Chronological Index

G02-075E Apology on Increasing the Numerical Robustness of Balanced Model Reduction. Gregory J. W. Mallory and David W. Miller, *Massachusetts Institute of Technology* (**33**, 2, p. 2) Erratum

G07-125E Erratum on Course and Heading Changes in Significant Wind. Rolf Rysdyk, *University of Washington* (**33**, 4, p. 1311) Erratum

G09-036E Erratum on Survey of Technology Developments in Flywheel Attitude Control and Energy Storage Systems. Jerry Fausz and Brian Wilson, *U.S. Air Force Research Laboratory*; Chris Hall, *Virginia Polytechnic Institute and State University*; and David Richie and Vaios Lappas, *University of Surrey*, Great Britain (**33**, 1, p. 286) Erratum

G10-001 Time-Varying Eigensystem Realization Algorithm. Manoranjan Majji, *Texas A&M University*; Jer-Nan Juang, *National Cheng Kung University*, Taiwan (ROC); and John L. Junkins, *Texas A&M University* (**33**, 1, p. 13) Article

G10-002 Effects of Heave Washout Settings in Aircraft Pitch Disturbance Rejection. D. M. Pool, P. M. Zaal, M. M. Van Paassen, and M. Mulder, *Delft University of Technology*, The Netherlands (**33**, 1, p. 29) Article based on AIAA Paper 2009-6241

G10-003 Optimization of Human Perception Modeling Using Interval Analysis. E. van Kampen, P. M. Zaal, E. de Weerdt, Q. P. Chu, and J. A. Mulder, *Delft University of Technology*, The Netherlands (**33**, 1, p. 42) Article based on AIAA Paper 2008-7108

G10-004 Modeling and Simulation of Hose-Paradrogue Aerial Refueling Systems. Kapseong Ro and James W. Kamman, *Western Michigan University* **33**, 1, p. 53) Article based on AIAA Paper 2009-1849

G10-005 Flight Control for Flexible, High-Aspect-Ratio Flying Wings. Brijesh Raghavan and Mayuresh J. Patil, *Virginia Polytechnic Institute and State University* (**33**, 1, p. 64) Article

G10-006 Verifiable Adaptive Flight Control: Unmanned Combat Aerial Vehicle and Aerial Refueling. Jiang Wang, Virginia Polytechnic Institute and State University; Naira Hovakimyan, *University of Illinois at Urbana–Champaign*; and Chengyu Cao, *University of Connecticut* (**33**, 1, p. 75) Article based on AIAA Paper 2008-6658

G10-007 Optimal Control of Electrodynamic Tether Orbit Transfers Using Timescale Separation. Paul Williams, *Delft University of Technology*, Australia (**33**, 1, p. 88) Article

G10-008 Unmanned Aircraft Guidance for Penetration of Pretornadic Storms. Jack Elston and Eric W. Frew, *University of Colorado* (**33**, 1, p. 99) Article based on AIAA Paper 2008-6513

G10-009 Desensitizing the Minimum-Fuel Powered Descent For Mars Pinpoint Landing. Haijun Shen, Hans Seywald, and Richard W. Powell, *Analytical Mechanics Associates, Inc.* (**33**, 1, p. 108) Article

G10-010 Effects of Canopy-Payload Relative Motion on Control of Autonomous Parafoils. Nathan J. Slegers, *University of Alabama in Huntsville* (**33**, 1, p. 116) Article based on AIAA Paper 2009-2929

G10-011 Consequences of Asteroid Fragmentation During Impact Hazard Mitigation. J. P. Sanchez, *University of Strathclyde*, Great Britain; M. Vasile and G. Radice, *University of Glasgow*, Great Britain (**33**, 1, p. 126) Article

G10-012 Autonomous Navigation in Three-Dimensional Urban Environments Using Wide-Field Integration of Optic Flow. Andrew M. Hyslop and J. S. Humbert, *University of Maryland* (**33**, 1, p. 147) Article based on AIAA Paper 2008-7252

G10-013 Minimum-Time Reorientation of a Rigid Body. Andrew Fleming, *Leffler Consulting, LLC*; Pooya Sekhavat and I M. Ross, *Naval Postgraduate School* (**33**, 1, p. 160) Article based on AIAA Paper 2008-7012

G10-014 Moon-Tracking Modes for Star Trackers. John Enright, *Ryerson University*, Canada (**33**, 1, p. 171) Article

G10-015 Reentry Terminal Guidance Through Sliding Mode Control. Nathan Harl and S. N. Balakrishnan, *IST-Rolla* (**33**, 1, p. 186) Article based on AIAA Paper 2008-6215

G10-016 Integration of Hydraulic Lag-Damper Models with Helicopter Rotor Simulations. Branislav Titurus and Nick Lieven, *University of Bristol*, Great Britain (**33**, 1, p. 200) Article

G10-017 Estimating Small-Body Gravity Field from Shape Model and Navigation Data. Ryan S. Park, Robert A. Werner, and Shyam Bhaskaran, *Jet Propulsion Laboratory, California Institute of Technology* (**33**, 1, p. 212) Article based on AIAA Paper 2008-6603

G10-018 Polynomial Chaos-Based Analysis of Probabilistic Uncertainty in Hypersonic Flight Dynamics. Avinash Prabhakar, James Fisher, and Raktim Bhattacharya, *Texas A&M University* (**33**, 1, p. 222) Article based on AIAA Paper 2008-6814

G10-019 Analytical Study of the Primer Vector and Orbit Transfer Switching Function. Brian R. Jamison and Victoria Coverstone, *University of Illinois at Urbana–Champaign* (**33**, 1, p. 235) Article

G10-020 Cayley Family of Attitude Coordinates. John E. Hurtado, *Texas A&M University* (**33**, 1, p. 246) Technical Note

G10-021 Hypersphere Stereographic Orientation Parameters. Jeff Mullen and Hanspeter Schaub, *University of Colorado at Boulder* (**33**, 1, p. 249) Technical Note

