

# 2005 Journal of Guidance, Control, and Dynamics Index

## How to Use the Index

In the Subject Index, pages 1332–1336, 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, page 1337, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 1338–1343, 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 1343. Comments, Replies, and Errata are listed directly beneath the paper to which they refer. If the paper to which they refer was published before 2005, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index.

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**G05-095** Calibration and Attitude Determination with Redundant Inertial Measurement Units  
**G05-002** Model Updating Using the Closed-Loop Natural Frequency

### **Trajectory Optimization**

**G05-036** Low-Thrust Variable-Specific-Impulse Transfers and Guidance to Unstable Periodic Orbits  
**G05-024** Penalty-Function Guidance for Multiple-Satellite Cluster Formation  
**G05-016** Modified Genetic Algorithm for Constrained Trajectory Optimization  
**G05-018** Coordination Variables, Coordination Functions, and Cooperative Timing Missions

**G05-039** Optimization of Roundtrip, Time-Constrained, Finite Burn Trajectories via an Indirect Method  
**G05-041** Use of Analytical Gradients to Calculate Optimal Gravity-Assist Trajectories  
**G05-102** Fast Graph-Search Algorithms for General-Aviation Flight Trajectory Generation  
**G05-028** Optimization of Biimpulsive Trajectories in the Earth-Moon Restricted Three-Body System  
**G05-022** Optimal Three-Dimensional Interplanetary Rendezvous Using Non-Ideal Solar Sail  
**G05-099** Optimizing Finite-Burn, Round-Trip Trajectories with Isp Constraints and Mass Discontinuities  
**G05-027** Global Search for Idealized Free-Return Earth-Mars Cyclers  
**G05-130** Analytical Control Laws for Planet-Centered Solar Sailing  
**G05-096** Analytical Gradients for Gravity Assist Trajectories Using Constant Specific Impulse Engines  
**G05-048** Optimal Orbit Transfer with Electrodynamic Tether  
**G05-124** Differential Geometric Guidance Based on the Involute of the Target's Trajectory  
**G05-134** Cooperation Strategy of Unmanned Air Vehicles for Multitarget Interception  
**G05-070** Optimal Continuous Thrust Orbit Transfer Using Evolutionary Algorithms  
**G05-128** Near-Optimal Low-Thrust Earth-Mars Trajectories via a Genetic Algorithm  
**G05-146** Bank-to-Turn Missile Guidance with Radar Imaging Constraints  
**G05-131** Optimal Low-Thrust Intercept/Rendezvous Trajectories to Earth-Crossing Objects  
**G05-149** Optimal Solar Sail Trajectories for Missions to the Outer Solar System  
**G05-050** Earth Escape Using a Slowly Rotating, Doubly Reflective Solar Sail  
**G05-150** Fuel-Optimal, Power-Limited Rendezvous with Variable Thruster Efficiency  
**G05-101** Fuel-Optimal Transfers Between Coplanar Circular Orbits Using Variable-Specific-Impulse Engines

### **UAVs**

**G05-139** Backstepping-Based Flight Control with Adaptive Function Approximation  
**G05-104** Model Predictive Control of A Parafoil and Payload System  
**G05-142** Fuzzy Gain Scheduling for Flutter Suppression in an Unmanned Aerial Vehicle  
**G05-134** Cooperation Strategy of Unmanned Air Vehicles for Multitarget Interception  
**G05-123** Vision-Based Sensor and Navigation System for Autonomous Air Refueling  
**G05-087** Nonlinear Control for Reconfiguration of Unmanned-Aerial-Vehicle Formation  
**G05-091** Line-of-Sight Guidance Laws for Formation Flight  
**G05-018** Coordination Variables, Coordination Functions, and Cooperative Timing Missions  
**G05-066** Adaptive Trajectory Control for Autonomous Helicopters

## **INTERDISCIPLINARY TOPICS**

### **Analytical and Numerical Methods**

**G05-031** Adjoint Method for Missile Performance Analysis on State-Space Models  
**G05-166** Calculating Collision Probability for Arbitrary Space Vehicle Shapes via Numerical Quadrature

