2010 Journal of Guidance, Control, and Dynamics Index

How to Use the Index

In the Subject Index, pages 1967–1973, 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 1974–1975, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 1976–1981, 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. The Book Review Index is listed on page 1981. 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

G10-067 Wingbeat Shape Modulation for Flapping-Wing Micro-Air-Vehicle Control During Hover

Aeroelasticity and Aeroservoelasticity

G10-187 Output Regulation with Actuator Saturation for the Benchmark Active Control Technology Model

G10-005 Flight Control for Flexible High-Aspect-Ratio Flying Wings

G10-136 Multi-Input Noncertainty-Equivalent Adaptive Control of an Aeroelastic System

G10-056 Linear-Parameter-Varying Control of an Improved Three-Degree-of-Freedom Aeroelastic Model

Air Transportation

G10-063 Disaggregation Method for an Aggregate Traffic Flow Management Model

G10-100 Graph-Based Algorithm for Dynamic Airspace Configuration

Collision Avoidance

G10-146 Design and Simulator Evaluation of an Ecological Synthetic Vision Display

G10-046 Electrostatic Spacecraft Collision Avoidance Using Piecewise-Constant Charges G10-012 Autonomous Navigation in Three-

Dimensional Urban Environments Using Wide-Field Integration of Optic Flow

Communication and Air Traffic Control

G10-045 Algorithm for Conformance Monitoring in Air Traffic Control

G10-100 Graph-Based Algorithm for Dynamic Airspace Configuration

G10-177 Management-Action-Embedded Sector-Demand Prediction Models

Deceleration Systems

G10-010 Effects of Canopy-Payload Relative Motion on Control of Autonomous Parafoils

Flight Mechanics

G10-071 Light-Levitated Geostationary Cylindrical Orbits Are Feasible

G10-101 Keeping a Spacecraft on a Vertical Circular Collinear Lagrange Point Orbit

G10-010 Effects of Canopy-Payload Relative Motion on Control of Autonomous Parafoils

G10-126 Optimal Level Turn of Solar-Powered Unmanned Aerial Vehicle Flying in Atmosphere G10-139 Coning Motion of Spinning Missiles

Induced by the Rate Loop

Flow Control

G10-100 Graph-Based Algorithm for Dynamic Airspace Configuration

Landing Dynamics

G10-015 Reentry Terminal Guidance Through Sliding Mode Control

Man/Machine Interface

G10-146 Design and Simulator Evaluation of an Ecological Synthetic Vision Display

G10-098 Investigation into Pilot Perception and Control During Decrab Maneuvers in Simulated Flight

Micro Air Vehicles

G10-040 Neurobiologically Inspired Control of Engineered Flapping Flight

G10-181 Control Model for Robotic Samara: Dynamics About a Coordinated Helical Turn

G10-012 Autonomous Navigation in Three-Dimensional Urban Environments Using Wide-Field Integration of Optic Flow

G10-067 Wingbeat Shape Modulation for Flapping-Wing Micro-Air-Vehicle Control During

Rotorcraft

G10-016 Integration of Hydraulic Lag-Damper Models with Helicopter Rotor Simulations

Safety

G10-044 Airspace Encounter Models for Estimating Collision Risk

G10-140 Modeling and Model Reference Adaptive Control of Aircraft with Asymmetric Damage

Simulation

G10-004 Modeling and Simulation of Hose-Paradrogue Aerial Refueling Systems

G10-098 Investigation into Pilot Perception and Control During Decrab Maneuvers in Simulated Flight

G10-044 Airspace Encounter Models for Estimating Collision Risk

G10-160 Nonlinear Analysis of Lateral Loading During Taxiway Turns

G10-002 Effects of Heave Washout Settings in Aircraft Pitch Disturbance Rejection

STOL/VTOL/STOVL

G10-181 Control Model for Robotic Samara: Dynamics About a Coordinated Helical Turn

Testing, Flight, and Ground

G10-160 Nonlinear Analysis of Lateral Loading During Taxiway Turns

G10-033 Fault-Tolerant Model Predictive Control with Flight-Test Results

G10-099 Design of Forcing Functions for the Identification of Human Control Behavior

Uninhabited and Unmanned Air Vehicles

G10-114 Acceleration-Feedback-Enhanced Robust Control of an Unmanned Helicopter

Vibration

G10-016 Integration of Hydraulic Lag-Damper Models with Helicopter Rotor Simulations

COMPUTING, INFORMATION, AND COMMUNICATION

Artificial Intelligence Systems

G10-175 Navigation Aiding Based on Coupled Online Mosaicking and Camera Scanning

Air Traffic Control Systems

G10-045 Algorithm for Conformance Monitoring in Air Traffic Control

G10-032 Improved Multi-Aircraft Ground Trajectory Prediction for Air Traffic Control

Autonomous Systems

G10-030 Nonlinear Path Following Method

G10-129 Analytical Solutions to Spacecraft Formation-Flying Guidance Using Virtual Motion Camouflage

ENERGY

Fuel Economy

G10-143 Network Flow Formulation for Cooperative Peer-to-Peer Refueling Strategies

Solar Power

G10-157 Flyaround Orbit Design for Autonomous Rendezvous Based on Relative Orbit Flements

FLIGHT SIMULATOR SYSTEMS

Guidance, Navigation, and Control Systems

G10-118 Relative Control of a Virtual Telescope Using Global Positioning System and Optical Metrology

G10-067 Wingbeat Shape Modulation for Flapping-Wing Micro-Air-Vehicle Control During Hover

G10-064 Evaluation of a Sliding Mode Fault-Tolerant Controller for the El Al Incident

G10-168 Sequential Optimal Attitude Recursion Filter

Human-Computer Interactions

G10-142 Identification of Multimodal Pilot Control Behavior in Real Flight

G10-098 Investigation into Pilot Perception and Control During Decrab Maneuvers in Simulated Flight

