

2010 *Journal of Aircraft* Index

How to Use the Index

In the Subject Index, pages 2188–2196, 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 2197–2199, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 2200–2207, 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. 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 2010, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index.

Subject Index

AIRCRAFT TECHNOLOGY, CONVENTIONAL, STOL/VTOL

Aerodynamics

C09-162E Erratum on Drag Extrapolation to Higher Reynolds Number
C10-186 Influence of Differential Spoiler Settings on the Wake Vortex Characterization and Alleviation
C10-187 Evaluation of a Potential Flow Model for Propeller and Wind Turbine Design
C10-184 Airfoil Optimization Using Practical Aerodynamic Design Requirements
C10-161 Experimental Investigations on Aerodynamic Characteristics of the ZHIYUAN-1 Airship
C10-157 Bodies Having Minimum Pressure Drag in Supersonic Flow: Investigating Nonlinear Effects
C10-153 Experimental Investigation of Double-Hinged Vortex Flap Configurations
C10-120 Improving the Aerodynamic Performance of Micro-Air-Vehicle-Scale Cycloidal Rotor: An Experimental Approach
C10-121 Laminar Airfoil Modification Attaining Optimum Drag Reduction by Use of Airfoil Morphing
C10-065 Adjoint-Based Design of Rotors in a Noninertial Reference Frame
C10-051 Aerodynamic-Structural Design Studies of Low-Sweep Transonic Wings
C10-129 Rapid Estimation of Impaired-Aircraft Aerodynamic Parameters
C10-102 Aerodynamic Performance of the Three-Dimensional Lifting Supersonic Biplane
C10-067 Aircraft Vortex Wake and Flight Safety Problems
C10-078 Effect of Captive Stores on Internal Weapons Bay Floor Pressure Distributions
C10-035 Effect of a Perturbed Shear Layer on Cavity Resonance
C10-048 Aeroelastic Behavior of Flat Plates Moving Near the Ground
C10-075 Determining Direction for Optimization of Movable Wing Tip Strake
C10-036 Drag Force Balance of a Blunt and Divergent Trailing-Edge Airfoil
C10-112 Supercruise Aircraft Range

C10-057 Nonlinear-Aerodynamics/Nonlinear-Structure Interaction Methodology for a High-Altitude Long-Endurance Wing
C10-042 Interaction of Synthetic Jet with Boundary Layer Using Microscopic Particle Image Velocimetry
C10-031 Bat-Inspired Wing Aerodynamics and Optimization
C10-027 Advanced Experimental and Numerical Validation and Analysis of Propeller Slipstream Flows
C10-116 Investigation into the Aerodynamic Performance of the Tiltrotor Unmanned Aerial Vehicle Proprotor
C10-100 Stability of Hybrid-Wing-Body-Type Aircraft with Centerbody Leading-Edge Carving
C10-096 Modeling and Testing of a Morphing Wing in Open-Loop Architecture
C10-037 Lift Enhancement at Low Reynolds Numbers Using Self-Activated Movable Flaps
C10-076 Experimental Studies on Transitional and Closed Cavity Configurations Including Flow Control
C10-113 Preliminary Experimental Investigation of a Morphable Biplane: The X-Wing
C10-044 Numerical Study of Flow Past a Circular Cylinder Using Hybrid Turbulence Formulations
C10-043 Modeling, Simulation, and Flight Tests for a T-38 Talon with Wing Fences
C10-032 Fast Large-Eddy Simulation of Low Reynolds Number Flows over a NACA0025
C10-098 Computational Investigation of Micro-scale Coaxial-Rotor Aerodynamics in Hover
C10-144 Full-Configuration Drag Estimation
C10-155 Quick Access Recorder Data Analysis Software for Windshear and Turbulence Studies
C10-143 Real Time Morphing Wing Optimization Validation Using Wind-Tunnel Tests
C10-054 Multidisciplinary Considerations in the Design of Wings and Wing Tip Devices
C10-038 Almost 40 Years of Airframe Noise Research: What Did We Achieve?
C10-236 Comparison of Potential Flow-Based and Measured Pressure Distributions over Upwind Sails
C10-010 Toward Real-Time Aero-Icing Simulation of Complete Aircraft via FENSAP-ICE

C10-040 Effects of Local Flow Variations on Landing Gear Noise Prediction and Analysis
C10-204 Inverse Aerodynamic Design Procedure for Propellers Having a Prescribed Chord-Length Distribution
C10-234 Minimizing Induced Drag with Spanwise Blowing Variation on Circulation-Controlled Wing
C10-221 Examination of Rotor Loads due to On-Blade Active Controls for Performance Enhancement
C10-136 FENSAP-ICE: Analytical Model for Spatial and Temporal Evolution of In-Flight Icing Roughness
C10-085 Hybrid Reynolds-Average Navier-Stokes and Kinetic Eddy Simulation of External and Internal Flows
C10-164 Joined-Wing Wind-Tunnel Test for Longitudinal Control via Aftwing Twist
C10-064 Prediction of Ballistic Separation Effect by Direct Calculation of Incremental Coefficients
C10-142 Computation of Flow over a High-Performance Parafoil Canopy
C10-084 Identification and Attenuation of a Tonal-Noise Source on an Aircraft's Landing Gear
C10-061 Optimization of Active Flow Control over an Airfoil Using a Surrogate-Management Framework
C10-073 Numerical Investigation of Wind-Tunnel Model Deformations Caused by the Twin-Sting Support System
C10-125 Numerical Simulation of Rotor Using Coupled Computational Fluid Dynamics and Free Wake
C10-068 Gurney Flaps on Slender and Nonslender Delta Wings
C10-139 Closed-Loop Control Validation of a Morphing Wing Using Wind Tunnel Tests
C10-107 Influence of Wing Configurations on Aerodynamic Characteristics of Wings in Ground Effect
C10-001 Fuzzy Logic Method Use in F/A-18 Aircraft Model Identification
C10-060 Effects of Unsteady Trailing-Edge Blowing on Delta Wing Aerodynamics
C10-097 Aerodynamic Simulation of Runback Ice Accretion

C10-045 Computational Fluid Dynamics Validation Study of Wake-Capturing Capability for Flat-Plate Wake
C10-012 Span Efficiencies of Wings at Low Reynolds Numbers
C10-083 Design and Test of the UW-5006 Transonic Natural-Laminar-Flow Wing
C10-011 Patch Assembly: An Automated Overlapping Grid Assembly Strategy
C10-022 Limits of Continuum Aerodynamics
C10-093 Experimental Investigation of a Circular-Planform Concept Aircraft
C10-237 Flow-Separation Lines on Axisymmetric Bodies with Tapered Tails
C10-024 Effect of High-Fidelity Ice-Accretion Simulations on Full-Scale Airfoil Performance
C10-026 Small Rotor Design Optimization Using Blade Element Momentum Theory and Hover Tests
C10-233 Decay of Aircraft Wake Vortices Under Daytime Free Convective Conditions
C10-238 Wingtip Vortex Simulation by Using Nonequilibrium Eddy Viscosity Model
C10-211 Nature of Wakelike and Jetlike Axial Tip Vortex Flows
C10-214 Small and Micro Aerial Vehicles: How Much Span is Too Much Span?
C10-215 Prediction of Flow Dynamics over Cavities by Detached Eddy Simulation
C10-224 Declining Angle Effects of the Trailing Edge of a Microramp Vortex Generator
C10-230 Helicopter Tail Rotor Thrust and Main Rotor Wake Coupling in Crosswind Flight
C10-197 Experimental Investigation into Articulated Winglet Effects on Flying Wing Surface Pressure Aerodynamics
C10-185 Stochastic Modeling of Incident Gust Effects on Aerodynamic Lift
C10-109 Segmented-Freewing Concept for Gust Alleviation
C10-115 Effect of Jet-Exhaust Streams on Structure of Vortex Wakes
C10-165 Aerostructural Optimization of Nonplanar Lifting Surfaces
C10-223 Computational-Fluid-Dynamics-Based Twist Optimization of Hovering Rotors
C10-198 Analysis of Leading-Edge Separation Bubbles on Rotating Blades
C10-176 Computational Fluid Dynamics Analyses of Flow over Weapons-Bay Geometries
C10-201 Flight Control Using Wing-Tip Plasma Actuation
C10-196 Yaw Control of a Tailless Aircraft Configuration
C10-228 Optimizing Spanwise Lift Distributions Yacht Sails Using Extended Lifting Line Analysis
C10-159 Induced-Drag Compressibility Correction for Three-Dimensional Vortex-Lattice Methods
C10-188 Closed-Loop Stall Control System
C10-226 Airfoil Lift Augmentation at Low Reynolds Number
C10-152 Vibration Analysis of Elastic Uniform Cantilever Rotor Blades in Unsteady Aerodynamics Modeling
C10-127 Effect of Normal Blowing on Compressible Convex-Corner Flows
C10-148 Low-Reynolds-Number Airfoil Investigation of Lower-Surface Leading-Edge Flaps

