

Subject Index

Aircraft Technology, Conventional, STOL/VTOL

Aerodynamics

Comment on "Inverse Solutions of the Prandtl-Meyer Function" C94-221
 Reply by the Authors to G. Emanuel C94-221
 Dynamic Investigation of the Angular Motion of a Rotating Body-Parachute System C95-012
 Stability Derivatives of a Flapped Plate in Unsteady Ground Effect C95-017
 Natural Laminar Flow Wing Concept for Supersonic Transports C95-018
 Aerodynamics of a Finite Wing with Simulated Ice C95-019
 Response of a Nonrotating Rotor Blade to Lateral Turbulence Part I: Theory C95-020
 Response of a Nonrotating Rotor Blade to Lateral Turbulence Part II: Experiment C95-021
 Circulation Control Wing Model Study C95-030
 Simplified Tunnel Correction Method C95-031
 Pressure-Sensitive Paint Measurements on a Supersonic High-Sweep Oblique Wing Model C95-033
 Global Nonlinear Aerodynamic Modeling Using Multivariate Orthogonal Functions C95-038
 Wind-Tunnel Measurements of Hazard Posed by Lift-Generated Wakes C95-039
 Finite State Induced Flow Models Part I: Two-Dimensional Thin Airfoil C95-044
 Finite State Induced Flow Models Part II: Three-Dimensional Rotor Disk C95-045
 Computation of Passively Controlled Transonic Wing C95-048
 Case for Aircraft with Outboard Horizontal Stabilizers C95-055
 Aerodynamic Characteristics of Vortex Flaps on a Double-Delta Planform C95-065
 Influence of Sideslip on Double Delta Wing Aerodynamics C95-066
 Numerical Investigation of High Incidence Flow over a Double-Delta Wing C95-068
 Quantifiable Vortex Features of F-106B Aircraft at Subsonic Speeds C95-069
 Spectral Mapping of Quasiperiodic Structures in a Vortex Flow C95-073
 Correlation of Unsteady Pressure and Inflow Velocity Fields of a Pitching Rotor Blade C95-077
 In-Flight Pressure Measurements on a Subsonic Transport High-Lift Wing Section C95-078
 Actuated Forebody Strake Controls for the F-18 High-Alpha Research Vehicle C95-081
 Operational and Research Aspects of a Radio-Controlled Model Flight Test Program C95-085
 Directional Control at High Angles of Attack Using Blowing Through a Chined Forebody C95-087
 Navier-Stokes Applications to High-Lift Airfoil Analysis C95-090
 Analysis of Low Reynolds Number Airfoil Flows C95-091
 Lift-Enhancing Tabs on Multielement Airfoils C95-095
 Effect of Leading-Edge Extension Fences on the Vortex Wake of an F/A-18 Model C95-100
 Estimation of Supersonic Leading-Edge Thrust by a Euler Flow Model C95-102
 Natural-Laminar-Flow Airfoil for General-Aviation Applications C95-107
 Numerical Analysis of the Vortical Flow Around a Delta Wing-Canard Configuration C95-108

Vortex Control over Sharp-Edged Slender Bodies C95-111
 Subsonic Wing Planform Design Using Multidisciplinary Optimization C95-112
 Flow Developments Above 50-Deg Sweep Delta Wings with Different Leading-Edge Profiles C95-118
 Delta Wing Vortex Control via Recessed Angled Spanwise Blowing C95-120
 Computational Investigation of Tangential Slot Blowing on a Generic Chined Forebody C95-121
 Experimental Investigation of Tangential Slot Blowing on a Generic Chined Forebody C95-122
 Drag Prediction at Subsonic and Transonic Speeds Using Euler Methods C95-125
 Canard Tip Vortex Splitting in a Canard-Wing Configuration: Experimental Observations C95-130
 Computational Study of a Conical Unit Aspect Ratio Wing at Supersonic Speeds C95-131
 Effects of Spanwise Blowing on a Delta Wing with Vortex Flaps C95-134
 Probe Interference on Flow Measurements in Propeller near Slipstream C95-135
 Genetic Algorithms Applied to the Aerodynamic Design of Transonic Airfoils C95-136
 Forebody Vortex Control Using Nose-Boom Strakes C95-139
 Improvement of Transonic Wing Buffet by Geometric Modifications C95-141
 Rotor Aerodynamic Loads Computation Using a Constant Vorticity Contour Free Wake Model C95-143
 Pitch Rate and Pitch-Axis Location Effects on Vortex Breakdown Onset C95-145
 Compressibility Effects on Vortex Breakdown Onset Above a 75-Degree Sweep Delta Wing C95-146
 Momentum, Pressure, and Energy in the Trefftz-Plane C95-147
 Effect of Blade-Tip Planform on Shock Wave of Advancing Helicopter Blade C95-148
 Vortex-in-Cell Analysis of Wing Wake Roll-Up C95-149
 Aerodynamics and Acoustics of Rotor Blade-Vortex Interactions C95-150
 Vortex Asymmetry and Induced Side Forces on Elliptic Cones at High Incidence C95-156
 Wing Performance in Moderate Rain C95-158
 Development of Transonic Area-Rule Methodology C95-161
 Experimental Investigation of a Three-Dimensional Dynamic Stall Model Oscillating in Pitch C95-162
 Experimental Study of Lift-Enhancing Tabs on a Two-Element Airfoil C95-163
 Viscous Flow Past a Nacelle in Proximity to a Flat Plate C95-172
 Oscillatory Behavior of Helicopter Rotor Airloads in the Blade Stall Regime C95-176
 Effects of Large Blockage in Wind-Tunnel Testing C95-177
 Unstructured Euler Flutter Analysis of Two-Dimensional Wing-Tail Configuration C95-178
 Preconditioned Generalized Minimum Residual Acceleration of Panel Methods C95-179
 Effect of Canard Oscillations on an X-31A-Like Model in Pitching Maneuver C95-180
 Effects of Delta Planform Tip Sail Incidence and Arrangement on Wing Performance C95-181
 Wake Integration to Predict Wing Span Loading from a Numerical Simulation C95-183

