrodynamics

- C09-056** Hydraulic Jump Formation in Water Sloshing Within an Oscillating Tank

Inlet, Nozzle, Diffuser, and Channel Flows

- C09-019** Aerodynamic Design of a Supersonic Inlet with a Parametric Bump
C09-212 Design and Optimization Method for Inertial Particle Separator Systems

Jets, Wakes, and Viscid-Inviscid Flow Interactions

- C09-017** Transport Aircraft Wake Influenced by Oscillating Winglet Flaps
- C09-079** Simulation of Heat Transfer from Hot-Air Jets Impinging a Three-Dimensional Concave Surface
- C09-026** Identification of Any Aircraft by Its Unique Turbulent Wake Signature
- C09-114** Flowfield of a Forward-Facing Shaped-Charge Cavity
- C09-096** Flow Measurements in a Short Takeoff, Vertical Landing Fountain: Splayed Jets

Multiphase Flows

- C09-056** Hydraulic Jump Formation in Water Sloshing Within an Oscillating Tank

Separated Flows

- C09-230** Prediction of Wall Pressure Fluctuation over a Backward-Facing Step Using Detached Eddy Simulation
- C09-114** Flowfield of a Forward-Facing Shaped-Charge Cavity
- C09-164** Bubble Burst Control for Stall Suppression on a NACA 631-012 Airfoil
- C09-177** Flow Past a Yawed Rectangular Cavity in Transonic and Low Supersonic Flows
- C09-032** Effect of Taper Ratio on Aerodynamic Performance of Cropped Nonslender Delta Wings
- C09-029** Flow Control of an Airfoil via Injection and Suction
- C09-145** Passive Control of the Flow Around the Stratospheric Observatory for Infrared Astronomy

Shock Waves and Detonations

- C09-209** Sonic Boom Variability Due to Homogeneous Atmospheric Turbulence
- C09-213** Parametric Study of an Axisymmetric Busemann Biplane Configuration

Subsonic Flow

- C09-157** Basic Induced Drag Study of the Joined-Wing Aircraft
- C09-073** Stowability Constraint Within a Two-Dimensional Aerodynamic Optimization Method
- C09-031** Analytic Drag Prediction for Cambered Wings with Partial Leading Edge Suction
- C09-106** Influence of Layer Thickness on the Design of Rapid-Prototyped Models
- C09-202** Effects of Surface Flats on the Performance of a Remotely Piloted Aircraft

Supersonic Flow

- C09-195** New Supersonic Wing Far-Field Composite-Element Wave-Drag Optimization Method
- C09-213** Parametric Study of an Axisymmetric Busemann Biplane Configuration
- C09-211** Three-Dimensional Aerodynamic Design of Low-Wave-Drag Supersonic Biplane Using Inverse Problem Method
- C09-209** Sonic Boom Variability Due to Homogeneous Atmospheric Turbulence
- C09-126** Numerical and Mesh Resolution Requirements for Accurate Sonic Boom Prediction

Transonic Flow

- C09-110** Assessment of Passive Flow Control for Transonic Cavity Flow Using Detached-Eddy Simulation
- C09-012** High-Altitude Limit Cycle Flutter of Transonic Wings

- C09-099** Shock Effects on Delta Wing Vortex Breakdown

- C09-183** Investigation of Unswept Normal Shock Wave/Turbulent-Boundary-Layer Interaction Control

- C09-033** Comparison of Conventional and Compression Pylon Designs for an Underwing Nacelle

- C09-044** Lessons Learned from Numerical Simulations of the F-16XL Aircraft at Flight Conditions

- C09-002** Aerodynamic Investigations of an Advanced Over-the-Wing Nacelle Transport Aircraft Configuration

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- C09-110** Assessment of Passive Flow Control for Transonic Cavity Flow Using Detached-Eddy Simulation

- C09-142** Unsteady Aerodynamic Coefficients Obtained by a Compressible Vortex Lattice Method

- C09-119** Unsteady Airfoil with Dynamic Leading- and Trailing-Edge Flaps

- C09-230** Prediction of Wall Pressure Fluctuation over a Backward-Facing Step Using Detached Eddy Simulation

- C09-021** Thickness Effect on the Thrust Generation of Heaving Elliptic Airfoils

- C09-068** Numerical and Experimental Analysis of a Generic Fan-in-Wing Configuration

