Chronological Index

Technology (**11**, 2, p. 153) Article based on AIAA Paper 86-2248 CP869

G88-025 Identification of Pilot Dynamics in a System with a Choice of Feedback Structures. Norihiro Goto and Takumi Matsuo, *Kyushu University, Japan* (**11**, 2, p. 159) Article based on AIAA Paper 86-2250 CP869

G88-026 Estimation of Small Perturbations in an Inertial Sensor. Pedro E. Zadunaisky and Ricardo S. Sanchez Peña, *IIAE--Centro Espacial San Miguel, Argentina* (**11**, 2, p. 167) Article

G88-027 Simulation of a Random Differential Equation. M. Rehak and H. Benaroya, *Weidlinger Associates* (**11**, 2, p. 173) Article

G88-028 Simple Computational Technique for Determining Angle-of-Attack Convergence of Conical Re-entry Vehicles. Richard Maurer and Dennis Hall, *Massachusetts Institute of Technology* (**11**, 2, p. 179) Engineering Note

G88-029 Kalman Filtering for Second-Order Models. Hamid R. Hashemipour, *Tau Corporation*; and Alan J. Laub, *University of California, Santa Barbara* (**11**, 2, p. 181) Engineering Note

G88-030 Optimal Estimation of Local Orbit from GPS Measurements. Roberto V. F. Lopes and Hélio K. Kuga, *Instituto de Pesquisas Espaciais, Brazil* (**11**, 2, p. 186) Engineering Note

G88-031 Calculation of Geodetic Coordinates from Earth-Centered, Earth-Fixed Coordinates. Karl Donald Olson II, *Pacific Missile Test Center* (**11**, 2, p. 188) Engineering Note

G88-033 CEP Calculations for a Rocket with Different Control Systems. Gregor Gregoriou, *ENVIRO GmbH,FRG* (**11**, 3, p. 193) Article based on AIAA Paper 86-2041 CP869

G88-034 Effects of Strapdown Seeker Scale-Factor Uncertainty on Optimal Guidance. Warren, W. Willman, *U. S. Naval Weapons Center* (**11**, 3, p. 199) Article

G88-035 Input Selection for a Second-Order Mass Property Estimator. Robert F. Richfield, *U. S. Army Missile Command, Redstone Arsenal*; Bruce K. Walker, *University of Cincinnati*; and Edward V. Bergmann, *Charles Stark Draper Laboratory, Inc.* (**11**, 3, p. 207) Article based on AIAA Paper 86-1983 CP869

G88-036 Application of Parameter Estimation to Highly Unstable Aircraft. Richard E. Maine and James E. Murray, *NASA Ames Research Center* (**11**, 3, p. 213) Article based on AIAA Paper 86-2020 CP869

G88-037 Design of a Multivariable Flutter Suppression/Gust Load Alleviation System. B. S. Liebst, W. L. Garrard and Jerome A. Farm, *University of Minnesota* (**11**, 3, p. 220) Article based on AIAA Paper 86-2247 CP869

G88-038 Microprocessor Controlled Force Actuator. D. C. Zimmerman, *State University of New York at Buffalo*; G. C. Horner, *NASA Langley Research Center*; and D. J. Inman, *State University of New York at Buffalo* (**11**, 3, p. 230) Article

G88-039 Control Theoretic Approach to Inertial Navigation Systems. I. Y. Bar-Itzhack and N. Berman, *Technion--Israel Institute of Technology* (**11**, 3, p. 237) Article

G88-040 Inflight Observability of Gyro Reference Frame Misalignment. Whittak H. Huang, *Martin Marietta Corporation* (**11**, 3, p. 246) Article based on AIAA Paper 86-2151 CP869

G88-041 Computer-Aided Control Systems Design Technique with Applications to Aircraft Flying Qualities. L. R. Pujara, *Wright State University* (**11**, 3, p. 250) Article

G88-042 Minimum Model Error Estimation for Poorly Modeled Dynamic Systems. Joseph D. Mook, *State University of New York at Buffalo*; and John L. Junkins, *Texas A&M University* (**11**, 3, p. 256) Article based on AIAA Paper 87-0173 Errata (**11**, 5, p. 480)

G88-043 Variable-Structure Control of Spacecraft Attitude Maneuvers. Thomas A. W. Dwyer III and Herbertt Sira-Ramirez, *University of Illinois* (**11**, 3, p. 262) Article

G88-044 Active Vibration Control Synthesis for the Control of Flexible Structures Mast Flight System. Bong Wie, *University of Texas at Austin* (**11**, 3, p. 271) Article based on AIAA Paper 87-2322 CP878

