

Chronological Index

G85-028 To Pursue or to Evade - That is the Question. A. W. Merz, *Lockheed Palo Alto Research Laboratory* (8, 2, p. 161) Article

Reply (9, 1, p. 128)

Technical Comment by John V. Breakwell, *Stanford University* (9, 1, p. 127)

Reply (9, 1, p. 128)

Technical Comment by K. W. London, *Honeywell, Inc.* (12, 2, p. 284)

Reply (12, 2, p. 286)

G86-020 The Principal Minor Test for Semidefinite Matrices. John E. Prussing, *University of Illinois at Urbana-Champaign* (9, 1, p. 121) Engineering Note

Technical Comment by John L. Tietze, *Boeing Computer Services* (12, 5, p. 767)

Reply (12, 5, p. 767)

G88-074 Expert Systems Approach for Generalized Traveling Salesman Problem. Yuval Lirov, *Washington University* (11, 5, p. 425) Article based on AIAA Paper 87-2328 CP878

Errata (12, 1, p. 128)

G89-001 Assumed Density Filter with Application to Homing Missile Guidance. S. N. Balakrishnan, *University of Missouri-Rolla*; and J. L. Speyer, *University of Texas at Austin* (12, 1, p. 4) Article based on AIAA Paper 86-2262 CP869

G89-002 Optimum Burn Scheduling for Low-Thrust Orbital Transfers. R. G. Melton, K. M. Lajoie and J. W. Woodburn, *Pennsylvania State University* (12, 1, p. 13) Article based on AIAA Paper 86-2010 CP867

G89-003 Effects of Propellant Mass Loss on Fuel-Optimal Rendezvous Near Keplerian Orbit. Thomas E. Carter, *Eastern Connecticut State University* (12, 1, p. 19) Article

G89-004 Short-Range Nonlinear Feedback Strategies for Aircraft Pursuit-Evasion. P. K. A. Menon, *Georgia Institute of Technology* (12, 1, p. 27) Article

G89-005 Transmission-Zero Bounds for Large Space Structures, with Applications. Trevor Williams, *NASA Langley Research Center* (12, 1, p. 33) Article

G89-006 Combining Expert System and Analytical Redundancy Concepts for Fault-Tolerant Flight Control. David A. Handelman and Robert F. Stengel, *Princeton University* (12, 1, p. 39) Article based on AIAA Paper 86-2092 CP867

G89-007 Evaluation of a Command Monitoring Concept for a V/STOL Research Aircraft. J. A. Schroeder, E. Moralez and V. K. Merrick, *NASA Ames Research Center* (12, 1, p. 46) Article based on AIAA Paper 87-2535 CP878

G89-008 Cooperative Synthesis of Control and Display Augmentation. Sanjay Garg and D. K. Schmidt, *Purdue University* (12, 1, p. 54) Article based on AIAA Paper 86-2204 CP869

G89-009 Stability Boundaries for Aircraft with Unstable Lateral-Directional Dynamics and Control Saturation. Prakash C. Shrivastava and Robert F. Stengel, *Princeton University* (12, 1, p. 62) Article based on AIAA Paper 85-1948 CP856

G89-010 Planar, Time-Optimal, Rest-to-Rest Slewing Maneuvers of Flexible Spacecraft. G. Singh, P. T. Kabamba and N. H. McClamroch, *University of Michigan* (12, 1, p. 71) Article

G89-011 Near-Minimum Time Open-Loop Slewing of Flexible Vehicles. R. C. Thompson, J. L. Junkins and S. R. Vadali, *Texas A&M University* (12, 1, p. 82) Article

G89-012 Robustness Optimization of Structural and Controller Parameters. Kyong B. Lim, *Virginia Polytechnic Institute and State University*; and John L. Junkins, *Texas A&M University* (12, 1, p. 89) Article

G89-013 Multivariable Frequency-Weighted Order Reduction. Barton J. Bacon, *Purdue University*; and David K. Schmidt, *Arizona State University* (12, 1, p. 97) Article

G89-014 Orbital Formationkeeping with Differential Drag. C. L. Leonard, *The Aerospace Corporation*; W. M. Hollister, *Massachusetts Institute of Technology*; and E. V. Bergmann, *Charles Stark Draper Laboratory, Inc.* (12, 1, p. 108) Article based on AIAA Paper 87-2402 CP878

G89-015 Efficacy of the Gibbs-Appell Method for Generating Equations of Motion for Complex Systems. Edward A. Desloge, *Florida State University* (12, 1, p. 114) Engineering Note

G89-016 Pitch Pointing Flight Control System Design in the Frequency Domain. Fang-Bo Yeh and Thong-Shing Hwang, *National Cheng Kung University, Taiwan, ROC* (12, 1, p. 116) Engineering Note

G89-017 Optimal Transfer from Collinear Libration Points with Limited Rotation Speed. Mihai Popescu, *National Institute for Scientific and Technical Creation, Romania* (12, 1, p. 119) Engineering Note