Real-Time Model of Three-Dimensional Dynamic Reattachment Using Neural Networks C95-185
 Rear Fuselage Flow Studies on a Modern Transonic Transport Aircraft C95-186
 Trailing Vortex Effects on Large Receiver Aircraft C95-188
 Neural Network Prediction and Control of Three-Dimensional Unsteady Separated Flowfields C95-190
 Grid Sensitivity and Aerodynamic Optimization of Generic Airfoils C95-193
 Navier-Stokes Computations and Experimental Comparisons for Multielement Airfoil Configurations C95-195
 Validation of Vortex-Lattice Method for Loads on Wings in Lift-Generated Wakes C95-196
 Rotor Free-Wake Modeling Using a Pseudoimplicit Relaxation Algorithm C95-199
 Double-Delta-Wing Aerodynamics for Pitching Motions With and Without Sideslip C95-203
 Effects of a Closely Coupled Static and Oscillating Canard C95-214
 Vortex Burst Model for the Vortex Lattice Method C95-216
 Computation of Compressible, Laminar Boundary Layers on Swept, Tapered Wings C95-219

Aeroelasticity and Aeroseervoelasticity

Summary of an Active Flexible Wing Program C95-001
 Simulation and Model Reduction for the Active Flexible Wing Program C95-003
 Multiple-Function Digital Controller System for Active Flexible Wing Wind-Tunnel Model C95-004
 Design and Multifunction Tests of a Frequency Domain-Based Active Flutter Suppression System C95-007
 Flutter Suppression for the Active Flexible Wing: A Classical Design C95-008
 Rolling Maneuver Load Alleviation Using Active Controls C95-009
 Application of Navier-Stokes Aeroelastic Methods to Improve Fighter Wing Maneuver Performance C95-010
 Response of a Nonrotating Rotor Blade to Lateral Turbulence Part I: Theory C95-020
 Response of a Nonrotating Rotor Blade to Lateral Turbulence Part II: Experiment C95-021
 Digital Flutter Suppression of Active Flexible Wing Using Moment Feedback C95-028
 Maneuver Load Control Using Optimized Feed-forward Commands C95-029
 Multidisciplinary Design Integration Methodology for a Supersonic Transport Aircraft C95-041
 Finite State Induced Flow Models Part I: Two-Dimensional Thin Airfoil C95-044
 Finite State Induced Flow Models Part II: Three-Dimensional Rotor Disk C95-045
 Multiple Order Pole Pure Lag Rational Function Approximations for Unsteady Aerodynamics C95-046
 Impact of Aeroelastic-Propulsive Interactions on Flight Dynamics of a Hypersonic Vehicle C95-049
 Correlation of Unsteady Pressure and Inflow Velocity Fields of a Pitching Rotor Blade C95-077