C10-072 Transition-Flow-Occurrence Estimation: A New Method
C10-151 Numerical Simulation of Rotor-Fuselage-Cylinder Interaction in Forward Flight
C10-122 Propeller Empennage Interaction Effects on the Vertical Tail Design of Multiengine Aircraft
C10-074 Experimental Investigation of Separation Control Using Upper-Surface Spoilers
C10-066 Analytical Sensitivity Analysis of an Unsteady Vortex-Lattice Method for Flapping-Wing Optimization
C10-039 Mean Flowfield Structure of a Supersonic Three-Dimensional Base Flow

Aeroelasticity and Aeroservoelasticity

C10-135 Incorporation of Feedback Control into a High-Fidelity Aeroservoelastic Fighter Aircraft Model
C10-117 Design Optimization for Improved Soft In-Plane Tiltrotor Aeroelastic in Airplane Mode
C10-057 Nonlinear-Aerodynamics/Nonlinear-Structure Interaction Methodology for a High-Altitude Long-Endurance Wing
C10-048 Aeroelastic Behavior of Flat Plates Moving Near the Ground
C10-106 Design of an Adaptive Gust Response Alleviation Control System: Simulations and Experiments
C10-079 Small Disturbance Navier-Stokes Computations for Low-Aspect-Ratio Wing Pitching Oscillations
C10-006 Effects of Rolling Maneuver on Divergence and Flutter of Aircraft Wing Store
C10-034 Efficient Numerical Aeroelastic Analysis of a High-Aspect-Ratio Wing Considering Geometric Nonlinearity
C10-090 Computational-Fluid-Dynamics- and Computational-Structural-Dynamics-Based Time-Accurate Aeroelasticity of Helicopter Rotor Blades
C10-103 Reliability-Based Design Optimization of Nonlinear Aeroelasticity Problems
C10-041 Airborne Lidar for Automatic Feedforward Control of Turbulent In-Flight Phenomena
C10-049 Multilevel Structural Optimization for Preliminary Wing-Box Weight Estimation
C10-235 Verification of H Flutter Analysis
C10-138 Experimental Characterization of Limit Cycle Oscillations in Membrane Wing Micro Air Vehicles
C10-131 Validation Studies for Aeroelastic Trim and Stability of Highly Flexible Aircraft
C10-169 Nonlinear Aeroelasticity of a Very Flexible Blended-Wing-Body Aircraft
C10-005 Parallel Multigrid Algorithm for Aeroelasticity Simulations
C10-139 Closed-Loop Control Validation of a Morphing Wing Using Wind Tunnel Tests
C10-210 Approximate Modeling of Unsteady Aerodynamics for Hypersonic Aeroelasticity
C10-001 Fuzzy Logic Method Use in F/A-18 Aircraft Model Identification
C10-156 Flutter Analysis: Using Piecewise Quadratic Interpolation with Mode Tracking and Wind-Tunnel Tests
C10-216 Load Alleviation on a Joined-Wing Unmanned Aircraft
C10-158 Uncertainty Quantification in Flutter Analysis for an Airfoil with Preloaded Freeplay

C10-222 Nonlinear Modeling and Aeroelastic Analysis of an Adaptive Camber Wing
C10-152 Vibration Analysis of Elastic Uniform Cantilever Rotor Blades in Unsteady Aerodynamics Modeling
C10-146 Helicopter Rotor Load Prediction Using a Geometrically Exact Beam with Multicomponent Model
C10-134 Evaluation of Aeroelastic Uncertainty Analysis Methods
C10-130 Transonic Aeroelastic Stability Predictions Under the Influence of Structural Variability
C10-128 Prediction and Analysis of Main Rotor Loads in a Prescribed Pull-Up Maneuver

Aerospace Plane

C10-210 Approximate Modeling of Unsteady Aerodynamics for Hypersonic Aeroelasticity

Air Transportation

C10-067 Aircraft Vortex Wake and Flight Safety Problems
C10-175 Potential Effects of Blended Wing Bodies on the Air Transportation System
C10-232 Gauss Pseudospectral Method for Less Noise and Fuel Consumption of Aircraft Operations
C10-025 Intelligent Flight-Trajectory Generation to Maximize Safe-Outcome Probability After a Distress Event
C10-050 Aircraft Decompression with Installed Cockpit Security Door
C10-016 Probabilistic Sensitivity-Based Ranking of Damage Tolerance Analysis Elements
C10-123 Ionospheric Threat Parameterization for Local Area Global-Positioning-System-Based Aircraft Landing Systems
C10-173 Wind-Optimal Routing in the National Airspace System
C10-218 Arrival Time Controllability of Tailored Arrival Subjected to Flight-Path Constraints
C10-092 Impact of an Innovative Quiet Regional Aircraft on the Air Transportation System
C10-233 Decay of Aircraft Wake Vortices Under Daytime Free Convective Conditions

Airframe-P propulsion Integration

C10-122 Propeller Empennage Interaction Effects on the Vertical Tail Design of Multiengine Aircraft

Airframe-Weapon System Integration

C10-064 Prediction of Ballistic Separation Effect by Direct Calculation of Incremental Coefficients
C10-078 Effect of Captive Stores on Internal Weapons Bay Floor Pressure Distributions

Cabin Environment, Crew Training, and Life Support

C10-050 Aircraft Decompression with Installed Cockpit Security Door

Collision Avoidance

C10-013 Near-Optimal Trajectories to Manage Landing Sequence in the Vicinity of Controlled Aerodromes

Communication and Air Traffic Control

C10-013 Near-Optimal Trajectories to Manage Landing Sequence in the Vicinity of Controlled Aerodromes

Configuration Design

- C10-100** Stability of Hybrid-Wing-Body-Type Aircraft with Centerbody Leading-Edge Carving
- C10-051** Aerodynamic-Structural Design Studies of Low-Sweep Transonic Wings
- C10-175** Potential Effects of Blended Wing Bodies on the Air Transportation System
- C10-054** Multidisciplinary Considerations in the Design of Wings and Wing Tip Devices
- C10-144** Full-Configuration Drag Estimation
- C10-099** Airframe Design for Silent Fuel-Efficient Aircraft
- C10-193** Designing for a Green Future: A Unified Aircraft Design Methodology
- C10-093** Experimental Investigation of a Circular-Planform Concept Aircraft
- C10-231** Conceptual Design of an Aerospace Vehicle Controller Using Axiomatic Theory
- C10-194** Improved Fuel Capacity Estimation Method
- C10-214** Small and Micro Aerial Vehicles: How Much Span is Too Much Span?
- C10-191** Helicopter Rotor Shape Optimization for the Improvement of Aeroacoustic Performance in Hover
- C10-092** Impact of an Innovative Quiet Regional Aircraft on the Air Transportation System
- C10-167** Parametric Study for Hovering Performance of a Coaxial Rotor Unmanned Aerial Vehicle
- C10-208** Design Optimization of a Truss-Braced-Wing Transonic Transport Aircraft
- C10-070** Tool Development for Low-Noise Aircraft Design
- C10-063** Optimal Sizing and Cruise Speed Determination for a Solar-Powered Airplane
- C10-109** Segmented-Freewing Concept for Gust Alleviation
- Economics
- C10-193** Designing for a Green Future: A Unified Aircraft Design Methodology
- C10-173** Wind-Optimal Routing in the National Airspace System
- Flight Control Integration
- C10-143** Real Time Morphing Wing Optimization Validation Using Wind-Tunnel Tests
- C10-094** Propulsion and Flight Controls Integration for a Blended-Wing-Body Transport Aircraft
- C10-202** Integrated Framework for Artificial Immunity-Based Aircraft Failure Detection, Identification, and Evaluation
- C10-139** Closed-Loop Control Validation of a Morphing Wing Using Wind Tunnel Tests
- C10-077** Development and Conversion Flight Test of a Small Tiltrotor Unmanned Aerial Vehicle