FLUID DYNAMICS

Boundary-Layer Stability and Transition

G10-072 State-Space Approximations of the Orr-Sommerfeld System with Boundary Inputs and Outputs

GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY

Aircraft Dynamics

G10-066 Online Aerodynamic Model Structure Selection and Parameter Estimation for Fault Tolerant Control

G10-040 Neurobiologically Inspired Control of Engineered Flapping Flight

G10-154 Aircraft Spin Recovery Using a Sliding-Mode Controller

G10-164 Robust Adaptive Design for Aerial Vehicles with State-Limiting Constraints

G10-018 Polynomial Chaos-Based Analysis of Probabilistic Uncertainty in Hypersonic Flight Dynamics

Aircraft Guidance

G10-126 Optimal Level Turn of Solar-Powered Unmanned Aerial Vehicle Flying in Atmosphere G10-049 Path Following for Small Unmanned Aerial Vehicles Using L1 Adaptive Augmentation of Commercial Autopilots

G10-095 Controllability and Reachability for Micro-Aerial-Vehicle Trajectory Planning in Winds

G10-104 Coning Algorithm Design by Explicit Frequency Shaping

G10-041 Smooth Flight Trajectory Planning in the Presence of No-Fly Zones and Obstacles

G10-054 Synthetic-Waypoint Guidance Algorithm for Following a Desired Flight Trajectory
G10-008 Unmanned Aircraft Guidance for Pen-

G10-008 Unmanned Aircraft Guidance for Penetration of Pretornadic Storms

G10-060 Starlight Atmospheric Refraction Model for a Continuous Range of Height

G10-030 Nonlinear Path Following Method

G10-115 Optimization of Circularly Towed Cable System in Crosswind

G10-186 Unmanned Aerial Vehicle Coordination on Closed Convex Paths in Wind

G10-076 Adaptive Vision-Based Guidance Law with Guaranteed Performance Bounds

Aircraft Stability and Control

G10-040 Neurobiologically Inspired Control of Engineered Flapping Flight

G10-112 Lyapunov-Based Exponential Tracking Control of a Hypersonic Aircraft with Aerothermoelastic Effects

G10-031 Sign-Stability Concept of Ecology for Control Design with Aerospace Applications

G10-139 Coning Motion of Spinning Missiles Induced by the Rate Loop

G10-114 Acceleration-Feedback-Enhanced Robust Control of an Unmanned Helicopter

G10-163 Robust Flight Control Using Incremental Nonlinear Dynamic Inversion and Angular Acceleration Prediction

G10-036 Stability Analysis of Switched Linear Systems with Locally Overlapped Switching Law

Artificial Intelligence

G10-029 Evolutionary Algorithm for Artificial-Immune-System-Based Failure-Detector Generation and Optimization

G10-102 Aircraft Failure Detection and Identification Using an Immunological Hierarchical Multiself Strategy

Astrodynamics

G10-109 Initial Trajectory Model for a Multi-Maneuver Moon-to-Earth Abort Sequence

G10-075 Optimal Control of Gravity-Tractor Spacecraft for Asteroid Deflection

G10-081 Simulations of Quasi-Satellite Orbits Around Phobos

G10-094 Passive Orbit Control for Space-Based Geo-eEngineering

G10-057 Indirect Spacecraft Trajectory Optimization Using Modified Equinoctial Elements

G10-071 Light-Levitated Geostationary Cylindrical Orbits Are Feasible

G10-051 Effect of J2 Perturbations on Relative Spacecraft Position in Near-Circular Orbits

G10-097 Quaternionic Exact Solution to the Relative Orbital Motion Problem

G10-038 Comparisons of the Cubed-Sphere Gravity Model with the Spherical Harmonics

G10-070 Spin-Axis Attitude Determination Using In-Flight Data

G10-042 Endgame Problem Part 1: V-Infinity-Leveraging Technique and the Leveraging Graph G10-178 Dynamical Systems Analysis of Planetary Flybys and Approach: Planar Europa Orbiter G10-073 Interplanetary Transfers Between Halo Orbits: Connectivity Between Escape and Capture Trajectories

G10-011 Consequences of Asteroid Fragmentation During Impact Hazard Mitigation

G10-050 Analytic Theory for High-Inclination Orbits in the Restricted Three-Body Problem

G10-043 Endgame Problem Part 2: Multibody Technique and the Tisserand-Poincare Graph

G10-167 Constrained Multiple-Revolution Lambert's Problem

G10-155 Linear Systems Approach to Multiple-Impulse Trajectory Analysis via Regularization G10-019 Analytical Study of the Primer Vector and Orbit Transfer Switching Function

G10-145 Orbital Targeting Based on Hodograph Theory for Improved Rendezvous Safety

G10-101 Keeping a Spacecraft on a Vertical Circular Collinear Lagrange Point Orbit

G10-150 Two Classes of Cycler Trajectories in the Earth-Moon System

G10-165 Mixed Low-Thrust Invariant-Manifold Transfers to Distant Prograde Orbits Around Mars G10-048 Low-Thrust Transfers in the Earth-Moon System, Including Applications to Libration Point Orbits

G10-093 Analysis of Periodic and Quasi-Periodic Orbits in the Earth-Moon System

G10-017 Estimating Small-Body Gravity Field from Shape Model and Navigation Data

G10-023 Designing Displaced Lunar Orbits Using Low-Thrust Propulsion

G10-046 Electrostatic Spacecraft Collisio Avoidance Using Piecewise-Constant Charges

G10-124 Control of the Electrodynamic Boom Propulsion System Accounting for Atmospheric Drag

G10-138 Targeting Requirements and Stability Characterization for a Class of Ballistic Transfers G10-182 Practical Method for Optimization of Low-Thrust Transfers