Structural Dynamic Loads in Response to Impulsive Excitation	C95-127	Practical Design of an Airship	C95-201	Practical Design of an Airship	C95-201
Aeroelastic Effects on the B-2 Maneuver Response	C95-128	Sizing Methodology for Reaction-Driven, Stopped-Rotor Vertical Takeoff and Landing Concepts	C95-211	Multipoint Approach for Aerodynamic Modeling in Complex Flowfields	C95-207
Aeroelastic Analysis of a Flexible Control Surface with Structural Nonlinearity	C95-129	Effects of a Closely Coupled Static and Oscillating Canard	C95-214	Validation of a Multipoint Approach for Modeling Spin Aerodynamics	C95-222
Shape Sensitivity Analysis of Divergence Dynamic Pressure	C95-140	Vortex Burst Model for the Vortex Lattice Method	C95-216		
Experimental and Analytical Investigation of Transonic Limit-Cycle Oscillations of a Flaperon	C95-142				
Matched-Filter and Stochastic-Simulation-Based Methods of Gust Loads Prediction	C95-160				
Experimental Investigation of a Three-Dimensional Dynamic Stall Model Oscillating in Pitch	C95-162				
Aeroelastic Actuation Using Elastic and Induced Strain Anisotropy	C95-170				
Oscillatory Behavior of Helicopter Rotor Airloads in the Blade Stall Regime	C95-176				
Unstructured Euler Flutter Analysis of Two-Dimensional Wing-Tail Configuration	C95-178				
Transonic Aeroelastic Models of Highly Swept Hypersonic Lifting Surfaces	C95-184				
Navier-Stokes Computations on Full Wing-Body Configuration with Oscillating Control Surfaces	C95-192				
Aeroelastic Optimization of a Helicopter Rotor with Composite Coupling	C95-206				
Aerospace Plane					
Impact of Aeroelastic-Propulsive Interactions on Flight Dynamics of a Hypersonic Vehicle	C95-049				
Cooling of Aerospace Plane Using Liquid Hydrogen and Methane	C95-079				
Transonic Aeroelastic Models of Highly Swept Hypersonic Lifting Surfaces	C95-184				
Computational Inlet-Fairing Effects and Plume Characterization on a Hypersonic Powered Model	C95-194				
Civil Missions and Transportation					
Real-Time Estimation of Atmospheric Turbulence Severity from In-Situ Aircraft Measurements	C95-023				
Fundamentals of Catastrophic Failure Prevention by Thrust Vectoring	C95-084				
Acoustics of a Counter-Rotating Shrouded Propfan: Prediction and Data	C95-153				
Practical Design of an Airship	C95-201				
Configuration Design					
Comment on "Aircraft Landing Gear Positioning Concerning Abnormal Landing Cases"	C94-060				
Reply by the Authors to D. H. Chester	C94-060				
CFD-Based Aerodynamic Approximation Concepts Optimization of a Two-Dimensional Scramjet Vehicle	C95-037				
Case for Aircraft with Outboard Horizontal Stabilizers	C95-055				
Economic Parameters in the Conceptual Design Optimization of an Air-Taxi Aircraft	C95-105				
Design Analysis Methodology for Solar-Powered Aircraft	C95-106				
Subsonic Wing Planform Design Using Multidisciplinary Optimization	C95-112				
Genetic Algorithms Applied to the Aerodynamic Design of Transonic Airfoils	C95-136				
Inverse Method for Airfoil Design	C95-154				
Wedge-Cone Waverider Configuration for Engine-Airframe Integration	C95-173				
Grid Sensitivity and Aerodynamic Optimization of Generic Airfoils	C95-193				
Deceleration Systems					
Stable Cross-Type Parachute with Inflation Aid	C95-138				
Economics					
Economic Parameters in the Conceptual Design Optimization of an Air-Taxi Aircraft	C95-105				
Flight Control Integration					
When In-Flight Simulation is Necessary	C95-057				
Flight Mechanics					
Interpretation of Experimental High-Alpha Aerodynamics—Implications for Flight Prediction	C95-036				
Aircraft with Single-Axis Aerodynamically Deployed Wings	C95-047				
Possible "Impossible" Turn	C95-054				
Robust and Efficient Trimming Algorithm for Application to Advanced Mathematical Models of Rotorcraft	C95-061				
Jet Transport Response to a Horizontal Wind Vortex	C95-071				
Cooling of Aerospace Plane Using Liquid Hydrogen and Methane	C95-079				
Actuated Forebody Strake Controls for the F-18 High-Alpha Research Vehicle	C95-081				
Parameter Identification and Modeling of Longitudinal Aerodynamics	C95-109				
Near Real-Time Approach to Statistical Flight Test	C95-117				
Experimental Investigation of Tangential Slot Blowing on a Generic Chined Forebody	C95-122				
Inertia-Coupled Coordinated Roll Maneuvers of Airplanes	C95-133				
Application of an Artificial Neural Network as a Flight Test Data Estimator	C95-165				
Batch Simulation Environment for Integrated Batch and Piloted Air Combat Analysis	C95-197				
Center of Gravity and Minimal Lift Coefficient Limits of a Gliding Parachute	C95-202				
Multipoint Approach for Aerodynamic Modeling in Complex Flowfields	C95-207				
Estimation of the Moment Coefficients for Dynamically Scaled, Free-Spinning Wind-Tunnel Models	C95-221				
Validation of a Multipoint Approach for Modeling Spin Aerodynamics	C95-222				
Flight Operations					
Possible "Impossible" Turn	C95-054				
General Aviation					
Possible "Impossible" Turn	C95-054				
Flight Test Certification of Primary Category Aircraft Using TP101-41E Sportplane Design Standard	C95-092				
Natural-Laminar-Flow Airfoil for General-Aviation Applications	C95-107				
Wing Performance in Moderate Rain	C95-158				
Ground Support					
Simplified Tunnel Correction Method	C95-031				
Landing Dynamics					
Comment on "Aircraft Landing Gear Positioning Concerning Abnormal Landing Cases"	C94-060				
Reply by the Authors to D. H. Chester	C94-060				
Study of the Pressure Distribution on an Aircraft Tire-Wheel Interface	C95-144				
Manufacturing					
Equilibrium of Bolted Joints Subjected to In-Plane External Loading	C95-169				
Military Missions					
Network Load in Distributed Interactive Simulation	C95-215				
Kill Probability in Antiaircraft Firing Theory	C95-217				
Noise					
Numerical Study of a Supersonic Open Cavity Flow and Pressure Oscillation Control	C95-050				
Signal Processing of Noise Data from High-Speed Flyovers	C95-086				
Estimating Noise Characteristics from Flight Test Data Using Optimal Fourier Smoothing	C95-104				
Inlet Acoustic Mode Measurements Using a Continuously Rotating Rake	C95-114				
Acoustics of a Counter-Rotating Shrouded Propfan: Prediction and Data	C95-153				
De-Dopplerization of Aircraft Acoustic Signals	C95-155				
Performance					
Evaluation of Several Agility Metrics for Fighter Aircraft Using Optimal Trajectory Analysis	C95-110				
Monitoring Airplane Takeoff Performance: Prototype Instrument with Learning Capability	C95-115				
Powerplant Integration					
Erosion of Dust-Filtered Helicopter Turbine Engines Part II: Erosion Reduction	C95-015				
Life Prediction of Helicopter Engines Fitted with Dust Filters	C95-016				
Wedge-Cone Waverider Configuration for Engine-Airframe Integration	C95-173				
Visualization of Choked Supersonic Flow-Through Engine Nacelles	C95-174				
Sizing Methodology for Reaction-Driven, Stopped-Rotor Vertical Takeoff and Landing Concepts	C95-211				
Propeller and Rotor Systems					
Comment on "Simple Equations for Helical Vortex Wakes"	C94-148				
Reply by the Author to A. H. Flax	C94-148				
Probe Interference on Flow Measurements in Propeller near Slipstream	C95-135				