- C09-243** Impulsively Started Flat Plate Flow

- C09-124** Transport Wing Flutter Model Transonic Limit Cycle Oscillation Test

- C09-143** Detached-Eddy Simulation of a Wing Tip Vortex at Dynamic Stall Conditions

- C09-187** Theoretical Predictions of F-16 Fighter Limit Cycle Oscillations for Flight Flutter Testing

- C09-146** Aerodynamic Analysis of a Generic Fighter Using Delayed Detached-Eddy Simulation

- C09-169** Delta Wing Vortex-Burst Behavior Under a Dynamic Freestream

- C09-167** Numerical Investigation on Blade/Wake-Interaction Noise Generation

- C09-177** Flow Past a Yawed Rectangular Cavity in Transonic and Low Supersonic Flows

- C09-047** Propulsive Force of a Flexible Flapping Thin Airfoil

- C09-004** National Transonic Facility Model and Tunnel Vibrations

- C09-114** Flowfield of a Forward-Facing Shaped-Charge Cavity

- C09-203** Dye Visualization of the Flow Structure over a Yawed Nonslender Delta Wing

- C09-239** Improved Iteration Algorithm for Nonlinear Vortex Lattice Method

- C09-064** Computational Modeling of Variable-Droop Leading Edge in Forward Flight

Vortices

- C09-233** Behaviors of Vortex Wake in Random Atmospheric Turbulence

- C09-017** Transport Aircraft Wake Influenced by Oscillating Winglet Flaps

- C09-118** Noninvasive Measurement of Velocity, Pressure, and Temperature in Unseeded Supersonic Air Vortices

- C09-169** Delta Wing Vortex-Burst Behavior Under a Dynamic Freestream

- C09-243** Impulsively Started Flat Plate Flow

- C09-023** Numerical Simulations of a Wingtip Vortex in the Near Field

- C09-099** Shock Effects on Delta Wing Vortex Breakdown

- C09-161** Aerodynamic Characteristics of Forward and Aft Swept Arrow Wings

- C09-155** Eulerian Simulation of the Fluid Dynamics of Helicopter Brownout

- C09-078** Vortex Wake Generated Behind a Forward Swept Wing

- C09-044** Lessons Learned from Numerical Simulations of the F-16XL Aircraft at Flight Conditions

- C09-043** Reynolds-Averaged Navier-Stokes Solutions for the CAWAPI F-16XL Using Different Hybrid Grids

- C09-003** State-Space Modeling and Identification of Delta Wing Vortex-Coupled Roll Dynamics

- C09-025** Experimental Investigation of Plain- and Flapped-Wing Tip Vortex

- C09-077** Aircraft Wake Vortex Scenarios Simulation Package for Takeoff and Departure

- C09-203** Dye Visualization of the Flow Structure over a Yawed Nonslender Delta Wing

- C09-042** Standard Unstructured Grid Solutions for Cranked Arrow Wing Aerodynamics Project International F-16XL

- C09-045** Investigation of the Propeller Slipstream with Particle Image Velocimetry

Wave Motion and Sloshing

- C09-056** Hydraulic Jump Formation in Water Sloshing Within an Oscillating Tank

GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY

Aircraft Dynamics

- C09-160** Sensor Emplacement on Vertical Surfaces for a Biologically Inspired Morphing from Bats

- C09-086** Optimized Measurements of Unmanned-Air-Vehicle Mass Moment of Inertia with a Bifilar Pendulum

- C09-106** Influence of Layer Thickness on the Design of Rapid-Prototyped Models

- C09-218** Industrial Computational Fluid Dynamics Tools for the Evaluation of Aerodynamic Coefficients

- C09-240** Lateral Stability of High Wing Configurations

- C09-089** Nonlinear Ten-Degree-of-Freedom Dynamics Model of a Generic Hypersonic Vehicle

- C09-003** State-Space Modeling and Identification of Delta Wing Vortex-Coupled Roll Dynamics

Aircraft Guidance

- C09-165** Real-Time Flight Trajectory Optimization and its Verification in Flight

- C09-226** Collision Detection System Based on Differential Carrier-Phase Global Positioning System Broadcasts

Aircraft Stability and Control

- C09-059** Characteristic Length and Dynamic Time Scale Associated with Aircraft Pitching Motion

- C09-071** Pitch Handling Qualities Investigation of the Tailless Gull-Wing Configuration

- C09-178** Modeling Pilot Control Behavior with Sudden Changes in Vehicle Dynamics

C09-163 Stability and Flying Qualities of an Unmanned Airplane Using the Vortex-Lattice Method