G10-022 Backstepping Control Design with Actuator Torque Bound for Spacecraft Attitude Maneuver. Imran Ali, Gianmarco Radice, and Jongrae Kim, *University of Glasgow*, Great Britain (**33**, 1, p. 254) Technical Note

G10-023 Designing Displaced Lunar Orbits Using Low-Thrust Propulsion. Jules Simo, *University of Strathclyde*, Great Britain; and Colin R. McInnes, *University of Srathclyde*, Great Britain (**33**, 1, p. 259) Technical Note based on AIAA Paper 2009-153

G10-024 Multiple-Revolution Solutions of the Transverse-Eccentricity-Based Lambert Problem. Quan He, Jian Li, and Chao Han, *Beijing University of Aeronautics and Astronautics*, China (PRC) (**33**, 1, p. 265) Technical Note

G10-025 Impact Angle Constrained Guidance Against Nonstationary Nonmaneuvering Targets. Ashwini Ratnoo and Debasish Ghose, *Indian Institute of Science*, India (**33**, 1, p. 269) Technical Note

G10-026 Homing Guidance Law for Cooperative Attack of Multiple Missiles. In-Soo Jeon and Jin-Ik Lee, *Agency for Defense Development*, South Korea; and Min-Jea Tahk, *Korea Advanced Institute of Science and Technology*, South Korea (**33**, 1, p. 275) Technical Note

G10-027 Minimum-Fuel Cruise at Constant Altitude with Fixed Arrival Time. Antonio Franco, Damián Rivas, and Alfonso Valenzuela, *Universidad de Sevilla*, Spain (**33**, 1, p. 280) Technical Note

G10-028 Adaptive Control Based on Retrospective Cost Optimization. Mario A. Santillo and Dennis S. Bernstein, *University of Michigan* (**33**, 2, p. 289) Article

G10-029 Evolutionary Algorithm for Artificial-Immune-System-Based Failure-Detector Generation and Optimization. Jennifer Davis, Mario G. Perhinschi, and Hever Moncayo, *West Virginia University* (**33**, 2, p. 305) Article

G10-030 Nonlinear Path Following Method. David J. Gates, *Commonwealth Scientific and Industrial Organization*, Australia (**33**, 2, p. 321) Article

G10-031 Sign-Stability Concept of Ecology for Control Design with Aerospace Applications. Rama K. Yedavalli and Nagini Devarakonda, *Ohio State University* (**33**, 2, p. 333) Article

G10-032 Improved Multi-Aircraft Ground Trajectory Prediction for Air Traffic Control. Ioannis Lymperopoulos and John Lygeros, *Automatic Control Laboratory*, Switzerland (**33**, 2, p. 347) Article

G10-033 Fault-Tolerant Model Predictive Control with Flight-Test Results. Fabio A. de Almeida and Dirk Leißling, *DLR, German Aerospace Research Center*, Germany (**33**, 2, p. 363) Article based on AIAA Paper 2009-5621

G10-034 Neural Partial Differential Method for Extracting Aerodynamic Derivatives from Flight Data. S. Das, *Indian Institute of Technology*, India; R. A. Kuttieri, *Hindustan Aeronautics Limited*, India; M. Sinha, *Indian Institute of Technology*, India; and R. Jategaonkar, *DLR, German Aerospace Research Center*, Germany (**33**, 2, p. 376) Article

G10-035 Periodic Orbits of Nonlinear Relative Dynamics Along an Eccentric Orbit. Mai Bando and Akira Ichikawa, *Kyoto University*, Japan (**33**, 2, p. 385) Article

G10-036 Stability Analysis of Switched Linear Systems with Locally Overlapped Switching Law. Yanze Hou, Chaoyang Dong, and Qing Wang, *Beijing University of Aeronautics and Astronautics*, China (PRC) (**33**, 2, p. 396) Article

G10-037 Highly Constrained Optimal Launch Ascent Guidance. Ping Lu, *Iowa State University*; and Binfeng Pan, *Northwest Polytechnic University*, China (PRC) (**33**, 2, p. 404) Article based on AIAA Paper 2009-5961

G10-038 Comparisons of the Cubed-Sphere Gravity Model with the Spherical Harmonics. Brandon A. Jones, George H. Born, and Gregory Beylkin, *University of Colorado* (**33**, 2, p. 415) Article

G10-039 Kalman Filter Modification in Adaptive Control. Tansel Yucelen and Anthony J. Calise, *Georgia Institute of Technology* (**33**, 2, p. 426) Article based on AIAA Paper 2009-5858

G10-040 Neurobiologically Inspired Control of Engineered Flapping Flight. Soon-Jo Chung and Michael Dorothy, *University of Illinois at Urbana–Champaign* (**33**, 2, p. 440) Article based on AIAA Paper 2009-1929

G10-041 Smooth Flight Trajectory Planning in the Presence of No-Fly Zones and Obstacles. Massimiliano Mattei and Luciano Blasi, *Second University of Naples*, Italy (**33**, 2, p. 454) Article

G10-042 Endgame Problem Part 1: V-Infinity-Leveraging Technique and the Leveraging Graph. Stefano Campagnola, *University of Southern California, Los Angeles*; and Ryan P. Russell, *Georgia Institute of Technology* (**33**, 2, p. 463) Article

G10-043 Endgame Problem Part 2: Multibody Technique and the Tisserand-Poincare Graph. Stefano Campagnola, *University of Southern California, Los Angeles*; and Ryan P. Russell, *Georgia Institute of Technology* (**33**, 2, p. 476) Article

G10-044 Airspace Encounter Models for Estimating Collision Risk. Mykel J. Kochenderfer, Matthew W. Edwards, Leo P. Espindle, James K. Kuchar, and J. D. Griffith, *Massachusetts Institute of Technology* (**33**, 2, p. 487) Article

G10-045 Algorithm for Conformance Monitoring in Air Traffic Control. Chze E. Seah, Alinda Aligawesa, and Inseok Hwang, *Purdue University* (**33**, 2, p. 500) Article based on AIAA Paper 2009-6170