G89-018 Minimum Impulse Orbital Evasive Maneuvers. Roger C. Burk and Joseph W. Widhalm, *U. S. Air Force Institute of Technology, Wright-Patterson AFB* (12, 1, p. 121) Engineering Note based on AIAA Paper 86-2060 CP867

G89-019 Method for Stability Analysis of an Asymmetric Dual-Spin Spacecraft. Hai Xing Yang, *Shanghai Jiao-Tong University, China* (12, 1, p. 123) Engineering Note

G89-020 Sensor Failure Detection Using Generalized Parity Relations for Flexible Structures. Mathieu Mercadal, *Massachusetts Institute of Technology* (12, 1, p. 125) Engineering Note

G89-022 High Spin Effect on the Dynamics of a High l/d Finned Projectile from Free-Flight Tests. Alain D. Dupuis, *Defence Research Establishment Valcartier, Canada* (12, 2, p. 129) Article based on AIAA Paper 87-2430 CP876

G89-023 Passive Means for Stabilizing Projectiles with Partially Restrained Internal Members. Albert E. Hodapp Jr., *Sandia National Laboratories* (12, 2, p. 135) Article based on AIAA Paper 87-2431 CP876

G89-024 Extrusion of a Beam from a Rotating Base. Arun K. Banerjee, *Lockheed Missiles & Space Company*; and Thomas R. Kane, *Stanford University* (12, 2, p. 140) Article

G89-025 New Generalized Structural Filtering Concept for Active Vibration Control Synthesis. Bong Wie and Kuk-Whan Byun, *University of Texas at Austin* (12, 2, p. 147) Article based on AIAA Paper 87-2456 CP878

Errata (12, 3, p. 447)

G89-026 Control of Flexible Structures with Spillover Using an Augmented Observer. Yossi Chait and Clark J. Radcliffe, *Michigan State University* (12, 2, p. 155) Article

G89-027 Structured Stability Robustness Improvement by Eigenspace Techniques: A Hybrid Methodology. Pierre R. Apkarian, *Centre d'Etudes et de Recherches de Toulouse, France* (12, 2, p. 162) Article

G89-028 Pulse Motor Control for Maximizing Average Velocity. Anthony J. Calise and J. V. R. Prasad, *Georgia Institute of Technology* (12, 2, p. 169) Article

G89-029 Digital Robust Control Law Synthesis Using Constrained Optimization. Vivek Mukhopadhyay, *Planning Research Corporation, Inc.* (12, 2, p. 175) Article based on AIAA Paper 87-2588 CP878

G89-030 Estimating Projections of the Playable Set. T. L. Vincent, *University of Arizona* (12, 2, p. 182) Article based on AIAA Paper 87-2242 CP878

G89-031 Active Flutter Suppression for Two-Dimensional Airfoils. H. Ohta and A. Fujimori, *Nagoya University, Japan*; P. N. Nikiforuk and M. M. Gupta, *University of Saskatchewan, Canada* (12, 2, p. 188) Article based on AIAA Paper 84-1931 CP848

G89-032 Flight-Test Maneuver Modeling and Control. P. K. A. Menon, *Georgia Institute of Technology*; R. A. Walker, *FMC Central Engineering Laboratory*; and E. L. Duke, *NASA Ames-Dryden Flight Research Facility/OFDC* (12, 2, p. 195) Article based on AIAA Paper 86-0426

G89-033 Oblique Wing Aircraft Flight Control System. R. N. Clark, *University of Washington*; and X. J. Y. LeTron, *Aerospatiale of France* (12, 2, p. 201) Article

G89-034 Markov Reliability Models for Digital Flight Control Systems. John McGough, *Allied/Bendix Aerospace*; Andrew Reibman and Kishor Trivedi, *Duke University* (12, 2, p. 209) Article

Errata (12, 4, p. 608)

G89-035 Comparison of Classical and Modern Missile Autopilot Design and Analysis Techniques. A. Arrow, *Johns Hopkins University*; and D. E. Williams, *The Singer Company* (12, 2, p. 220) Article based on AIAA Paper 87-2581 CP878

G89-036 Improved Low-Altitude Constellation Design Methods. John M. Hanson and Alexander N. Linden, *ANSER* (12, 2, p. 228) Article based on AIAA Paper 87-0498

G89-037 Aeroassisted Orbital Maneuvering Using Lyapunov Optimal Feedback Control. Byoungsoo Lee and Walter J. Grantham, *Washington State University* (12, 2, p. 237) Article

G89-038 Mission Function Control for Deployment and Retrieval of a Subsatellite. Hironori Fujii and Shintaro Ishijima, *Tokyo Metropolitan Institute of Technology, Japan* (12, 2, p. 243) Article