G10-185 Transfers to Sticky Distant Retrograde Orbits

G10-170 Method to Design Ballistic Capture in the Elliptic Restricted Three-Body Problem

G10-147 Calculating Transfer Families to Periodic Distant Retrograde Orbits Using Differential Correction

G10-171 Specialized Coordinate Representation for Dynamic Modeling and Orbit Estimation of Geosynchronous Orbits

G10-179 Optimal Guidance of Low-Thrust Trajectories

G10-133 New Solar Radiation Pressure Force Model for Navigation

G10-174 Closed-Loop Charged Relative Motion Experiments Simulating Constrained Orbital Motion

G10-130 Inclination Change in Low-Earth Orbit via the Geomagnetic Lorentz Force

Autonomous Vehicles

G10-123 On the Benefits of In-Flight System Identification for Autonomous Airdrop Systems G10-041 Smooth Flight Trajectory Planning in the Presence of No-Fly Zones and Obstacles

G10-006 Verifiable Adaptive Flight Control: Unmanned Combat Aerial Vehicle and Aerial Refueling

G10-106 Lyapunov-Based Thrusters' Selection for Spacecraft Control: Analysis and Experimentation

G10-145 Orbital Targeting Based on Hodograph Theory for Improved Rendezvous Safety

G10-076 Adaptive Vision-Based Guidance Law with Guaranteed Performance Bounds

G10-151 Air-Combat Strategy Using Approximate Dynamic Programming

G10-012 Autonomous Navigation in Three-Dimensional Urban Environments Using Wide-Field Integration of Optic Flow

G10-174 Closed-Loop Charged Relative Motion Experiments Simulating Constrained Orbital Motion

G10-186 Unmanned Aerial Vehicle Coordination on Closed Convex Paths in Wind

G10-047 Vision-Based Geolocation Tracking System for Uninhabited Aerial Vehicles

Avionics Systems

G10-104 Coning Algorithm Design by Explicit Frequency Shaping

Control System Design

G10-062 Noncertainty-Equivalent Adaptive Missile Control via Immersion and Invariance

G10-137 Full-Envelope Modular Adaptive Control of a Fighter Aircraft Using Orthogonal Least Squares

G10-031 Sign-Stability Concept of Ecology for Control Design with Aerospace Applications

G10-078 Adaptive Feedforward Control for Gust Load Alleviation

G10-059 Indirect Optimization for Finite-Thrust Time-Optimal Orbital Maneuver

G10-140 Modeling and Model Reference Adaptive Control of Aircraft with Asymmetric Damage G10-159 Command Generation for Flexible Systems by Input Shaping and Command Smoothing

G10-013 Minimum-Time Reorientation of a Rigid Body

G10-005 Flight Control for Flexible, High-Aspect-Ratio Flying Wings

G10-136 Multi-Input Noncertainty-Equivalent Adaptive Control of an Aeroelastic System

G10-006 Verifiable Adaptive Flight Control: Unmanned Combat Aerial Vehicle and Aerial Refueling

G10-161 Bounds on the RMS Miss of Radar-Guided Missiles

G10-164 Robust Adaptive Design for Aerial Vehicles with State-Limiting Constraints

G10-036 Stability Analysis of Switched Linear Systems with Locally Overlapped Switching Law G10-028 Adaptive Control Based on Retrospective Cost Optimization

G10-076 Adaptive Vision-Based Guidance Law with Guaranteed Performance Bounds

G10-110 Predictor-Based Model Reference Adaptive Control

G10-096 Design of a Roll-Stabilized Mortar Projectile with Reciprocating Canards

G10-154 Aircraft Spin Recovery Using a Sliding-Mode Controller

G10-163 Robust Flight Control Using Incremental Nonlinear Dynamic Inversion and Angular Acceleration Prediction

Control System Effectors

G10-148 Maximum Torque and Momentum Envelopes for Reaction Wheel Arrays

Control System Sensors

G10-131 Fast Access and Low Memory Star Pair Catalog for Star Pattern Identification

Control Theory

G10-088 Hybrid Optimal Control Approach to Commercial Aircraft Trajectory Planning

G10-022 Backstepping Control Design with Actuator Torque Bound for Spacecraft Attitude Maneuver

G10-112 Lyapunov-Based Exponential Tracking Control of a Hypersonic Aircraft with Aerothermoelastic Effects

G10-031 Sign-Stability Concept of Ecology for Control Design with Aerospace Applications

G10-039 Kalman Filter Modification in Adaptive Control

G10-001 Time-Varying Eigensystem Realization Algorithm

G10-106 Lyapunov-Based Thrusters' Selection for Spacecraft Control: Analysis and Experimentation

G10-152 Distributed Control of Spacecraft Formations via Cyclic Pursuit: Theory and Experiments

G10-135 Control Moment Gyro Singularity-Avoidance Steering Control Based on Singular-Surface Cost Function

G10-107 Minimum-Landing-Error Powered-Descent Guidance for Mars Landing Using Convex Optimization

G10-064 Evaluation of a Sliding Mode Fault-Tolerant Controller for the El Al Incident

G10-142 Identification of Multimodal Pilot Control Behavior in Real Flight

G10-023 Designing Displaced Lunar Orbits Using Low-Thrust Propulsion

G10-072 State-Space Approximations of the Orr-Sommerfeld System with Boundary Inputs and Outputs

G10-129 Analytical Solutions to Spacecraft Formation-Flying Guidance Using Virtual Motion Camouflage

G10-164 Robust Adaptive Design for Aerial Vehicles with State-Limiting Constraints

G10-015 Reentry Terminal Guidance Through Sliding Mode Control

G10-036 Stability Analysis of Switched Linear Systems with Locally Overlapped Switching Law G10-181 Control Model for Robotic Samara:

Dynamics About a Coordinated Helical Turn G10-080 Observer/Kalman-Filter Time-Varying System Identification