Evaluation of Blockage Interference on Propellers in a Perforated-Wall Wind Tunnel	C95-164	Surface Reflective Visualization System Study to Vortical Flow over Delta Wings	C95-210
Oscillatory Behavior of Helicopter Rotor Airloads in the Blade Stall Regime	C95-176	Vibration	
Rotor Free-Wake Modeling Using a Pseudoimplicit Relaxation Algorithm	C95-199	Aeroelastic Analysis of a Flexible Control Surface with Structural Nonlinearity	C95-129
Accuracy of a Propeller Model in Inviscid Flow	C95-204	Weather Hazards	
Rotorcraft		Tracking of Raindrops in Flow over an Airfoil	C95-013
Erosion of Dust-Filtered Helicopter Turbine Engines Part II: Erosion Reduction	C95-015	Real-Time Estimation of Atmospheric Turbulence Severity from In-Situ Aircraft Measurements	C95-023
Life Prediction of Helicopter Engines Fitted with Dust Filters	C95-016	Evolution of Airplane Gust Loads Design Requirements	C95-035
Finite State Induced Flow Models Part I: Two-Dimensional Thin Airfoil	C95-044	Wing Leading-Edge Design Concepts for Air-breathing Hypersonic Waveriders	C95-043
Finite State Induced Flow Models Part II: Three-Dimensional Rotor Disk	C95-045	Concurrent Engineering in Design of Aircraft Structures	C95-059
Acoustic Spinning-Mode Analysis by an Iterative Threshold Method	C95-052	Statistical Discrete Gust-Power Spectral Density Methods Overlap—Holistic Proof and Beyond	C95-083
Robust and Efficient Trimming Algorithm for Application to Advanced Mathematical Models of Rotorcraft	C95-061	Fundamentals of Catastrophic Failure Prevention by Thrust Vectoring	C95-084
Performance Benefit of Second Harmonic Control in Helicopters	C95-062	Neural Network Approach to Fatigue-Crack-Growth Predictions Under Aircraft Spectrum Loadings	C95-123
Correlation of Unsteady Pressure and Inflow Velocity Fields of a Pitching Rotor Blade	C95-077	Matched-Filter and Stochastic-Simulation-Based Methods of Gust Loads Prediction	C95-160
Unstructured Adaptive Mesh Computations of Rotorcraft High-Speed Impulsive Noise	C95-113	Analytic Sensitivity and Approximation of Skin Buckling Constraints in Wing-Shape Synthesis	C95-167
Rotor Aerodynamic Loads Computation Using a Constant Vorticity Contour Free Wake Model	C95-143	Equilibrium of Bolted Joints Subjected to In-Plane External Loading	C95-169
Effect of Blade-Tip Planform on Shock Wave of Advancing Helicopter Blade	C95-148	Structural Materials	
Aerodynamics and Acoustics of Rotor Blade-Vortex Interactions	C95-150	Damage Tolerance Certification of a Fighter Horizontal Stabilizer	C95-094
Decomposition-Based Optimization Procedure for High-Speed Prop-Rotors Using Composite Tailoring	C95-157	System Effectiveness	
Aeroelastic Optimization of a Helicopter Rotor with Composite Coupling	C95-206	Concurrent Engineering in Design of Aircraft Structures	C95-059
Sizing Methodology for Reaction-Driven, Stopped-Rotor Vertical Takeoff and Landing Concepts	C95-211	Testing, Flight and Ground	
Safety		Study of the Droplet Spray Characteristics of a Subsonic Wind Tunnel	C95-027
Comment on “Aircraft Landing Gear Positioning Concerning Abnormal Landing Cases”	C94-060	Pressure-Sensitive Paint Measurements on a Supersonic High-Sweep Oblique Wing Model	C95-033
Reply by the Authors to D. H. Chester	C94-060	Interpretation of Experimental High-Alpha Aerodynamics—Implications for Flight Prediction	C95-036
Wind-Tunnel Measurements of Hazard Posed by Lift-Generated Wakes	C95-039	When In-Flight Simulation is Necessary	C95-057
Study of the Pressure Distribution on an Aircraft Tire-Wheel Interface	C95-144	Operational and Research Aspects of a Radio-Controlled Model Flight Test Program	C95-085
Simulation		Signal Processing of Noise Data from High-Speed Flyovers	C95-086
Simulation and Model Reduction for the Active Flexible Wing Program	C95-003	Flight Test Certification of Primary Category Aircraft Using TP101-41E Sportplane Design Standard	C95-092
Performance Benefit of Second Harmonic Control in Helicopters	C95-062	Estimating Noise Characteristics from Flight Test Data Using Optimal Fourier Smoothing	C95-104
Event Correlation for Networked Simulators	C95-076	Near Real-Time Approach to Statistical Flight Test	C95-117
Prediction of Airplane States	C95-082	Evaluation of Blockage Interference on Propellers in a Perforated-Wall Wind Tunnel	C95-164
Assessment of Technology for Aircraft Development	C95-089	Application of an Artificial Neural Network as a Flight Test Data Estimator	C95-165
Aeroelastic Effects on the B-2 Maneuver Response	C95-128	Effects of Large Blockage in Wind-Tunnel Testing	C95-177
Dihedral for Spiral Stability	C95-137	Wall Temperature Effects on the Stability of Laminar Boundary Layers	C95-182
Batch Simulation Environment for Integrated Batch and Piloted Air Combat Analysis	C95-197	Boundary Layers and Heat Transfer—Laminar	
Network Load in Distributed Interactive Simulation	C95-215	Hypersonic Inviscid and Viscous Flow over a Wedge and Cone	C95-053
		Computation of Compressible, Laminar Boundary Layers on Swept, Tapered Wings	C95-219
		Boundary Layers and Heat Transfer—Turbulent	
		Natural Laminar Flow Wing Concept for Supersonic Transports	C95-018
		Boundary-Layer Stability and Transition	
		Wall Temperature Effects on the Stability of Laminar Boundary Layers	C95-182
		Computational Fluid Dynamics	
		Application of Transonic Small Disturbance Theory to the Active Flexible Wing Model	C95-002
		Application of Navier-Stokes Aeroelastic Methods to Improve Fighter Wing Maneuver Performance	C95-010