G89-039 Linear-Quadratic Stationkeeping for the STS Orbiter. David C. Redding and Neil J. Adams, *Charles Stark Draper Laboratory*; and Edward T. Kubiak, *NASA Johnson Space Center* (12, 2, p. 248) Article based on AIAA Paper 86-2222 CP867

G89-040 Control-Structure Interaction in Precision Pointing Servo Loops. John T. Spanos, *Jet Propulsion Laboratory, California Institute of Technology* (12, 2, p. 256) Article

G89-041 Low-Authority Control of Large Space Structures by Using a Tendon Control System. Y. Murotsu, H. Okubo and F. Terui, *University of Osaka Prefecture, Japan* (12, 2, p. 264) Article based on AIAA Paper 87-2249 CP878

G89-042 Tether Static Shape for Rotating Multimass, Multitether, Spacecraft for "Triangle" Michelson Interferometer. Anthony B. DeCou, *Northern Arizona University* (12, 2, p. 273) Engineering Note

G89-043 Generation of Infrared Earth Radiance for Attitude Determination. T. K. Alex and Ramani Seshamani, *ISRO Satellite Centre, India* (12, 2, p. 275) Engineering Note

G89-044 On the Method of Matched Asymptotic Expansions. D. S. Naidu, *Old Dominion University*; and D. B. Price, *NASA Langley Research Center* (12, 2, p. 277) Engineering Note

G89-045 Simple Scheme for the Integration of Stiff Differential Equations. M. B. Subrahmanyam, *University of Missouri* (12, 2, p. 279) Engineering Note

G89-046 Eigenvector Derivatives of Repeated Eigenvalues Using Singular Value Decomposition. Kyong B. Lim, Jer-Nan Juang and Peiman Ghaemmaghami, *NASA Langley Research Center* (12, 2, p. 282) Engineering Note

G89-049 Comparative Results for a Special Class of Robust Nonlinear Tracking Algorithms. Frank D. Gorecki and Michael J. Piehler, *Boeing Aerospace Company* (12, 3, p. 289) Article

G89-050 Sensitivity Analysis of Digital Flight Control Systems Using Singular-Value Concepts. James D. Paduano and David R. Downing, *University of Kansas Flight Research Laboratory* (12, 3, p. 297) Article based on AIAA Paper 86-2084 CP869

G89-051 Singular Trajectories in Airplane Cruise-Dash Optimization. Karl D. Bilimoria and Eugene M. Cliff, *Virginia Polytechnic Institute and State Institute* (12, 3, p. 304) Article based on AIAA Paper 87-2404 CP878

G89-052 Trajectory Optimization with Risk Minimization for Military Aircraft. John L. Vian and John R. Moore, *Boeing Military Airplane Company* (12, 3, p. 311) Article based on AIAA Paper 87-2523 CP878

G89-053 Eigenstructure Assignment for the Control of Highly Augmented Aircraft. Kenneth M. Sobel, *City College of New York*; and Frederick J. Lallman, *NASA Langley Research Center* (12, 3, p. 318) Article

G89-054 Application of Precomputed Control Laws in a Reconfigurable Aircraft Flight Control System. Daniel D. Moerder and Nesim Halyo, *Information and Control Systems, Inc.*; John R. Broussard, *Texas Instruments*; and Alper K. Caglayan, *Charles River Analytics, Inc.* (12, 3, p. 325) Article

G89-055 Simulation Evaluation of an Advanced Control Concept for a V/STOL Aircraft. E. Moralez, V. K. Merrick and J. A. Schroeder, *NASA Ames Research Center* (12, 3, p. 334) Article based on AIAA Paper 87-2535 CP878

G89-056 Model-Based Analysis of Control/Display Interaction in the Hover Task. Sanjay Garg and David K. Schmidt, *Purdue University* (12, 3, p. 342) Article based on AIAA Paper 87-2287 CP876

G89-057 Flight Control System Design for an In-Flight Simulator. F. Henschel, *German Aerospace Research Establishment (DFLRV), FRG*; and S. Chetty, *National Aeronautical Laboratory (NAL), India* (12, 3, p. 351) Article based on AIAA Paper 87-2451 CP878

G89-058 Algorithm for Ranked Assignments, with Applications to Multiobject Tracking. William L. Brogan, *University of Nebraska* (12, 3, p. 357) Article

G89-059 Design of a Payload Pointing Control System for Tracking Moving Objects. Hari B. Hablani, *Rockwell International* (12, 3, p. 365) Article

G89-060 Quaternion Feedback Regulator for Spacecraft Eigenaxis Rotations. B. Wie, H. Weiss and A. Arapostathis, *University of Texas at Austin* (12, 3, p. 375) Article

G89-061 Robust Eigensystem Assignment for Flexible Structures. Jer-Nan Juang, *NASA Langley Research Center*; Kyong B. Lim, *PRC Kentron*; and John L. Junkins, *Texas A&M University* (12, 3, p. 381) Article based on AIAA Paper 87-0000 CP878