G10-046 Electrostatic Spacecraft Collision Avoidance Using Piecewise-Constant Charges. Shuquan Wang and Hanspeter Schaub, *University of Colorado* (**33**, 2, p. 510) Article

G10-047 Vision-Based Geolocation Tracking System for Uninhabited Aerial Vehicles. Mark E. Campbell, Cornell University; and Matthew Wheeler, *The Insitu Group* (**33**, 2, p. 521) Article based on AIAA Paper 2006-6246

G10-048 Low-Thrust Transfers in the Earth-Moon System, Including Applications to Libration Point Orbits. M. T. Ozimek and K. C. Howell, *Purdue University* (**33**, 2, p. 533) Article based on AIAA Paper 2002-343

G10-049 Path Following for Small Unmanned Aerial Vehicles Using L1 Adaptive Augmentation of Commercial Autopilots. Isaac Kaminer, *Naval Postgraduate School*; Antonio Pascoal, *Instituto Superior Tecnico*, Portugal; Enric Xargay and Naira Hovakimyan, *University of Illinois at Urbana–Champaign*; Chengyu Cao, *University of Connecticut*; and Vladimir Dobrokhodov, *Naval Postgraduate School* (**33**, 2, p. 550) Article

G10-050 Analytic Theory for High-Inclination Orbits in the Restricted Three-Body Problem. Mohammed A. Ghazy and Brett Newman, *Old Dominion University* (**33**, 2, p. 565) Article based on AIAA Paper 2008-6430

G10-051 Effect of J2 Perturbations on Relative Spacecraft Position in Near-Circular Orbits. Katsuhiko Yamada, *Nagoya University*, Japan; Takeya Shima and Shoji Yoshikawa, *Mitsubishi Electric Corporation*, Japan (**33**, 2, p. 584) Technical Note

G10-052 Geometric Approach to Spacecraft Attitude Control Using Magnetic and Mechanical Actuation. James R. Forbes and Christopher J. Damaren, *University of Toronto Institute for Aerospace Studies*, Canada (**33**, 2, p. 590) Technical Note

G10-053 Path Planning and State Estimation for Unmanned Aerial Vehicles in Hostile Environments. Ran Dai and John Cochran, *Auburn University* (**33**, 2, p. 595) Technical Note

G10-054 Synthetic-Waypoint Guidance Algorithm for Following a Desired Flight Trajectory. Eran D. Medagoda and Peter W. Gibbens, *University of Sydney*, Australia (**33**, 2, p. 601) Technical Note

G10-055 Satellite Formation and Reconfiguration with Restricted Control Interval. Mai Bando and Akira Ichikawa, *Kyoto University*, Japan (**33**, 2, p. 607) Technical Note

G10-056 Linear-Parameter-Varying Control of an Improved Three-Degree-of-Freedom Aeroelastic Model. Zebb Prime, Ben Cazzolato, and Con Doolan, *University of Adelaide*, Australia; and Thomas Strganac, *Texas A&M University* (**33**, 2, p. 615) Technical Note

G10-057 Indirect Spacecraft Trajectory Optimization Using Modified Equinoctial Elements. Hongzhao Liu and Benson H. Tongue, *University of California at Berkeley* (**33**, 2, p. 619) Technical Note

G10-058 Costate Computation by a Chebyshev Pseudospectral Method. Qi Gong, *University of California*; I. M. Ross and Friba Fahroo, *Naval Postgraduate School* (**33**, 2, p. 623) Technical Note

G10-059 Indirect Optimization for Finite-Thrust Time-Optimal Orbital Maneuver. Xincheng Yue, Ying Yang, and Zhiyong Geng, *Peking University*, China (PRC) (**33**, 2, p. 628) Technical Note

G10-060 Starlight Atmospheric Refraction Model for a Continuous Range of Height. Xinlong Wang, Jia Xie, and Shan Ma, *Beijing University of Aeronautics and Astronautics*, China (PRC) (**33**, 2, p. 634) Technical Note

G10-061 Reachable and Controllable Sets for Planetary Entry and Landing. Joel Benito and Kenneth D. Mease, *University of California, Irvine* (**33**, 3, p. 641) Article

G10-062 Noncertainty-Equivalent Adaptive Missile Control via Immersion and Invariance. Keum W. Lee, *University of Kwandong*, South Korea; and Sahjendra N. Singh, *University of Nevada, Las Vegas* (**33**, 3, p. 655) Article

G10-063 Disaggregation Method for an Aggregate Traffic Flow Management Model. Dengfeng Sun, *Purdue University*; Banavar Sridhar and Shon R. Grabbe, *NASA Ames Research Center* (**33**, 3, p. 666) Article

G10-064 Evaluation of a Sliding Mode Fault-Tolerant Controller for the El Al Incident. Halim Alwi and Christopher Edwards, *University of Leicester*, Great Britain; Olaf Stroosma and J.A. (Bob) Mulder, *Delft University of Technology*, The Netherlands (**33**, 3, p. 677) Article based on AIAA Paper 2008-7157

G10-065 Target Maneuver Adaptive Guidance Law for a Bounded Acceleration Missile. Ronen Atir, Gyorgy Hexner, and Haim Weiss, *Rafael Advanced Defense Systems, Ltd.*, Israel; and Tal Shima, *Technion—Israel Institute of Technology*, Israel (**33**, 3, p. 695) Article based on AIAA Paper 2009-6089

G10-066 Online Aerodynamic Model Structure Selection and Parameter Estimation for Fault Tolerant Control. Thomas Lombaerts, Eddy Van Oort, Q.P. Chu, J.A. Mulder, and Diederick Joosten, *Delft University of Technology*, The Netherlands (**33**, 3, p. 707) Article based on AIAA Paper 2009-5725