G10-110 Predictor-Based Model Reference Adaptive Control

G10-033 Fault-Tolerant Model Predictive Control with Flight-Test Results

G10-154 Aircraft Spin Recovery Using a Sliding-Mode Controller

G10-163 Robust Flight Control Using Incremental Nonlinear Dynamic Inversion and Angular Acceleration Prediction

Differential Games

G10-116 Optimal Intercept Missile Guidance Strategies with Autopilot Lag

Dynamics

G10-083 Libration Control of Electrodynamic Tethers Using the Extended Time-Delayed Autosynchronization Method

G10-112 Lyapunov-Based Exponential Tracking Control of a Hypersonic Aircraft with Aerothermoelastic Effects **G10-152** Distributed Control of Spacecraft Formations via Cyclic Pursuit: Theory and Experiments

G10-011 Consequences of Asteroid Fragmentation During Impact Hazard Mitigation

G10-050 Analytic Theory for High-Inclination Orbits in the Restricted Three-Body Problem

G10-127 Structural Response of Extremely Large Telescopes

G10-111 Hybrid Steering Logic for Single-Gimbal Control Moment Gyroscopes

G10-101 Keeping a Spacecraft on a Vertical Circular Collinear Lagrange Point Orbit

G10-010 Effects of Canopy-Payload Relative Motion on Control of Autonomous Parafoils

G10-020 Cayley Family of Attitude Coordinates

G10-108 Dynamics of Variable-Length Tethered Formations near libration points

G10-171 Specialized Coordinate Representation for Dynamic Modeling and Orbit Estimation of Geosynchronous Orbits

G10-185 Transfers to Sticky Distant Retrograde Orbits

G10-160 Nonlinear Analysis of Lateral Loading During Taxiway Turns

G10-079 Solar Sail Three-Body Transfer Trajectory Design

G10-120 Five Special Types of Orbits Around Mars

G10-147 Calculating Transfer Families to Periodic Distant Retrograde Orbits Using Differential Correction

Fault-Tolerant Control

G10-087 Fault Tolerant Reconfigurable Satellite Formations Using Adaptive Variable Structure Techniques

G10-137 Full-Envelope Modular Adaptive Control of a Fighter Aircraft Using Orthogonal Least Squares

G10-064 Evaluation of a Sliding Mode Fault-Tolerant Controller for the El Al Incident

G10-140 Modeling and Model Reference Adaptive Control of Aircraft with Asymmetric Damage G10-066 Online Aerodynamic Model Structure Selection and Parameter Estimation for Fault Tolerant Control

G10-033 Fault-Tolerant Model Predictive Control with Flight-Test Results

G10-029 Evolutionary Algorithm for Artificial-Immune-System-Based Failure-Detector Generation and Optimization

G10-102 Aircraft Failure Detection and Identification Using an Immunological Hierarchical Multiself Strategy

Flight Displays

G10-146 Design and Simulator Evaluation of an Ecological Synthetic Vision Display

Flight Mechanics

G10-110 Predictor-Based Model Reference Adaptive Control

G10-054 Synthetic-Waypoint Guidance Algorithm for Following a Desired Flight Trajectory

G10-027 Minimum-Fuel Cruise at Constant Altitude with Fixed Arrival Time

G10-173 Attitude Propagation for a Slewing Angular Rate Vector

G10-069 Rapid Generation of Accurate Entry Landing Footprints

G10-011 Consequences of Asteroid Fragmentation During Impact Hazard Mitigation

G10-050 Analytic Theory for High-Inclination Orbits in the Restricted Three-Body Problem

G10-023 Designing Displaced Lunar Orbits Using Low-Thrust Propulsion

G10-096 Design of a Roll-Stabilized Mortar Projectile with Reciprocating Canards

G10-108 Dynamics of Variable-Length Tethered Formations near libration points

G10-128 Low-Eccentricity Elliptic Orbits in a Central Force Field with Drag

G10-018 Polynomial Chaos-Based Analysis of Probabilistic Uncertainty in Hypersonic Flight Dynamics

G10-005 Flight Control for Flexible, High-Aspect-Ratio Flying Wings

G10-134 Particle Swarm Optimization Applied to Space Trajectories

G10-061 Reachable and Controllable Sets for Planetary Entry and Landing

G10-105 Discrete Pseudocontrol Sets for Optimal Control Problems

Intelligent Control

G10-039 Kalman Filter Modification in Adaptive Control

G10-049 Path Following for Small Unmanned Aerial Vehicles Using L1 Adaptive Augmentation of Commercial Autopilots

G10-006 Verifiable Adaptive Flight Control: Unmanned Combat Aerial Vehicle and Aerial Refueling

G10-029 Evolutionary Algorithm for Artificial-Immune-System-Based Failure-Detector Generation and Optimization

G10-102 Aircraft Failure Detection and Identification Using an Immunological Hierarchical Multiself Strategy

Launch Vehicle Dynamics

G10-173 Attitude Propagation for a Slewing Angular Rate Vector

Launch Vehicle Guidance and Control

G10-061 Reachable and Controllable Sets for Planetary Entry and Landing

G10-082 Attitude Guidance for Spinning Vehicles with Independent Pitch and Yaw Control

G10-037 Highly Constrained Optimal Launch Ascent Guidance

Missile Dynamics

G10-162 Boost-Phase Filtering Options: Is Simpler Better?