G89-062 Analysis of Limit Cycle in Control Systems for Joint-Dominated Structures. Mathieu Mercadal and Wallace E. Vander Velde, *Massachusetts Institute of Technology* (12, 3, p. 388) Article

G89-063 Robust Eigenstructure Assignment by a Projection Method: Applications Using Multiple Optimization Criteria. D. W. Rew and J. L. Junkins, *Texas A&M University*; and J.-N. Juang, *NASA Langley Research Center* (12, 3, p. 396) Article

G89-064 Dynamics and Control of the Tether Elevator/Crawler System. E. C. Lorenzini and M. Cosmo, *Harvard-Smithsonian Center for Astrophysics*; S. Vetrella and A. Moccia, *Universita' di Napoli, Italy* (12, 3, p. 404) Article

G89-065 High-Fidelity Low-pass Finite-Impulse-Response Filters. Robert, H. Wilkinson, *Charles Stark Draper Laboratory, Inc.* (12, 3, p. 412) Article

G89-066 Measures of Modal Controllability and Observability for First- and Second-Order Linear Systems. A. M. A. Hamdan and A. H. Nayfeh, *Virginia Polytechnic Institute and State University* (12, 3, p. 421) Article
Errata (12, 5, p. 768)

G89-067 Fixed-Order Compensator Design Based on Frequency-Shaped Cost Functionals. Anthony J. Calise and V. R. P. Jonnalagadda, *Georgia Institute of Technology* (12, 3, p. 429) Engineering Note based on AIAA Paper 87-2239 CP878

G89-068 Effects of Amospheric Density Gradient on Control of Tethered Subsatellites. Junjiro Onoda and Naoyuki Watanabe, *Institute of Space and Astronautical Science, Japan* (12, 3, p. 431) Engineering Note

G89-069 Optimal Terminal Maneuver for a Cooperative Impulsive Rendezvous. John E. Prussing and Bruce A. Conway, *University of Illinois at Urbana-Champaign* (12, 3, p. 433) Engineering Note
Errata (12, 4, p. 608)

G89-070 Sequential Design of Discrete Linear Quadratic Regulators via Optimal Root-Locus Techniques. Sekar Ganesan and Leang S. Shieh, *University of Houston*; and Robert E. Yates, *U. S. Army Missile Command, Redstone Arsenal* (12, 3, p. 435) Engineering Note

G89-071 Problem of the Dynamics of a Cantilever Beam Attached to a Moving Base. S. Hanagud and S. Sarkar, *Georgia Institute of Technology* (12, 3, p. 438) Engineering Note

G89-072 Gravitational Moment Exerted on a Small Body by an Oblate Body. Carlos M. Roithmayr, *NASA Johnson Space Center* (12, 3, p. 441) Engineering Note

G89-073 Tracking Accuracy for LEOSTAT-GEOSTAT Laser Links. Ramani Seshamani, D. V. B. Rao and T. K. Alex, *ISRO Satellite Centre, India* (12, 3, p. 444) Engineering Note

G89-075 Flying Qualities from Early Airplanes to the Space Shuttle. William H. Phillips, *NASA Langley Research Center* (12, 4, p. 449) Article based on AIAA Paper 88-0751

G89-076 Parameter Robust Linear-Quadratic-Gaussian Design Synthesis with Flexible Structure Control Applications. Minjea Tahk and Jason L. Speyer, *University of Texas at Austin* (12, 4, p. 460) Article

G89-077 Computational Complexities and Storage Requirements of Some Riccati Equation Solvers. A. V. Ramesh and Senol Utku, *Duke University*; and John A. Garba, *Jet Propulsion Laboratory, California Institute of Technology* (12, 4, p. 469) Article

G89-078 Eigenvalue and Eigenvector Derivatives of a Non-defective Matrix. Jer-Nan Juang, Peiman Ghaemmaghami and Kyong Been Lim, *NASA Langley Research Center* (12, 4, p. 480) Article based on AIAA Paper 88-2352 CP882

G89-079 Optimal Impulsive Time-Fixed Direct-Ascent Interception. John E. Prussing and Linda J. Wellnitz, *University of Illinois at Urbana-Champaign*; and William G. Heckathorn, *U. S. Air Force Wright Aeronautical Laboratories, Wright-Patterson AFB* (12, 4, p. 487) Article based on AIAA Paper 85-0437

G89-080 Explicit Guidance Along an Optimal Space Curve. Michael E. Hough, *Textron Defense Systems* (12, 4, p. 495) Article based on AIAA Paper 88-4297 CP8811

G89-081 Analysis of a Candidate Control Algorithm for a Ride-Quality Augmentation System. Reiner Suikat, Kent Donaldson and David R. Downing, *University of Kansas* (12, 4, p. 505) Article based on AIAA Paper 87-2936