G10-067 Wingbeat Shape Modulation for Flapping-Wing Micro-Air-Vehicle Control During Hover. David B. Doman, Michael W. Oppenheimer, and David O. Sigthorsson, *U.S. Air Force Research Laboratory* (**33**, 3, p. 724) Article based on AIAA Paper 2009-6160

G10-068 Electric Sail Mission Analysis for Outer Solar System Exploration. Alessandro A. Quarta and Giovanni Mengali, *University of Pisa*, Italy (**33**, 3, p. 740) Article

G10-069 Rapid Generation of Accurate Entry Landing Footprints. Ping Lu, *Iowa State University*; and Songbai Xue, *Beihang University*, China (PRC) (**33**, 3, p. 756) Article based on AIAA Paper 2009-5772

G10-070 Spin-Axis Attitude Determination Using In-Flight Data. Jozef C. van der Ha, *Kyushu University*, Japan (**33**, 3, p. 768) Article

G10-071 Light-Levitated Geostationary Cylindrical Orbits Are Feasible. Shahid Baig and Colin R. McInnes, *University of Strathclyde*, Great Britain (**33**, 3, p. 782) Article

G10-072 State-Space Approximations of the Orr–Sommerfeld System with Boundary Inputs and Outputs. Arthur C. Or, Jason L. Speyer, and John Kim, *University of California, Los Angeles* (**33**, 3, p. 794) Article

G10-073 Interplanetary Transfers Between Halo Orbits: Connectivity Between Escape and Capture Trajectories. Masaki Nakamiya, *Japan Aerospace Exploration Agency*, Japan; Hiroshi Yamakawa, *Kyoto University*, Japan; Daniel J. Scheeres, *University of Colorado*; and Makoto Yoshikawa, *Japan Aerospace Exploration Agency*, Japan (**33**, 3, p. 803) Article

G10-074 Simplified Model of a Flux-Pinned Spacecraft Formation. Michael C. Norman and Mason A. Peck, *Cornell University* (**33**, 3, p. 814) Article

G10-075 Optimal Control of Gravity-Tractor Spacecraft for Asteroid Deflection. Joris T. Olympio, *ESA*, The Netherlands (**33**, 3, p. 823) Article

G10-076 Adaptive Vision-Based Guidance Law with Guaranteed Performance Bounds. Lili Ma, *Wentworth Institute of Technology*; Chengyu Cao, *University of Connecticut*; Naira Hovakimyan, *University of Illinois at Urbana–Champaign*; Vladimir Dobrokhodov and Isaac Kaminer, *Naval Postgraduate School* (**33**, 3, p. 834) Article based on AIAA Paper 2008-7445

G10-077 Orbit Tuning of Planetary Orbiters for Accuracy Gain in Gravity Field Mapping. Jaroslav Klokocnik and Ales Bezdek, *Academy of Sciences of the Czech Republic*, Czech Republic; Jan Kostelecky, *Czech Technical University in Prague*, Czech Republic; and Josef Sebera, *Academy of Sciences of the Czech Republic*, Czech Republic (**33**, 3, p. 853) Article

G10-078 Adaptive Feedforward Control for Gust Load Alleviation. Jie Zeng and Boris Moulin, *ZONA Technology, Inc.*; Raymond de Callafon, *University of California, San Diego*; and Martin Brenner, *NASA Dryden Flight Research Center* (**33**, 3, p. 862) Article based on AIAA Paper 2008-6373

G10-079 Solar Sail Three-Body Transfer Trajectory Design. Shengping Gong, Hexi Baoyin, and Jengfeng Li, *Tsinghua University*, China (PRC) (**33**, 3, p. 873) Article

G10-080 Observer/Kalman-Filter Time-Varying System Identification. Manoranjan Majji, *Texas A&M University*; Jer-Nan Juang, *National Cheng Kung University*, Taiwan (ROC); and John L. Junkins, *Texas A&M University* (**33**, 3, p. 887) Article based on AIAA Paper 2008-6479

G10-081 Simulations of Quasi-Satellite Orbits Around Phobos. Paulo J. Gil, *Instituto Superior Tecnico*, Portugal; and Julia Schwartz, *ESA*, Germany (**33**, 3, p. 901) Article based on AIAA Paper 2008-6429

G10-082 Attitude Guidance for Spinning Vehicles with Independent Pitch and Yaw Control. Michael A. Creagh and David J. Mee. *University of Queensland*, Australia (**33**, 3, p. 915) Article based on AIAA Paper 2009-0516

G10-083 Libration Control of Electrodynamic Tethers Using the Extended Time-Delayed Autosynchronization Method. Manuel Iñarrea, *La Rioja University*, Spain; and Jesús Peláez, *Universidad Politécnica de Madrid*, Spain (**33**, 3, p. 923) Article based on AIAA Paper 07-194

G10-084 Reachable Domain for Spacecraft with a Single Impulse. Dan Xue, Junfeng Li, Hexi Baoyin, and Fanghua Jiang, *Tsinghua University*, China (PRC) (**33**, 3, p. 934) Article

G10-085 Onboard Autonomous Targeting for the Trans-Earth Phase of Orion. Belinda G. Marchand, University of Texas Austin; Michael W. Weeks, *NASA Johnson Space Center*; Chad W. Smith and Sara Scarritt, *University of Texas at Austin* (**33**, 3, p. 943) Article based on AIAA Paper 2008-7262

G10-086 Enhanced Collocation Method for Dynamical Systems Subject to Finite Set Control. Stuart A. Stanton and Belinda G. Marchand, *University of Texas at Austin* (**33**, 3, p. 957) Article

G10-087 Fault Tolerant Reconfigurable Satellite Formations Using Adaptive Variable Structure Techniques. Godard Godard and Krishna D. Kumar, *Ryerson University*, Canada (**33**, 3, p. 969) Article

G10-088 Hybrid Optimal Control Approach to Commercial Aircraft Trajectory Planning. Manuel Soler, Alberto Olivares, and Ernesto Staffetti, *Universidad Rey Juan Carlos*, Spain (**33**, 3, p. 985) Technical Note