C09-016 Handling Qualities Evaluation of an Autogiro Against the Existing Rotorcraft Criteria

C09-030 Development of Stable Automated Cruise Flap for an Aircraft with Adaptive Wing

C09-210 Real-Time Dynamic Modeling: Data Information Requirements and Flight-Test Results

Control System Design

C09-205 Guidance, Navigation, and Control System Design for Tripropeller Vertical-Take-Off-and-Landing Unmanned-Air-Vehicle

Control System Effectors

C09-034 Development of a Piezohydraulic Active Pitch Link for a Swashplateless Helicopter Rotor

Flight Displays

C09-140 Improving Precision Vertical Flight Operations through a Direct-Perception—Action Display

Flight Mechanics

C09-071 Pitch Handling Qualities Investigation of the Tailless Gull-Wing Configuration

C09-170 Elastic Multibody Models of Transport Aircraft High-Lift Mechanisms

C09-200 Flight Dynamics of High Aspect-Ratio Flying Wings: Effect of Large Trim Deformation

C09-206 Aircraft Parameter Estimation Experiment Design Considering Measurement Colored Residuals

Handling Qualities

C09-071 Pitch Handling Qualities Investigation of the Tailless Gull-Wing Configuration

C09-059 Characteristic Length and Dynamic Time Scale Associated with Aircraft Pitching Motion

C09-016 Handling Qualities Evaluation of an Autogiro Against the Existing Rotorcraft Criteria

C09-163 Stability and Flying Qualities of an Unmanned Airplane Using the Vortex-Lattice Method

C09-178 Modeling Pilot Control Behavior with Sudden Changes in Vehicle Dynamics

Optimization Techniques

C09-080 Wing Planform Design Optimization for Reusable Launch Vehicle

C09-060 Optimization of Flapping Motion Parameters for Two Airfoils in a Biplane Configuration

C09-066 Robust Aerodynamic Design Optimization Using Polynomial Chaos

C09-036 Cooperative Task Assignment/Path Planning of Multiple Unmanned Aerial Vehicles Using Genetic Algorithm

C09-054 Comparative Study of Three-Dimensional Wing Drag Minimization by Different Optimization Techniques

C09-165 Real-Time Flight Trajectory Optimization and its Verification in Flight

State Estimation

C09-185 Unscented Kalman Filtering for Reentry Vehicle Identification in the Transonic Regime

Structural Control

C09-051 Lateral Stability of Aircraft Nose-Wheel Landing Gear with Closed-Loop Shimmy Damper

System Identification

C09-139 System Identification of a Miniature Helicopter

C09-185 Unscented Kalman Filtering for Reentry Vehicle Identification in the Transonic Regime

C09-013 Characterizing Stability and Control of Subscale Aircraft from Wind-Tunnel Dynamic Motion

C09-112 In-Flight Estimation of Helicopter Gross Weight and Mass Center Location

C09-210 Real-Time Dynamic Modeling: Data Information Requirements and Flight-Test Results

Trajectory Optimization

C09-165 Real-Time Flight Trajectory Optimization and its Verification in Flight

C09-235 Optimization of Rotorcraft Simultaneous Noninterfering Noise Abatement Approach Procedures

C09-065 Three-Dimensional Trajectory Optimization in Constrained Airspace

C09-036 Cooperative Task Assignment/Path Planning of Multiple Unmanned Aerial Vehicles Using Genetic Algorithm

C09-133 Field Evaluation of the Tailored Arrivals Concept for Datalink-Enabled Continuous Descent Approach

UAVs

C09-236 Lateral Stability and Control of a Tailless Aircraft Configuration

C09-160 Sensor Emplacement on Vertical Surfaces for a Biologically Inspired Morphing from Bats

C09-139 System Identification of a Miniature Helicopter

C09-163 Stability and Flying Qualities of an Unmanned Airplane Using the Vortex-Lattice Method

C09-092 Three-Dimensional Obstacle Avoidance Strategies for Uninhabited Aerial Systems Mission Planning and Replanning

C09-036 Cooperative Task Assignment/Path Planning of Multiple Unmanned Aerial Vehicles Using Genetic Algorithm

C09-086 Optimized Measurements of Unmanned-Air-Vehicle Mass Moment of Inertia with a Bifilar Pendulum

INTERDISCIPLINARY TOPICS

Aerospace Management

C09-063 Graphical Techniques for Managing Field Failures of Aircraft Systems and Components