G89-082 Effect of Head-Up Display Dynamics on Fighter Flying Qualities. Randall E. Bailey, *Calspan Corporation* (12, 4, p. 514) Article based on AIAA Paper 86-2206 CP868

G89-083 Flight Evaluation of Pursuit Displays for Precision Approach of Powered-Lift Aircraft. Charles S. Hynes, James A. Franklin, Gordon H. Hardy, James L. Martin and Robert C. Innis, *NASA Ames Research Center* (12, 3, p. 521) Article based on AIAA Paper 85-1944 CP856

G89-084 Hierarchical Partitions in Cyclic Closed Systems: A Hardware-Oriented Approach. F. Rosemberg and S. Ruhman, *Weizmann Institute of Science, Israel* (12, 4, p. 530) Article

G89-085 Intercomputer Communication Architecture for a Mixed Redundancy Distributed System. Jaynarayan H. Lala and Stuart J. Adams, *Charles Stark Draper Laboratory, Inc.* (12, 4, p. 539) Article based on AIAA Paper 87-2607 CP878

G89-086 Adaptive Identification of a Flexible Structure by Lattice Filters. F. Jabbari, *University of California, Irvine*; and J. S. Gibson, *University of California, Los Angeles* (12, 4, p. 548) Article based on AIAA Paper 87-2458 CP878

G89-087 Active Suppression of Traveling Waves in Structures. Jeffrey Bennighof and Leonard Meirovitch, *Virginia Polytechnic Institute and State University* (12, 4, p. 555) Article based on AIAA Paper 87-0942 CP878

G89-088 Single-Mode Projection Filters for Modal Parameter Identification for Flexible Structures. Jen-Kuang Huang, *Old Dominion University*; Jer-Nan Juang, *NASA Langley Research Center*; and Chung-Wen Chen, *Old Dominion University* (12, 4, p. 568) Article

G89-089 Component Mode Synthesis for Model Order Reduction of Nonclassically Damped Systems. Roy R. Craig Jr., *University of Texas at Austin*; and Zhenhau Ni, *Xian Jiatong University, China* (12, 4, p. 577) Article based on AIAA Paper 87-2386 CP878

G89-090 Vibration Compensation in Optical Tracking Systems. Enrique Barbieri, Ümit Özgüner and Stephen Yurkovich, *Ohio State University* (12, 4, p. 585) Article

G89-091 Motivating Kane's Method for Obtaining Equations of Motion for Dynamic Systems. Joel Storch and Stephen Gates, *Charles Stark Draper Laboratory, Inc.* (12, 4, p. 593) Engineering Note based on AIAA Paper 89-1305 CP891

G89-092 Improved Time-Domain Stability Robustness Measures for Linear Regulators. Djordjija B. Petkovski, *University of Novi Sad, Yugoslavia* (12, 4, p. 595) Engineering Note

G89-093 Optimal Evasion Against a Proportionally Guided Pursuer. Joseph Z. Ben-Asher and Eugene M. Cliff, *Virginia Polytechnic Institute and State University* (12, 4, p. 598) Engineering Note

G89-094 Analytical Solution of Optimal Trajectory-Shaping Guidance. M. N. Rao, *Defence Research and Development Laboratory, India* (12, 4, p. 600) Engineering Note

G89-095 Three-Dimensional Energy-State Extremals in Feedback Form. M. D. Ardema, *Santa Clara University*; N. Rajan and L. Yang, *Sterling Software* (12, 4, p. 601) Engineering Note based on AIAA Paper 87-2316 CP878

G89-096 Eigenstructure of the State Matrix of Balanced Realizations. A. M. A. Hamdan and A. H. Nayfeh, *Virginia Polytechnic Institute and State University* (12, 4, p. 605) Engineering Note

G89-099 Parameter Estimation for Flight Vehicles. Kenneth W. Iliff, *NASA Ames Research Center* (12, 5, p. 609) Article based on AIAA Paper 87-0623

G89-100 Flight Investigation of Helicopter Low-Speed Response Requirements. David G. Mitchell and Roger H. Hoh, *Systems Technology, Inc.*; and J. Murray Morgan, *National Aeronautical Establishment, Canada* (12, 5, p. 623) Article based on AIAA Paper 87-2285 CP876

G89-101 Study of Aircraft Cruise. P. K. A. Menon, *Georgia Institute of Technology* (12, 5, p. 631) Article based on AIAA Paper 86-2286 CP868

G89-102 Evaluation of Takeoff Performance Monitoring System Display. David B. Middleton, *NASA Langley Research Center*; and Raghavachari Srivatsan, *University of Kansas Center for Research, Inc.* (12, 5, p. 640) Article based on AIAA Paper 87-2256 CP878

G89-103 Recursive Form of the Eigensystem Realization Algorithm for System Identification. Richard W. Longman, *Columbia University*; and Jer-Nan Juang, *NASA Langley Research Center* (12, 5, p. 647) Article