Flight Mechanics

- C10-091** Roll Control via Active Flow Control: From Concept to Flight
- C10-021** Comparison of Two Kite Force Models with Experiment
- C10-110** Optimization of Hover-to-Cruise Transition Maneuver Using Variable-Incidence Wing
- C10-058** Characterizing Wing Rock with Variations in Size and Configuration of Vertical Tail
- C10-168** Dynamic Stability Analysis of a Tethered Aerostat
- C10-012** Span Efficiencies of Wings at Low Reynolds Numbers
- C10-126** Flight Test of Stable Automated Cruise Flap for an Adaptive Wing Aircraft

- C10-230** Helicopter Tail Rotor Thrust and Main Rotor Wake Coupling in Crosswind Flight
- C10-197** Experimental Investigation into Articulated Winglet Effects on Flying Wing Surface Pressure Aerodynamics
- C10-195** Analytical Criterion for Aircraft Spin Susceptibility
- C10-109** Segmented-Freewing Concept for Gust Alleviation
- C10-182** Theoretical Framework for the Simulation of Transport Aircraft Flight
- C10-196** Yaw Control of a Tailless Aircraft Configuration
- C10-140** Flight Performance Analysis of Hybrid Airship: Revised Analytical Formulation
- Flight Operations
- C10-086** Modeling Performance and Emissions from Aircraft in the Aviation Integrated Modelling Project
- C10-182** Theoretical Framework for the Simulation of Transport Aircraft Flight
- C10-232** Gauss Pseudospectral Method for Less Noise and Fuel Consumption of Aircraft Operations
- C10-013** Near-Optimal Trajectories to Manage Landing Sequence in the Vicinity of Controlled Aerodromes

Flow Control

- C10-186** Influence of Differential Spoiler Settings on the Wake Vortex Characterization and Alleviation
- C10-042** Interaction of Synthetic Jet with Boundary Layer Using Microscopic Particle Image Velocimetry
- C10-091** Roll Control via Active Flow Control: From Concept to Flight
- C10-121** Laminar Airfoil Modification Attaining Optimum Drag Reduction by Use of Airfoil Morphing
- C10-037** Lift Enhancement at Low Reynolds Numbers Using Self-Activated Movable Flaps
- C10-076** Experimental Studies on Transitional and Closed Cavity Configurations Including Flow Control
- C10-096** Modeling and Testing of a Morphing Wing in Open-Loop Architecture
- C10-084** Identification and Attenuation of a Tonal-Noise Source on an Aircraft's Landing Gear
- C10-234** Minimizing Induced Drag with Spanwise Blowing Variation on Circulation-Controlled Wing
- C10-213** Active Flow Control Systems Architectures for Civil Transport Aircraft
- C10-023** Numerical Study of Suction-Blowing Flow Control Technology for an Airfoil
- C10-212** Particle Swarm Optimization of Suction and Blowing on an Airfoils at Transonic Speeds
- C10-061** Optimization of Active Flow Control over an Airfoil Using a Surrogate-Management Framework
- C10-188** Closed-Loop Stall Control System
- C10-218** Arrival Time Controllability of Tailored Arrival Subjected to Flight-Path Constraints
- C10-201** Flight Control Using Wing-Tip Plasma Actuation
- C10-074** Experimental Investigation of Separation Control Using Upper-Surface Spoilers
- C10-072** Transition-Flow-Occurrence Estimation: A New Method

- C10-154** Bubble Burst Control Using Smart Structure Sensor Actuators for Stall Suppression

General Aviation

- C10-123** Ionospheric Threat Parameterization for Local Area Global-Positioning-System-Based Aircraft Landing Systems
- C10-190** Autonomous Soaring: The Montague Cross-Country Challenge
- C10-217** Probabilities for Severe and Fatal Injuries in General Aviation Accidents
- C10-056** Flight Determination of Partial-Span-Flap Parasite Drag With Flap Deflection

Ground Effect Machines

- C10-107** Influence of Wing Configurations on Aerodynamic Characteristics of Wings in Ground Effect
- C10-048** Aeroelastic Behavior of Flat Plates Moving Near the Ground

Ground Support

- C10-218** Arrival Time Controllability of Tailored Arrival Subjected to Flight-Path Constraints
- C10-177** Feasibility Study of Global-Positioning-System-Based Aircraft-Carrier Flight-Deck Persistent Monitoring System

Lighter-Than-Air Systems

- C10-168** Dynamic Stability Analysis of a Tethered Aerostat
- C10-114** Multidisciplinary Shape Optimization of Aerostat Envelopes
- C10-140** Flight Performance Analysis of Hybrid Airship: Revised Analytical Formulation
- C10-089** Exploring the Stability Landscape of Constant-Stress Pumpkin Balloon Designs
- C10-141** Effective Approach to Characterization of Prediction Errors for Balloon Ascent Trajectories

Manufacturing

- C10-172** Yield Strength and Residual Stress Measurements on Friction-Stir-Welded Aluminum Alloys
- C10-229** Integration of Three-Dimensional Printing Technology for Wind-Tunnel Model Fabrication
- C10-030** Use of Digital Manufacturing to Improve Management Learning in Aerospace Assembly

Micro Air Vehicles

- C10-031** Bat-Inspired Wing Aerodynamics and Optimization
- C10-120** Improving the Aerodynamic Performance of Micro-Air-Vehicle-Scale Cycloidal Rotor: An Experimental Approach
- C10-008** Characteristics of Pitching and Plunging Airfoils Under Dynamic-Stall Conditions
- C10-037** Lift Enhancement at Low Reynolds Numbers Using Self-Activated Movable Flaps
- C10-113** Preliminary Experimental Investigation of a Morphable Biplane: The X-Wing
- C10-062** Planform and Camber Effects on the Aerodynamics of Low-Reynolds-Number Wings
- C10-098** Computational Investigation of Micro-scale Coaxial-Rotor Aerodynamics in Hover
- C10-055** Panel-Method-Based Path Planning and Collaborative Target Tracking for Swarming Micro Air Vehicles

C10-026 Small Rotor Design Optimization Using Blade Element Momentum Theory and Hover Tests
C10-012 Span Efficiencies of Wings at Low Reynolds Numbers
C10-137 Pitch and Heave Control of Robotic Samara Micro Air Vehicles
C10-226 Airfoil Lift Augmentation at Low Reynolds Number
C10-105 Unsteady Lift Generation on Rotating Wings at Low Reynolds Numbers
C10-214 Small and Micro Aerial Vehicles: How Much Span is Too Much Span?
C10-066 Analytical Sensitivity Analysis of an Unsteady Vortex-Lattice Method for Flapping-Wing Optimization
C10-148 Low-Reynolds-Number Airfoil Investigation of Lower-Surface Leading-Edge Flaps
C10-206 Lift Enhancement of Flapping Airfoils by Generalized Pitching Motion

Military Missions

C10-177 Feasibility Study of Global-Positioning-System-Based Aircraft-Carrier Flight-Deck Persistent Monitoring System