Tracking of Raindrops in Flow over an Airfoil	C95-013	Applicability of Newtonian and Linear Theory to Slender Hypersonic Bodies	C95-064	Correlation of F/A-18 Buffeting from Wind-Tunnel and Flight Tests	C95-209
Aerodynamic Characteristics of External Store Configurations at Low Speeds	C95-022	Aerodynamic Applications of Underexpanded Hypersonic Viscous Jets	C95-070	Surface Reflective Visualization System Study to Vortical Flow over Delta Wings	C95-210
CFD-Based Aerodynamic Approximation Concepts Optimization of a Two-Dimensional Scramjet Vehicle	C95-037	Stability Derivatives for a Hypersonic Caret-Wing Waverider	C95-119	Numerical Study of Alternate Forms of Dynamic-Stall-Vortex Suppression	C95-220
Numerical Study of a Supersonic Open Cavity Flow and Pressure Oscillation Control	C95-050	Wedge-Cone Waverider Configuration for Engine-Airframe Integration	C95-173		
Wing Flutter Boundary Prediction Using Unsteady Euler Aerodynamic Method	C95-058	Computational Inlet-Fairing Effects and Plume Characterization on a Hypersonic Powered Model	C95-194	Subsonic Flow	
Applicability of Newtonian and Linear Theory to Slender Hypersonic Bodies	C95-064	Unsteady Characteristics of a Hypersonic Type IV Shock Interaction	C95-200	Aerodynamics of a Finite Wing with Simulated Ice	C95-019
Numerical Investigation of High Incidence Flow over a Double-Delta Wing	C95-068			Aerodynamic Characteristics of External Store Configurations at Low Speeds	C95-022
Computation of Delta-Wing Roll Maneuvers	C95-072	Inlet, Nozzle, Diffuser, and Channel Flows		Cobra Maneuver Unsteady Aerodynamic Considerations	C95-032
Comparison of the Predictive Capabilities of Several Turbulence Models	C95-075	CFD-Based Aerodynamic Approximation Concepts Optimization of a Two-Dimensional Scramjet Vehicle	C95-037	Influence of Sideslip on Double Delta Wing Aerodynamics	C95-066
Navier-Stokes Applications to High-Lift Airfoil Analysis	C95-090	Visualization of Choked Supersonic Flow-Through Engine Nacelles	C95-174	Quantifiable Vortex Features of F-106B Aircraft at Subsonic Speeds	C95-069
Analysis of Low Reynolds Number Airfoil Flows	C95-091			Nonlinear Aerodynamic Analysis of Grid Fin Configurations	C95-080
Turbulent Effects on Parachute Drag	C95-101	Jets, Wakes, and Viscid-Inviscid Flow Interactions		Navier-Stokes Applications to High-Lift Airfoil Analysis	C95-090
Estimation of Supersonic Leading-Edge Thrust by a Euler Flow Model	C95-102	Wind-Tunnel Measurements of Hazard Posed by Lift-Generated Wakes	C95-039	Turbulent Effects on Parachute Drag	C95-101
Computation of Vortex Breakdown on a Rolling Delta Wing	C95-103	Canard Tip Vortex Splitting in a Canard-Wing Configuration: Experimental Observations	C95-130	Flow Developments Above 50-Deg Sweep Delta Wings with Different Leading-Edge Profiles	C95-118
Unstructured Adaptive Mesh Computations of Rotorcraft High-Speed Impulsive Noise	C95-113	Momentum, Pressure, and Energy in the Trefftz-Plane	C95-147		
Computational Investigation of Tangential Slot Blowing on a Generic Chined Forebody	C95-121	Co- and Contrarotating Streamwise Vortices in a Turbulent Boundary Layer	C95-166	Analysis of Tangential Slot Blowing on F/A-18 Isolated Forebody	C95-159
Drag Prediction at Subsonic and Transonic Speeds Using Euler Methods	C95-125	Asymptotic Expression of the Forces Induced by a Strong Jet in a Crossflow	C95-171	Preconditioned Generalized Minimum Residual Acceleration of Panel Methods	C95-179
Computation of a Controlled Store Separation from a Cavity	C95-126			Effects of Delta Planform Tip Sail Incidence and Arrangement on Wing Performance	C95-181
Computational Study of a Conical Unit Aspect Ratio Wing at Supersonic Speeds	C95-131	Rarefied Flows		Navier-Stokes Computations and Experimental Comparisons for Multielement Airfoil Configurations	C95-195
Improvement of Transonic Wing Buffet by Geometric Modifications	C95-141	Aerodynamic Applications of Underexpanded Hypersonic Viscous Jets	C95-070	Double-Delta-Wing Aerodynamics for Pitching Motions With and Without Sideslip	C95-203
Vortex-in-Cell Analysis of Wing Wake Roll-Up	C95-149	Separated Flows			
Inverse Method for Airfoil Design	C95-154	Comment on "Physics of Coanda Jet Detachment at High-Pressure Ratio"	C94-087	Supersonic Flow	
Analysis of Tangential Slot Blowing on F/A-18 Isolated Forebody	C95-159	Aerodynamic Characteristics of External Store Configurations at Low Speeds	C95-022	Comment on "Physics of Coanda Jet Detachment at High-Pressure Ratio"	C94-087
Development of Transonic Area-Rule Methodology	C95-161	Cobra Maneuver Unsteady Aerodynamic Considerations	C95-032	Comment on "Inverse Solutions of the Prandtl-Meyer Function"	C94-221
Co- and Contrarotating Streamwise Vortices in a Turbulent Boundary Layer	C95-166	Interpretation of Experimental High-Alpha Aerodynamics—Implications for Flight Prediction	C95-036	Reply by the Authors to G. Emanuel	C94-221
Unstructured Euler Flutter Analysis of Two-Dimensional Wing-Tail Configuration	C95-178	Directional Control at High Angles of Attack Using Blowing Through a Chined Forebody	C95-087	Natural Laminar Flow Wing Concept for Supersonic Transports	C95-018
Preconditioned Generalized Minimum Residual Acceleration of Panel Methods	C95-179	Flow Physics of Critical States for Rolling Delta Wings	C95-088	Estimation of Supersonic Leading-Edge Thrust by a Euler Flow Model	C95-102
Wake Integration to Predict Wing Span Loading from a Numerical Simulation	C95-183	Flow Developments Above 50-Deg Sweep Delta Wings with Different Leading-Edge Profiles	C95-118	Computational Study of a Conical Unit Aspect Ratio Wing at Supersonic Speeds	C95-131
Grid Sensitivity and Aerodynamic Optimization of Generic Airfoils	C95-193			Effects of Strakes on a Glancing Shock Wave/Turbulent Boundary-Layer Interaction	C95-152
Computational Inlet-Fairing Effects and Plume Characterization on a Hypersonic Powered Model	C95-194	Experimental Investigation of Tangential Slot Blowing on a Generic Chined Forebody	C95-122	Viscous Flow Past a Nacelle in Proximity to a Flat Plate	C95-172
Unsteady Characteristics of a Hypersonic Type IV Shock Interaction	C95-200	Pitch Rate and Pitch-Axis Location Effects on Vortex Breakdown Onset	C95-145	Visualization of Choked Supersonic Flow-Through Engine Nacelles	C95-174
Accuracy of a Propeller Model in Inviscid Flow	C95-204	Analysis of Rolled Delta Wing Flows Using Effective Sweep and Attack Angles	C95-151		
Conservative Multiblock Navier-Stokes Solver for Arbitrarily Deforming Geometries	C95-208	Effects of Strakes on a Glancing Shock Wave/Turbulent Boundary-Layer Interaction	C95-152	Transonic Flow	
Numerical Study of Alternate Forms of Dynamic-Stall-Vortex Suppression	C95-220	Origin of Computed Unsteadiness in the Shear Layer of Delta Wings	C95-175	Computation of Passively Controlled Transonic Wing	C95-048
Hypersonic Flow		Rear Fuselage Flow Studies on a Modern Transonic Transport Aircraft	C95-186	Analysis of Some Interference Effects in a Transonic Wind Tunnel	C95-074
Comment on "Inverse Solutions of the Prandtl-Meyer Function"	C94-221	Dynamic Airfoil Flow Separation and Reattachment	C95-187	Comparison of the Predictive Capabilities of Several Turbulence Models	C95-075
Reply by the Authors to G. Emanuel	C94-221	Flat Spin of Axisymmetric Bodies	C95-189	Numerical Analysis of the Vortical Flow Around a Delta Wing-Canard Configuration	C95-108
Hypersonic Inviscid and Viscous Flow over a Wedge and Cone	C95-053	Wing Rock Analysis of Slender Delta Wings, Review and Extension	C95-191	Genetic Algorithms Applied to the Aerodynamic Design of Transonic Airfoils	C95-136
				Improvement of Transonic Wing Buffet by Geometric Modifications	C95-141
				Development of Transonic Area-Rule Methodology	C95-161
				Rear Fuselage Flow Studies on a Modern Transonic Transport Aircraft	C95-186