G89-104 Experimental Estimation of Modeling Errors in Dynamic Systems. Dan T. Horak, *Allied-Signal Aerospace Company* (12, 5, p. 653) Article

G89-105 Issues in the Dynamics and Control of Flexible Robot Manipulators. H. Baruh and S. S. K. Tadikonda, *Rutgers University* (12, 5, p. 659) Article

G89-106 Approach to Modeling and Estimation for Uncertain Systems. Yoshikazu Miyazawa and Earl H. Dowell, *Duke University* (12, 5, p. 672) Article based on AIAA Paper 87-2241 CP878

G89-107 Gain-Free Square Root Information Filtering Using the Spectral Decomposition. Yaakov Oshman, *State University of New York at Buffalo* (12, 5, p. 681) Article

G89-108 Suboptimal Feedback Vibration Control of a Beam with a Proof-Mass Actuator. H. Politansky and Walter D. Pilkey, *University of Virginia* (12, 5, p. 691) Article based on AIAA Paper 87-2323 CP878

G89-109 Square-Root State Estimation for Second-Order Large Space Structures Models. Yaakov Oshman and Daniel J. Inman, *State University of New York at Buffalo*; and Alan J. Laub, *University of California, Santa Barbara* (12, 5, p. 698) Article based on AIAA Paper 87-2389 CP878

G89-110 Representation of Control Systems for Preliminary Space Station Design. Paul Blelloch, *SDRC, Inc.* (12, 5, p. 709) Article based on AIAA Paper 87-2641 CP878

G89-111 New Approach to Attitude/Momentum Control for the Space Station. B. Wie, K. W. Byun and V. W. Warren, *University of Texas at Austin*; D. Geller, D. Long and J. Sunkel, *NASA Johnson Space Center* (12, 5, p. 714) Article based on AIAA Paper 88-4132 CP889

G89-112 Optimal Control of Large Space Structures Using Distributed Gyrocity. C. J. Damaren and G. M. T. D'Eleuterio, *University of Toronto, Canada* (12, 5, p. 723) Article

G89-113 Combining Propulsive and Aerodynamic Maneuvers to Achieve Optimal Orbital Transfer. John M. Hanson, *ANSER* (12, 5, p. 732) Article based on AIAA Paper 87-2567 CP876

G89-114 Improved Guidance Law Design Based on the Mixed-Strategy Concept. I. Forte and J. Shinar, *Technion-Israel Institute of Technology* (12, 5, p. 739) Article based on AIAA Paper 87-2384 CP878

G89-115 Latent Fault Markov Model for a Highly Reliable Triplex Computer System. Frederic L. Swern, *Stevens Institute of Technology*; Salvatore J. Bavuso, *NASA Langley Research Center*; and Anna L. Martensen, *PRC Kentron, Inc.* (12, 5, p. 746) Article based on AIAA Paper 87-2605 CP878

G89-116 Nature of Coupling in Nonconservative Lumped Parameter Systems. John Bellos and Daniel J. Inman, *State University of New York at Buffalo* (12, 5, p. 751) Engineering Note

G89-117 Bounded-Input/Bounded-Output Stability of Linear Multidimensional Time-Varying Systems. S. Pradeep and S. K. Shrivastava, *Indian Institute of Science, India* (12, 5, p. 753) Engineering Note

G89-118 Nutation Damping Using a Pivotal Momentum Wheel. C. Hubert and D. Bruno, *General Electric Company* (12, 5, p. 756) Engineering Note

G89-119 Stability Analysis of Electro-Magnetoplasmadynamics. F. Pourki and R. Shoureshi, *Purdue University* (12, 5, p. 757) Engineering Note based on AIAA Paper 87-0384

G89-120 Calculation of Structural Dynamic Forces and Stresses Using Mode Acceleration. Paul Bleloch, *SDRC* (12, 5, p. 760) Engineering Note

G89-121 Design of a Modalized Observer with Eigenvalue Sensitivity Reduction. Kenneth M. Sobel, *City College of New York*; and Siva S. Banda, *Flight Dynamics Laboratory, Wright-Patterson AFB* (12, 5, p. 762) Engineering Note

G89-122 Simple Hybrid Search Technique for Finding Conic Solutions to the Intercept Problem. A. D. Parks, J. A. Lawton and D. B. Bell, *Naval Surface Warfare Center* (12, 5, p. 764) Engineering Note

G89-126 Motion of Particulate Material Ejected from a Rotating Space Platform. Rhonald M. Jenkins, John E. Cochran Jr. and Kenneth A. Phelps, *Auburn University* (12, 6, p. 769) Synoptic

G89-127 Some Special Cases of Spin-Yaw Lock-In. Charles H. Murphy, *U. S. Army Ballistic Research Laboratory, Aberdeen Proving Ground* (12, 6, p. 771) Article based on AIAA Paper 87-2428 CP876