Noise

C10-038 Almost 40 Years of Airframe Noise Research: What Did We Achieve?
C10-175 Potential Effects of Blended Wing Bodies on the Air Transportation System
C10-084 Identification and Attenuation of a Tonal-Noise Source on an Aircraft's Landing Gear
C10-232 Gauss Pseudospectral Method for Less Noise and Fuel Consumption of Aircraft Operations
C10-040 Effects of Local Flow Variations on Landing Gear Noise Prediction and Analysis
C10-080 Computational-Fluid-Dynamics-Based Clean-Wing Aerodynamic Noise Model for Design
C10-119 Frequency Selection Mechanism of Airfoil Trailing-Edge Noise
C10-191 Helicopter Rotor Shape Optimization for the Improvement of Aeroacoustic Performance in Hover
C10-004 Helicopter Thickness Noise Reduction Possibilities Through Active On-Blade Acoustic Control
C10-070 Tool Development for Low-Noise Aircraft Design
C10-081 Framework for a Landing-Gear Model and Acoustic Prediction

Performance

C10-144 Full-Configuration Drag Estimation
C10-095 Characterization of Aerospace Vehicle Performance and Mission Analysis Using Thermodynamic Availability
C10-086 Modeling Performance and Emissions from Aircraft in the Aviation Integrated Modelling Project
C10-097 Aerodynamic Simulation of Runback Ice Accretion
C10-126 Flight Test of Stable Automated Cruise Flap for an Adaptive Wing Aircraft
C10-221 Examination of Rotor Loads due to On-Blade Active Controls for Performance Enhancement
C10-192 Inlet Stagnation Pressure Loss Estimate for a Simplified Thrust Model

C10-024 Effect of High-Fidelity Ice-Accretion Simulations on Full-Scale Airfoil Performance
C10-056 Flight Determination of Partial-Span-Flap Parasite Drag With Flap Deflection
C10-020 Current Methods Modeling and Simulating Icing Effects on Aircraft Performance, Stability, Control
C10-148 Low-Reynolds-Number Airfoil Investigation of Lower-Surface Leading-Edge Flaps
C10-182 Theoretical Framework for the Simulation of Transport Aircraft Flight

Propeller and Rotor Systems

C10-116 Investigation into the Aerodynamic Performance of the Tiltrotor Unmanned Aerial Vehicle Proprotor
C10-027 Advanced Experimental and Numerical Validation and Analysis of Propeller Slipstream Flows
C10-187 Evaluation of a Potential Flow Model for Propeller and Wind Turbine Design
C10-204 Inverse Aerodynamic Design Procedure for Propellers Having a Prescribed Chord-Length Distribution
C10-088 Tonal and Broadband Noise Calculations for Aeroacoustic Optimization of a Pusher Propeller
C10-122 Propeller Empennage Interaction Effects on the Vertical Tail Design of Multiengine Aircraft

Rotorcraft

C10-117 Design Optimization for Improved Soft In-Plane Tiltrotor Aeroelastic in Airplane Mode
C10-187 Evaluation of a Potential Flow Model for Propeller and Wind Turbine Design
C10-065 Adjoint-Based Design of Rotors in a Noninertial Reference Frame
C10-101 Hybrid Navier-Stokes/Free-Wake Method for Modeling Blade-Vortex Interactions
C10-120 Improving the Aerodynamic Performance of Micro-Air-Vehicle-Scale Cycloidal Rotor: An Experimental Approach
C10-221 Examination of Rotor Loads due to On-Blade Active Controls for Performance Enhancement
C10-090 Computational-Fluid-Dynamics- and Computational-Structural-Dynamics-Based Time-Accurate Aeroelasticity of Helicopter Rotor Blades
C10-033 Bistable Composite Flap for an Airfoil
C10-015 Effect of Uncertainty on Hub Vibration Response of Composite Helicopter Rotor Blades
C10-077 Development and Conversion Flight Test of a Small Tiltrotor Unmanned Aerial Vehicle
C10-137 Pitch and Heave Control of Robotic Samara Micro Air Vehicles
C10-191 Helicopter Rotor Shape Optimization for the Improvement of Aeroacoustic Performance in Hover
C10-026 Small Rotor Design Optimization Using Blade Element Momentum Theory and Hover Tests
C10-007 Prediction of Tiltrotor Vibratory Loads with Inclusion of Wing-Proprotor Aerodynamic Interaction
C10-223 Computational-Fluid-Dynamics-Based Twist Optimization of Hovering Rotors
C10-167 Parametric Study for Hovering Performance of a Coaxial Rotor Unmanned Aerial Vehicle

C10-230 Helicopter Tail Rotor Thrust and Main Rotor Wake Coupling in Crosswind Flight
C10-004 Helicopter Thickness Noise Reduction Possibilities Through Active On-Blade Acoustic Control
C10-128 Prediction and Analysis of Main Rotor Loads in a Prescribed Pull-Up Maneuver
C10-151 Numerical Simulation of Rotor-Fuselage-Cylinder Interaction in Forward Flight

Safety

C10-217 Probabilities for Severe and Fatal Injuries in General Aviation Accidents
C10-024 Effect of High-Fidelity Ice-Accretion Simulations on Full-Scale Airfoil Performance
C10-050 Aircraft Decompression with Installed Cockpit Security Door
C10-134 Evaluation of Aeroelastic Uncertainty Analysis Methods
C10-104 Damage of Carbon/Epoxy Composite Plates Subjected to Mechanical Impact and Simulated Lightning
C10-115 Effect of Jet-Exhaust Streams on Structure of Vortex Wakes

Simulation

C10-071 Computational Workflow Management for Conceptual Design of Complex Systems
C10-086 Modeling Performance and Emissions from Aircraft in the Aviation Integrated Modelling Project
C10-170 Modeling of Pilot Landing Approach Control Using Stochastic Switched Linear Regression Model
C10-069 Optimizing the Performance of the Pilot Control Loaders at NASA Vertical Motion Simulator
C10-132 Application of Bifurcation Methods to the Prediction of Low-Speed Aircraft Ground Performance
C10-030 Use of Digital Manufacturing to Improve Management Learning in Aerospace Assembly
C10-128 Prediction and Analysis of Main Rotor Loads in a Prescribed Pull-Up Maneuver
C10-199 Coaxial Rotor Helicopter in Hover Based on Unstructured Dynamic Overset Grids
C10-171 Tandem Helicopter Trim and Flight Characteristics in the Icing Condition

Stealth

C10-091 Roll Control via Active Flow Control: From Concept to Flight

STOL/VTOL/STOVL

C10-117 Design Optimization for Improved Soft In-Plane Tiltrotor Aeroelastic in Airplane Mode
C10-179 Ground Resonance Analysis for an Eight-Degrees-of-Freedom Rotorcraft with Double-Stage Oleo-Pneumatic Shock Absorbers
C10-171 Tandem Helicopter Trim and Flight Characteristics in the Icing Condition
C10-029 Novel, Bidirectional, Variable-Camber Airfoil via Macro-Fiber Composite Actuators
C10-234 Minimizing Induced Drag with Spanwise Blowing Variation on Circulation-Controlled Wing

Structural Design (Including Loads)

C10-207 Optimal Design of Unitized Structures Using Response Surface Approaches

C10-103 Reliability-Based Design Optimization of Nonlinear Aeroelasticity Problems
C10-009 Bifurcation Analysis of Nose-Landing-Gear Shimmy with Lateral and Longitudinal Bending
C10-046 Mechanism for Warp-Controlled Twist of a Morphing Wing
C10-164 Joined-Wing Wind-Tunnel Test for Longitudinal Control via Aftwing Twist
C10-180 Optimization and Postbuckling Analysis of Curvilinear-Stiffened Panels Under Multi-Load Cases
C10-216 Load Alleviation on a Joined-Wing Unmanned Aircraft
C10-016 Probabilistic Sensitivity-Based Ranking of Damage Tolerance Analysis Elements

Structural Materials

C10-149 Lifetime Assessment of Aircraft Structural Components in Coastal Environments
C10-227 Air-Vessel Corrosion Damage Distribution and Reliability Modeling
C10-172 Yield Strength and Residual Stress Measurements on Friction-Stir-Welded Aluminum Alloys

