# 1994 Journal of Guidance, Control, and Dynamics Index

# How to Use the Index

In the Subject Index, pages 1393–1399, each technical paper is listed under a maximum of three appropriate headings. Note the number in boldface type following each paper title, and use that number to locate the paper in the Chronological Index. The Author Index, page 1399–1400, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 1400–1407, lists all papers by their unique code 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, as well as the "CP" or conference volume number if the paper was published in a bound collection of meetings papers. 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 1994, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index.

# **Subject Index**

Optimal Control of Helicopters Following Power

# Aircraft Technology, Conventional, STOL/VTOL

## Aerospace Plane

Direct-Lift Design Strategy for Longitudinal Control of Hypersonic Aircraft

## Flight Control Integration

Analysis and Control of Bifurcation Phenomena in Aircraft Flight G94-086 Experimental Design of  $H_{\infty}$  Weighting Functions G94-080 for Flight Control Systems Constrained Control Allocation: Three-Moment G94-049 Problem Optimum Flight Trajectory Guidance Based on Total Energy Control of Aircraft G94-044 Integrated Flight/Propulsion Control: Subsystem Specifications G94-028

## Flight Mechanics

Kinematics and Aerodynamics of the Velocity-Vector Roll G94-183

## Flight Operations

Automatic Formation Flight Control G94-210 Optimal Control of Helicopters Following Power Failure G94-025

# General Aviation

Some Basic Considerations on Angles Describing Airplane Flight Maneuvers

# Man/Machine Interface

Direct-Lift Design Strategy for Longitudinal Control of Hypersonic Aircraft

## Performance

Functional Agility Metrics and Optimal Trajectory Analysis Range Optimal Trajectories for an Aircraft Flying in the Vertical Plane G94-058

# Rotorcraft

Automatic Guidance and Control for Helicopter Obstacle Avoidance G94-187 Vision-Based Obstacle Detection and Grouping for Helicopter Guidance Test Bench for Rotorcraft Hover Control G94-109

Failure

#### Safety

Optimal Lateral-Escape Maneuvers for Microburst Encounters During Final Approach G94-184

#### Simulation

Aircraft Model for the AIAA Controls Design Estimation of Modal Parameters of Linear Structural Systems Using Hopfield Neural Net-G94-091

## Testing, Flight and Ground

Modeling Hubble Space Telescope Flight Data by Q-Markov Cover Identification

## Vibration

Gain Scheduled  $H_{\infty}$  Controllers for a Two Link Flexible Manipulator Modeling Hubble Space Telescope Flight Data by Q-Markov Cover Identification

## Weather Hazards

Optimal Lateral-Escape Maneuvers for Microburst Encounters During Final Approach G94-184

## Guidance, Control, and Dynamics Technology

## Aircraft Dynamics

Drag Function Modeling for Air Traffic Simula-G94-211 tion Analytical Aeropropulsive/Aeroelastic Hypersonic-Vehicle Model with Dynamic Analysis G94-195 Truncation and Residualization with Weighted **Balanced Coordinates** G94-194 Multiaxis Pilot Ratings for Damaged Aircraft G94-185

Kinematics and Aerodynamics of the Velocity-G94-183 Parameter Optimal Control of Wing-Rock G94-167

Nonlinear Approach to Aircraft Tracking Prob-G94-166 Ride Quality Improvements by Means of Numer-

ical Optimization Techniques G94-153 Some Nonintuitive Features in Time-Efficient Attitude Maneuvers of Combat Aircraft

G94-057

# Aircraft Guidance

G94-210 Automatic Formation Flight Control Shuttle Entry Guidance Revisited Using Nonlinear Geometric Methods G94-201 Automatic Guidance and Control for Helicopter Obstacle Avoidance G94-187 New Results in Optimal Missile Avoidance Anal-G94-134 Time-Optimal Turn to a Heading: An Analytic G94-130 Synthesis of Minimum-Time Feedback Laws for Dynamic Systems Using Neural Networks G94-128

Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Anneal-G94-104

Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Range Optimal Trajectories for an Aircraft Flying in the Vertical Plane G94-058 Multiobjective Trajectory Optimization by Goal

Programming with Fuzzy Decisions

G94-045 Optimum Flight Trajectory Guidance Based on Total Energy Control of Aircraft G94-044 Failure Detection of Dynamical Systems with the State Chi-Square Test G94-041 Missile Guidance Algorithm Against High-g Barrel Roll Maneuvers G94-017

## Aircraft Stability and Control

Attainable Moments for the Constrained Control Allocation Problem Analytical Aeropropulsive/Aeroelastic Hypersonic-Vehicle Model with Dynamic Analysis G94-195

Direct-Lift Design Strategy for Longitudinal Control of Hypersonic Aircraft G94-188  $H_{\infty}$  Helicopter Flight Control Law Design With and Without Rotor State Feedback G94-186 Multiaxis Pilot Ratings for Damaged Aircraft G94-185

Multivariable Stability and Robustness of Sequentially Designed Feedback Systems

G94-182

Aeroelastic Vehicle Multivariable Control Synthesis with Analytical Robustness Evaluation