G89-128 Minimum-Time Turns Using Vectored Thrust. Garret L. Schneider and George W. Watt, *U. S. Air Force Institute of Technology, Wright-Patterson AFB* (12, 6, p. 777) Article based on AIAA Paper 88-4070 CP889

G89-129 Design of Attitude and Command Systems for Helicopters Using Eigenstructure Assignment. William L. Garrard, Eicher Low and Scott Prouty, *University of Minnesota* (12, 6, p. 783) Article based on AIAA Paper 88-4141 CP889

G89-130 Theory for Aircraft Handling Qualities Based upon a Structural Pilot Model. Ronald A. Hess, *University of California, Davis* (12, 6, p. 792) Article based on AIAA Paper 87-2537 CP878

G89-131 Control Decoupling Analysis for Gyroscopic Effects in Rolling Missiles. Peter W. Fortescue, *University of Southampton, England, UK*; and Eduardo M. Belo, *Universidade de São Carlos, Brazil* (12, 6, p. 798) Article

G89-132 Penetration Landing Guidance Trajectories in the Presence of Windshear. A. Miele and T. Wang, *Rice University*; and W. W. Melvin, *Delta Airlines* (12, 6, p. 806) Article based on AIAA Paper 88-4069 CP889

G89-133 Acceleration, Gamma, and Theta Guidance for Abort Landing in a Windshear. A. Miele and T. Wang, *Rice University*; W. W. Melvin, *Delta Airlines*; and R. L. Bowles, *NASA Langley Research Center* (12, 6, p. 815) Article

G89-134 Accuracy of Eigenvalue Derivatives from Reduced-Order Structural Models. Chris A. Sandridge and Raphael T. Haftka, *Virginia Polytechnic Institute and State University* (12, 6, p. 822) Article based on AIAA Paper 87-0905 CP873

G89-135 Influence of Geometric Nonlinearities in the Dynamics of Flexible Treelike Structures. S. K. Ider and F. M. L. Amirouche, *University of Illinois at Chicago* (12, 6, p. 830) Article

G89-136 Dynamic Modeling and Adaptive Control of a Single-Link Flexible Manipulator. Jerzy Z. Sasiadek and Ramesh Srinivasan, *Carleton University, Canada* (12, 6, p. 838) Article based on AIAA Paper 88-4120 CP889

G89-137 Reduced-Order Models of a Large Flexible Spacecraft. Kazuo Tsuchiya, Toshio Kashiwase and Katsuhiko Yamada, *Mitsubishi Electric Corporation, Japan* (12, 6, p. 845) Article

G89-138 Investigation of the Time Required for Control of Structures. Jeffrey K. Bennighof and Robert L. Boucher, *University of Texas at Austin* (12, 6, p. 851) Article

G89-139 Mission-Function Control for Slew Maneuver of a Flexible Space Structure. Hironori Fujii and Shintaro Ishijima, *Tokyo Metropolitan Institute of Technology, Japan* (12, 6, p. 858) Article

G89-140 Effect of Tether Flexibility on the Tethered Shuttle Subsatellite Stability and Control. Liu Liangdong and Peter M. Bainum, *Howard University* (12, 6, p. 866) Article

G89-141 Application of Actuators to Control Beam Flexure in a Large Space Structure. Shalom Fisher, *Naval Research Laboratory* (12, 6, p. 874) Article

G89-142 Space Shuttle Guidance for Multiple Main Engine Failures During First Stage. Steven J. Sponaugle and Stanley T. Fernandes, *McDonnell Douglas Astronautics Company* (12, 6, p. 880) Article based on AIAA Paper 87-2398 CP878

G89-143 Stability Parameter and Roll Rate From Early Re-Entry Radar or Optical Data. R. L. Henry, *U. S. Air Force Systems Command, Wright-Patterson AFB* (12, 6, p. 886) Article

G89-144 Simulation Model-Building Procedure for Dynamic Systems Integration. P. Douglas Arbuckle and Carey S. Buttrill, *NASA Langley Research Center*; and Thomas A. Zeiler, *Planning Research Corporation* (12, 6, p. 894) Article

G89-145 Noisy Satellite Pursuit-Evasion Guidance. A. W. Merz, *Lockheed Research Laboratory* (12, 6, p. 901) Article based on AIAA Paper 87-2319 CP878

G89-146 Extension to Modified Polar Coordinates and Applications with Passive Measurements. S. N. Balakrishnan, *University of Missouri-Rolla* (12, 6, p. 906) Article based on AIAA Paper 87-1025

G89-147 Literal Singular-Value-Based Flight Control System Design Techniques. Duane T. McRuer, Thomas T. Myers and Peter M. Thompson, *Systems Technology, Inc.* (12, 6, p. 913) Article based on AIAA Paper 86-2712

G89-148 Multipoint Smoothing Algorithm for Discrete Linear Systems. S. R. McReynolds, *Applied Technology Associates, Inc.* (12, 6, p. 920) Article