G10-180 Particle Filter for Ballistic Target Tracking with Glint Noise

Missile Guidance and Control

G10-062 Noncertainty-Equivalent Adaptive Missile Control via Immersion and Invariance

G10-116 Optimal Intercept Missile Guidance Strategies with Autopilot Lag

G10-139 Coning Motion of Spinning Missiles Induced by the Rate Loop

G10-025 Impact Angle Constrained Guidance Against Nonstationary Nonmaneuvering Targets

G10-065 Target Maneuver Adaptive Guidance Law for a Bounded Acceleration Missile

G10-161 Bounds on the RMS Miss of Radar-Guided Missiles

G10-026 Homing Guidance Law for Cooperative Attack of Multiple Missiles

G10-096 Design of a Roll-Stabilized Mortar Projectile with Reciprocating Canards

G10-172 Robust Missile Feedback Control Strategies

G10-162 Boost-Phase Filtering Options: Is Simpler Better?

G10-169 Cooperative Multiple-Model Adaptive Guidance for an Aircraft Defending Missile

Navigation

G10-038 Comparisons of the Cubed-Sphere Gravity Model with the Spherical Harmonics

G10-141 Estimation with Multitemporal Measurements

G10-104 Coning Algorithm Design by Explicit Frequency Shaping

G10-153 Underweighting Nonlinear Measurements

G10-175 Navigation Aiding Based on Coupled Online Mosaicking and Camera Scanning

G10-060 Starlight Atmospheric Refraction Model for a Continuous Range of Height

G10-121 Determination of Circular and Spherical Position-Error Bounds in System Performance Analysis

G10-132 Kalman Filtering and Smoothing to Estimate Real-Valued States and Integer Constants

G10-133 New Solar Radiation Pressure Force Model for Navigation

G10-138 Targeting Requirements and Stability Characterization for a Class of Ballistic Transfers G10-017 Estimating Small-Body Gravity Field from Shape Model and Navigation Data

Optimization Techniques

G10-088 Hybrid Optimal Control Approach to Commercial Aircraft Trajectory Planning

G10-009 Desensitizing the Minimum-Fuel Powered Descent For Mars Pinpoint Landing

G10-095 Controllability and Reachability for Micro-Aerial-Vehicle Trajectory Planning in Winds

G10-013 Minimum-Time Reorientation of a Rigid Body

G10-086 Enhanced Collocation Method for Dynamical Systems Subject to Finite Set Control G10-039 Kalman Filter Modification in Adaptive Control

G10-119 Reduced-Order Filter Design for Discrete-Time Systems Corrupted with Multiplicative Noise

G10-148 Maximum Torque and Momentum Envelopes for Reaction Wheel Arrays

G10-149 Variational Equations for a Generalized Spacecraft Trajectory Model

G10-003 Optimization of Human Perception Modeling Using Interval Analysis

G10-125 Multiple Shooting Method for Initial Satellite Orbit Determination

G10-058 Costate Computation by a Chebyshev Pseudospectral Method

G10-157 Flyaround Orbit Design for Autonomous Rendezvous Based on Relative Orbit Elements

G10-182 Practical Method for Optimization of Low-Thrust Transfers

G10-105 Discrete Pseudocontrol Sets for Optimal Control Problems

G10-079 Solar Sail Three-Body Transfer Trajectory Design

G10-063 Disaggregation Method for an Aggregate Traffic Flow Management Model

G10-134 Particle Swarm Optimization Applied to Space Trajectories

Robotics

G10-159 Command Generation for Flexible Systems by Input Shaping and Command Smoothing

Signal Processing

G10-119 Reduced-Order Filter Design for Discrete-Time Systems Corrupted with Multiplicative Noise

G10-001 Time-Varying Eigensystem Realization Algorithm

Spacecraft Dynamics

G10-075 Optimal Control of Gravity-Tractor Spacecraft for Asteroid Deflection

G10-094 Passive Orbit Control for Space-Based Geo-eEngineering

G10-057 Indirect Spacecraft Trajectory Optimization Using Modified Equinoctial Elements

G10-051 Effect of J2 Perturbations on Relative Spacecraft Position in Near-Circular Orbits

G10-083 Libration Control of Electrodynamic Tethers Using the Extended Time-Delayed Autosynchronization Method

G10-024 Multiple-Revolution Solutions of the Transverse-Eccentricity-Based Lambert Problem G10-089 Analytical Model for Momentum Transfer of Spacecraft Containing Liquid

G10-097 Quaternionic Exact Solution to the Relative Orbital Motion Problem

G10-118 Relative Control of a Virtual Telescope Using Global Positioning System and Optical Metrology

G10-111 Hybrid Steering Logic for Single-Gimbal Control Moment Gyroscopes

G10-156 Stationkeeping of a Flux-Pinned Satellite Network

G10-035 Periodic Orbits of Nonlinear Relative Dynamics Along an Eccentric Orbit

G10-103 Lorentz Accelerations in the Earth Flyby Anomaly

G10-084 Reachable Domain for Spacecraft with a Single Impulse

G10-092 Energy-Optimal Solution to the Lambert Problem

G10-085 Onboard Autonomous Targeting for the Trans-Earth Phase of Orion

G10-108 Dynamics of Variable-Length Tethered Formations near libration points

G10-021 Hypersphere Stereographic Orientation Parameters

G10-074 Simplified Model of a Flux-Pinned Spacecraft Formation

G10-091 New Lambert Algorithm Using the Hamilton-Jacobi-Bellman Equation

G10-179 Optimal Guidance of Low-Thrust Trajectories

G10-185 Transfers to Sticky Distant Retrograde Orbits

G10-113 Explicit Dipole Trajectory Solution for Electromagnetically Controlled Spacecraft Clus-

G10-147 Calculating Transfer Families to Periodic Distant Retrograde Orbits Using Differential Correction

G10-144 Extremal Analytical Solutions for Intermediate-Thrust Arcs in a Newtonian Field G10-176 Control of Electromagnetic Satellite Formations in Near-Earth Orbits

G10-120 Five Special Types of Orbits Around Mars

G10-133 New Solar Radiation Pressure Force Model for Navigation

G10-130 Inclination Change in Low-Earth Orbit via the Geomagnetic Lorentz Force

Spacecraft Guidance and Control

G10-117 Constrained Predictor-Corrector Entry Guidance

G10-087 Fault Tolerant Reconfigurable Satellite Formations Using Adaptive Variable Structure Techniques