System Effectiveness

C10-112 Supercruise Aircraft Range

Testing, Flight and Ground

C09-162E Erratum on Drag Extrapolation to Higher Reynolds Number
C10-043 Modeling, Simulation, and Flight Tests for a T-38 Talon with Wing Fences
C10-116 Investigation into the Aerodynamic Performance of the Tiltrotor Unmanned Aerial Vehicle Proprotor
C10-096 Modeling and Testing of a Morphing Wing in Open-Loop Architecture
C10-203 Calibration Modeling of Nonmonolithic Wind-Tunnel Force Balances
C10-143 Real Time Morphing Wing Optimization Validation Using Wind-Tunnel Tests
C10-021 Comparison of Two Kite Force Models with Experiment
C10-126 Flight Test of Stable Automated Cruise Flap for an Adaptive Wing Aircraft
C10-073 Numerical Investigation of Wind-Tunnel Model Deformations Caused by the Twin-Sting Support System
C10-164 Joined-Wing Wind-Tunnel Test for Longitudinal Control via Aftwing Twist
C10-083 Design and Test of the UW-5006 Transonic Natural-Laminar-Flow Wing
C10-047 Application of Design of Experiments to Flight Test: A Case Study
C10-001 Fuzzy Logic Method Use in F/A-18 Aircraft Model Identification
C10-108 Fusion of Smart-Sensor Standards and Sensors with Self-Validating Abilities
C10-056 Flight Determination of Partial-Span-Flap Parasite Drag With Flap Deflection
C10-093 Experimental Investigation of a Circular-Planform Concept Aircraft

Uninhabited and Unmanned Air Vehicles

C10-113 Preliminary Experimental Investigation of a Morphable Biplane: The X-Wing
C10-145 Reynolds-Stress Model Flow Prediction in Aircraft-Engine Intake Double-S-Shaped Duct

C10-147 Three-Dimensional Curvature-Constrained Trajectory Planning Based on In-Flight Waypoints
C10-077 Development and Conversion Flight Test of a Small Tiltrotor Unmanned Aerial Vehicle
C10-169 Nonlinear Aeroelasticity of a Very Flexible Blended-Wing-Body Aircraft
C10-110 Optimization of Hover-to-Cruise Transition Maneuver Using Variable-Incidence Wing
C10-029 Novel, Bidirectional, Variable-Camber Airfoil via Macro-Fiber Composite Actuators
C10-068 Gurney Flaps on Slender and Nonslender Delta Wings
C10-216 Load Alleviation on a Joined-Wing Unmanned Aircraft
C10-002 Neural-Network-Based Flush Air Data Sensing System Demonstrated on a Mini Air Vehicle
C10-017 Videogrammetry Dynamics Measurements of a Lightweight Flexible Wing in a Wind Tunnel
C10-063 Optimal Sizing and Cruise Speed Determination for a Solar-Powered Airplane
C10-167 Parametric Study for Hovering Performance of a Coaxial Rotor Unmanned Aerial Vehicle
C10-190 Autonomous Soaring: The Montague Cross-Country Challenge
C10-226 Airfoil Lift Augmentation at Low Reynolds Number
C10-176 Computational Fluid Dynamics Analyses of Flow over Weapons-Bay Geometries
C10-074 Experimental Investigation of Separation Control Using Upper-Surface Spoilers
C10-166 Using Multiobjective Evolutionary Algorithms and Data-Mining Methods to Optimize Ornithopters' Kinematics
C10-160 Micro Air Vehicle Trajectory Planning in Winds

Vibration

C10-179 Ground Resonance Analysis for an Eight-Degrees-of-Freedom Rotorcraft with Double-Stage Oleo-Pneumatic Shock Absorbers
C10-118 Design Optimization for Minimum Sound Radiation from Point-Excited Curvilinearly Stiffened Panel
C10-209 Targeted Energy Transfer Between a Model Flexible Wing and Nonlinear Energy Sink
C10-034 Efficient Numerical Aeroelastic Analysis of a High-Aspect-Ratio Wing Considering Geometric Nonlinearity
C10-007 Prediction of Tiltrotor Vibratory Loads with Inclusion of Wing-Proprotor Aerodynamic Interaction
C10-015 Effect of Uncertainty on Hub Vibration Response of Composite Helicopter Rotor Blades
C10-009 Bifurcation Analysis of Nose-Landing-Gear Shimmy with Lateral and Longitudinal Bending

Weather Hazards

C10-155 Quick Access Recorder Data Analysis Software for Windshear and Turbulence Studies
C10-003 Longitudinal Handling Quality Analysis of a Civil Transport Aircraft Encountering Turbulence
C10-104 Damage of Carbon/Epoxy Composite Plates Subjected to Mechanical Impact and Simulated Lightning

C10-020 Current Methods Modeling and Simulating Icing Effects on Aircraft Performance, Stability, Control
C10-136 FENSAP-ICE: Analytical Model for Spatial and Temporal Evolution of In-Flight Icing Roughness

COMPUTING, INFORMATION, AND COMMUNICATION

Aerospace Electronics

C10-108 Fusion of Smart-Sensor Standards and Sensors with Self-Validating Abilities

Artificial Intelligence Systems

C10-225 Feasibility Demonstration of Diagnostic Decision Tree for Validating Aircraft Navigation System Accuracy
C10-071 Computational Workflow Management for Conceptual Design of Complex Systems

Autonomous Systems

C10-177 Feasibility Study of Global-Positioning-System-Based Aircraft-Carrier Flight-Deck Persistent Monitoring System

Controls and Displays

C10-225 Feasibility Demonstration of Diagnostic Decision Tree for Validating Aircraft Navigation System Accuracy

Distributed Systems and Networking

C10-108 Fusion of Smart-Sensor Standards and Sensors with Self-Validating Abilities

ENERGY

Fuel Cells

C10-200 First Fuel-Cell Manned Aircraft

Hydrogen and Unique Fuels

C10-200 First Fuel-Cell Manned Aircraft

Wind Power

C10-021 Comparison of Two Kite Force Models with Experiment
C10-032 Fast Large-Eddy Simulation of Low Reynolds Number Flows over a NACA0025
C10-036 Drag Force Balance of a Blunt and Divergent Trailing-Edge Airfoil

FLIGHT SIMULATOR SYSTEMS

Guidance, Navigation, and Control Systems

C10-069 Optimizing the Performance of the Pilot Control Loaders at NASA Vertical Motion Simulator

Human-Computer Interactions

C10-220 Perception Coherence Zones in Flight Simulation

Intelligent Systems

C10-025 Intelligent Flight-Trajectory Generation to Maximize Safe-Outcome Probability After a Distress Event

FLUID DYNAMICS

Aeroacoustics

C10-035 Effect of a Perturbed Shear Layer on Cavity Resonance
C10-101 Hybrid Navier-Stokes/Free-Wake Method for Modeling Blade-Vortex Interactions

C10-038 Almost 40 Years of Airframe Noise Research: What Did We Achieve?