G10-089 Analytical Model for Momentum Transfer of Spacecraft Containing Liquid. Ja-Young Kang and Victoria L. Coverstone, *University of Illinois at Urbana–Champaign* (**33**, 3, p. 991) Technical Note

G10-090 Lunar Synchronous Orbits in the Earth-Moon Circular-Restricted Three-Body Problem. Shin Ugai and Akira Ichikawa, *Kyoto University*, Japan (**33**, 3, p. 995) Technical Note

G10-091 New Lambert Algorithm Using the Hamilton–Jacobi–Bellman Equation. Mai Bando and Hiroshi Yamakawa, *Kyoto University*, Japan (**33**, 3, p. 1000) Technical Note

G10-092 Energy-Optimal Solution to the Lambert Problem. Henzeh Leeghim and Belgacem A. Jaroux, *NASA Ames Research Center* (**33**, 3, p. 1008) Technical Note

G10-093 Analysis of Periodic and Quasi-Periodic Orbits in the Earth-Moon System. Pooja Dutt and R K. Sharma, *Indian Space Research Organisation*, India (**33**, 3, p. 1010) Technical Note

G10-094 Passive Orbit Control for Space-Based Geo-eEngineering. James D. Biggs and Colin R. McInnes, *University of Strathclyde*, Great Britain (**33**, 3, p. 1017) Technical Note

G10-095 Controllability and Reachability for Micro-Aerial-Vehicle Trajectory Planning in Winds. Yohannes Ketema and Yiyuan J. Zhao, *University of Minnesota* (**33**, 3, p. 1020) Technical Note

G10-096 Design of a Roll-Stabilized Mortar Projectile with Reciprocating Canards. Jonathan Rogers and Mark Costello, *Georgia Institute of Technology* (**33**, 4, p. 1026) Article

G10-097 Quaternionic Exact Solution to the Relative Orbital Motion Problem. Daniel Condurache and Vladimir Martinusi, *Gheorghe Asachi Technical University*, Romania (**33**, 4, p. 1035) Article based on AIAA Paper 2008-6764

G10-098 Investigation into Pilot Perception and Control During Decrab Maneuvers in Simulated Flight. J. T. Beukers, O. Stroosma, D. M. Pool, M. Mulder, and M. M. van Paassen, *Delft University of Technology*, The Netherlands (**33**, 4, p. 1048) Article based on AIAA Paper 2009-6030

G10-099 Design of Forcing Functions for the Identification of Human Control Behavior. H. J. Damveld, G. C. Beerens, M. M. van Paassen, and M. Mulder, *Delft University of Technology*, The Netherlands (**33**, 4, p. 1064) Article based on AIAA Paper 2009-6026

G10-100 Graph-Based Algorithm for Dynamic Airspace Configuration. Jinhua Li, *Purdue University*; Tong Wang, *Beijing Institute of Technology*, China (PRC); Mehernaz Savai and Inseok Hwang, *Purdue University* (**33**, 4, p. 1082) Article based on AIAA Paper 2009-6252

G10-101 Keeping a Spacecraft on a Vertical Circular Collinear Lagrange Point Orbit. Mohammed Ghazy and Brett Newman, *Old Dominion University* (**33**, 4, p. 1095) Article

G10-102 Aircraft Failure Detection and Identification Using an Immunological Hierarchical Multiself Strategy. Hever Moncayo, Mario G. Perhinschi, and Jennifer Davis, *West Virginia University* (**33**, 4, p. 1105) Article based on AIAA Paper 2009-5878

G10-103 Lorentz Accelerations in the Earth Flyby Anomaly. Justin A. Atchison and Mason A. Peck, *Cornell University*; and Brett J. Streetman, *Draper Laboratory* (**33**, 4, p. 1115) Article based on AIAA Paper 2009-6000

G10-104 Coning Algorithm Design by Explicit Frequency Shaping. Paul G. Savage, *Strapdown Associates, Inc.* (**33**, 4, p. 1123) Article

G10-105 Discrete Pseudocontrol Sets for Optimal Control Problems. Yuri Ulybyshev, *Rocket- Space Corporation "Energia,"* Russia (**33**, 4, p. 1133) Article based on AIAA Paper 2009-5788

G10-106 Lyapunov-Based Thrusters' Selection for Spacecraft Control: Analysis and Experimentation. Fabio Curti, *University of Rome "La Sapienza,"*, Italy; Marcello Romano and Riccardo Bevilacqua, *Naval Postgraduate School* (**33**, 4, p. 1143) Article

G10-107 Minimum-Landing-Error Powered-Descent Guidance for Mars Landing Using Convex Optimization. Lars Blackmore, Behcet Acikmese, and Daniel P. Scharf, *Jet Propulsion Laboratory, California Institute of Technology* (**33**, 4, p. 1161) Article

G10-108 Dynamics of Variable-Length Tethered Formations near Libration Points. Jun Zhao, Zhiqin Cai, and Zhaohui Qi, Dalian *University of Technology*, China (PRC) (**33**, 4, p. 1172) Article

G10-109 Initial Trajectory Model for a Multi-Maneuver Moon-to-Earth Abort Sequence. Cesar Ocampo and Robin R. Saudemont, *University of Texas at Austin* (**33**, 4, p. 1184) Article

G10-110 Predictor-Based Model Reference Adaptive Control. Eugene Lavretsky and Ross Gadient, *The Boeing Company*; and Irene M. Gregory, *NASA Langley Research Center* (**33**, 4, p. 1195) Article based on AIAA Paper 2009-5853

G10-111 Hybrid Steering Logic for Single-Gimbal Control Moment Gyroscopes. Frederick A. Leve and Norman G. Fitz-Coy, *University of Florida* (**33**, 4, p. 1202) Article

G10-112 Lyapunov-Based Exponential Tracking Control of a Hypersonic Aircraft with Aerothermoelastic Effects. Z. D. Wilcox, W. MacKunis, S. Bhat, R. Lind, and W. E. Dixon, *University of Florida* (**33**, 4, p. 1213) Article