G89-149 Solving the Two-Body Problem by Geometric Construction. Wayne Tempelman, *Charles Stark Draper Laboratory, Inc.* (12, 6, p. 925) Article

G89-150 Control of Distributed Structures with Small Non-proportional Damping. L. Meirovitch and M. A. Norris, *Virginia Polytechnic Institute and State University* (12, 6, p. 930) Engineering Note

G89-151 Application of Output Feedback to Variable Structure Systems. Bonnie S. Heck and Aldo A. Ferri, *Georgia Institute of Technology* (12, 6, p. 932) Article

G89-152 Enhancement of Data Separability in Multisensor-Multitarget Tracking Problems. S. N. Balakrishnan, *University of Missouri-Rolla*; B. D. Tapley and B. E. Schutz, *University of Texas at Austin* (12, 6, p. 938) Engineering Note

G89-153 Dynamics of a Rotationally Accelerated Beam. T. P. Mitchell and J. C. Bruch Jr., *University of California, Santa Barbara* (12, 6, p. 935) Engineering Note

G89-155 Flexible Manipulator Modeling for Control System Development. V. A. Spector and H. Flashner, *University of Southern California* (12, 6, p. 943) Article based on AIAA Paper 87-2264 CP878

G89-154 Geodetic Position Estimation for a Geosynchronous Satellite. N. Nagarajan, S. Akila and S. V. Rao, *ISRO Satellite Centre, India* (12, 6, p. 941) Engineering Note

G89-156 Tracking with Paired Angle Measurement Sensors. Thomas R. Blackburn, *McDonnell Douglas Space Systems Company* (12, 6, p. 945) Engineering Note

U.S. Postal Service STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION <small>Required by 39 U.S.C. 3685</small>									
1A. Title of Publication Journal of Guidance, Control and Dynamics		1B. PUBLICATION NO. <table border="1"> <tr> <td>4</td> <td>4</td> <td>0</td> <td>7</td> <td>1</td> <td>0</td> </tr> </table>	4	4	0	7	1	0	2. Date of Filing 9/28/89
4	4	0	7	1	0				
3. Frequency of Issue Bi-monthly		3A. No. of Issues Published Annually 6	3B. Annual Subscription Price \$25.00						
4. Complete Mailing Address of Known Office of Publication (Street, City, County, State and ZIP+4 Code) (Not printers) 370 L'Enfant Promenade S.W., Washington, D.C. 20024									
5. Complete Mailing Address of the Headquarters of General Business Offices of the Publisher (Not printer) Same as above.									
6. Full Names and Complete Mailing Address of Publisher, Editor, and Managing Editor (This item MUST NOT be blank)									
Publisher (Name and Complete Mailing Address) American Institute of Aeronautics and Astronautics, Inc. Same as above.									
Editor (Name and Complete Mailing Address) Donald C. Fraser -- same as above.									
Managing Editor (Name and Complete Mailing Address) William O'Connor -- Same as above.									
7. Owner (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given. If the publication is published by a nonprofit organization, its name and address must be stated.) (Item must be completed.)									
Full Name		Complete Mailing Address							
American Institute of Aeronautics and Astronautics, Inc.		Same as above.							
8. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages or Other Securities (If there are none, so state)									
Full Name		Complete Mailing Address							
None.									
9. For Completion by Nonprofit Organizations Authorized to Mail at Special Rates (DMN Section 423.12 only) The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes (Check one)									
(1) <input checked="" type="checkbox"/> Has Not Changed During Preceding 12 Months		(2) <input type="checkbox"/> Has Changed During Preceding 12 Months <small>(If changed, publisher must submit explanation of change with this statement.)</small>							
10. Extent and Nature of Circulation <small>(See instructions on reverse side)</small>		Average No. Copies Each Issue During Preceding 12 Months	Actual No. Copies of Single Issue Published Nearest to Filing Date						
A. Total No. Copies (Net Press Run)		3,500	3,500						
B. Paid and/or Requested Circulation 1. Sales through dealers and carriers, street vendors and counter sales		-----	-----						
2. Mail Subscription <small>(Paid and/or requested)</small>		3,086	3,106						
C. Total Paid and/or Requested Circulation <small>(Sum of 10B1 and 10B2)</small>		3,086	3,106						
D. Free Distribution by Mail, Carrier or Other Means Samples, Complimentary, and Other Free Copies		118	115						
E. Total Distribution <small>(Sum of C and D)</small>		3,204	3,221						
F. Copies Not Distributed 1. Office use, left over, unaccounted, spoiled after printing		296	279						
2. Return from News Agents		-----	-----						
G. TOTAL <small>(Sum of E, F1 and 2—should equal net press run shown in A)</small>		3,500	3,500						
11. I certify that the statements made by me above are correct and complete		Signature and Title of Editor, Publisher, Business Manager, or Owner David Quackenbush, Controller 							