G94-172

| Yaw Pointing/Lateral Translation Using Robust   | Solar Sail Parking in Restricted Three-Body Sys-                                       | ible Spacecraft with Reaction Jets G94-121  |
|---|--|---|
| Sampled Data Eigenstructure Assignment<br>G94-168                                       | tems G94-059 Targeting of Several Mars Landers G94-015                                 | Principal Axis Misalignment Control for Deconing of Spinning Spacecraft G94-120                 |
| Parameter Optimal Control of Wing-Rock  | Effects of Solar Radiation Pressure on the Teth-                                       | Sun-Tracking Commands and Reaction Wheel  |
| G94-167   | ered Antenna/Reflector Subsatellite System   | Sizing with Configuration Optimization  |
| New Technique for Nonlinear Control of Air-   | G94-006  | G94-118 Stationkeeping at Libration Points of Natural   |
| craft G94-156 Ride Quality Improvements by Means of Numer-                              | Avionics Systems   | Elongated Bodies G94-116  |
| ical Optimization Techniques G94-153  | D. J. D. et al. of D. et al. Contrary with the   | Application of Popov Controller Synthesis to  |
| Controls Design Challenge: A Variable Structure   | Failure Detection of Dynamical Systems with the State Chi-Square Test G94-041          | Benchmark Problems with Real Parameter  |
| Approach G94-141 Stability Behavior of Linear Time-Varying Sys-                         | State Cit Square 16st (374-941   | Uncertainty <b>G94-113</b> Intelligent Control Law Tuning for AIAA Con-                         |
| tems G94-124  | Computer Science   | trols Design Challenge G94-112  |
| Design of Nonlinear Control Laws for High An-   | Polynomial Interpolation Between Input Sam-  | Aircraft Model for the AIAA Controls Design   |
| gle-of-Attack Flight G94-110  | ples for Continuous-Time Simulation  | Challenge G94-111   |
| Test Bench for Rotorcraft Hover Control  G94-109  | G94-205  | Design of Nonlinear Control Laws for High Angle-of-Attack Flight G94-110                        |
| Implementation of a Full-Envelope Controller  | Case Study Comparison of Linear Quadratic Regulator and $H_{\infty}$ Control Synthesis | Test Bench for Rotorcraft Hover Control   |
| for a High-Performance Aircraft G94-084   | G94-143  | G94-109   |
| Nonlinear Model-Following Control Application   |  | $H^2/H^{\infty}$ Controller Design for a Two-Dimensional  |
| to Airplane Control G94-083 Reduced-Order $H_{\infty}$ Compensator Design for an        | Control System Design  | Thin Airfoil Flutter Suppression G94-108 Output Feedback Control Under Randomly                 |
| Aircraft Control Problem G94-051  | Automatic Formation Flight Control G94-210   | Varying Distributed Delays G94-106  |
| Constrained Control Allocation: Three-Moment  | Attainable Moments for the Constrained Control   | Linear Quadratic Controller Design for the Deep   |
| Problem G94-049   | Allocation Problem G94-206 Shuttle Entry Guidance Revisited Using Nonlin-              | Space Network Antennas G94-100  |
| Modeling Hubble Space Telescope Flight Data<br>by Q-Markov Cover Identification G94-038 | ear Geometric Methods G94-201  | H <sub>2</sub> Approach for Optimally Tuning Passive Vibration Absorbers to Flexible Structures |
| Case of Updating the Factorized Covariance Ma-  | Deployment Control of a Cable Connecting a   | G94-097   |
| trix <b>G94-034</b>   | Ship to an Underwater Vehicle G94-197  | Estimation of Modal Parameters of Linear Struc-   |
| Design of Robust Quantitative Feedback Theory   | Truncation and Residualization with Weighted Balanced Coordinates G94-194              | tural Systems Using Hopfield Neural Net-  |
| Controllers for Pitch Attitude Hold Systems<br>G94-032                                  | Adaptive Quaternion Feedback Regulation for  | works <b>G94-091</b> Analysis and Control of Bifurcation Phenomena                              |
| Invertibility and Trajectory Control for Nonlin-  | Eigenaxis Rotations G94-192  | in Aircraft Flight G94-086  |
| ear Maneuvers of Aircraft G94-027   | Multirate Flutter Suppression System Design for  | Implementation of a Full-Envelope Controller  |
| $H_{\infty}$ Design of F/A-18A Automatic Carrier Land-                                  | a Model Wing G94-189 Automatic Guidence and Control for Heliconter                     | for a High-Performance Aircraft G94-084   |
| ing System G94-026 Optimal Control of Helicopters Following Power                       | Automatic Guidance and Control for Helicopter Obstacle Avoidance G94-187               | Two Real Critical Constraints for Real Parameter Margin Computation G94-082                     |
| Failure G94-025   | $H_{\infty}$ Helicopter Flight Control Law Design With                                 | Nonlinear Predictive Controllers for Continuous   |
| Identification of System, Observer, and Control-  | and Without Rotor State Feedback G94-186   | Systems G94-081   |
| ler from Closed-Loop Experimental Data  | Multivariable Stability and Robustness of Se-  | Gain Scheduled $H_{\infty}$ Controllers for a Two Link  |
| G94-012   | quentially Designed Feedback Systems  G94-182  | Flexible Manipulator G94-079 Pointing Control and Vibration Suppression of a                    |
| Artificial Intelligence   | Antenna Servo Design for Tracking Low-Earth-   | Slewing Flexible Frame G94-078  |
| Multiple Optimal Solutions for Structural Con-  | Orbiting Satellites G94-176  | Parameter Identification of Unknown Object  |
| trol Using Genetic Algorithms with Niching  | Robust Control Design and Implementation on<br>the Middeck Active Control Experiment   | Handled by Free-Flying Space Robot  |
| G94-208   | G94-174  | G94-073 Feedforward Controller Design by Eigenvalue   |
| Synthesis of Minimum-Time Feedback Laws for   | Aeroelastic Vehicle Multivariable Control Syn-   | Assignment G94-070  |
| Dynamic Systems Using Neural Networks  G94-128  | thesis with Analytical Robustness Evaluation   | Approximate Recovery of $H_{\infty}$ Loop Shapes Us-  |
| Fault Detection and Diagnosis in Propulsion Sys-  | Yaw Pointing/Lateral Translation Using Robust  | ing Fixed-Order Dynamic Compensation  |
| tems: A Fault Parameter Estimation Ap-  | Sampled Data Eigenstructure Assignment   | G94-069 Integrated Modeling and Control for the Large   |
| proach G94-014  | G94-168  | Spacecraft Control Laboratory Experiment Fa-  |
| Astrodynamics   | New Technique for Nonlinear Control of Air-  | cility G94-067  |
| Ortinization of Van. Law Thrust Many Page   | craft G94-156 Modified Measurement Differentiation Method                              | Control of Lightly Damped, Flexible Modes in the Controller Crossover Region <b>G94-055</b>     |
| Optimization of Very-Low-Thrust, Many-Revolution Spacecraft Trajectories G94-177        | for Stochastic Control Systems G94-154   | the Controller Crossover Region G94-055 Computation of Near-Minimum-Time Maneu-                 |
| Comparative Stability Study Illustrating Advan-   | Least-Squares Static Optimal Linearization   | vers of Flexible Structures by Parameter Opti-  |
| tages of Guy- Wire Constraints for Flexible   | G94-147  | mization G94-053  |
| Satellites G94-171  | Matrix Method for Eigenstructure Assignment:<br>The Multi-Input Case with Application  | Robust Time-Optimal Control: Frequency Do-  |
| Optimal Cooperative Power-Limited Rendez-<br>vous Between Coplanar Circular Orbits      | G94-146  | main Approach G94-052 Reduced-Order $H_{\infty}$ Compensator Design for an                      |
| G94-162   | Cost of Model Reference Adaptive Control:  | Aircraft Control Problem G94-051  |
| Optimal Power-Limited Rendezvous for Linear-  | Analysis, Experiments, and Optimization  | New Output Feedback Design in Variable Struc-   |
| ized Equations of Motion G94-160  | G94-145 Stabilized Continuation Method for Solving Op-                                 | ture Systems G94-050  |
| Study of Hénon's Orbit Transfer Problem Using the Lambert Algorithm G94-159             | timal Control Problems G94-142   | Riccati Equation Approaches for Small Gain,<br>Positivity, and Popov Robustness Analysis        |
| Stabilized Continuation Method for Solving Op-  | Controls Design Challenge: A Variable Structure  | G94-048   |
| timal Control Problems G94-142  | Approach G94-141   | Homotopy Algorithm for Maximum Entropy De-  |
| Stationkeeping at Libration Points of Natural Elongated Bodies G94-116                  | Re-Entry Control to a Drag-vs-Energy Profile  G94-137                                  | sign <b>G94-047</b> Relative Stability for Control Systems with Ad-                             |
| Elongated Bodies G94-116 Onboard Stationkeeping of Geosynchronous Sat-                  | Multiobjective Controller Design Using Eigen-  | justable Parameters G94-046   |
| ellites Using a Global Positioning System Re-   | structure Assignment and the Method of Ine-  | Nonlinear Regulation of Space Station: A Geo-   |
| ceiver G94-115  | qualities G94-126  | metric Approach G94-037   |
| Propagation of Particles Due to an Explosion in Elliptic Orbit G94-094                  | Maximum Entropy Controller Synthesis for Colocated and Noncolocated Systems            | Optimal Linear Quadratic Gaussian Digital Control of an Orbiting Tethered Antenna/Reflector     |
| Optimal Cooperative Time-Fixed Impulsive  | G94-125  | System G94-036  |
| Rendezvous G94-088  | Ontimization Methods for Passive Damper  | Determining the Root Locations of Systems with  |