G10-083 Libration Control of Electrodynamic Tethers Using the Extended Time-Delayed Autosynchronization Method

G10-094 Passive Orbit Control for Space-Based Geo-eEngineering

G10-022 Backstepping Control Design with Actuator Torque Bound for Spacecraft Attitude Maneuver

G10-059 Indirect Optimization for Finite-Thrust Time-Optimal Orbital Maneuver

G10-070 Spin-Axis Attitude Determination Using In-Flight Data

G10-089 Analytical Model for Momentum Transfer of Spacecraft Containing Liquid

G10-097 Quaternionic Exact Solution to the Relative Orbital Motion Problem

G10-009 Desensitizing the Minimum-Fuel Powered Descent For Mars Pinpoint Landing

G10-135 Control Moment Gyro Singularity-Avoidance Steering Control Based on Singular-Surface Cost Function

G10-013 Minimum-Time Reorientation of a Rigid Body

G10-086 Enhanced Collocation Method for Dynamical Systems Subject to Finite Set Control G10-148 Maximum Torque and Momentum Envelopes for Reaction Wheel Arrays

G10-158 Adaptive Spacecraft Attitude Control with Actuator Saturation

G10-149 Variational Equations for a Generalized Spacecraft Trajectory Model

G10-145 Orbital Targeting Based on Hodograph Theory for Improved Rendezvous Safety

G10-111 Hybrid Steering Logic for Single-Gimbal Control Moment Gyroscopes

G10-152 Distributed Control of Spacecraft Formations via Cyclic Pursuit: Theory and Experiments

G10-107 Minimum-Landing-Error Powered-Descent Guidance for Mars Landing Using Convex Optimization

G10-118 Relative Control of a Virtual Telescope Using Global Positioning System and Optical Metrology

G10-106 Lyapunov-Based Thrusters' Selection for Spacecraft Control: Analysis and Experimentation

G10-131 Fast Access and Low Memory Star Pair Catalog for Star Pattern Identification

G10-069 Rapid Generation of Accurate Entry Landing Footprints

G10-035 Periodic Orbits of Nonlinear Relative Dynamics Along an Eccentric Orbit

G10-085 Onboard Autonomous Targeting for the Trans-Earth Phase of Orion

G10-090 Lunar Synchronous Orbits in the Earth-Moon Circular-Restricted Three-Body Problem

G10-129 Analytical Solutions to Spacecraft Formation-Flying Guidance Using Virtual Motion Camouflage

G10-052 Geometric Approach to Spacecraft Attitude Control Using Magnetic and Mechanical Actuation

G10-055 Satellite Formation and Reconfiguration with Restricted Control Interval

G10-092 Energy-Optimal Solution to the Lambert Problem

G10-014 Moon-Tracking Modes for Star Trackers G10-060 Starlight Atmospheric Refraction Model for a Continuous Range of Height

G10-007 Optimal Control of Electrodynamic Tether Orbit Transfers Using Timescale Separation

G10-091 New Lambert Algorithm Using the Hamilton-Jacobi-Bellman Equation

G10-061 Reachable and Controllable Sets for Planetary Entry and Landing

G10-138 Targeting Requirements and Stability Characterization for a Class of Ballistic Transfers G10-176 Control of Electromagnetic Satellite Formations in Near-Earth Orbits

G10-179 Optimal Guidance of Low-Thrust Trajectories

G10-021 Hypersphere Stereographic Orientation Parameters

G10-168 Sequential Optimal Attitude Recursion Filter

G10-174 Closed-Loop Charged Relative Motion Experiments Simulating Constrained Orbital Motion

G10-144 Extremal Analytical Solutions for Intermediate-Thrust Arcs in a Newtonian Field

State Estimation

G10-065 Target Maneuver Adaptive Guidance Law for a Bounded Acceleration Missile

G10-141 Estimation with Multitemporal Measurements

G10-122 Particle Filtering for Attitude Estimation Using a Minimal Local-Error Representation

G10-053 Path Planning and State Estimation for Unmanned Aerial Vehicles in Hostile Environments

G10-038 Comparisons of the Cubed-Sphere Gravity Model with the Spherical Harmonics

G10-132 Kalman Filtering and Smoothing to Estimate Real-Valued States and Integer Constants

G10-119 Reduced-Order Filter Design for Discrete-Time Systems Corrupted with Multiplicative Noise

G10-153 Underweighting Nonlinear Measurements

G10-032 Improved Multi-Aircraft Ground Trajectory Prediction for Air Traffic Control

G10-125 Multiple Shooting Method for Initial Satellite Orbit Determination

G10-180 Particle Filter for Ballistic Target Tracking with Glint Noise

G10-166 Nonlinear Estimation of Hypersonic State Trajectories in Bayesian Framework with Polynomial Chaos

G10-018 Polynomial Chaos-Based Analysis of Probabilistic Uncertainty in Hypersonic Flight Dynamics

G10-017 Estimating Small-Body Gravity Field from Shape Model and Navigation Data

G10-162 Boost-Phase Filtering Options: Is Simpler Better?