Analytical and Numerical Methods

C09-196 Numerical Evaluation of Limit Cycles of Aeroelastic Systems

C09-049 Improved Accuracy, Second-Order Response Model for Pressure Sensing Systems

C09-179 Conceptual Design Prediction of the Buffet Envelope of Transport Aircraft

C09-038 H Flutter Analysis: A Direct Harmonic Interpolation Method

C09-057 New Electric Field Computation Method for Aircraft

Atmospheric and Space Sciences

C09-182 Nonlinear Aircraft Loads in Severe Atmospheric Turbulence

C09-195 New Supersonic Wing Far-Field Composite-Element Wave-Drag Optimization Method

C09-156 Statistics of Atmospheric Gust Patterns Expressed in Terms of Energy and Entropy

Environmental Effects

C09-077 Aircraft Wake Vortex Scenarios Simulation Package for Takeoff and Departure

C09-122 Modeling of Terminal-Area Airplane Fuel Consumption

C09-123 Analysis of Departure and Arrival Profiles Using Real-Time Aircraft Data

Human Factors

C09-220 Solution-Space-Based Complexity Analysis of the Difficulty of Aircraft Merging Tasks

C09-140 Improving Precision Vertical Flight Operations through a Direct-Perception—Action Display

C09-178 Modeling Pilot Control Behavior with Sudden Changes in Vehicle Dynamics

C09-193 Neural Network Modeling of Lateral Pilot Landing Control

Lasers and Laser Applications

C09-154 Development of an Onboard Doppler Lidar for Flight Safety

C09-118 Noninvasive Measurement of Velocity, Pressure, and Temperature in Unseeded Supersonic Air Vortices

Multidisciplinary Design Optimization

C09-214 Multidisciplinary Code Coupling for Analysis and Optimization of Aeroelastic Systems

C09-219 Improved Representation of High-Lift Devices for a Multidisciplinary Conceptual Aircraft Design Process

C09-087 Two-Level Multifidelity Design Optimization Studies for Supersonic Jets

C09-147 Optimizing Electric Propulsion Systems for Unmanned Aerial Vehicles

C09-097 Multidisciplinary Optimization Method for Designing Boundary-Layer-Ingesting Inlets

C09-054 Comparative Study of Three-Dimensional Wing Drag Minimization by Different Optimization Techniques

C09-117 Multipoint Optimization of a Short-Range Quiet Passenger Aircraft

C09-062 Design of Composite Wings Including Uncertainties: A Probabilistic Approach

C09-024 Optimal Placement of Piezoelectric Actuated Trailing-Edge Flaps for Helicopter Vibration Control

C09-009 Optimization of Propeller Based Propulsion System

C09-208 Knowledge-Based Engineering Approach to Support Aircraft Multidisciplinary Design and Optimization

Reliability, Maintainability, and Logistics Support

C09-063 Graphical Techniques for Managing Field Failures of Aircraft Systems and Components

C09-227 Optimization of Distribution Parameters for Estimating Probability of Crack Detection

C09-028 Commercial Aircraft Exterior Cleaning Optimization

Research Facilities and Instrumentation

- C09-049** Improved Accuracy, Second-Order Response Model for Pressure Sensing Systems Safety
- C09-001** Improvement of Aircraft Accident Investigation Through Expert Systems
- C09-077** Aircraft Wake Vortex Scenarios Simulation Package for Takeoff and Departure

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

- C09-053** Numerical Study of High-Resolution Scheme Based on Preconditioning Method

Configuration Design

- C09-089** Nonlinear Ten-Degree-of-Freedom Dynamics Model of a Generic Hypersonic Vehicle

PROPULSION**Airbreathing Propulsion**

- C09-019** Aerodynamic Design of a Supersonic Inlet with a Parametric Bump
- C09-129** Catastrophe Model for Supersonic Inlet Start/Unstart

Electric Propulsion

- C09-113** Design of an Electric Propulsion System for a Quadrotor Unmanned Aerial Vehicle

Emissions and Noises

- C09-122** Modeling of Terminal-Area Airplane Fuel Consumption
- C09-151** Low-Speed Fan Noise Attenuation from a Foam-Metal Liner
- C09-123** Analysis of Departure and Arrival Profiles Using Real-Time Aircraft Data

Engine Materials

- C09-151** Low-Speed Fan Noise Attenuation from a Foam-Metal Liner

Engine Performance

- C09-123** Analysis of Departure and Arrival Profiles Using Real-Time Aircraft Data