Placement and Tuning

Multiaxis Tracking and Attitude Control of Flex-

Rendezvous Guidance with Proportional Naviga-

G94-061

tion

G94-123

Real Parameter Perturbations

Integrated Flight/Propulsion Control: Subsystem

G94-033

| Specifications G94-028   | The Multi-Input Case with Application  | Differential Games  |
|--|--|---|
| Invertibility and Trajectory Control for Nonlinear Maneuvers of Aircraft G94-027           | Cost of Model Reference Adaptive Control:  | Novel Three-Dimensional Differential Game and   |
| $H_{\infty}$ Design of F/A-18A Automatic Carrier Land-                                     | Analysis, Experiments, and Optimization  | Capture Criteria for a Bank-to-Turn Missile   |
| ing System G94-026   | G94-145 Hybrid Approach to Solution of Optimal Control   | G94-158 Base Reaction Control for Space-Based Robots  |
| Transmission Zeros and High-Authority/Low-<br>Authority Control of Flexible Space Struc-   | Problems G94-144   | Operating in Microgravity Environment   |
| tures G94-023  | Case Study Comparison of Linear Quadratic  | G94-040   |
| Calculus of Variations Derivation of the Mini-   | Regulator and $H_{\infty}$ Control Synthesis G94-143   | Calculus of Variations Derivation of the Mini-<br>max Linear-Quadratic (H ∞ ) Controller            |
| max Linear-Quadratic ( $H_{\infty}$ ) Controller <b>G94-021</b>                            | Stabilized Continuation Method for Solving Optimal Control Problems G94-142                    | G94-021   |
| Disturbance Attenuation and $H_{\infty}$ Optimization                                      | Large Angle Slew Maneuvers with Autonomous   | Mixed Strategy Guidance: A New High-Perfor-   |
| with Linear Output Feedback Control  | Sun Vector Avoidance G94-131  Multiphiestive Controller Design Using Figure                    | mance Missile Guidance Law <b>G94-018</b> Missile Guidance Algorithm Against High- <i>g</i>         |
| <b>G94-020</b> Fault Detection and Diagnosis in Propulsion Sys-                            | Multiobjective Controller Design Using Eigen-<br>structure Assignment and the Method of Ine-   | Barrel Roll Maneuvers G94-017   |
| tems: A Fault Parameter Estimation Ap-   | qualities G94-126  | Dynamics  |
| proach G94-014   | Maximum Entropy Controller Synthesis for   | •   |
| Effects of Solar Radiation Pressure on the Tethered Antenna/Reflector Subsatellite System  | Colocated and Noncolocated Systems <b>G94-125</b> Application of Popov Controller Synthesis to | Polynomial Interpolation Between Input Samples for Continuous-Time Simulation                       |
| G94-006  | Benchmark Problems with Real Parameter   | G94-205   |
| Nonlinear Control of Flexible, Articulated   | Uncertainty G94-113 $H^2/H^{\infty}$ Controller Design for a Two-Dimensional                   | Deployment Control of a Cable Connecting a  |
| Spacecraft: Application to Space Station/Mobile Manipulator G94-005                        | Thin Airfoil Flutter Suppression G94-108   | Ship to an Underwater Vehicle G94-197 Derivation of System Matrices from Nonlinear                  |
|  | Output Feedback Control Under Randomly   | Dynamic Simulation of Jet Engines G94-196   |
| Control System Effectors   | Varying Distributed Delays G94-106 Estimation of Modal Parameters of Linear Struc-             | Modeling and Simulation of Rotor Bearing Fric-  |
| Attainable Moments for the Constrained Control   | tural Systems Using Hopfield Neural Net-   | tion G94-170 Petrov-Galerkin Finite Elements in Time for Rig-                                       |
| Allocation Problem G94-206 Performance and Control of Proof-Mass Actua-                    | works G94-091  | id-Body Dynamics G94-157  |
| tors Accounting for Stroke Saturation  | Analytic Solution of the Riccati Equation for the Homing Missile Linear-Quadratic Control      | Parameter Identification of Unknown Object  |
| G94-163  | Problem G94-090  | Handled by Free-Flying Space Robot <b>G94-073</b> Feedforward Controller Design by Eigenvalue       |
| Sun-Tracking Commands and Reaction Wheel Sizing with Configuration Optimization            | Analysis and Control of Bifurcation Phenomena  | Assignment G94-070  |
| G94-118  | in Aircraft Flight G94-086 Implementation of a Full-Envelope Controller                        | Separation Dynamics of Ullage Rockets   |
| Constrained Control Allocation: Three-Moment   | for a High-Performance Aircraft G94-084  | G94-065 Outboard Body Effects on Flexible Branch Body   |
| Problem G94-049  | Nonlinear Model-Following Control Application  | Dynamics in Articulated Multibody Systems   |
| Control System Sensors   | to Airplane Control G94-083  Two Real Critical Constraints for Real Parameter                  | G94-064   |
| Feedforward Controller Design by Eigenvalue  | Margin Computation G94-082   | Gyroscope Free Strapdown Inertial Measure-<br>ment Unit by Six Linear Accelerometers                |
| Assignment G94-070   | Nonlinear Predictive Controllers for Continuous  | G94-043   |
| Control Theory   | Systems G94-081 Identification of Model Parameters and Associat-                               | Identification of Nonlinear Interactions in Struc-  |
| •  | ed Uncertainties for Robust Control Design   | tures G94-039 Some Conservation Laws for Orbits Involving   |
| Measures of Modal Controllability and Observ-  | G94-074  | Variable Mass and Linear Damping G94-029  |
| ability in Vibration Control of Flexible Struc-<br>tures G94-209                           | Parameter Identification of Unknown Object<br>Handled by Free-Flying Space Robot G94-073       | Exact n th Derivatives of Eigenvalues and Eigen-  |
| Analysis of Nonlinear Equations by Robust Sta-   | Computational Method for Minimax Optimiza-   | vectors G94-019 Nonlinear Control of Flexible, Articulated  |
| bility Theory G94-207 Polynomial Interpolation Between Input Sam-                          | tion in the Time Domain G94-071  | Spacecraft: Application to Space Station/Mo-  |
| ples for Continuous-Time Simulation  | Approximate Recovery of H• Loop Shapes Using Fixed-Order Dynamic Compensation <b>G94-069</b>   | bile Manipulator G94-005  |
| G94-205  | Control of Lightly Damped, Flexible Modes in   | Engine Control  |
| Optimization for Efficient Structure-Control Systems G94-204                               | the Controller Crossover Region G94-055  | Integrated Flight/Propulsion Control: Subsystem   |
| Systems G94-204 Truncation and Residualization with Weighted                               | Reduced-Order $H_{\infty}$ Compensator Design for an Aircraft Control Problem G94-051          | Specifications G94-028  |
| Balanced Coordinates G94-194   | New Output Feedback Design in Variable Struc-  | Fault Detection and Diagnosis in Propulsion Sys-  |
| Deployment/Retrieval Control of Tethered Sub-<br>satellite Through an Optimal Path G94-193 | ture Systems G94-050   | tems: A Fault Parameter Estimation Approach G94-014   |
| Multirate Flutter Suppression System Design for  | Riccati Equation Approaches for Small Gain,<br>Positivity, and Popov Robustness Analysis       | 1   |
| a Model Wing G94-189   | G94-048  | Flight Mechanics  |
| Multivariable Stability and Robustness of Sequentially Designed Feedback Systems           | Relative Stability for Control Systems with Adjustable Parameters G94-046                      | Analytical Aeropropulsive/Aeroelastic Hyper-  |
| G94-182  | Base Reaction Control for Space-Based Robots   | sonic-Vehicle Model with Dynamic Analysis  G94-195  |
| Analytic Time-Optimal Control Synthesis of   | Operating in Microgravity Environment  | Kinematics and Aerodynamics of the Velocity-  |
| Fourth-Order System and Maneuvers of Flexi-<br>ble Structures G94-175                      | G94-040  Nonlinear Regulation of Space Station: A Geo-   | Vector Roll G94-183   |
| Aeroelastic Vehicle Multivariable Control Syn-   | metric Approach G94-037  | Functional Agility Metrics and Optimal Trajectory Analysis  G94-178                                 |
| thesis with Analytical Robustness Evaluation   | Case of Updating the Factorized Covariance Ma-   | Missile and Spacecraft Coning Instabilities   |
| Yaw Pointing/Lateral Translation Using Robust  | trix G94-034 Determining the Root Locations of Systems with                                    | G94-150   |
| Sampled Data Eigenstructure Assignment   | Real Parameter Perturbations G94-033   | Nondimensional Forms for Singular Perturbation<br>Analyses of Aircraft Energy Climbs <b>G94-085</b> |
| G94-168  Personator Optimal Control of Wing Pook   | Calculus of Variations Derivation of the Mini-   | Separation Dynamics of Ullage Rockets <b>G94-065</b>  |
| Parameter Optimal Control of Wing-Rock G94-167   | max Linear-Quadratic ( $H_{\infty}$ ) Controller G94-021                                       | Some Nonintuitive Features in Time-Efficient  |
| New Technique for Nonlinear Control of Air-  | Disturbance Attenuation and $H_{\infty}$ Optimization  | Attitude Maneuvers of Combat Aircraft <b>G94-057</b>  |
| craft G94-156  | with Linear Output Feedback Control  | Some Basic Considerations on Angles Describ-  |
| Efficiency Modes Analysis of Structure-Control<br>Systems G94-152                          | G94-020  Exact n th Derivatives of Eigenvalues and Eigen-                                      | ing Airplane Flight Maneuvers G94-056   |
| Least-Squares Static Optimal Linearization   | vectors G94-019  | Handling Qualities  |
| G94-147  | Computational Results for a Feedback Control   |   |
| Matrix Method for Eigenstructure Assignment:   | for a Rotating Viscoelastic Beam G94-011   | $H_{\infty}$ Helicopter Flight Control Law Design With  |