C10-088 Tonal and Broadband Noise Calculations for Aeroacoustic Optimization of a Pusher Propeller

C10-099 Airframe Design for Silent Fuel-Efficient Aircraft

C10-215 Prediction of Flow Dynamics over Cavities by Detached Eddy Simulation

C10-040 Effects of Local Flow Variations on Landing Gear Noise Prediction and Analysis

C10-111 Pressure Waves Generated at the Downstream Corner of a Rectangular Cavity

C10-004 Helicopter Thickness Noise Reduction Possibilities Through Active On-Blade Acoustic Control

C10-081 Framework for a Landing-Gear Model and Acoustic Prediction

C10-119 Frequency Selection Mechanism of Airfoil Trailing-Edge Noise

Boundary-Layer Stability and Transition

C10-121 Laminar Airfoil Modification Attaining Optimum Drag Reduction by Use of Airfoil Morphing

C10-119 Frequency Selection Mechanism of Airfoil Trailing-Edge Noise

C10-044 Numerical Study of Flow Past a Circular Cylinder Using Hybrid Turbulence Formulations

C10-036 Drag Force Balance of a Blunt and Divergent Trailing-Edge Airfoil

Computational Fluid Dynamics

C10-157 Bodies Having Minimum Pressure Drag in Supersonic Flow: Investigating Nonlinear Effects

C10-162 Span Efficiency Prediction Using Adjoint-Driven Mesh Refinement

C10-065 Adjoint-Based Design of Rotors in a Noninertial Reference Frame

C10-101 Hybrid Navier–Stokes/Free-Wake Method for Modeling Blade-Vortex Interactions

C10-135 Incorporation of Feedback Control into a High-Fidelity Aeroservoelastic Fighter Aircraft Model

C10-032 Fast Large-Eddy Simulation of Low Reynolds Number Flows over a NACA0025

C10-079 Small Disturbance Navier–Stokes Computations for Low-Aspect-Ratio Wing Pitching Oscillations

C10-067 Aircraft Vortex Wake and Flight Safety Problems

C10-090 Computational-Fluid-Dynamics- and Computational-Structural-Dynamics-Based Time-Accurate Aeroelasticity of Helicopter Rotor Blades

C10-044 Numerical Study of Flow Past a Circular Cylinder Using Hybrid Turbulence Formulations

C10-043 Modeling, Simulation, and Flight Tests for a T-38 Talon with Wing Fences

C10-010 Toward Real-Time Aero-Icing Simulation of Complete Aircraft via FENSAP-ICE

C10-062 Planform and Camber Effects on the Aerodynamics of Low-Reynolds-Number Wings

C10-098 Computational Investigation of Microscale Coaxial-Rotor Aerodynamics in Hover

C10-142 Computation of Flow over a High-Performance Parafoil Canopy

C10-136 FENSAP-ICE: Analytical Model for Spatial and Temporal Evolution of In-Flight Icing Roughness

C10-085 Hybrid Reynolds-Average Navier–Stokes and Kinetic Eddy Simulation of External and Internal Flows

C10-107 Influence of Wing Configurations on Aerodynamic Characteristics of Wings in Ground Effect

C10-061 Optimization of Active Flow Control over an Airfoil Using a Surrogate-Management Framework

C10-124 In Pursuit of Grid Convergence for Two-Dimensional Euler Solutions

C10-011 Patch Assembly: An Automated Overlapping Grid Assembly Strategy

C10-045 Computational Fluid Dynamics Validation Study of Wake-Capturing Capability for Flat-Plate Wake

C10-083 Design and Test of the UW-5006 Transonic Natural-Laminar-Flow Wing

C10-215 Prediction of Flow Dynamics over Cavities by Detached Eddy Simulation

C10-224 Declining Angle Effects of the Trailing Edge of a Microramp Vortex Generator

C10-014 Computation of Unsteady Low Reynolds Number Free-Flight Aerodynamics of Flapping Wings

C10-199 Coaxial Rotor Helicopter in Hover Based on Unstructured Dynamic Overset Grids

C10-176 Computational Fluid Dynamics Analyses of Flow over Weapons-Bay Geometries

C10-080 Computational-Fluid-Dynamics-Based Clean-Wing Aerodynamic Noise Model for Design

C10-151 Numerical Simulation of Rotor-Fuselage-Cylinder Interaction in Forward Flight

C10-184 Airfoil Optimization Using Practical Aerodynamic Design Requirements

C10-223 Computational-Fluid-Dynamics-Based Twist Optimization of Hovering Rotors

C10-130 Transonic Aeroelastic Stability Predictions Under the Influence of Structural Variability

C10-039 Mean Flowfield Structure of a Supersonic Three-Dimensional Base Flow

C10-072 Transition-Flow-Occurrence Estimation: A New Method

Hydrodynamics

C10-237 Flow-Separation Lines on Axisymmetric Bodies with Tapered Tails

Hypersonic Flow

C10-210 Approximate Modeling of Unsteady Aerodynamics for Hypersonic Aeroelasticity

Inlet, Nozzle, Diffuser, and Channel Flows

C10-192 Inlet Stagnation Pressure Loss Estimate for a Simplified Thrust Model

C10-059 Crosswind Effects on Engine Inlets: The Inlet Vortex

C10-145 Reynolds-Stress Model Flow Prediction in Aircraft-Engine Intake Double-S-Shaped Duct

Jets, Wakes, and Viscid-Inviscid Flow Interactions

C10-127 Effect of Normal Blowing on Compressible Convex-Corner Flows

C10-042 Interaction of Synthetic Jet with Boundary Layer Using Microscopic Particle Image Velocimetry

Plasmadynamics and MHD

C10-188 Closed-Loop Stall Control System

Rarefied Flows

C10-022 Limits of Continuum Aerodynamics

Subsonic Flows

C10-153 Experimental Investigation of Double-Hinged Vortex Flap Configurations

C10-085 Hybrid Reynolds-Average Navier–Stokes and Kinetic Eddy Simulation of External and Internal Flows

C10-008 Characteristics of Pitching and Plunging Airfoils Under Dynamic-Stall Conditions

C10-145 Reynolds-Stress Model Flow Prediction in Aircraft-Engine Intake Double-S-Shaped Duct

C10-206 Lift Enhancement of Flapping Airfoils by Generalized Pitching Motion

C10-198 Analysis of Leading-Edge Separation Bubbles on Rotating Blades

C10-028 Vortex Dynamics of Free-to-Roll Slender and Nonslender Delta Wings

Shock Waves and Detonations

C10-102 Aerodynamic Performance of the Three-Dimensional Lifting Supersonic Biplane

Subsonic Flow

C10-162 Span Efficiency Prediction Using Adjoint-Driven Mesh Refinement

C10-159 Induced-Drag Compressibility Correction for Three-Dimensional Vortex-Lattice Methods

C10-124 In Pursuit of Grid Convergence for Two-Dimensional Euler Solutions

C10-075 Determining Direction for Optimization of Movable Wing Tip Strake

Supersonic Flow

C10-102 Aerodynamic Performance of the Three-Dimensional Lifting Supersonic Biplane

Transonic Flow

C10-163 Evaluation of the Thrust Recovery of an Aircraft Flapped Outflow Valve

C10-127 Effect of Normal Blowing on Compressible Convex-Corner Flows

C10-212 Particle Swarm Optimization of Suction and Blowing on an Airfoils at Transonic Speeds

C10-124 In Pursuit of Grid Convergence for Two-Dimensional Euler Solutions

Unsteady Flows

C10-035 Effect of a Perturbed Shear Layer on Cavity Resonance

C10-111 Pressure Waves Generated at the Downstream Corner of a Rectangular Cavity

C10-008 Characteristics of Pitching and Plunging Airfoils Under Dynamic-Stall Conditions

C10-079 Small Disturbance Navier–Stokes Computations for Low-Aspect-Ratio Wing Pitching Oscillations

C10-060 Effects of Unsteady Trailing-Edge Blowing on Delta Wing Aerodynamics

C10-005 Parallel Multigrid Algorithm for Aeroelasticity Simulations

C10-235 Verification of H Flutter Analysis

C10-028 Vortex Dynamics of Free-to-Roll Slender and Nonslender Delta Wings

C10-014 Computation of Unsteady Low Reynolds Number Free-Flight Aerodynamics of Flapping Wings

C10-045 Computational Fluid Dynamics Validation Study of Wake-Capturing Capability for Flat-Plate Wake

- C10-206** Lift Enhancement of Flapping Airfoils by Generalized Pitching Motion
C10-199 Coaxial Rotor Helicopter in Hover Based on Unstructured Dynamic Overset Grids
C10-105 Unsteady Lift Generation on Rotating Wings at Low Reynolds Numbers