G88-045 Triangularization of Equations of Motion for Robotic Systems. Dan E. Rosenthal, *Symbolic Dynamics* (**11**, 3, p. 278) Engineering Note

G88-046 Algorithm to Generate Geodetic Coordinates from Earth-Centered Earth-Fixed Coordinates. Atul Nautiyal, *Defence Research and Development Laboratory, India* (**11**, 3, p. 281) Engineering Note

G88-047 Evaluation of Image Stability of a Precision Pointing Spacecraft. Hari B. Hablani, *Rockwell International* (**11**, 3, p. 283) Engineering Note

G88-048 Principal Coordinate Realization of State Estimation and Its Application to Order Reduction. Yoshikazu Miyazawa and Earl H. Dowell, *Duke University* (**11**, 3, p. 286) Engineering Note

G88-049 Application of Frequency-Domain Handling Qualities Criteria to the Longitudinal Landing Task. Shahan K. Sarrafian and Bruce G. Powers, *NASA Ames Research Center* (**11**, 4, p. 291) Synoptic based on AIAA Paper 85-1848 CP856

G88-050 Cruise-Dash-Climb Analysis of an Airbreathing Missile. David F. Chichka, *Atlantic Research Corporation*; Uday, J. Shankar, *RCA*; Eugene, M. Cliff and Henry J. Kelley, *Virginia Polytechnic Institute and State University* (**11**, 4, p. 293) Article based on AIAA Paper 87-2512 CP878

G88-051 Optimal Evasion with a Path-Angle Constraint and Against Two Pursuers. Joseph Ben-Asher, Eugene, M. Cliff and Henry J. Kelley, *Virginia Polytechnic Institute and State University* (**11**, 4, p. 300) Article

G88-052 Singular Optimal Atmospheric Rocket Trajectories. Renjith Kumar and Henry J. Kelley, *Virginia Polytechnic Institute and State University* (**11**, 4, p. 305) Article

G88-053 Series Representations and Rational Approximations for Hansen Coefficients. R. J. Proulx and W. D. McClain, *Charles Stark Draper Laboratory, Inc.* (**11**, 4, p. 313) Article

G88-054 Gamma Guidance Schemes for Flight in a Windshear. A. Miele and T. Wang, *Rice University*; W. W. Melvin, *Delta Airlines*; and R. L. Bowles, *NASA Langley Research Center* (**11**, 4, p. 320) Article based on AIAA Paper 86-0564

G88-055 Reduced-Order Compensation: Linear-Quadratic Reduction Versus Optimal Projection. S. W. Greeley and D. C. Hyland, *Harris Corporation* (**11**, 4, p. 328) Article

G88-056 Clutter Effect on the Miss Distance of a Radar Homing Missile. Susumu Miwa, *Tokyo Denki University, Japan*;

Fumiaki Imado and Takeshi Kuroda, *Mitsubishi Electric Corporation, Japan* (11, 4, p. 336) Article based on AIAA Paper 87-2449 CP878

G88-057 Propellant Interaction with the Payload Control System of Dual-Spin Spacecraft. Loren I. Slafer and A. Dorian Challoner, *Hughes Aircraft Company* (11, 4, p. 343) Article

G88-058 Optimal Payload Lofting with Tethers. William E. Wiesel, *U. S. Air Force Institute of Technology, Wright-Patterson AFB* (11, 4, p. 352) Article

G88-059 Some Approximations for the Dynamics of Spacecraft Tethers. A. H. von Flotow, *Massachusetts Institute of Technology* (11, 4, p. 357) Article

G88-060 Stabilization of Computational Procedures for Constrained Dynamical Systems. K. C. Park and J. C. Chiou, *University of Colorado* (11, 4, p. 365) Article

G88-061 Discrete Optimal Tracking with Prescribed Disturbances. M. Shefer, *Ministry of Defence, Israel* (11, 4, p. 371) Engineering Note

G88-062 Molniya Orbits Obtained by the Two-Burn Method. Abraham D. Stone and R. F. Brodsky, *TRW Space and Technology Group* (11, 4, p. 372) Engineering Note

G88-063 Optimal Proportional Navigation. Ciann-Dong Yang and Fang-Bo Yeh, *National Cheng Kung University, Taiwan, ROC* (11, 4, p. 375) Engineering Note

G88-064 Dynamics and Control of a Space Platform with a Tethered Subsatellite. Fan Ruying, *Beijing Institute of Control Engineering, China*; and Peter M. Bainum, *Howard University* (11, 4, p. 377) Engineering Note