| and Without Rotor State Feedback G94-186 Multiaxis Pilot Ratings for Damaged Aircraft  | Onboard Stationkeeping of Geosynchronous Satellites Using a Global Positioning System Re- | Statistics for Spacecraft Pointing and Measurement Error Budgets G94-007             |
|--|---|--|
| G94-185 Ride Quality Improvements by Means of Numer-                                   | ceiver G94-115 Gyroscope Free Strapdown Inertial Measure-                                 | Redundancy Management  |
| ical Optimization Techniques G94-153   | ment Unit by Six Linear Accelerometers  | Minimum Control Authority Plot: A Tool for De-                                       |
| Case Study Comparison of Linear Quadratic  | Approach Navigation for Delivery of Small   | signing Thruster Systems G94-148   |
| Regulator and $H_{\infty}$ Control Synthesis G94-143                                   | Approach Navigation for Delivery of Small Landers to the Surface of Mars G94-016          | Review of Parity Space Approaches to Fault Di-                                       |
| Information Processing   |   | agnosis for Aerospace Systems G94-042  |
| Maximum a Posteriori Image Registration/Mo-  | Optimization Techniques   | Signal Processing  |
| tion Estimation G94-165  | Multiple Optimal Solutions for Structural Con-  | Kalman Filters for a Missile with Radar and/or                                       |
| Vision-Based Obstacle Detection and Grouping for Helicopter Guidance G94-136           | trol Using Genetic Algorithms with Niching G94-208  | Imaging Sensor G94-199   |
| Case of Updating the Factorized Covariance Ma-   | Three-Stage Approach to Optimal Low-Thrust  | Maximum a Posteriori Image Registration/Mo-  |
| trix <b>G94-034</b>  | Earth-Moon Trajectories G94-190   | tion Estimation <b>G94-165</b> Maximum Likelihood Identification and Realiza-        |
| Launch Vehicle Dynamics  | Optimization of Very-Low-Thrust, Many-Revolution Spacecraft Trajectories G94-177          | tion of Stochastic Systems G94-105   |
| Najahkanina Ontimal Cantural Based Feedback  | Neighboring Optimal Control Based Feedback  | Modeling Space Shuttle Main Engine Using Feed-Forward Neural Networks <b>G94-098</b> |
| Neighboring Optimal Control Based Feedback<br>Law for the Advanced Launch System       | Law for the Advanced Launch System  G94-173   | Fixed Memory Filter for Real-Time Estimation   |
| G94-173  | Minimum Control Authority Plot: A Tool for De-  | of Noise-Corrupted Signals G94-095   |
| Separation Dynamics of Ullage Rockets  | signing Thruster Systems G94-148  | Spacecraft Dynamics  |
| G94-065  | Hybrid Approach to Solution of Optimal Control<br>Problems G94-144                        |  |
| Launch Vehicle Guidance and Control  | New Results in Optimal Missile Avoidance  | Attitude Control of Space Robot by Arm Motion G94-155                                |
| Shuttle Entry Guidance Revisited Using Nonlin-   | Analysis G94-134  | Missile and Spacecraft Coning Instabilities  |
| ear Geometric Methods G94-201  | Techniques for Developing Approximate Optimal Advanced Launch System Guidance             | G94-150  |
| Neighboring Optimal Control Based Feedback<br>Law for the Advanced Launch System       | G94-133   | Attitude Maneuver of Service Vehicle with Spinning Spent Satellite G94-149           |
| G94-173  | Hybrid Approach to Near-Optimal Launch Vehi-  | Reorientation of a Structure in Space Using a  |
| Techniques for Developing Approximate Opti-  | cle Guidance G94-132 Synthesis of Minimum-Time Feedback Laws for                          | Three-Link Rigid Manipulator G94-122   |
| mal Advanced Launch System Guidance <b>G94-133</b>                                     | Dynamic Systems Using Neural Networks   | Principal Axis Misalignment Control for Deconing of Spinning Spacecraft G94-120      |
| Hybrid Approach to Near-Optimal Launch Vehi-   | G94-128   | Stationkeeping of Geostationary Satellites with                                      |
| cle Guidance G94-132   | Optimization Methods for Passive Damper<br>Placement and Tuning G94-123                   | Simultaneous Eccentricity and Longitude  |
| Trajectory Optimization Based on Differential Inclusion G94-072                        | Intelligent Control Law Tuning for AIAA Con-  | Control <b>G94-114</b> Application of Order- <i>n</i> Formulation to Panel De-       |
| metusion G94-072   | trols Design Challenge G94-112  | ployment Problem of a Spacecraft <b>G94-096</b>                                      |
| Missile Dynamics   | Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Anneal-         | Propagation of Particles Due to an Explosion in                                      |
| Missile and Spacecraft Coning Instabilities  | ing <b>G94-104</b>  | Elliptic Orbit <b>G94-094</b> New Formulation for Flexible Beams Undergo-            |
| G94-150  | Analytic Solution of the Riccati Equation for the Homing Missile Linear-Quadratic Control | ing Large Overall Plane Motion G94-010   |
| Tracking Mobile Vehicles Using a Non-Mark-<br>ovian Maneuver Model G94-129             | Problem G94-090   | Nonlinear Control of Flexible, Articulated   |
|  | Nondimensional Forms for Singular Perturbation  | Spacecraft: Application to Space Station/Mobile Manipulator <b>G94-005</b>           |
| Missile Guidance and Control   | Analyses of Aircraft Energy Climbs G94-085 Trajectory Optimization Based on Differential  | Spinup Dynamics of Axial Dual-Spin Space-  |
| Kalman Filters for a Missile with Radar and/or   | Inclusion G94-072   | craft G94-004  |
| Imaging Sensor G94-199 Novel Three-Dimensional Differential Game and                   | Computational Method for Minimax Optimiza-  | Control of Orbital Drift of Geostationary Tethered Satellites G94-001                |
| Capture Criteria for a Bank-to-Turn Missile  | tion in the Time Domain G94-071 Integrated Modeling and Control for the Large             | ***************************************  |
| G94-158  | Spacecraft Control Laboratory Experiment Fa-  | Spacecraft Guidance and Control  |
| Modified Measurement Differentiation Method for Stochastic Control Systems G94-154     | cility G94-067  | Autonomous Spacecraft Gyro Failure Detection   |
| Guidance Law for Hypersonic Gliders Based on   | Solutions to Parameter Optimal Control  G94-063   | Based on Conservation of Angular Momen-<br>tum G94-212                               |
| Piecewise Constant Control G94-135   | Range Optimal Trajectories for an Aircraft Fly-   | tum G94-212 Adaptive Quaternion Feedback Regulation for                              |
| New Results in Optimal Missile Avoidance<br>Analysis G94-134                           | ing in the Vertical Plane G94-058 Computation of Near-Minimum-Time Maneu-                 | Eigenaxis Rotations G94-192  |
| Guidance Law for Hypersonic Descent to a   | vers of Flexible Structures by Parameter Opti-  | Stochastic Star Identification G94-191 Analytic Time-Optimal Control Synthesis of    |
| Point G94-099  | mization G94-053  | Fourth-Order System and Maneuvers of Flexi-  |
| Capture Region for True Proportional Navigation<br>Guidance with Nonzero Miss-Distance | Robust Time-Optimal Control: Frequency Domain Approach G94-052                            | ble Structures G94-175   |
| G94-093  | Riccati Equation Approaches for Small Gain,   | Rendezvous Targeting and Navigation for a<br>Translunar Halo Orbit G94-164           |
| Analytic Solution of the Riccati Equation for the                                      | Positivity, and Popov Robustness Analysis   | Optimal Power-Limited Rendezvous for Linear-   |
| Homing Missile Linear-Quadratic Control Problem G94-090                                | G94-048 Homotopy Algorithm for Maximum Entropy De-  | ized Equations of Motion G94-160   |
| Bearings-Only Tracking: A Hybrid Coordinate  | sign <b>G94-047</b>   | Attitude Control of Space Robot by Arm Motion G94-155                                |
| System Approach G94-068  Evaluation of Missile Seeker Dwell Time for                   | Minimum Fuel Spacecraft Reorientation   | Efficiency Modes Analysis of Structure-Control                                       |
| Three-Dimensional Aerial Engagements   | G94-003 Power Limited Soft Landing on an Asteroid   | Systems G94-152  |
| G94-030  | G94-002   | Attitude Maneuver of Service Vehicle with Spinning Spent Satellite G94-149           |
| Mixed Strategy Guidance: A New High-Performance Missile Guidance Law G94-018           | Pointing Systems  | Coprime Factorization Approach to Robust Sta-  |
| Missile Guidance Algorithm Against High-g  |   | bilization of the Control Structures Interaction Evolutionary Model G94-140          |
| Barrel Roll Maneuvers G94-017  | Large Angle Slew Maneuvers with Autonomous Sun Vector Avoidance G94-131                   | Evolutionary Model G94-140 Re-Entry Control to a Drag-vs-Energy Profile              |
| Navigation   | Tracking Mobile Vehicles Using a Non-Mark-  | G94-137  |
| Rendezvous Targeting and Navigation for a  | ovian Maneuver Model G94-129 Multiaxis Tracking and Attitude Control of Flex-             | Large Angle Slew Maneuvers with Autonomous<br>Sun Vector Avoidance G94-131           |
| Translunar Halo Orbit G94-164  | ible Spacecraft with Reaction Jets G94-121  | Reorientation of a Structure in Space Using a  |