Vortices

- C10-153** Experimental Investigation of Double-Hinged Vortex Flap Configurations
C10-186 Influence of Differential Spoiler Settings on the Wake Vortex Characterization and Alleviation
C10-125 Numerical Simulation of Rotor Using Coupled Computational Fluid Dynamics and Free Wake
C10-062 Planform and Camber Effects on the Aerodynamics of Low-Reynolds-Number Wings
C10-075 Determining Direction for Optimization of Movable Wing Tip Strake
C10-014 Computation of Unsteady Low Reynolds Number Free-Flight Aerodynamics of Flapping Wings
C10-060 Effects of Unsteady Trailing-Edge Blowing on Delta Wing Aerodynamics
C10-059 Crosswind Effects on Engine Inlets: The Inlet Vortex
C10-233 Decay of Aircraft Wake Vortices Under Daytime Free Convective Conditions
C10-211 Nature of Wakelike and Jetlike Axial Tip Vortex Flows
C10-028 Vortex Dynamics of Free-to-Roll Slender and Nonslender Delta Wings
C10-201 Flight Control Using Wing-Tip Plasma Actuation
C10-105 Unsteady Lift Generation on Rotating Wings at Low Reynolds Numbers
C10-115 Effect of Jet-Exhaust Streams on Structure of Vortex Wakes

GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY

Aircraft Dynamics

- C10-006** Effects of Rolling Maneuver on Divergence and Flutter of Aircraft Wing Store
C10-058 Characterizing Wing Rock with Variations in Size and Configuration of Vertical Tail
C10-132 Application of Bifurcation Methods to the Prediction of Low-Speed Aircraft Ground Performance
C10-003 Longitudinal Handling Quality Analysis of a Civil Transport Aircraft Encountering Turbulence
C10-052 Controllable Drogue for Automated Aerial Refueling
C10-196 Yaw Control of a Tailless Aircraft Configuration
C10-017 Videogrammetry Dynamics Measurements of a Lightweight Flexible Wing in a Wind Tunnel

Aircraft Guidance

- C10-147** Three-Dimensional Curvature-Constrained Trajectory Planning Based on In-Flight Waypoints

Aircraft Stability and Control

- C10-170** Modeling of Pilot Landing Approach Control Using Stochastic Switched Linear Regression Model

- C10-106** Design of an Adaptive Gust Response Alleviation Control System: Simulations and Experiments
C10-100 Stability of Hybrid-Wing-Body-Type Aircraft with Centerbody Leading-Edge Carving
C10-058 Characterizing Wing Rock with Variations in Size and Configuration of Vertical Tail
C10-169 Nonlinear Aeroelasticity of a Very Flexible Blended-Wing-Body Aircraft
C10-168 Dynamic Stability Analysis of a Tethered Aerostat
C10-137 Pitch and Heave Control of Robotic Samara Micro Air Vehicles
C10-020 Current Methods Modeling and Simulating Icing Effects on Aircraft Performance, Stability, Control
C10-195 Analytical Criterion for Aircraft Spin Susceptibility
C10-205 Dynamic Sensitivity to Atmospheric Turbulence of Unmanned Aerial Vehicles with Varying Configuration
C10-052 Controllable Drogue for Automated Aerial Refueling
Artificial Intelligence
C10-202 Integrated Framework for Artificial Immunity-Based Aircraft Failure Detection, Identification, and Evaluation
C10-002 Neural-Network-Based Flush Air Data Sensing System Demonstrated on a Mini Air Vehicle

Autonomous Vehicles

- C10-190** Autonomous Soaring: The Montague Cross-Country Challenge
C10-055 Panel-Method-Based Path Planning and Collaborative Target Tracking for Swarming Micro Air Vehicles

Avionics Systems

- C10-002** Neural-Network-Based Flush Air Data Sensing System Demonstrated on a Mini Air Vehicle

Control System Effectors

- C10-052** Controllable Drogue for Automated Aerial Refueling
C10-068 Gurney Flaps on Slender and Nonslender Delta Wings

Control System Sensors

- C10-041** Airborne Lidar for Automatic Feedforward Control of Turbulent In-Flight Phenomena

Dynamics

- C10-183** Influence of Tire Inflation Pressure on Nose Landing Gear Shimmy

Fault-Tolerant Control

- C10-202** Integrated Framework for Artificial Immunity-Based Aircraft Failure Detection, Identification, and Evaluation

Flight Mechanics

- C10-205** Dynamic Sensitivity to Atmospheric Turbulence of Unmanned Aerial Vehicles with Varying Configuration
C10-141 Effective Approach to Characterization of Prediction Errors for Balloon Ascent Trajectories

Handling Qualities

- C10-132** Application of Bifurcation Methods to the Prediction of Low-Speed Aircraft Ground Performance
C10-003 Longitudinal Handling Quality Analysis of a Civil Transport Aircraft Encountering Turbulence

Navigation

- C10-055** Panel-Method-Based Path Planning and Collaborative Target Tracking for Swarming Micro Air Vehicles
C10-123 Ionospheric Threat Parameterization for Local Area Global-Positioning-System-Based Aircraft Landing Systems

Optimization Techniques

- C10-166** Using Multiobjective Evolutionary Algorithms and Data-Mining Methods to Optimize Ornithopters' Kinematics
C10-160 Micro Air Vehicle Trajectory Planning in Winds

State Estimation

- C10-129** Rapid Estimation of Impaired-Aircraft Aerodynamic Parameters

Trajectory Optimization

- C10-133** Airspace Constraints in Aircraft Emission Trajectory Optimization
C10-147 Three-Dimensional Curvature-Constrained Trajectory Planning Based on In-Flight Waypoints
C10-160 Micro Air Vehicle Trajectory Planning in Winds
C10-110 Optimization of Hover-to-Cruise Transition Maneuver Using Variable-Incidence Wing
C10-025 Intelligent Flight-Trajectory Generation to Maximize Safe-Outcome Probability After a Distress Event

Aerospace Management

- C10-092** Impact of an Innovative Quiet Regional Aircraft on the Air Transportation System

Analytical and Numerical Methods

- C10-049** Multilevel Structural Optimization for Preliminary Wing-Box Weight Estimation
C10-189 Data Mining of Pareto-Optimal Transonic Airfoil Shapes Using Proper Orthogonal Decomposition
C10-228 Optimizing Spanwise Lift Distributions Yacht Sails Using Extended Lifting Line Analysis
C10-047 Application of Design of Experiments to Flight Test: A Case Study
C10-141 Effective Approach to Characterization of Prediction Errors for Balloon Ascent Trajectories

Atmospheric and Space Sciences

- C10-155** Quick Access Recorder Data Analysis Software for Windshear and Turbulence Studies
C10-097 Aerodynamic Simulation of Runback Ice Accretion

CAD/CAM

C10-229 Integration of Three-Dimensional Printing Technology for Wind-Tunnel Model Fabrication

Human Factors

C10-217 Probabilities for Severe and Fatal Injuries in General Aviation Accidents

C10-170 Modeling of Pilot Landing Approach Control Using Stochastic Switched Linear Regression Model

Lasers and Laser Applications

C10-041 Airborne Lidar for Automatic Feedforward Control of Turbulent In-Flight Phenomena

Multidisciplinary Design Optimization

C10-157 Bodies Having Minimum Pressure Drag in Supersonic Flow: Investigating Nonlinear Effects

C10-189 Data Mining of Pareto-Optimal Transonic Airfoil Shapes Using Proper Orthogonal Decomposition

C10-099 Airframe Design for Silent Fuel-Efficient Aircraft

C10-071 Computational Workflow Management for Conceptual Design of Complex Systems

C10-095 Characterization of Aerospace Vehicle Performance and Mission Analysis Using Thermodynamic Availability

C10-088 Tonal and Broadband Noise Calculations for Aeroacoustic Optimization of a Pusher Propeller

C10-114 Multidisciplinary Shape Optimization of Aerostat Envelopes

C10-054 Multidisciplinary Considerations in the Design of Wings and Wing Tip Devices

C10-049 Multilevel Structural Optimization for Preliminary Wing-Box Weight Estimation