G88-065 Vector Representation of Finite Rotations. James C. Wilcox, *TRW Space and Technology Group* (11, 4, p. 381) Engineering Note

G88-066 Spin Rate Variations of Spin-Stabilized Apogee Motors in Thrust Phase. V. Adimurthy and Pradeep Kumar, *Vikram Sarabhai Space Centre, India*; and S. Lakshmi-narayanan, *Vikram Sarabhai Space Center, India* (11, 4, p. 382) Engineering Note

G88-067 Artificial Intelligence Design Challenge--Background, Analysis, and Relative Performance of Algorithms. Owen L. Deutsch, *Charles Stark Draper Laboratory, Inc.* (11, 5, p. 386) Article based on AIAA Paper 87-2339 CP878

G88-068 Efficiency-Guided Method for Traveling-Salesman-Like Resource Allocation Problems. William H. Press, *Harvard University*; and Curtis G. Callan Jr., *Princeton University* (11, 5, p. 394) Article based on AIAA Paper 87-2334 CP878

G88-069 Multiple Algorithm Solution to the Artificial Intelligence Design Challenge. Karl W. Doty, *The Aerospace Corporation* (11, 5, p. 397) Article based on AIAA Paper

G88-070 Rapid Solution of Constrained Traveling Salesman Problems. Clifford D. DeJong, *Kaman Sciences Corporation* (11, 5, p. 403) Article based on AIAA Paper 87-2332 CP878

G88-071 Weighted Hamiltonian Augmentation Method Involving Insertions. Roy W. Dahl, Karen Keating and Laurence Levy, *DISTINCT Management Consultants*; Daryl J. Salamone, *University of Maryland*; Barindra Nag, *Towson State University*; and Joan A. Sanborn, *NASA Goddard Space Flight Center* (11, 5, p. 412) Article based on AIAA Paper 87-2333 CP878

G88-072 Birth of a Salesman. John J. Shaw, Ronald M. James and Daniel B. Grunberg, *ALPHATECH, Inc.* (11, 5, p. 415) Article based on AIAA Paper 87-2335 CP878

G88-073 Brute Force and Artificial Intelligence. David Barry Schaechter, *Lockheed Palo Alto Research Laboratory* (11, 5, p. 421) Article based on AIAA Paper 87-2337 CP878

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

G88-075 Solution to the Traveling Salesman Problem Using Heuristic Function Maximization. Chien Y. Huang, *Grumman Aerospace Corporation*; and Stephen H. Lane, *Princeton University* (11, 5, p. 430) Article based on AIAA Paper 87-2338 CP878

G88-076 Branch-and-Cut Approach to a Variant of the Traveling Salesman Problem. Manfred Padberg, *New York University*; and Giovanni Rinaldi, *Istituto di Analisi dei Sistemi ed Informatica del CNR, Italy* (11, 5, p. 436) Article based on AIAA Paper 87-2331 CP878

G88-077 Theoretical and Experimental Investigation of Space-Realizable Inertial Actuation for Passive and Active Structural Control. David W. Miller and Edward F. Crawley, *Massachusetts Institute of Technology* (11, 5, p. 449) Article

G88-078 Reduced-Order Modeling of Flexible Structures. Jayant V. Ramakrishnan, S. Vittal Rao and Leslie R. Koval, *University of Missouri--Rolla* (11, 5, p. 459) Article

G88-079 Pilot/Vehicle Analysis of a Twin-Lift Helicopter Configuration in Hover. R. A. Hess and P. M. Tran, *University of California, Davis* (11, 5, p. 465) Article based on AIAA Paper 87-0345

G88-080 Finite-Time Matrix Convolution Integral Sensitivity Calculations. James D. Turner, *Cambridge Research*; Achille Messac, *Charles Stark Draper Laboratory, Inc.*; and John L. Junkins, *Virginia Polytechnic Institute and State University* (11, 5, p. 473) Article

G88-081 Low-Thrust Insertion into Orbit around Mars. S. A. Parvez, *GTE Spacenet Corporation*; and J. M. L. Holman, *RCA Aerospace and Defense* (11, 5, p. 475) Engineering Note based on AIAA Paper 87-0093

G88-082 Tethered Subsatellite Swinging from Atmospheric Gradients. Junjiro Onoda and Naoyuki Watanabe, *The Institute of Space and Astronautical Science, Japan* (11, 5, p. 477) Engineering Note

G88-083 Heuristic Approach to the Artificial Intelligence Design Challenge. Ting-Yi Sung, Her-Jiun Sheu and Denis Naddef, *New York University* (11, 5, p. 406) Article based on AIAA Paper 87-2336 CP878