G10-113 Explicit Dipole Trajectory Solution for Electromagnetically Controlled Spacecraft Clusters. Samuel A. Schweighart, *Massachusetts Institute of Technology*; and Raymond J. Sedwick, *University of Maryland* (**33**, 4, p. 1225) Article

G10-114 Acceleration-Feedback-Enhanced Robust Control of an Unmanned Helicopter. Y. Q. He and J. D. Han, *Chinese Academy of Sciences*, China (PRC) (**33**, 4, p. 1236) Article

G10-115 Optimization of Circularly Towed Cable System in Crosswind. Paul Williams, *Delft University of Technology*, The Netherlands (**33**, 4, p. 1251) Article

G10-116 Optimal Intercept Missile Guidance Strategies with Autopilot Lag. Robert H. Chen, *Northrop Grumman Corporation*; Jason L. Speyer, *SySense, Inc.*; and Dimitrios Lianos, *U.S. Army Research, Development, and Engineering Command* (**33**, 4, p. 1264) Article based on AIAA Paper 2007-6535

G10-117 Constrained Predictor-Corrector Entry Guidance. Songbai Xue, *Beihang University*, China (PRC); and Ping Lu, *Iowa State University* (**33**, 4, p. 1273) Technical Note based on AIAA Paper 2009-5767

G10-118 Relative Control of a Virtual Telescope Using Global Positioning System and Optical Metrology. Laura Perea, *Consejo Superior de Investigaciones Cientificas and Institut d'Etudis Espacials de Catalunya*, Spain; Jean-Sébastien Ardaens and Simone D'Amico, *Deutsches Zentrum fur Luft- und Raumfahrt*, Germany; and Pedro Elosegui, *Consejo Superior de Investigaciones Cientificas and Institut d'Etudis Espacials de Catalunya*, Spain (**33**, 4, p. 1281) Technical Note

G10-119 Reduced-Order Filter Design for Discrete-Time Systems Corrupted with Multiplicative Noise. Adrian-Mihail Stoica, Mihai Barbelian, and Valentin Pana, *University Politehnica of Bucharest*, Romania; and Claudiu Dragasanu, *Romanian Space Agency*, Romania (**33**, 4, p. 1287) Technical Note based on AIAA Paper 2009-6085

G10-120 Five Special Types of Orbits Around Mars. Xiaodong Liu, Hexi Baoyin, and Xingrui Ma, *Tsinghua University*, China (PRC) (**33**, 4, p. 1294) Technical Note

G10-121 Determination of Circular and Spherical Position-Error Bounds in System Performance Analysis. Mario Ignagni, *NavSolutions, Inc.* (**33**, 4, p. 1301) Technical Note

G10-122 Particle Filtering for Attitude Estimation Using a Minimal Local-Error Representation. Yang Cheng, *Mississippi State University*; and John L. Crassidis, *University at Buffalo, State University of New York* (**33**, 4, p. 1305) Technical Note

G10-123 On the Benefits of In-Flight System Identification for Autonomous Airdrop Systems. Michael Ward and Mark Costello, *Georgia Institute of Technology*; and Nathan Slegers, *University of Alabama in Huntsville* (**33**, 5, p. 1313) Article

G10-124 Control of the Electrodynamic Boom Propulsion System Accounting for Atmospheric Drag. Brian Wong and Chris Damaren, *University of Toronto*, Canada (**33**, 5, p. 1327) Article

G10-125 Multiple Shooting Method for Initial Satellite Orbit Determination. Simon M. Lenz, H. Georg Bock, and Johannes P. Schlöder, *University of Heidelberg*, Germany; Ekaterina A. Kostina, *University of Marburg*, Germany; Gottlob Gienger and Gerald Ziegler, *European Space Operations Center*, Germany (**33**, 5, p. 1334) Article

G10-126 Optimal Level Turn of Solar-Powered Unmanned Aerial Vehicle Flying in Atmosphere. Der-Ming Ma, Jaw-Kuen Shiau, Yu-Ju Su, and Ying-Hsien Chen, *Tamkang University*, Taiwan (ROC) (**33**, 5, p. 1347) Article

G10-127 Structural Response of Extremely Large Telescopes. R. Bastaits and A. Preumont, *Université Libre de Bruxelles*, Belgium (**33**, 5, p. 1357) Article

G10-128 Low-Eccentricity Elliptic Orbits in a Central Force Field with Drag. Mayer Humi, *Worcester Polytechnic Institute* (**33**, 5, p. 1368) Article

G10-129 Analytical Solutions to Spacecraft Formation-Flying Guidance Using Virtual Motion Camouflage. Yunjun Xu, *University of Central Florida* (**33**, 5, p. 1376) Article

G10-130 Inclination Change in Low-Earth Orbit via the Geomagnetic Lorentz Force. George E. Pollock, Joseph W. Gangestad, and James M. Longuski, *Purdue University* (**33**, 5, p. 1387) Article based on AIAA Paper 2008-2002

G10-131 Fast Access and Low Memory Star Pair Catalog for Star Pattern Identification. David D. Needelman and James P. Alstad, *Boeing Space and Intelligence Systems*; Peter C. Lai, *The Aerospace Corporation*; and Haytham M. Elmasri, *Boeing Space and Intelligence Systems* (**33**, 5, p. 1396) Article

G10-132 Kalman Filtering and Smoothing to Estimate Real-Valued States and Integer Constants. Mark L. Psiaki, *Cornell University* (**33**, 5, p. 1404) Article based on AIAA Paper 2009-5972

G10-133 New Solar Radiation Pressure Force Model for Navigation. Jay W. McMahon and Daniel J. Scheeres, *University of Colorado* (**33**, 5, p. 1418) Article

G10-134 Particle Swarm Optimization Applied to Space Trajectories. Mauro Pontani and Bruce A. Conway, *University of Illinois at Urbana–Champaign* (**33**, 5, p. 1429) Article