Conservative Multiblock Navier-Stokes Solver for Arbitrarily Deforming Geometries **C95-208**

Surface Reflective Visualization System Study to Vortical Flow over Delta Wings **C95-210**

Unsteady Flows

Comment on "Physics of Coanda Jet Detachment at High-Pressure Ratio" **C94-087**

Application of Transonic Small Disturbance Theory to the Active Flexible Wing Model **C95-002**

Stability Derivatives of a Flapped Plate in Unsteady Ground Effect **C95-017**

Neural Network Prediction of Three-Dimensional Unsteady Separated Flowfields **C95-024**

Cobra Maneuver Unsteady Aerodynamic Considerations **C95-032**

Numerical Study of a Supersonic Open Cavity Flow and Pressure Oscillation Control **C95-050**

Wing Flutter Boundary Prediction Using Unsteady Euler Aerodynamic Method **C95-058**

Computation of Delta-Wing Roll Maneuvers **C95-072**

Flow Physics of Critical States for Rolling Delta Wings **C95-088**

Analysis of Low Reynolds Number Airfoil Flows **C95-091**

Computation of Vortex Breakdown on a Rolling Delta Wing **C95-103**

Stability Derivatives for a Hypersonic Caret-Wing Waverider **C95-119**

Computation of a Controlled Store Separation from a Cavity **C95-126**

Pitch Rate and Pitch-Axis Location Effects on Vortex Breakdown Onset **C95-145**

Compressibility Effects on Vortex Breakdown Onset Above a 75-Degree Sweep Delta Wing **C95-146**

Effect of Blade-Tip Planform on Shock Wave of Advancing Helicopter Blade **C95-148**

Origin of Computed Unsteadiness in the Shear Layer of Delta Wings **C95-175**

Effect of Canard Oscillations on an X-31A-Like Model in Pitching Maneuver **C95-180**

Real-Time Model of Three-Dimensional Dynamic Reattachment Using Neural Networks **C95-185**

Dynamic Airfoil Flow Separation and Reattachment **C95-187**

Flat Spin of Axisymmetric Bodies **C95-189**

Neural Network Prediction and Control of Three-Dimensional Unsteady Separated Flowfields **C95-190**

Wing Rock Analysis of Slender Delta Wings, Review and Extension **C95-191**

Navier-Stokes Computations on Full Wing-Body Configuration with Oscillating Control Surfaces **C95-192**

Unsteady Characteristics of a Hypersonic Type IV Shock Interaction **C95-200**

Conservative Multiblock Navier-Stokes Solver for Arbitrarily Deforming Geometries **C95-208**

Correlation of F/A-18 Buffeting from Wind-Tunnel and Flight Tests **C95-209**

Numerical Study of Alternate Forms of Dynamic-Stall-Vortex Suppression **C95-220**

Viscous Non-Boundary-Layer Flows

Turbulent Effects on Parachute Drag **C95-101**

Vortices

Comment on "Simple Equations for Helical Vortex Wakes" **C94-148**

Reply by the Author to A. H. Flax **C94-148**
Neural Network Prediction of Three-Dimensional Unsteady Separated Flowfields **C95-024**

Aerodynamic Characteristics of Vortex Flaps on a Double-Delta Planform **C95-065**
Influence of Sideslip on Double Delta Wing Aerodynamics **C95-066**

Numerical Investigation of High Incidence Flow over a Double-Delta Wing **C95-068**

Quantifiable Vortex Features of F-106B Aircraft at Subsonic Speeds **C95-069**

Computation of Delta-Wing Roll Maneuvers **C95-072**

Spectral Mapping of Quasiperiodic Structures in a Vortex Flow **C95-073**

Flow Physics of Critical States for Rolling Delta Wings **C95-088**

Effect of Leading-Edge Extension Fences on the Vortex Wake of an F/A-18 Model **C95-100**

Computation of Vortex Breakdown on a Rolling Delta Wing **C95-103**

Numerical Analysis of the Vortical Flow Around a Delta Wing-Canard Configuration **C95-108**

Delta Wing Vortex Control via Recessed Angled Spanwise Blowing **C95-120**

Computational Investigation of Tangential Slot Blowing on a Generic Chined Forebody **C95-121**

Drag Prediction at Subsonic and Transonic Speeds Using Euler Methods **C95-125**

Canard Tip Vortex Splitting in a Canard-Wing Configuration: Experimental Observations **C95-130**

Effects of Spanwise Blowing on a Delta Wing with Vortex Flaps **C95-134**

Forebody Vortex Control Using Nose-Boom Strakes **C95-139**

Rotor Aerodynamic Loads Computation Using a Constant Vorticity Contour Free Wake Model **C95-143**

Compressibility Effects on Vortex Breakdown Onset Above a 75-Degree Sweep Delta Wing **C95-146**

Momentum, Pressure, and Energy in the Trefftz-Plane **C95-147**

Vortex-in-Cell Analysis of Wing Wake Roll-Up **C95-149**

Analysis of Rolled Delta Wing Flows Using Effective Sweep and Attack Angles **C95-151**

Vortex Asymmetry and Induced Side Forces on Elliptic Cones at High Incidence **C95-156**