| Three-Link Rigid Manipulator G94-122   | bined Optimization of Structures and Control-  | Antenna Servo Design for Tracking Low-Earth-  |
|--|--|---|
| Multiaxis Tracking and Attitude Control of Flex-   | lers <b>G94-203</b>  | Orbiting Satellites G94-176   |
|  |  | Relation between Modified Sparse Time Domain  |
| ible Spacecraft with Reaction Jets   | Application of Piezoelectric Devices to Vibration  |   |
| G94-121  | Suppression G94-198  | and Eigensystem Realization Algorithm   |
| Principal Axis Misalignment Control for Decon-   | Controllability and Observability Measures for   | G94-169   |
|  | •  |   |
| ing of Spinning Spacecraft G94-120   | Craig-Bampton Substructure Representations   | Substructure System Identification and Synthe-  |
| Zero-Gyro Safemode Controller for the Hubble   | G94-179  | sis <b>G94-161</b>  |
| •  |  |   |
| Space Telescope G94-119  | Antenna Servo Design for Tracking Low-Earth-   | Robust Identification and Vibration Suppression   |
| Sun-Tracking Commands and Reaction Wheel   | Orbiting Satellites G94-176  | of a Flexible Structure G94-138   |
| <u> </u>   |  |   |
| Sizing with Configuration Optimization   | Analytic Time-Optimal Control Synthesis of   | Maximum Likelihood Identification and Realiza-  |
| G94-118  | Fourth-Order System and Maneuvers of Flexi-  | tion of Stochastic Systems G94-105  |
|  | ble Structures G94-175   | Decentralized Control of Large Flexible Struc-  |
| Comparison of Low-Earth-Orbit Satellite Atti-  |  |   |
| tude Controllers Submitted to Controllability  | Robust Control Design and Implementation on  | tures by Joint Decoupling G94-103   |
| Constraints G94-117  | the Middeck Active Control Experiment  | System Identification Using Frequency Scanning  |
|  | •  |   |
| Stationkeeping of Geostationary Satellites with  | G94-174  | and the Eigensystem Realization Algorithm   |
| Simultaneous Eccentricity and Longitude  | Performance and Control of Proof-Mass Actua-   | G94-102   |
| · · · · · · · · · · · · · · · · · · ·  |  |   |
| Control G94-114  | tors Accounting for Stroke Saturation  | System Identification from Closed-Loop Data   |
| Solar Motion-Based Method of Attitude Recov-   | G94-163  | with Known Output Feedback Dynamics   |
|  | Substructure System Identification and Synthe-   | G94-101   |
| ery: Application to International Ultraviolet  | <del>-</del>   |   |
| Explorer G94-089   | sis <b>G94-161</b>   | Modeling Space Shuttle Main Engine Using  |
| Optimal Cooperative Time-Fixed Impulsive   | Efficiency Modes Analysis of Structure-Control   | Feed-Forward Neural Networks G94-098  |
|  |  |   |
| Rendezvous G94-088   | Systems G94-152  | Free-Decay Time-Domain Modal Identification   |
| Optimal Multiple-Impulse Satellite Evasive Ma-   | Matrix Method for Eigenstructure Assignment:   | for Large Space Structures G94-076  |
|  | •  |   |
| neuvers G94-087  | The Multi-Input Case with Application  | Linear System Identification via Backward-Time  |
| Identification of Model Parameters and Associat-   | G94-146  | Observer Models G94-075   |
| ed Uncertainties for Robust Control Design   | Cost of Model Reference Adaptive Control:  | Identification of Model Parameters and Associat-  |
|  |  |   |
| G94-074  | Analysis, Experiments, and Optimization  | ed Uncertainties for Robust Control Design  |
| Nonlinear Regulation of Space Station: A Geo-  | G94-145  | G94-074   |
|  |  |   |
| metric Approach G94-037  | Optimal Placement and Gains of Sensors and Ac-   | Identification of Nonlinear Interactions in Struc-  |
| Optimal Linear Quadratic Gaussian Digital Con-   | tuators for Feedback Control G94-139   | tures <b>G94-039</b>  |
| , i  | Application of Popov Controller Synthesis to   | Identification of System, Observer, and Control-  |
| trol of an Orbiting Tethered Antenna/Reflector   | 11   |   |
| System G94-036   | Benchmark Problems with Real Parameter   | ler from Closed-Loop Experimental Data  |
| , and the second | Uncertainty G94-113  | G94-012   |
| Survey of Time-Optimal Attitude Maneuvers  |  | 094-012   |
| G94-035  | Decentralized Control of Large Flexible Struc-   |   |
| Second-Order State Estimation Experiments Us-  | tures by Joint Decoupling G94-103  | Trajectory Optimization   |
|  | 1 2  | , , ,   |
| ing Acceleration Measurements G94-013  | System Identification from Closed-Loop Data  | Three Stone Approach to Optimal I am Thrust   |
| Statistics for Spacecraft Pointing and Measure-  | with Known Output Feedback Dynamics  | Three-Stage Approach to Optimal Low-Thrust  |
|  |  | Earth-Moon Trajectories G94-190   |
| ment Error Budgets G94-007   | G94-101  | Optimal Lateral-Escape Maneuvers for Mi-  |
| Minimum Fuel Spacecraft Reorientation  | Linear Quadratic Controller Design for the Deep  |   |
|  | Space Network Antennas G94-100   | croburst Encounters During Final Approach   |
| G94-003  |  | G94-184   |
| Control of Orbital Drift of Geostationary Teth-  | H <sub>2</sub> Approach for Optimally Tuning Passive Vi-   |   |
|  | bration Absorbers to Flexible Structures   | Functional Agility Metrics and Optimal Trajecto-  |
| ered Satellites G94-001  |  | ry Analysis G94-178   |
|  | G94-097  | Optimal Cooperative Power-Limited Rendez-   |
| State Estimation   | Maneuvering and Control of Flexible Space Ro-  |   |
|  |  | vous Between Coplanar Circular Orbits   |
| 3.6 M. 3.6 M. 3.6 A. D. 1. M. A.1.   | bots <b>G94-077</b>  | G94-162   |
| Multisensor Multitarget Mixture Reduction Al-  | Linear System Identification via Backward-Time   |   |
| gorithms for Tracking G94-180  | Observer Models G94-075  | Optimal Power-Limited Rendezvous for Linear-  |
| Nonlinear Approach to Aircraft Tracking Prob-  |  | ized Equations of Motion G94-160  |
|  | Computational Method for Minimax Optimiza-   | •   |
| lem <b>G94-166</b>   | tion in the Time Domain G94-071  | Novel Three-Dimensional Differential Game and   |
| Maximum a Posteriori Image Registration/Mo-  |  | Capture Criteria for a Bank-to-Turn Missile   |
|  | Integrated Modeling and Control for the Large  | G94-158   |
| tion Estimation G94-165  | Spacecraft Control Laboratory Experiment Fa-   |   |
| Modified Measurement Differentiation Method  | * *  | Hybrid Approach to Solution of Optimal Control  |
|  | 2  | Problems G94-144  |
| for Stochastic Control Systems G94-154   | Broadband Control of Flexible Structures Using   |   |
| Tracking Mobile Vehicles Using a Non-Mark-   | Statistical Energy Analysis Concepts G94-054   | Re-Entry Control to a Drag-vs-Energy Profile  |
| ovian Maneuver Model G94-129   | es s   | G94-137   |
|  | Robust Time-Optimal Control: Frequency Do-   |   |
| Reduced-Order Multirate Estimation G94-107   | main Approach G94-052  | Guidance Law for Hypersonic Gliders Based on  |
| Output Feedback Control Under Randomly   | 1.1  | Piecewise Constant Control G94-135  |
| *  | Homotopy Algorithm for Maximum Entropy De-   | Techniques for Developing Approximate Opti-   |
| Varying Distributed Delays G94-106   | sign <b>G94-047</b>  |   |
| System Identification from Closed-Loop Data  |  |   |
|  | č  | mal Advanced Launch System Guidance   |
|  | Effect of Actuator Coupling on Active Vibration  |   |
| with Known Output Feedback Dynamics  | č  | G94-133   |
| With Known Output Feedback Dynamics  G94-101   | Effect of Actuator Coupling on Active Vibration<br>Control of Flexible Structures G94-031  | G94-133<br>Hybrid Approach to Near-Optimal Launch Vehi-   |
| G94-101  | Effect of Actuator Coupling on Active Vibration<br>Control of Flexible Structures G94-031<br>Desensitizing Structural-Control Design   | G94-133   |