G10-045 Algorithm for Conformance Monitoring in Air Traffic Control

G10-047 Vision-Based Geolocation Tracking System for Uninhabited Aerial Vehicles

Structural Control

G10-127 Structural Response of Extremely Large Telescopes

G10-187 Output Regulation with Actuator Saturation for the Benchmark Active Control Technology Model

G10-016 Integration of Hydraulic Lag-Damper Models with Helicopter Rotor Simulations

System Identification

G10-001 Time-Varying Eigensystem Realization Algorithm

G10-062 Noncertainty-Equivalent Adaptive Missile Control via Immersion and Invariance

G10-137 Full-Envelope Modular Adaptive Control of a Fighter Aircraft Using Orthogonal Least Squares

G10-123 On the Benefits of In-Flight System Identification for Autonomous Airdrop Systems G10-078 Adaptive Feedforward Control for Gust Load Alleviation

G10-099 Design of Forcing Functions for the Identification of Human Control Behavior

G10-169 Cooperative Multiple-Model Adaptive Guidance for an Aircraft Defending Missile

G10-003 Optimization of Human Perception Modeling Using Interval Analysis

G10-066 Online Aerodynamic Model Structure Selection and Parameter Estimation for Fault Tolerant Control

G10-034 Neural Partial Differential Method for Extracting Aerodynamic Derivatives from Flight Data

G10-080 Observer/Kalman-Filter Time-Varying System Identification

Trajectory Optimization

G10-057 Indirect Spacecraft Trajectory Optimization Using Modified Equinoctial Elements

G10-075 Optimal Control of Gravity-Tractor Spacecraft for Asteroid Deflection

G10-059 Indirect Optimization for Finite-Thrust Time-Optimal Orbital Maneuver

G10-053 Path Planning and State Estimation for Unmanned Aerial Vehicles in Hostile Environments

G10-058 Costate Computation by a Chebyshev Pseudospectral Method

G10-088 Hybrid Optimal Control Approach to Commercial Aircraft Trajectory Planning

G10-009 Desensitizing the Minimum-Fuel Powered Descent For Mars Pinpoint Landing

G10-027 Minimum-Fuel Cruise at Constant Altitude with Fixed Arrival Time

G10-043 Endgame Problem Part 2: Multibody Technique and the Tisserand-Poincare Graph

G10-042 Endgame Problem Part 1: V-Infinity-Leveraging Technique and the Leveraging Graph G10-054 Synthetic-Waypoint Guidance Algorithm for Following a Desired Flight Trajectory **G10-019** Analytical Study of the Primer Vector and Orbit Transfer Switching Function

G10-086 Enhanced Collocation Method for Dynamical Systems Subject to Finite Set Control G10-041 Smooth Flight Trajectory Planning in the Presence of No-Fly Zones and Obstacles

G10-167 Constrained Multiple-Revolution Lambert's Problem

G10-149 Variational Equations for a Generalized Spacecraft Trajectory Model

G10-159 Command Generation for Flexible Systems by Input Shaping and Command Smoothing

G10-037 Highly Constrained Optimal Launch Ascent Guidance

G10-069 Rapid Generation of Accurate Entry Landing Footprints

G10-107 Minimum-Landing-Error Powered-Descent Guidance for Mars Landing Using Convex Optimization

G10-007 Optimal Control of Electrodynamic Tether Orbit Transfers Using Timescale Separation

G10-068 Electric Sail Mission Analysis for Outer Solar System Exploration

G10-165 Mixed Low-Thrust Invariant-Manifold Transfers to Distant Prograde Orbits Around Mars G10-105 Discrete Pseudocontrol Sets for Optimal Control Problems

G10-151 Air-Combat Strategy Using Approximate Dynamic Programming

G10-015 Reentry Terminal Guidance Through Sliding Mode Control

G10-157 Flyaround Orbit Design for Autonomous Rendezvous Based on Relative Orbit Elements

G10-144 Extremal Analytical Solutions for Intermediate-Thrust Arcs in a Newtonian Field G10-182 Practical Method for Optimization of

G10-182 Practical Method for Optimization of Low-Thrust Transfers

G10-079 Solar Sail Three-Body Transfer Trajectory Design

G10-115 Optimization of Circularly Towed Cable System in Crosswind

G10-134 Particle Swarm Optimization Applied to Space Trajectories

Unmanned Aerial Vehicles

G10-049 Path Following for Small Unmanned Aerial Vehicles Using L1 Adaptive Augmentation of Commercial Autopilots

G10-095 Controllability and Reachability for Micro-Aerial-Vehicle Trajectory Planning in Winds

G10-053 Path Planning and State Estimation for Unmanned Aerial Vehicles in Hostile Environments

G10-008 Unmanned Aircraft Guidance for Penetration of Pretornadic Storms

G10-026 Homing Guidance Law for Cooperative Attack of Multiple Missiles

G10-004 Modeling and Simulation of Hose-Paradrogue Aerial Refueling Systems

G10-186 Unmanned Aerial Vehicle Coordination on Closed Convex Paths in Wind

G10-047 Vision-Based Geolocation Tracking System for Uninhabited Aerial Vehicles

G10-151 Air-Combat Strategy Using Approximate Dynamic Programming

INTERDISCIPLINARY TOPICS

Analytical and Numerical Methods

G10-121 Determination of Circular and Spherical Position-Error Bounds in System Performance Analysis

G10-113 Explicit Dipole Trajectory Solution for Electromagnetically Controlled Spacecraft Clusters

G10-128 Low-Eccentricity Elliptic Orbits in a Central Force Field with Drag

G10-125 Multiple Shooting Method for Initial Satellite Orbit Determination

Atmospheric and Space Sciences

G10-077 Orbit Tuning of Planetary Orbiters for Accuracy Gain in Gravity Field Mapping

Environmental Effects

G10-103 Lorentz Accelerations in the Earth Flyby Anomaly

Human Factors

G10-099 Design of Forcing Functions for the Identification of Human Control Behavior

G10-002 Effects of Heave Washout Settings in Aircraft Pitch Disturbance Rejection

Safety

G10-044 Airspace Encounter Models for Estimating Collision Risk

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY

Missile Systems

G10-169 Cooperative Multiple-Model Adaptive Guidance for an Aircraft Defending Missile

G10-025 Impact Angle Constrained Guidance Against Nonstationary Nonmaneuvering Targets