### **Atmospheric and Space Sciences**

**G05-072** Planar Three-Body Problem in Rendezvous Coordinates

### **Human Factors**

**G05-157** Integrating Fly-by-Wire Controls with Perspective Flight-Path Displays  
**G05-054** Cybernetic Analysis of Perspective Flight-Path Display Dimensions

**Sensor Systems**

- G05-123** Vision-Based Sensor and Navigation System for Autonomous Air Refueling  
**G05-080** Estimation of Postlaunch Angular Motion for Kinetic Energy Projectiles

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

- G05-014** Spin-Yaw Lockin of an Elastic Finned Projectile

**Propulsion and Propellant Systems**

- G05-109** Linear Stability Analysis of Electrodynamic Tethers

**Simulation**

- G05-011** Flight Control Design of an Unmanned Space Vehicle Using Gain Scheduling

**PROPULSION****Advanced Space Propulsion**

- G05-040** Realistic Earth Escape Strategies for Solar Sailing  
**G05-022** Optimal Three-Dimensional Interplanetary Rendezvous Using Non-Ideal Solar Sail  
**G05-109** Linear Stability Analysis of Electrodynamic Tethers  
**G05-048** Optimal Orbit Transfer with Electrodynamic Tether  
**G05-149** Optimal Solar Sail Trajectories for Missions to the Outer Solar System  
**G05-052** Dynamics of a Particle Moving Along an Orbital Tower

**Solid Rocket Motors**

- G05-055** Jet-Damping and Misalignment Effects During Solid-Rocket-Motor Burn

**REAL-TIME SYSTEMS****Signal Processing**

- G05-126** Modified Projectile Linear Theory for Rapid Trajectory Prediction

**Unmanned Systems**

- G05-134** Cooperation Strategy of Unmanned Air Vehicles for Multitarget Interception  
**G05-104** Model Predictive Control of A Parafol and Payload System

**SPACE TECHNOLOGY****Global Positioning System**

- G05-092** Improved Integer Ambiguity Resolution Technique for Fixed Arrays

**Mission Design and Analysis**

- G05-150** Fuel-Optimal, Power-Limited Rendezvous with Variable Thruster Efficiency  
**G05-052** Dynamics of a Particle Moving Along an Orbital Tower  
**G05-049** Lunar Base for Mars Missions  
**G05-100** Design of Spacecraft Formation Orbits Relative to a Stabilized Trajectory  
**G05-037** Dynamic Behavior of an Orbiter Around Europa  
**G05-038** Effects of Orbital Parameter Uncertainties

**Mission Trajectories (Earth and Interplanetary)**

- G05-040** Realistic Earth Escape Strategies for Solar Sailing  
**G05-039** Optimization of Roundtrip, Time-Constrained, Finite Burn Trajectories via an Indirect Method  
**G05-042** Low-Thrust Guidance Scheme for Earth-Capture Trajectories  
**G05-027** Global Search for Idealized Free-Return Earth-Mars Cyclers  
**G05-099** Optimizing Finite-Burn, Round-Trip Trajectories with Isp Constraints and Mass Discontinuities  
**G05-022** Optimal Three-Dimensional Interplanetary Rendezvous Using Non-Ideal Solar Sail  
**G05-028** Optimization of Biimpulsive Trajectories in the Earth-Moon Restricted Three-Body System  
**G05-044** Time and Phase-Space Stability Analysis of the Jupiter-Sun System  
**G05-049** Lunar Base for Mars Missions  
**G05-096** Analytical Gradients for Gravity Assist Trajectories Using Constant Specific Impulse Engines  
**G05-164** Analytic Orbital Averaging Technique for Computing Tangential-Thrust Trajectories  
**G05-106** Cross-Track Motion of Satellite Formations in the Presence of J2 Disturbances  
**G05-150** Fuel-Optimal, Power-Limited Rendezvous with Variable Thruster Efficiency  
**G05-101** Fuel-Optimal Transfers Between Coplanar Circular Orbits Using Variable-Specific-Impulse Engines  
**G05-131** Optimal Low-Thrust Intercept/Rendezvous Trajectories to Earth-Crossing Objects