| G94-101 Fixed Memory Filter for Real-Time Estimation   | Effect of Actuator Coupling on Active Vibration<br>Control of Flexible Structures G94-031  | G94-133 Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132   |
| G94-101  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024   | G94-133  Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Ap-   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-  | G94-133 Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132   |
| G94-101 Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time   | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Struc-  | G94-133  Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Anneal-   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075   | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-  | G94-133  Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075   | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023  | G94-133  Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate   | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Con-  | G94-133  Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068   | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023  | G94-133  Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068   | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022   | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive  |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Di-  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Us-   | G94-133  Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013   | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Di-  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013   | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Ma-   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042 Second-Order State Estimation Experiments Us-  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Control-  | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Controller from Closed-Loop Experimental Data   | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Control-  | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087  Nondimensional Forms for Singular Perturbation   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042 Second-Order State Estimation Experiments Us-  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Controller from Closed-Loop Experimental Data   | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Controller from Closed-Loop Experimental Data G94-012   | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087  Nondimensional Forms for Singular Perturbation Analyses of Aircraft Energy Climbs G94-085  |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013  Structural Control  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Controller from Closed-Loop Experimental Data   | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087  Nondimensional Forms for Singular Perturbation Analyses of Aircraft Energy Climbs G94-085  Trajectory Optimization Based on Differential   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013  Structural Control  Multiple Optimal Solutions for Structural Con-  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Controller from Closed-Loop Experimental Data G94-012  System Identification  | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087  Nondimensional Forms for Singular Perturbation Analyses of Aircraft Energy Climbs G94-085  Trajectory Optimization Based on Differential Inclusion G94-072   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013  Structural Control  | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Controller from Closed-Loop Experimental Data G94-012  System Identification  | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087  Nondimensional Forms for Singular Perturbation Analyses of Aircraft Energy Climbs G94-085  Trajectory Optimization Based on Differential Inclusion G94-072   |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013  Structural Control  Multiple Optimal Solutions for Structural Control Using Genetic Algorithms with Niching   | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Controller from Closed-Loop Experimental Data G94-012 System Identification Adaptive Quaternion Feedback Regulation for                             | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087  Nondimensional Forms for Singular Perturbation Analyses of Aircraft Energy Climbs G94-085  Trajectory Optimization Based on Differential Inclusion G94-072  Solutions to Parameter Optimal Control |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013  Structural Control  Multiple Optimal Solutions for Structural Control Using Genetic Algorithms with Niching G94-208   | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Controller from Closed-Loop Experimental Data G94-012 System Identification Adaptive Quaternion Feedback Regulation for Eigenaxis Rotations G94-192 | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087  Nondimensional Forms for Singular Perturbation Analyses of Aircraft Energy Climbs G94-085  Trajectory Optimization Based on Differential Inclusion G94-072  Solutions to Parameter Optimal Control |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095  Linear System Identification via Backward-Time Observer Models G94-075  Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068  Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042  Second-Order State Estimation Experiments Using Acceleration Measurements G94-013  Structural Control  Multiple Optimal Solutions for Structural Control Using Genetic Algorithms with Niching G94-208  Optimization for Efficient Structure-Control   | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Controller from Closed-Loop Experimental Data G94-012 System Identification Adaptive Quaternion Feedback Regulation for                             | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087  Nondimensional Forms for Singular Perturbation Analyses of Aircraft Energy Climbs G94-085  Trajectory Optimization Based on Differential Inclusion G94-072  Solutions to Parameter Optimal Control |
| Fixed Memory Filter for Real-Time Estimation of Noise-Corrupted Signals G94-095 Linear System Identification via Backward-Time Observer Models G94-075 Bearings-Only Tracking: A Hybrid Coordinate System Approach G94-068 Review of Parity Space Approaches to Fault Diagnosis for Aerospace Systems G94-042 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013  Structural Control  Multiple Optimal Solutions for Structural Control Using Genetic Algorithms with Niching G94-208   | Effect of Actuator Coupling on Active Vibration Control of Flexible Structures G94-031 Desensitizing Structural-Control Design G94-024 Transmission Zeros and High-Authority/Low-Authority Control of Flexible Space Structures G94-023 Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022 Second-Order State Estimation Experiments Using Acceleration Measurements G94-013 Identification of System, Observer, and Controller from Closed-Loop Experimental Data G94-012 System Identification Adaptive Quaternion Feedback Regulation for Eigenaxis Rotations G94-192 | Hybrid Approach to Near-Optimal Launch Vehicle Guidance G94-132  Nonsmooth Trajectory Optimization: An Approach Using Continuous Simulated Annealing G94-104  Guidance Law for Hypersonic Descent to a Point G94-099  Optimal Cooperative Time-Fixed Impulsive Rendezvous G94-088  Optimal Multiple-Impulse Satellite Evasive Maneuvers G94-087  Nondimensional Forms for Singular Perturbation Analyses of Aircraft Energy Climbs G94-085  Trajectory Optimization Based on Differential Inclusion G94-072  Solutions to Parameter Optimal Control |