Simulation

G10-082 Attitude Guidance for Spinning Vehicles with Independent Pitch and Yaw Control

PROPULSION

Advanced Space Propulsion

G10-068 Electric Sail Mission Analysis for Outer Solar System Exploration

G10-103 Lorentz Accelerations in the Earth Flyby Anomaly

G10-176 Control of Electromagnetic Satellite Formations in Near-Earth Orbits

G10-113 Explicit Dipole Trajectory Solution for Electromagnetically Controlled Spacecraft Clusters

G10-124 Control of the Electrodynamic Boom Propulsion System Accounting for Atmospheric Drag

Electric Propulsion

G10-124 Control of the Electrodynamic Boom Propulsion System Accounting for Atmospheric Drag

REAL-TIME SYSTEMS

Signal Processing

G10-032 Improved Multi-Aircraft Ground Trajectory Prediction for Air Traffic Control

G10-142 Identification of Multimodal Pilot Control Behavior in Real Flight

Unmanned Systems

G10-126 Optimal Level Turn of Solar-Powered Unmanned Aerial Vehicle Flying in Atmosphere

SPACE TECHNOLOGY

Aerobraking Flight Mechanics

G10-117 Constrained Predictor-Corrector Entry Guidance

Global Positioning System

G10-132 Kalman Filtering and Smoothing to Estimate Real-Valued States and Integer Constants

Mission Design and Analysis

G10-081 Simulations of Quasi-Satellite Orbits Around Phobos

G10-077 Orbit Tuning of Planetary Orbiters for Accuracy Gain in Gravity Field Mapping

G10-109 Initial Trajectory Model for a Multi-Maneuver Moon-to-Earth Abort Sequence

G10-048 Low-Thrust Transfers in the Earth-Moon System, Including Applications to Libration Point Orbits

G10-155 Linear Systems Approach to Multiple-Impulse Trajectory Analysis via Regularization G10-178 Dynamical Systems Analysis of Planetary Flybys and Approach: Planar Europa Orbiter G10-184 Extension of the Sun-Synchronous

Orbit
G10-170 Method to Design Ballistic Capture in
the Elliptic Restricted Three-Body Problem

G10-085 Onboard Autonomous Targeting for the Trans-Earth Phase of Orion

Mission Trajectories (Earth and Interplanetary)

G10-109 Initial Trajectory Model for a Multi-Maneuver Moon-to-Earth Abort Sequence

G10-178 Dynamical Systems Analysis of Planetary Flybys and Approach: Planar Europa Orbiter G10-081 Simulations of Quasi-Satellite Orbits Around Phobos

G10-077 Orbit Tuning of Planetary Orbiters for Accuracy Gain in Gravity Field Mapping

G10-155 Linear Systems Approach to Multiple-Impulse Trajectory Analysis via Regularization

G10-043 Endgame Problem Part 2: Multibody Technique and the Tisserand-Poincare Graph

G10-042 Endgame Problem Part 1: V-Infinity-Leveraging Technique and the Leveraging Graph G10-068 Electric Sail Mission Analysis for Outer Solar System Exploration

G10-093 Analysis of Periodic and Quasi-Periodic Orbits in the Earth-Moon System

G10-150 Two Classes of Cycler Trajectories in the Earth-Moon System

G10-184 Extension of the Sun-Synchronous Orbit

G10-170 Method to Design Ballistic Capture in the Elliptic Restricted Three-Body Problem

G10-128 Low-Eccentricity Elliptic Orbits in a Central 2 with Drag

Space Systems

G10-156 Stationkeeping of a Flux-Pinned Satellite Network

G10-089 Analytical Model for Momentum Transfer of Spacecraft Containing Liquid

G10-087 Fault Tolerant Reconfigurable Satellite Formations Using Adaptive Variable Structure Techniques

G10-184 Extension of the Sun-Synchronous Orbit

G10-074 Simplified Model of a Flux-Pinned Spacecraft Formation

G10-143 Network Flow Formulation for Cooperative Peer-to-Peer Refueling Strategies

Spacecraft Attitude Determination

G10-173 Attitude Propagation for a Slewing Angular Rate Vector

G10-141 Estimation with Multitemporal Measurements

G10-014 Moon-Tracking Modes for Star Trackers G10-122 Particle Filtering for Attitude Estimation Using a Minimal Local-Error Representation

G10-070 Spin-Axis Attitude Determination Using In-Flight Data

G10-168 Sequential Optimal Attitude Recursion Filter

G10-131 Fast Access and Low Memory Star Pair Catalog for Star Pattern Identification

G10-021 Hypersphere Stereographic Orientation Parameters

Spacecraft Communication

G10-071 Light-Levitated Geostationary Cylindrical Orbits Are Feasible

Spacecraft Sensor Systems

G10-014 Moon-Tracking Modes for Star Trackers

Spacecraft Structural Configuration, Design, and Analysis

G10-074 Simplified Model of a Flux-Pinned Spacecraft Formation

STRUCTURAL MECHANICS AND MATERIALS

Aeroelasticity and Control

G10-056 Linear-Parameter-Varying Control of an Improved Three-Degree-of-Freedom Aeroelastic Model

G10-136 Multi-Input Noncertainty-Equivalent Adaptive Control of an Aeroelastic System

G10-078 Adaptive Feedforward Control for Gust Load Alleviation

Flexible and Active Structures

G10-127 Structural Response of Extremely Large Telescopes

Structural Dynamics and Characterization

G10-183 Frequency-Independent Modal Damping for Flexural Structures via a Viscous "Geometric" Damping Model

Structural Finite Elements

G10-183 Frequency-Independent Modal Damping for Flexural Structures via a Viscous "Geometric" Damping Model

Structural Modeling

G10-183 Frequency-Independent Modal Damping for Flexural Structures via a Viscous "Geometric" Damping Model