**Space Systems**

- G05-166** Calculating Collision Probability for Arbitrary Space Vehicle Shapes via Numerical Quadrature  
**G05-153** Peer-to-Peer Refueling for Circular Satellite Constellations  
**G05-068** Equilibrium-to-Equilibrium Maneuvers of Rigid Electrodynamic Tethers  
**G05-081** Dynamic Stability of Electrodynamic Tethers in Inclined Elliptical Orbits  
**G05-053** Attitude Control System of the Wilkinson Microwave Anisotropy Probe  
**G05-120** Singularity Escape/Avoidance Steering Logic for Control Moment Gyro Systems  
**G05-034** Formation Establishment and Reconfiguration Using Impulsive Control  
**G05-035** Libration Control of Electrodynamic Tethers in Inclined Orbit

**Spacecraft Attitude Determination**

- G05-079** Estimation of a Spacecraft's Attitude Dynamics Parameters by Using Flight Data  
**G05-095** Calibration and Attitude Determination with Redundant Inertial Measurement Units  
**G05-013** Real-Time Attitude-Independent Three-Axis Magnetometer Calibration  
**G05-129** Fast Access Method for Onboard Star Catalog  
**G05-114** Backward-Smoothing Extended Kalman Filter  
**G05-144** Star Pattern Identification Using Discrete Attitude Variation Technique  
**G05-125** Equal-Chord Attitude Determination Method for Spinning Spacecraft  
**G05-092** Improved Integer Ambiguity Resolution Technique for Fixed Arrays

**Spacecraft Propulsion System Integration**

- G05-159** Optimization of Spacecraft Thruster Management Function

**Spacecraft Sensor Systems**

- G05-129** Fast Access Method for Onboard Star Catalog  
**G05-013** Real-Time Attitude-Independent Three-Axis Magnetometer Calibration  
**G05-030** Real-Time Navigation of Formation-Flying Spacecraft Using Global-Positioning-System Measurements  
**G05-144** Star Pattern Identification Using Discrete Attitude Variation Technique

**Spacecraft Structural Configuration, Design, and Analysis**

- G05-174** Stability Criteria of Slosh Motion with Periodicity in a Spinning Spacecraft

**Spacecraft Test and Evaluation**

- G05-010** Practical Design and Flight Test of a Yo-Yo Wire Boom Deployment System

**STRUCTURAL MECHANICS AND MATERIALS****Aeroelasticity and Control**

- G05-014** Spin-Yaw Lockin of an Elastic Finned Projectile  
**G05-085** Reliability-Based Control Design for Uncertain Systems  
**G05-009** Control of Unsteady Aeroelastic System via State-Dependent Riccati Equation Method  
**G05-006** Time-Delay Effects on Linear/Nonlinear Feedback Control of Simple Aeroelastic Systems  
**G05-059** Suppression of Control Reversal Using Leading- and Trailing-Edge Control Surfaces  
**G05-142** Fuzzy Gain Scheduling for Flutter Suppression in an Unmanned Aerial Vehicle  
**G05-117** Higher-Harmonic-Control Algorithm for Helicopter Vibration Reduction Revisited  
**G05-075** Variable Structure Control of Unsteady Aeroelastic System with Partial State Information

**Dynamic Model Analysis**

- G05-002** Model Updating Using the Closed-Loop Natural Frequency

**Flexible and Active Structures**

- G05-010** Practical Design and Flight Test of a Yo-Yo Wire Boom Deployment System  
**G05-135** Hierarchic Estimation for Control of Segmented-Mirror Telescopes  
**G05-051** Vibration Suppression of Flexible Spacecraft During Attitude Maneuvers

**Structural Dynamics and Characterization**

- G05-115** Actuator Failure Detection Through Interaction Matrix Formulation  
**G05-006** Time-Delay Effects on Linear/Nonlinear Feedback Control of Simple Aeroelastic Systems

**Structural Modeling**

- G05-002** Model Updating Using the Closed-Loop Natural Frequency