G88-084 Advantages of Tether Release of Satellites from Elliptic Orbits. George A. Kyroudis, *TRW Space and Technology Group*; and Bruce A. Conway, *University of Illinois* (11, 5, p. 441) Article based on AIAA Paper 86-2276 CP869

G88-085 Miss Distance Analysis for Command Guided Missiles. Joel Alpert, *Massachusetts Institute of Technology, Lincoln Laboratory* (11, 6, p. 481) Article based on AIAA Paper 87-2582 CP878

G88-086 Exactly Solving the Weighted Time/Fuel Optimal Control of an Undamped Harmonic Oscillator. Marcelo Lopes de Oliveira e Souza, *Instituto de Pesquisas Espaciais, Brazil* (11, 6, p. 488) Article

G88-087 New Insights into Minimum-Variance Reduced-Order Filters. Roy H. Setterlund, *Charles Stark Draper Laboratory, Inc.* (11, 6, p. 495) Article

G88-088 Enhanced Assessment of Robustness for an Aircraft's Sliding Mode Controller. S. K. Mudge and R. J. Patton, *University of York, England, UK* (11, 6, p. 500) Article

G88-089 Failure Detection in Dynamic Systems with Modeling Errors. Dan T. Horak, *Allied-Signal Aerospace Company* (11, 6, p. 508) Article based on AIAA Paper 87-2604 CP878

G88-090 Advanced Detection, Isolation, and Accommodation of Sensor Failures--Real-Time Evaluation. Walter C. Merrill, John C. DeLaat and William M. Bruton, *NASA Lewis Research Center* (11, 6, p. 517) Article

G88-091 Fundamental Approach to Equivalent Systems Analysis. Barton J. Bacon and David K. Schmidt, *Purdue University* (11, 6, p. 527) Article based on AIAA Paper 86-2128 CP869

G88-092 Loop Separation Parameter: A New Metric for Landing Flying Qualities. J. J. Martz and D. J. Biezad, *Aeronautical Systems Division, Wright-Patterson AFB*; and E. D. DiDominico, *U. S. Air Force Test Pilot School, Edwards AFB* (11, 6, p. 535) Article based on AIAA Paper 87-2536 CP878

G88-093 Maneuver and Vibration Control of SCOLE. R. D. Quinn and L. Meirovitch, *Virginia Polytechnic Institute and State University* (11, 6, p. 542) Article

G88-094 Pole-Zero Modeling of Flexible Space Structures. Bong Wie, *University of Texas at Austin*; and Arthur E. Bryson Jr., *Stanford University* (11, 6, p. 554) Article

G88-095 Block-Krylov Component Synthesis Method for Struc- **tural Model Reduction.** Roy R. Craig Jr., *University of Texas at Austin*; and Arthur L. Hale, *General Dynamics Space Systems Division* (11, 6, p. 562) Article

G88-096 Identification Method for Lightly Damped Structures. Nelson G. Creamer, *General Research Corporation*; and John L. Junkins, *Texas A&M University* (11, 6, p. 571) Article

G88-097 Gyrostat Trajectories and Core Energy. M. Guelman, *International Telecommunications Statelite Organization* (11, 6, p. 577) Article

G88-098 Efficient Inclination Control for Geostationary Satellites. D. D. Slavinskas, H. Dabbaghi and W. J. Benden, *AT&T Bell Laboratories*; and G. K. Johnson, *AT&T-Communications* (11, 6, p. 584) Article based on AIAA Paper 85-0216

G88-099 Identity Between INS Position and Velocity Error Equations in the True Frame. I. Y. Bar-Itzhack and D. Goshen-Meskin, *Technion--Israel Institute of Technology* (11, 6, p. 590) Engineering Note

G88-100 Singular Perturbation and Time Scale Approaches in Discrete Control Systems. D. S. Naidu, *Old Dominion University*; and D. B. Price, *NASA Langley Research Center* (11, 6, p. 592) Engineering Note

G88-101 Extensional Oscillations of Tethered Satellite Systems. A. K. Misra, *McGill University, Canada*; and V. J. Modi, *University of British Columbia, Canada* (11, 6, p. 594) Engineering Note based on AIAA Paper 86-2274 CP867

G88-102 Dynamic Simulation of Spin-Stabilized Spacecraft with Sloshing Fluid Stores. Daniel E. Hill and Joseph, R. Baumgarten, *Iowa State University*; and John T. Miller, *Arnold Engineering Development Center* (11, 6, p. 597) Engineering Note