Fuel Cells

- C09-215** Comparison of Design Methods for Fuel-Cell-Powered Unmanned Aerial Vehicles

Gas Turbine Engines

- C09-074** Performance, Usage, and Turbofan Transient Simulation Comparisons Between Three Commercial Simulation Tools

Micro Propulsion and Power

- C09-047** Propulsive Force of a Flexible Flapping Thin Airfoil

Ramjets and Scramjets

- C09-129** Catastrophe Model for Supersonic Inlet Start/Unstart Turbomachinery
- C09-151** Low-Speed Fan Noise Attenuation from a Foam-Metal Liner

REAL-TIME SYSTEMS**Sensor Systems**

- C09-154** Development of an Onboard Doppler Lidar for Flight Safety

Systems of Systems

- C09-150** Simulation Framework for Aircraft Power System Architecting

STRUCTURAL MECHANICS AND MATERIALS**Aeroelasticity and Control**

- C09-141** Lagwise Loads Analysis of a Rotor Blade with an Embedded Chordwise Absorber
- C09-130** Active Control of Vertical Tail Buffeting by Piezoelectric Actuators
- C09-072** Smart Spring Control of Vibration on Helicopter Rotor Blades
- C09-124** Transport Wing Flutter Model Transonic Limit Cycle Oscillation Test
- C09-175** Flutter Margins for Multimode Unstable Couplings with Associated Flutter Confidence
- C09-200** Flight Dynamics of High Aspect-Ratio Flying Wings: Effect of Large Trim Deformation
- C09-098** Thermal Buckling and Flutter Behavior of Shape Memory Alloy Hybrid Composite Shells
- C09-238** Aeroelastic Study of Bistable Composite Airfoils
- C09-012** High-Altitude Limit Cycle Flutter of Transonic Wings
- C09-004** National Transonic Facility Model and Tunnel Vibrations
- C09-187** Theoretical Predictions of F-16 Fighter Limit Cycle Oscillations for Flight Flutter Testing
- C09-241** Aeroservoelastic Analysis for Transonic Missile Based on Computational Fluid Dynamics
- C09-038** H Flutter Analysis: A Direct Harmonic Interpolation Method
- C09-024** Optimal Placement of Piezoelectric Actuated Trailing-Edge Flaps for Helicopter Vibration Control
- C09-173** Aerothermoacoustic Response of Shape Memory Alloy Hybrid Composite Panels
- C09-229** Basis Vector Quantification of Flutter Analysis Structural Modes
- C09-225** Improved Flutter Boundary Prediction for an Isolated Two-Degree-of-Freedom Airfoil

Dynamic Model Analysis

- C09-170** Elastic Multibody Models of Transport Aircraft High-Lift Mechanisms
- C09-037** Analysis of Tethered Aerostat Response Under Atmospheric Turbulence Considering Nonlinear Cable Dynamics
- C09-229** Basis Vector Quantification of Flutter Analysis Structural Modes
- C09-225** Improved Flutter Boundary Prediction for an Isolated Two-Degree-of-Freedom Airfoil

Flexible and Active Structures

- C09-081** Promising Benefits of an Active-Extrados Morphing Laminar Wing
- C09-170** Elastic Multibody Models of Transport Aircraft High-Lift Mechanisms
- C09-238** Aeroelastic Study of Bistable Composite Airfoils
- C09-072** Smart Spring Control of Vibration on Helicopter Rotor Blades

Materials Structural Properties

- C09-125** Characterization of Nonsymmetric Forms of Fully Orthotropic Laminates
- C09-191** Linear Damage Accumulation for Predicting Fatigue in Fiber Metal Laminates
- C09-008** Residual-Strength Assessment of Modified Transport Aircraft Fuselages

- C09-174** Fatigue Performance of Nitrided Aircraft Crankshafts

Structural Composite Materials

- C09-125** Characterization of Nonsymmetric Forms of Fully Orthotropic Laminates
- C09-067** Experimental Investigation of Bistable Winglets to Enhance Aircraft Wing Lift Takeoff Capability
- C09-061** Supersonic Flutter of Functionally Grated Panels Subject to Acoustic and Thermal Loads
- C09-149** Composite Materials Strength Determination Within the Current Certification Methodology for Aircraft Structures
- C09-231** Design and Testing of a Fiber-Metal Laminate Bird-Strike-Resistant Leading Edge
- C09-238** Aeroelastic Study of Bistable Composite Airfoils
- C09-020** Strain-Energy Release Rate Analysis of Adhesive-Bonded Composite Joints with Prescribed Interlaminar Crack
- C09-090** Structural Analysis and Testing of an Ultralight Unmanned-Aerial-Vehicle Carbon-Composite Wing
- C09-083** Review of Smoke Toxicity of Fiber-Polymer Composites Used in Aircraft
- C09-173** Aerothermoacoustic Response of Shape Memory Alloy Hybrid Composite Panels
- C09-166** Effects of In-Plane Shear Loads on Transverse Shear Deformations in Composite Panels
- C09-191** Linear Damage Accumulation for Predicting Fatigue in Fiber Metal Laminates