Analysis of Tangential Slot Blowing on F/A-18 Isolated Forebody **C95-159**

Co- and Contrarotating Streamwise Vortices in a Turbulent Boundary Layer **C95-166**

Origin of Computed Unsteadiness in the Shear Layer of Delta Wings **C95-175**

Effect of Canard Oscillations on an X-31A-Like Model in Pitching Maneuver **C95-180**

Flat Spin of Axisymmetric Bodies **C95-189**

Wing Rock Analysis of Slender Delta Wings, Review and Extension **C95-191**

Validation of Vortex-Lattice Method for Loads on Wings in Lift-Generated Wakes **C95-196**

Rotor Free-Wake Modeling Using a Pseudoimplicit Relaxation Algorithm **C95-199**

Double-Delta-Wing Aerodynamics for Pitching Motions With and Without Sideslip **C95-203**

Effects of a Closely Coupled Static and Oscillating Canard **C95-214**

Vortex Burst Model for the Vortex Lattice Method **C95-216**

Guidance, Control, and Dynamics Technology

Aircraft Dynamics

Evolution of Airplane Gust Loads Design Requirements **C95-035**

Multiple Order Pole Pure Lag Rational Function Approximations for Unsteady Aerodynamics **C95-046**

Aircraft with Single-Axis Aerodynamically Deployed Wings **C95-047**

Impact of Aeroelastic-Propulsive Interactions on Flight Dynamics of a Hypersonic Vehicle **C95-049**

Effect of Geometry and Mass Distribution on Tumbling Characteristics of Flying Wings **C95-056**

Robust and Efficient Trimming Algorithm for Application to Advanced Mathematical Models of Rotorcraft **C95-061**

Jet Transport Response to a Horizontal Wind Vortex **C95-071**

Prediction of Airplane States **C95-082**

Statistical Discrete Gust-Power Spectral Density Methods Overlap—Holistic Proof and Beyond **C95-083**

Evaluation of Several Agility Metrics for Fighter Aircraft Using Optimal Trajectory Analysis **C95-110**

Monitoring Airplane Takeoff Performance: Prototype Instrument with Learning Capability **C95-115**

Structural Dynamic Loads in Response to Impulsive Excitation **C95-127**

Aeroelastic Effects on the B-2 Maneuver Response **C95-128**

Inertia-Coupled Coordinated Roll Maneuvers of Airplanes **C95-133**

Dihedral for Spiral Stability **C95-137**

Real-Time Model of Three-Dimensional Dynamic Reattachment Using Neural Networks **C95-185**

Batch Simulation Environment for Integrated Batch and Piloted Air Combat Analysis **C95-197**

Estimation of the Moment Coefficients for Dynamically Scaled, Free-Spinning Wind-Tunnel Models **C95-221**

Aircraft Guidance

Optimal Trajectories for an Unmanned Air-Vehicle in the Horizontal Plane **C95-099**

Aircraft Stability and Control

Multiple-Function Digital Controller System for Active Flexible Wing Wind-Tunnel Model **C95-004**

Stability Derivatives of a Flapped Plate in Unsteady Ground Effect **C95-017**

Maneuver Load Control Using Optimized Feed-forward Commands **C95-029**

Multiple Order Pole Pure Lag Rational Function Approximations for Unsteady Aerodynamics **C95-046**

Effect of Geometry and Mass Distribution on Tumbling Characteristics of Flying Wings **C95-056**

Jet Transport Response to a Horizontal Wind Vortex **C95-071**

Actuated Forebody Strake Controls for the F-18 High-Alpha Research Vehicle **C95-081**

Directional Control at High Angles of Attack Using Blowing Through a Chined Forebody **C95-087**