G10-135 Control Moment Gyro Singularity-Avoidance Steering Control Based on Singular-Surface Cost Function. Kohei Takada, Hirohisa Kojima, and Naoki Matsuda, *Tokyo Metropolitan University*, Japan (**33**, 5, p. 1442) Article

G10-136 Multi-Input Noncertainty-Equivalent Adaptive Control of an Aeroelastic System. Keum W. Lee, *Kwandong University*, South Korea; and Sahjendra N. Singh, *University of Nevada, Las Vegas* (**33**, 5, p. 1451) Article

G10-137 Full-Envelope Modular Adaptive Control of a Fighter Aircraft Using Orthogonal Least Squares. E. R. van Oort, L. Sonneveldt, Q. P. Chu, and J. A. Mulder, *Delft University of Technology*, The Netherlands (**33**, 5, p. 1461) Article

G10-138 Targeting Requirements and Stability Characterization for a Class of Ballistic Transfers. Iman Alizadeh and Benjamin Villac, *University of California, Irvine* (**33**, 5, p. 1473) Article

G10-139 Coning Motion of Spinning Missiles Induced by the Rate Loop. Xiaoyong Yan, Shuxing Yang, and Cheng Zhang, *Beijing Institute of Technology*, China (PRC) (**33**, 5, p. 1490) Article

G10-140 Modeling and Model Reference Adaptive Control of Aircraft with Asymmetric Damage. Yu Liu and Gang Tao, *University of Virginia*; and Suresh M. Joshi, *NASA Langley Research Center* (**33**, 5, p. 1500) Article based on AIAA Paper 2009-5617

G10-141 Estimation with Multitemporal Measurements. Adam M. Fosbury, *U.S. Air Force Research Laboratory* (**33**, 5, p. 1518) Article

G10-142 Identification of Multimodal Pilot Control Behavior in Real Flight. P. M. Zaal, D. M. Pool, M. Mulder, M. M. van Paassen, and J. A. Mulder, *Delft University of Technology*, The Netherlands (**33**, 5, p. 1527) Article based on AIAA Paper 2009-6028

G10-143 Network Flow Formulation for Cooperative Peer-to-Peer Refueling Strategies. Atri Dutta and Panagiotis Tsiotras, *Georgia Institute of Technology* (**33**, 5, p. 1539) Article based on AIAA Paper 2008-7643

G10-144 Extremal Analytical Solutions for Intermediate-Thrust Arcs in a Newtonian Field. Dilmurat M. Azimov, *University of Texas at Austin* (**33**, 5, p. 1550) Article

G10-145 Orbital Targeting Based on Hodograph Theory for Improved Rendezvous Safety. Blair F. Thompson, Kevin K. Choi, Scott W. Piggott, and Stefanie R. Beaver, *Odyssey Space Research* (**33**, 5, p. 1566) Article

G10-146 Design and Simulator Evaluation of an Ecological Synthetic Vision Display. C. Borst, M. Mulder, and M. M. van Paassen, *Delft University of Technology*, The Netherlands (**33**, 5, p. 1577) Article based on AIAA Paper 2009-5982

G10-147 Calculating Transfer Families to Periodic Distant Retrograde Orbits Using Differential Correction. Christopher J. Scott and David B. Spencer, *Pennsylvania State University* (**33**, 5, p. 1592) Article

G10-148 Maximum Torque and Momentum Envelopes for Reaction Wheel Arrays. F. L. Markley, *NASA Goddard Space Flight Center*; Reid G. Reynolds, *Millennium Space Systems, Inc.*; Frank X. Liu, *Stinger Ghaffarian Technologies, Inc.*; and Kenneth L. Lebsock, *Orbital Sciences Corporation* (**33**, 5, p. 1606) Article based on AIAA Paper 2009-6109

G10-149 Variational Equations for a Generalized Spacecraft Trajectory Model. Cesar Ocampo and Jean-Philippe Munoz, *University of Texas at Austin* (**33**, 5, p. 1615) Article

G10-150 Two Classes of Cycler Trajectories in the Earth-Moon System. Jordi Casoliva, *University of California, Irvine*; Josep M. Mondelo, *Universitat Autonoma de Barcelona*, Spain; Benjamin F. Villac and Kenneth D. Mease, *University of California, Irvine*; Esther Barrabes, *Universitat de Girona*, Spain; and Merce Olle, *Universitat Politecnica de Catalunya*, Spain (**33**, 5, p. 1623) Article based on AIAA Paper 2008-6434

G10-151 Air-Combat Strategy Using Approximate Dynamic Programming. James S. McGrew, Jonathon P. How, Brian Williams, and Nicholas Roy, *Massachusetts Institute of Technology* (**33**, 5, p. 1641) Article based on AIAA Paper 2008-6796

G10-152 Distributed Control of Spacecraft Formations via Cyclic Pursuit: Theory and Experiments. Jaime L. Ramirez-Riberos, Marco Pavone, Emilio Frazzoli, and David W. Miller, *Massachusetts Institute of Technology* (**33**, 5, p. 1655) Article

G10-153 Underweighting Nonlinear Measurements. Renato Zanetti, *Charles Stark Draper Laboratory*; Kyle J. DeMars and Robert H. Bishop, *University of Texas at Austin* (**33**, 5, p. 1670) Technical Note

G10-154 Aircraft Spin Recovery Using a Sliding-Mode Controller. Nandan Kumar Sinha, *Indian Institute of Technology Madras* India; and D. M. K. K. Venkateswara Rao, *Nanyang Technological University*, Singapore (**33**, 5, p. 1675) Technical Note

G10-155 Linear Systems Approach to Multiple-Impulse Trajectory Analysis via Regularization. Alessandro A. Quarta and Giovanni Mengali, *University of Pisa*, Italy (**33**, 5, p. 1679) Technical Note

G10-156 Stationkeeping of a Flux-Pinned Satellite Network. Michael C. Norman and Mason A. Peck, *Cornell University* (**33**, 5, p. 1683) Technical Note based on AIAA Paper 2008-6475