Structural Design

- C09-174** Fatigue Performance of Nitrided Aircraft Crankshafts
- C09-091** Nonlinear Dynamic Response Structural Optimization of a Joined-Wing Using Equivalent Static Loads
- C09-223** Fast Tool for Buckling Analysis and Optimization of Stiffened Panels
- C09-008** Residual-Strength Assessment of Modified Transport Aircraft Fuselages
- C09-020** Strain-Energy Release Rate Analysis of Adhesive-Bonded Composite Joints with Prescribed Interlaminar Crack

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

- C09-174** Fatigue Performance of Nitrided Aircraft Crankshafts
- C09-172** Fatigue Life Estimation of Helicopter Landing Probe Based on Dynamic Simulation
- C09-227** Optimization of Distribution Parameters for Estimating Probability of Crack Detection
- C09-149** Composite Materials Strength Determination Within the Current Certification Methodology for Aircraft Structures
- C09-138** Life Prediction of Aircraft Aluminum Subjected to Pitting Corrosion Under Fatigue Conditions
- C09-186** Effective Block Approach for Aircraft Damage Tolerance Analyses
- C09-191** Linear Damage Accumulation for Predicting Fatigue in Fiber Metal Laminates
- C09-037** Analysis of Tethered Aerostat Response Under Atmospheric Turbulence Considering Nonlinear Cable Dynamics

Structural Dynamics and Characterization

- C09-120** Simple Quantitative Method to Compare Aircraft Wing Mode Shapes
C09-152 Nonlinear Reduced-Order Analysis with Time-Varying Spatial Loading Distributions
C09-181 Identification of a Nonlinear Wing Structure Using an Extended Modal Model

Structural Finite Elements

- C09-098** Thermal Buckling and Flutter Behavior of Shape Memory Alloy Hybrid Composite Shells
C09-231 Design and Testing of a Fiber-Metal-Laminate Bird-Strike-Resistant Leading Edge
C09-076 Comparison of Theoretical Structural Models with Experiment for a High-Aspect-Ratio Aeroelastic Wing
C09-173 Aerothermoacoustic Response of Shape Memory Alloy Hybrid Composite Panels
C09-166 Effects of In-Plane Shear Loads on Transverse Shear Deformations in Composite Panels

Structural Modeling

- C09-020** Strain-Energy Release Rate Analysis of Adhesive-Bonded Composite Joints with Prescribed Interlaminar Crack
C09-166 Effects of In-Plane Shear Loads on Transverse Shear Deformations in Composite Panels
C09-208 Knowledge-Based Engineering Approach to Support Aircraft Multidisciplinary Design and Optimization
C09-008 Residual-Strength Assessment of Modified Transport Aircraft Fuselages

Structural Optimization

- C09-214** Multidisciplinary Code Coupling for Analysis and Optimization of Aeroelastic Systems
C09-223 Fast Tool for Buckling Analysis and Optimization of Stiffened Panels
C09-091 Nonlinear Dynamic Response Structural Optimization of a Joined-Wing Using Equivalent Static Loads
C09-125 Characterization of Nonsymmetric Forms of Fully Orthotropic Laminates

Structural Stability

- C09-223** Fast Tool for Buckling Analysis and Optimization of Stiffened Panels
C09-046 Time-Periodic Stability of a Flapping Insect Wing Structure in Hover
C09-115 Assessment of Uncertain External Store Aerodynamics Using mu-p Flutter Analysis

Thermal Effects

- C09-098** Thermal Buckling and Flutter Behavior of Shape Memory Alloy Hybrid Composite Shells

THERMOPHYSICS AND HEAT TRANSFER

Computational Heat Transfer

- C09-079** Simulation of Heat Transfer from Hot-Air Jets Impinging a Three-Dimensional Concave Surface

Forced Convection

- C09-232** Heat Transfer and Pressure Measurements on a Thick Airfoil