G94-181

Interval Model

G94-057

Covariance Control Parameterization for Com-

Dynamic Simulation of Jet Engines G94-196

Space Technology

Thin Airfoil Flutter Suppression

for Large Space Structures

tems

Outboard Body Effects on Flexible Branch BodyDynamics in Articulated Multibody Sys-

Elastoplastic Analysis and Cumulative Damage

G94-076

G94-064

Dynamic Model Analysis

G94-108

Multiobjective Trajectory Optimization by Goal

G94-045

Programming with Fuzzy Decisions

| Ostimum Elight Toringtons Coddones Doord on  | space reciniology  |  |
|--|--|--|
| Optimum Flight Trajectory Guidance Based on<br>Total Energy Control of Aircraft G94-044<br>Minimum Fuel Spacecraft Reorientation | Aerobraking Flight Mechanics   | Modeling and Simulation of Rotor Bearing Friction G94-170                                    |
| G94-003  | Comment on "Guidance for an Aerocapture Maneuver" G93-078                                      | Component Model Reduction Methodology for<br>Articulated Multiflexible Body Structures       |
| Interdisciplinary Topics   | Landers  | G94-127<br>Evaluation of Inertial Integrals for Multibody                                    |
| Analytical and Numerical Methods   | Power Limited Soft Landing on an Asteroid G94-   | Dynamics G94-092 Elastoplastic Analysis and Cumulative Damage                                |
| Petrov-Galerkin Finite Elements in Time for Rig-   | 002  | Study of a Lanyard Under Dynamic Condi-  |
| id-Body Dynamics G94-157 Exact n th Derivatives of Eigenvalues and Eigen-  | Mission Design and Analysis  | tions G94-062  Model Reduction Methodology for Articulated,                                  |
| vectors G94-019  | Study of Hénon's Orbit Transfer Problem Using  | Multiflexible Body Structures G94-009 Effect of Pressure Stiffness on the Dynamics of        |
| Reliability, Maintainability, and Logistics  | the Lambert Algorithm G94-159 Solar Sail Parking in Restricted Three-Body Sys-                 | Solid Rocket Motors G94-008  |
| Support  | tems <b>G94-059</b>  | Flexible and Active Structures   |
| Desensitizing Structural-Control Design G94-024  | Approach Navigation for Delivery of Small Landers to the Surface of Mars G94-016               | Measures of Modal Controllability and Observ-  |
| Safety   | Targeting of Several Mars Landers G94-015  | ability in Vibration Control of Flexible Struc-  |
| Review of Parity Space Approaches to Fault Di-   | Mission Trajectories (Earth and  | tures G94-209 Covariance Control Parameterization for Com-                                   |
| agnosis for Aerospace Systems G94-042  | Interplanetary)  | bined Optimization of Structures and Control-<br>lers G94-203                                |
| Sensor Systems   | Three-Stage Approach to Optimal Low-Thrust<br>Earth-Moon Trajectories G94-190                  | Robust Control Design and Implementation on  |
| Multisensor Multitarget Mixture Reduction Al-  | Rendezvous Targeting and Navigation for a  | the Middeck Active Control Experiment  G94-174   |
| gorithms for Tracking G94-180 Vision-Based Obstacle Detection and Grouping   | Translunar Halo Orbit G94-164 Study of Hénon's Orbit Transfer Problem Using                    | Comparative Stability Study Illustrating Advan-  |
| for Helicopter Guidance G94-136  | the Lambert Algorithm G94-159 Optimal Multiple-Impulse Satellite Evasive Ma-                   | tages of Guy-Wire Constraints for Flexible Satellites G94-171                                |
| Launch Vehicle and Missile (LV/M)  | neuvers G94-087  | Performance and Control of Proof-Mass Actuators Accounting for Stroke Saturation             |
| Technology   | Approach Navigation for Delivery of Small Landers to the Surface of Mars G94-016               | G94-163  |
| Missile Systems  | Targeting of Several Mars Landers G94-015  | Robust Identification and Vibration Suppression of a Flexible Structure G94-138              |
| Evaluation of Missile Seeker Dwell Time for  | Spacecraft Attitude Determination  | Maximum Likelihood Identification and Realization of Stochastic Systems G94-105              |
| Three-Dimensional Aerial Engagements  G94-030  | Stochastic Star Identification G94-191   | H <sub>2</sub> Approach for Optimally Tuning Passive Vi-                                     |
| Mixed Strategy Guidance: A New High-Perfor-  | Comparative Stability Study Illustrating Advan-<br>tages of Guy- Wire Constraints for Flexible | bration Absorbers to Flexible Structures <b>G94-097</b>                                      |
| mance Missile Guidance Law G94-018   | Satellites G94-171   | Gain Scheduled $H_{\infty}$ Controllers for a Two Link                                       |
| Propulsion and Propellant Systems  | Reorientation of a Structure in Space Using a Three-Link Rigid Manipulator G94-122             | Flexible Manipulator G94-079 Pointing Control and Vibration Suppression of a                 |
| Minimum Control Authority Plot: A Tool for Designing Thruster Systems G94-148  | Zero-Gyro Safemode Controller for the Hubble<br>Space Telescope G94-119                        | Slewing Flexible Frame G94-078 Control of Lightly Damped, Flexible Modes in                  |
| Testing, Flight and Ground   | Comparison of Low-Earth-Orbit Satellite Atti-  | the Controller Crossover Region G94-055  |
| <i>o,</i>  | tude Controllers Submitted to Controllability Constraints G94-117                              | Broadband Control of Flexible Structures Using Statistical Energy Analysis Concepts          |
| Use of the Global Positioning System for Evaluating Inertial Measurement Unit Errors   | Solar Motion-Based Method of Attitude Recov-   | G94-054 Effect of Actuator Coupling on Active Vibration                                      |
| G94-066  | ery: Application to International Ultraviolet<br>Explorer <b>G94-089</b>                       | Control of Flexible Structures G94-031   |
| Trajectories and Tracking Systems  | New Quaternion Attitude Estimation Method  G94-060   | Transmission Zeros and High-Authority/Low-<br>Authority Control of Flexible Space Struc-     |
| Multisensor Multitarget Mixture Reduction Al-  | Statistics for Spacecraft Pointing and Measure-  | tures <b>G94-023</b>   |
| gorithms for Tracking G94-180  Nonlinear Approach to Aircraft Tracking Prob-   | ment Error Budgets G94-007   | Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure             |
| lem G94-166 Use of the Global Positioning System for Evalu-  | Spacecraft Data Sensing, Processing, and<br>Transmission                                       | G94-022 Computational Results for a Feedback Control   |
| ating Inertial Measurement Unit Errors   | Autonomous Spacecraft Gyro Failure Detection   | for a Rotating Viscoelastic Beam G94-011   |
| G94-066  Multiobjective Trajectory Optimization by Goal  | Based on Conservation of Angular Momen-  | New Formulation for Flexible Beams Undergo-<br>ing Large Overall Plane Motion <b>G94-010</b> |
| Programming with Fuzzy Decisions G94-045   | tum G94-212  | Structural Dynamics and Characterization   |
| Evaluation of Missile Seeker Dwell Time for Three-Dimensional Aerial Engagements   | Spacecraft Structural Configuration, Design, and Analysis                                      | Measures of Modal Controllability and Observ-  |
| G94-030 Effect of Pressure Stiffness on the Dynamics of  | Application of Order- <i>n</i> Formulation to Panel De-  | ability in Vibration Control of Flexible Struc-  |
| Solid Rocket Motors G94-008  | ployment Problem of a Spacecraft G94-096   | tures <b>G94-209</b> Covariance Control Parameterization for Com-                            |
| Propulsion   | Spacecraft Test and Evaluation   | bined Optimization of Structures and Control-  |
|  | Free-Decay Time-Domain Modal Identification  | lers G94-203 Maneuvering and Control of Flexible Space Ro-                                   |
| Electric and Advanced Space Propulsion   | for Large Space Structures G94-076   | bots G94-077 Free-Decay Time-Domain Modal Identification                                     |
| Power Limited Soft Landing on an Asteroid  |  | for Large Chase Structures COA 076   |

**Structural Mechanics and Materials** 

 $H^2/H^\infty$  Controller Design for a Two-Dimensional

Aeroelasticity and Control

G94-002

Engine Performance

Derivation of System Matrices from Nonlinear

Study of a Lanyard Under Dynamic Conditions G94-062

New Formulation for Flexible Beams Undergoing Large Overall Plane Motion G94-010

Model Reduction Methodology for Articulated, Multiflexible Body Structures G94-009

Effect of Pressure Stiffness on the Dynamics of Solid Rocket Motors G94-008

Effects of Solar Radiation Pressure on the Tethered Antenna/Reflector Subsatellite System G94-006

## Structural Finite Elements

Evaluation of Inertial Integrals for Multibody Dynamics G94-092 Computational Results for a Feedback Control for a Rotating Viscoelastic Beam G94-011

#### Structural Modeling

Substructure System Identification and Synthesis G94-161

Component Model Reduction Methodology for Articulated Multiflexible Body Structures