C10-118 Design Optimization for Minimum Sound Radiation from Point-Excited Curvilinearly Stiffened Panel

C10-194 Improved Fuel Capacity Estimation Method

C10-212 Particle Swarm Optimization of Suction and Blowing on an Airfoils at Transonic Speeds

C10-208 Design Optimization of a Truss-Braced-Wing Transonic Transport Aircraft

C10-080 Computational-Fluid-Dynamics-Based Clean-Wing Aerodynamic Noise Model for Design

C10-165 Aerostructural Optimization of Nonplanar Lifting Surfaces

C10-184 Airfoil Optimization Using Practical Aerodynamic Design Requirements

C10-228 Optimizing Spanwise Lift Distributions Yacht Sails Using Extended Lifting Line Analysis

C10-180 Optimization and Postbuckling Analysis of Curvilinear-Stiffened Panels Under Multiple-Load Cases

C10-066 Analytical Sensitivity Analysis of an Unsteady Vortex-Lattice Method for Flapping-Wing Optimization

C10-166 Using Multiobjective Evolutionary Algorithms and Data-Mining Methods to Optimize Ornithopters' Kinematics

Reliability, Maintainability, and Logistics Support

C10-227 Air-Vessel Corrosion Damage Distribution and Reliability Modeling

Research Facilities and Instrumentation

C10-203 Calibration Modeling of Nonmonolithic Wind-Tunnel Force Balances

Safety

C10-227 Air-Vessel Corrosion Damage Distribution and Reliability Modeling

C10-173 Wind-Optimal Routing in the National Airspace System

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

C10-229 Integration of Three-Dimensional Printing Technology for Wind-Tunnel Model Fabrication

C10-150 Prediction of Nonlinear Rolling and Magnus Coefficients of Cruciform-Finned Missiles

PROPULSION**Airbreathing Propulsion**

C10-192 Inlet Stagnation Pressure Loss Estimate for a Simplified Thrust Model

Electric Propulsion

C10-200 First Fuel-Cell Manned Aircraft

Engine Materials

C10-149 Lifetime Assessment of Aircraft Structural Components in Coastal Environments

Hypersonic Propulsion

C10-095 Characterization of Aerospace Vehicle Performance and Mission Analysis Using Thermodynamic Availability

Solar Power

C10-063 Optimal Sizing and Cruise Speed Determination for a Solar-Powered Airplane

REAL-TIME SYSTEMS**Sensor Systems**

C10-017 Videogrammetry Dynamics Measurements of a Lightweight Flexible Wing in a Wind Tunnel

Systems Engineering

C10-193 Designing for a Green Future: A Unified Aircraft Design Methodology

C10-231 Conceptual Design of an Aerospace Vehicle Controller Using Axiomatic Theory

STRUCTURAL MECHANICS AND MATERIALS**Aeroelasticity and Control**

C10-135 Incorporation of Feedback Control into a High-Fidelity Aeroservoelastic Fighter Aircraft Model

C10-007 Prediction of Tiltrotor Vibratory Loads with Inclusion of Wing-Proprotor Aerodynamic Interaction

C10-034 Efficient Numerical Aeroelastic Analysis of a High-Aspect-Ratio Wing Considering Geometric Nonlinearity

C10-106 Design of an Adaptive Gust Response Alleviation Control System: Simulations and Experiments

C10-130 Transonic Aeroelastic Stability Predictions Under the Influence of Structural Variability

C10-134 Evaluation of Aeroelastic Uncertainty Analysis Methods

C10-156 Flutter Analysis: Using Piecewise Quadratic Interpolation with Mode Tracking and Wind-Tunnel Tests

Dynamic Model Analysis

C10-019 Free Vibration Analysis of Curvilinear-Stiffened Plates and Experimental Validation

C10-209 Targeted Energy Transfer Between a Model Flexible Wing and Nonlinear Energy Sink

Flexible and Active Structures

C10-033 Bistable Composite Flap for an Airfoil

C10-222 Nonlinear Modeling and Aeroelastic Analysis of an Adaptive Camber Wing

C10-029 Novel, Bidirectional, Variable-Camber Airfoil via Macro-Fiber Composite Actuators

C10-046 Mechanism for Warp-Controlled Twist of a Morphing Wing

Materials Structural Properties

C10-172 Yield Strength and Residual Stress Measurements on Friction-Stir-Welded Aluminum Alloys

C10-149 Lifetime Assessment of Aircraft Structural Components in Coastal Environments

C10-178 Crack-Tip Behavior in Fiber/Metal Laminates by Means of Digital-Image Correlation

C10-174 Adding Additional Load Paths in a Bonded/Bolted Hybrid Joint

Structural Composite Materials

C10-053 Compression Failure of Carbon Fiber-Epoxy Laminates in Fire

C10-033 Bistable Composite Flap for an Airfoil

C10-178 Crack-Tip Behavior in Fiber/Metal Laminates by Means of Digital-Image Correlation

C10-104 Damage of Carbon/Epoxy Composite Plates Subjected to Mechanical Impact and Simulated Lightning

C10-082 Optimal Design of Tow-Placed Fuselage Panels for Maximum Strength with Buckling Considerations

Structural Design

C10-016 Probabilistic Sensitivity-Based Ranking of Damage Tolerance Analysis Elements

C10-207 Optimal Design of Unitized Structures Using Response Surface Approaches

C10-174 Adding Additional Load Paths in a Bonded/Bolted Hybrid Joint

C10-082 Optimal Design of Tow-Placed Fuselage Panels for Maximum Strength with Buckling Considerations

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

C10-219 Uncertainty Reduction of Damage Growth Properties Using Structural Health Monitoring

C10-181 Estimation of Aircraft Structural Fatigue Life Using the Crack Severity Index Methodology

C10-174 Adding Additional Load Paths in a Bonded/Bolted Hybrid Joint

C10-018 Fatigue-Based Severity Factors for Shear-Loaded Fastener Joints

Structural Dynamics and Characterization

- C10-015** Effect of Uncertainty on Hub Vibration Response of Composite Helicopter Rotor Blades
C10-131 Validation Studies for Aeroelastic Trim and Stability of Highly Flexible Aircraft
C10-183 Influence of Tire Inflation Pressure on Nose Landing Gear Shimmy

Structural Finite Elements

- C10-222** Nonlinear Modeling and Aeroelastic Analysis of an Adaptive Camber Wing

Structural Modeling

- C10-089** Exploring the Stability Landscape of Constant-Stress Pumpkin Balloon Designs
C10-183 Influence of Tire Inflation Pressure on Nose Landing Gear Shimmy
C10-009 Bifurcation Analysis of Nose-Landing-Gear Shimmy with Lateral and Longitudinal Bending

- C10-019** Free Vibration Analysis of Curvilinear-Stiffened Plates and Experimental Validation

Structural Optimization

- C10-118** Design Optimization for Minimum Sound Radiation from Point-Excited Curvilinearly Stiffened Panel
C10-207 Optimal Design of Unitized Structures Using Response Surface Approaches
C10-103 Reliability-Based Design Optimization of Nonlinear Aeroelasticity Problems
C10-180 Optimization and Postbuckling Analysis of Curvilinear-Stiffened Panels Under Multiple-Load Cases
C10-165 Aerostructural Optimization of Nonplanar Lifting Surfaces
C10-082 Optimal Design of Tow-Placed Fuselage Panels for Maximum Strength with Buckling Considerations

Structural Stability

- C10-089** Exploring the Stability Landscape of Constant-Stress Pumpkin Balloon Designs
C10-131 Validation Studies for Aeroelastic Trim and Stability of Highly Flexible Aircraft
C10-006 Effects of Rolling Maneuver on Divergence and Flutter of Aircraft Wing Store

Thermal Effects

- C10-053** Compression Failure of Carbon Fiber-Epoxy Laminates in Fire

THERMOPHYSICS AND HEAT TRANSFER

Ablation, Pyrolysis, Thermal Decomposition and Degradation

- C10-053** Compression Failure of Carbon Fiber-Epoxy Laminates in Fire