Stability Derivatives for a Hypersonic Caret-Wing Waverider **C95-119**

Inertia-Coupled Coordinated Roll Maneuvers of Airplanes	C95-133	Critical Considerations for Helicopters During Runway Takeoffs	C95-116	Vibration	
Estimation of the Moment Coefficients for Dynamically Scaled, Free-Spinning Wind-Tunnel Models	C95-221				
Artificial Intelligence					
Generating Image Filters for Target Recognition by Hebbian Neural Network Learning	C95-132	Operational and Research Aspects of a Radio-Controlled Model Flight Test Program	C95-085	Propulsion	
Application of an Artificial Neural Network as a Flight Test Data Estimator	C95-165				
Neural Network Prediction and Control of Three-Dimensional Unsteady Separated Flowfields	C95-190				
Avionics Systems					
Computational Estimate of the Separation Effect	C95-205	Event Correlation for Networked Simulators	C95-076	Airbreathing Propulsion	
Control System Design					
Multiple-Function Digital Controller System for Active Flexible Wing Wind-Tunnel Model	C95-004	Rolling Maneuver Load Alleviation Using Active Controls	C95-009	Fundamentals of Catastrophic Failure Prevention by Thrust Vectoring	C95-084
On-Line Analysis Capabilities Developed to Support the Active Flexible Wing Wind-Tunnel Tests	C95-005	Navier-Stokes Computations on Full Wing-Body Configuration with Oscillating Control Surfaces	C95-192	Acoustics of a Counter-Rotating Shrouded Propfan: Prediction and Data	C95-153
Flutter Suppression Control Law Design and Testing for the Active Flexible Wing	C95-006				
Design and Multifunction Tests of a Frequency Domain-Based Active Flutter Suppression System	C95-007				
Flutter Suppression for the Active Flexible Wing: A Classical Design	C95-008				
Rolling Maneuver Load Alleviation Using Active Controls	C95-009				
Digital Flutter Suppression of Active Flexible Wing Using Moment Feedback	C95-028				
Performance Benefit of Second Harmonic Control in Helicopters	C95-062				
Computation of a Controlled Store Separation from a Cavity	C95-126				
Dynamics					
Aircraft with Single-Axis Aerodynamically Deployed Wings	C95-047				
Effect of Geometry and Mass Distribution on Tumbling Characteristics of Flying Wings	C95-056				
Parameter Identification and Modeling of Longitudinal Aerodynamics	C95-109				
Handling Qualities					
When In-Flight Simulation is Necessary	C95-057				
Near Real-Time Approach to Statistical Flight Test	C95-117				
Information Processing					
Neural Network Prediction of Three-Dimensional Unsteady Separated Flowfields	C95-024				
Estimating Noise Characteristics from Flight Test Data Using Optimal Fourier Smoothing	C95-104				
Generating Image Filters for Target Recognition by Hebbian Neural Network Learning	C95-132				
Optimization Techniques					
Optimal Trajectories for an Unmanned Air-Vehicle in the Horizontal Plane	C95-099				
Signal Processing					
De-Dopplerization of Aircraft Acoustic Signals	C95-155				
State Estimation					
Event Correlation for Networked Simulators	C95-076				
Structural Control					
Rolling Maneuver Load Alleviation Using Active Controls	C95-009				
Navier-Stokes Computations on Full Wing-Body Configuration with Oscillating Control Surfaces	C95-192				
System Identification					
On-Line Analysis Capabilities Developed to Support the Active Flexible Wing Wind-Tunnel Tests	C95-005				
Parameter Identification and Modeling of Longitudinal Aerodynamics	C95-109				
Trajectory Optimization					
Optimal Trajectories for an Unmanned Air-Vehicle in the Horizontal Plane	C95-099				
Evaluation of Several Agility Metrics for Fighter Aircraft Using Optimal Trajectory Analysis	C95-110				
Interdisciplinary Topics					
Aerospace Technology Utilization					
Economic Parameters in the Conceptual Design Optimization of an Air-Taxi Aircraft	C95-105				
Analytical and Numerical Methods					
Global Nonlinear Aerodynamic Modeling Using Multivariate Orthogonal Functions	C95-038				
Prediction of Airplane States	C95-082				
Dihedral for Spiral Stability	C95-137				
Inverse Method for Airfoil Design	C95-154				
Efficient Parametrization of Generic Aircraft Geometry	C95-198				
CAD/CAM					
Efficient Parametrization of Generic Aircraft Geometry	C95-198				
Research Facilities and Instrumentation					
Study of the Droplet Spray Characteristics of a Subsonic Wind Tunnel	C95-027				
Pressure-Sensitive Paint Measurements on a Supersonic High-Sweep Oblique Wing Model	C95-033				
Analysis of Some Interference Effects in a Transonic Wind Tunnel	C95-074				
Monitoring Airplane Takeoff Performance: Prototype Instrument with Learning Capability	C95-115				
Dynamic Model Analysis					
Free Vibration of Composite Beams—an Exact Method Using Symbolic Computation	C95-093				
Structural Dynamic Loads in Response to Impulsive Excitation	C95-127				
Flexible and Active Structures					
Aeroelastic Actuation Using Elastic and Induced Strain Anisotropy	C95-170				
Materials Structural Properties					
Pilot Study of Metal Volume Fraction Approach for Fiber/Metal Laminates	C95-097				
Structural Composite Materials					
Free Vibration of Composite Beams—an Exact Method Using Symbolic Computation	C95-093				
Damage Tolerance Certification of a Fighter Horizontal Stabilizer	C95-094				
Pilot Study of Metal Volume Fraction Approach for Fiber/Metal Laminates	C95-097				

Nonlinear Analysis of Graphite/Epoxy Wing Boxes Under Pure Bending Including Lateral Pressure **C95-212**
 D-Box Fixture for Testing Stiffened Panels in Compression and Pressure **C95-213**

Structural Design

Wing Leading-Edge Design Concepts for Air-breathing Hypersonic Waveriders **C95-043**
 Fatigue Design of Axially Loaded Semicircular Lugs **C95-098**
 Subsonic Wing Planform Design Using Multidisciplinary Optimization **C95-112**
 Shape Sensitivity Analysis of Divergence Dynamic Pressure **C95-140**
 Analytic Sensitivity and Approximation of Skin Buckling Constraints in Wing-Shape Synthesis **C95-167**
 Nonlinear Analysis of Graphite/Epoxy Wing Boxes Under Pure Bending Including Lateral Pressure **C95-212**

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

Damage Tolerance Certification of a Fighter Horizontal Stabilizer **C95-094**
 Structural Integrity of Fuselage Panels with Multisite Damage **C95-096**
 Pilot Study of Metal Volume Fraction Approach for Fiber/Metal Laminates **C95-097**
 Fatigue Design of Axially Loaded Semicircular Lugs **C95-098**
 Neural Network Approach to Fatigue-Crack-Growth Predictions Under Aircraft Spectrum Loadings **C95-123**

Study of the Pressure Distribution on an Aircraft Tire-Wheel Interface **C95-144**

Structural Dynamics and Characterization

Statistical Discrete Gust-Power Spectral Density Methods Overlap—Holistic Proof and Beyond **C95-083**
 Free Vibration of Composite Beams—an Exact Method Using Symbolic Computation **C95-093**
 Aeroelastic Analysis of a Flexible Control Surface with Structural Nonlinearity **C95-129**

Structural Finite Elements

Fatigue Design of Axially Loaded Semicircular Lugs **C95-098**

Structural Modeling

D-Box Fixture for Testing Stiffened Panels in Compression and Pressure **C95-213**

Structural Optimization

Multidisciplinary Design Integration Methodology for a Supersonic Transport Aircraft **C95-041**
 Decomposition-Based Optimization Procedure for High-Speed Prop-Rotors Using Composite Tailoring **C95-157**
 Analytic Sensitivity and Approximation of Skin Buckling Constraints in Wing-Shape Synthesis **C95-167**
 Aeroelastic Optimization of a Helicopter Rotor with Composite Coupling **C95-206**

Structural Stability

D-Box Fixture for Testing Stiffened Panels in Compression and Pressure **C95-213**

Thermal Effects

Wing Leading-Edge Design Concepts for Air-breathing Hypersonic Waveriders **C95-043**

Thermophysics and Heat Transfer

Aerothermodynamics/Thermal Protection

Cooling of Aerospace Plane Using Liquid Hydrogen and Methane **C95-079**

Computational Heat Transfer

Effect of Curvature in the Numerical Simulation of an Electrothermal De-Icer Pad **C95-011**

Forced Convection

Hypersonic Inviscid and Viscous Flow over a Wedge and Cone **C95-053**

Melting/Solidification

Effect of Curvature in the Numerical Simulation of an Electrothermal De-Icer Pad **C95-011**