G94-127

Decentralized Control of Large Flexible Structures by Joint Decoupling G94-103 Outboard Body Effects on Flexible Branch Body Dynamics in Articulated Multibody Systems

Elastoplastic Analysis and Cumulative Damage Study of a Lanyard Under Dynamic Conditions G94-062 Optimal Linear Quadratic Gaussian Digital Control of an Orbiting Tethered Antenna/Reflector System G94-036

#### Structural Optimization

Optimization for Efficient Structure-Control Systems G94-204

## Structural Optimization

Optimal Placement and Gains of Sensors and Actuators for Feedback Control G94-139

Desensitizing Structural-Control Design

G94-024

Optimal Tendon Configuration of a Tendon Control System for a Flexible Structure G94-022

Kato, O., G94-056

# **Author Index**

Abdelhamid, M. K., G94-169 Adams, R. J., G94-051, G94-084, G94-110 Adimurthy, V., G94-065 Alexander, J. W., G94-191 Anazawa, S., G94-193 Anderson, K. S., G94-001 Anderson, M. R., G94-211 Antoulas, A. C., G94-166 Armstrong, E. S., G94-140 Ashenberg, J., G94-094 Asthana, C. B., G94-030 Aubert, B. H., G94-022 Azam, M., G94-027 Babu, K. R., G94-202 Bachmann, G. R., G94-108 Baek, M.-J., G94-005 Bagley, R. L., G93-104 Bainum, P. M., G94-006, G94-036, G94-175 Balachandran, B., G94-039 Balas, G. J., G94-055 Banda, S. S., G94-051, G94-084, Banerjee, A. K., G94-170, G94-197 Barlas, M. R., G94-083 Belvin, W. K., G94-013, G94-198 Bennett, W. H., G94-005 Berg, M. C., G94-189 Bernstein, D. S., G94-107, G94-125 Bernstein, H., G94-115 Bhat, M. S., G94-146 Biezad, D. J., G94-188 Bishop, R. H., G94-164, G94-166 Bocvarov, S., G94-057 Borojevic, D., **G94-163** Borri, M., G94-157 Bossert, D. E., G94-032 Bottasso, C., G94-157 Broucke, R. A., G94-159 Brumbaugh, R. W., G94-111 Bryson, A. E., G94-021 Buffington, J. M., G94-084, G94-110 Burdisso, R. A., G94-070 Burl, J., G94-192 Byrns, E. V., Jr., G94-069 Calise, A. J., G94-069, G94-085, G94-132, G94-144 Carter, T., G94-053 Carter, T. E., G94-160

Cetinkunt, S., G94-091

Chao, C. C., G94-115

Challoner, A. D., G94-151

Chatterji, G. B., G94-136 Chavez, F. R., G94-195 Chen, C.-L., G94-033 Chen, J., G94-042, G94-126 Chen, J.-H., G94-043 Chen, J. L., G94-040 Cheng, V. H. L., G94-187 Cherng, A.-P., G94-169 Chiou, K.-L., G94-124 Chiu, H.-T., G94-091 Chowdhry, R. S., G94-200 Christensen, E. R., G94-008 Chu, C.-C., G94-123 Cliff, E. M., G94-057, G94-058, G94-173 Clifton, R. S., G94-087 Collins, E. G., Jr., G94-047, G94-048 Conway, B. A., G94-088, G94-177 Corban, J. E., G94-085 Coverstone-Carroll, V., G94-162 Crassidis, J. L., G94-138 Crawley, E. F., G94-074 Cristi, R., G94-192 Cudney, H. H., G94-024, G94-145 Cveticanin, L., G94-029 D'Azzo, J. J., G94-210 Da, R., G94-041 Dargan, J. L., G94-210 Davis, L. D., G94-047, G94-048 DeBra, D. B., G94-043 Deshpande, S. S., G94-003 Do, V. N., G94-197 Doiron, H. H., G94-076 Dougherty, J. J., G94-066 Downing, D. R., G94-178 Dovle, J. C., G94-055 Durham, W. C., G94-049, G94-083, G94-183, G94-206 Duyar, A., G94-014, G94-098 Eisler, G. R., G94-099 El-Sherief, H., G94-066 Eldem, V., G94-014 Emami-Naeini, A., G94-028, G94-143 Essary, B., G94-086 Fan, Y.-T., G94-050 Feeley, T. S., G94-133 Forte, I., G94-018 Friedman, J. H., G94-125 Fujii, H. A., G94-071, G94-193, G94-142 Fuller, C. R., G94-070

Gamble, D. W., G94-114

Gaudreault, M. L. D., G93-104 Gawronski, W., G94-100, G94-176 Geering, H. P., G94-109 Geyer, D. W., G94-200 Ghose, D., G94-093 Gilmozzi, R., G94-089 Gómez-Tierno, M. A., G94-116 Grocott, S., G94-174 Grossman, W., G94-068 Gu, G., G94-020 Guelman, M., G94-002 Guo, S.-F., G94-044 Guo, T.-H., G94-014, G94-098 Gupta, S., G94-205 Hablani, H. B., G94-118, G94-121 Haddad, W. M., G94-048, G94-107, G94-113 Haering, W. J., G94-010 Haftka, R. T., G94-024, G94-145 Hagedorn, P., G94-001 Hall, C. D., G94-004 Hall, S. R., G94-054, G94-113 Hallauer, W. L., G94-024 Harel, D., G94-002 Hechler, M., G94-015, G94-016 Heck, M. L., G94-003 Hohman, D. S., G94-066 Horner, J. B., G94-031 Horta, L. G., G94-101 How, J., G94-113, G94-174 Hsu, C. S., G94-051 Hsu, S.-C., G94-061 Hu, H.-c., G94-209 Hull, D. G., G94-099, G94-135 Hyland, D. C., G93-127 Igusa, T., G94-139 Imado, F., G94-017 Inman, D. J., G94-078, G94-138 Innocenti, M., G94-141 Iyer, A., G94-037 Jackson, E. B., G94-200 Jankovic, M. S., G94-019 Jeng, Y.-F., G94-185 Jones, B. L., G94-164 Ju, H.-S., G94-080 Juang, J.-N., G94-012, G94-075, G94-101, G94-103, G94-161, G94-181 Kammer, D. C., G94-179 Kane, T. R., G94-170

Kantor, B., G94-018

Kapila, V., G94-107

Karlov, V. I., G94-074

Kawachi, K., G94-025 Keel, L. H., G94-181 Kelly, T. J., G94-114 Kennedy, K. R., G94-212 Khan, M. A., G94-104, G94-156 Khot, N. S., G94-204 Khraishi, N. M., G94-143 Kim, H. M., G94-076 Kluever, C. A., G94-190 Kojima, H., G94-096 Kremer, J.-P., G94-201 KrishnaKumar, K., G94-208 Kumar, K., G94-065 Kumar, R. R., G94-003 Kwatny, H. G., G94-005 Lam, T., G94-187 Larson, L. B., G94-022 Lauer, M., G94-015, G94-016 Lawrence, C., G94-040 Layton, J. B., G94-203 Lee, A. Y., G94-009, G94-127, G94-128 Lee, S.-C., G94-043 Leo, D. J., G94-078, G94-138 Leung, M. S. K., G94-132, G94-144 Lew, J.-S., G94-181 Li, F., G94-175 Liebst, B. S., G93-104 Lim, S., G94-077 Lin, J.-M., G94-154 Lindner, D. K., G94-163 Liu, G. P., G94-126 Liu, K., G94-038, G94-174 Liu, S.-W., G94-080 Liu, Z.-s., G94-209 Lochan, R., G94-065 Longman, R. W., G94-101 Lovren, N., G94-090 Lu, J., G94-022, G94-082 Lu, P., G94-081, G94-104, G94-156 Luck, R., G94-095 Lupash, L. O., G94-034 Lutze, F. H., G94-057, G94-083, G94-183 MacDonald, E. W., G94-059 MacMartin, D. G., G94-054, G94-174 Makroglou, A., G94-011 Markl. A., G94-137 Markley, F. L., G94-060, G94-119, Markopoulos, N., G94-085 Mason, G. S., G94-189