G10-157 Flyaround Orbit Design for Autonomous Rendezvous Based on Relative Orbit Elements. Yu Yao, Ruiqiang Xie, and Fenghua He, *Harbin Institute of Technology*, China (PRC) (**33**, 5, p. 1687) Technical Note

G10-158 Adaptive Spacecraft Attitude Control with Actuator Saturation. Anton H. de Ruiter, *Carleton University*, Canada (**33**, 5, p. 1692) Technical Note

G10-159 Command Generation for Flexible Systems by Input Shaping and Command Smoothing. William Singhose, *Georgia Institute of Technology*; R. Eloundou, *Schlumberger*, France; and Jason Lawrence, *Georgia Institute of Technology* (**33**, 6, p. 1697) Article

G10-160 Nonlinear Analysis of Lateral Loading During Taxiway Turns. James Rankin, Bernd Krauskopf, and Mark Lowenberg, *University of Bristol*, Great Britain; and Etienne Coetzee, *Airbus Industries*, Great Britain (**33**, 6, p. 1708) Article based on AIAA Paper 2009-6225

G10-161 Bounds on the RMS Miss of Radar-Guided Missiles. Ilan Rusnak, *Rafael*, Israel (**33**, 6, p. 1718) Article

G10-162 Boost-Phase Filtering Options: Is Simpler Better? Paul Zarchan, *Massachusetts Institute of Technology* (**33**, 6, p. 1724) Article

G10-163 Robust Flight Control Using Incremental Nonlinear Dynamic Inversion and Angular Acceleration Prediction. S. Sieberling, Q. P. Chu, and J. A. Mulder, *Delft University of Technology*, The Netherlands (**33**, 6, p. 1732) Article

G10-164 Robust Adaptive Design for Aerial Vehicles with State-Limiting Constraints. Eugene Lavretsky and Ross Gadient, *The Boeing Company* (**33**, 6, p. 1743) Article

G10-165 Mixed Low-Thrust Invariant-Manifold Transfers to Distant Prograde Orbits Around Mars. Giorgio Mingotti, *Politecnico di Milano*, Italy; and Pini Gurfil, *Technion— Israel Institute of Technology*, Israel (**33**, 6, p. 1753) Article

G10-166 Nonlinear Estimation of Hypersonic State Trajectories in Bayesian Framework with Polynomial Chaos. Parikshit Dutta and Raktim Bhattacharya, *Texas A&M University* (**33**, 6, p. 1765) Article

G10-167 Constrained Multiple-Revolution Lambert's Problem. Gang Zhang and Daniele Mortari, *Texas A&M University*; and Di Zhou, *Harbin Institute of Technology*, China (PRC) (**33**, 6, p. 1779) Article

G10-168 Sequential Optimal Attitude Recursion Filter. John A. Christian and E. Glenn Lightsey, *University of Texas at Austin* (**33**, 6, p. 1787) Article

G10-169 Cooperative Multiple-Model Adaptive Guidance for an Aircraft Defending Missile. Vitaly Shaferman and Tal Shima, *Technion—Israel Institute of Technology*, Israel (**33**, 6, p. 1801) Article

G10-170 Method to Design Ballistic Capture in the Elliptic Restricted Three-Body Problem. Nicola Hyeraci and Francesco Topputo, *Politecnico di Milano*, Italy (**33**, 6, p. 1814) Article

G10-171 Specialized Coordinate Representation for Dynamic Modeling and Orbit Estimation of Geosynchronous Orbits. Jill Tombasco and Penina Axelrad, *University of Colorado*; and Moriba Jah, *U.S. Air Force Research Laboratory* (**33**, 6, p. 1824) Article

G10-172 Robust Missile Feedback Control Strategies. E. J. Trottemant, *Delft University of Technology*, The Netherlands; C. W. Scherer, *University of Stuttgart*, Germany; M. Weiss, *TNO Defence, Safety and Security*, The Netherlands; and A. Vermeulen, *Netherlands Defence Academy*, The Netherlands (**33**, 6, p. 1837) Article based on AIAA Paper 2008-6493

G10-173 Attitude Propagation for a Slewing Angular Rate Vector. Russell P. Patera, *The Aerospace Corporation* (**33**, 6, p. 1847) Article based on AIAA Paper 2009-6314

G10-174 Closed-Loop Charged Relative Motion Experiments Simulating Constrained Orbital Motion. Carl R. Seubert and Hanspeter Schaub, *University of Colorado* (**33**, 6, p. 1856) Article

G10-175 Navigation Aiding Based on Coupled Online Mosaicking and Camera Scanning. Vadim Indelman, Pini Gurfil, and Ehud Rivlin, *Technion—Israel Institute of Technology, Israel*; and Hector Rotstein, *Rafael*, Israel (**33**, 6, p. 1866) Article based on AIAA Paper 2009-6219

G10-176 Control of Electromagnetic Satellite Formations in Near-Earth Orbits. Jaime L. Ramirez-Riberos, Umair Ahsun, and David W. Miller, *Massachusetts Institute of Technology* (**33**, 6, p. 1883) Article based on AIAA Paper 2006-6590

G10-177 Management-Action-Embedded Sector-Demand Prediction Models. Neil Y. Chen and Banavar Sridhar, *NASA Ames Research Center* (**33**, 6, p. 1892) Article based on AIAA Paper 2009-6195

G10-178 Dynamical Systems Analysis of Planetary Flybys and Approach: Planar Europa Orbiter. Rodney L. Anderson, *University of Colorado*; and Martin W. Lo, *Jet Propulsion Laboratory, California Institute of Technology* (**33**, 6, p. 1899) Article based on AIAA Paper 2004-5305

G10-179 Optimal Guidance of Low-Thrust Trajectories. Jesus Gil-Fernandez, *GMV*, Spain; and Miguel A. Gomez-Tierno, *Technical University of Madrid*, Spain (**33**, 6, p. 1913) Technical Note

G10-180 Particle Filter for Ballistic Target Tracking with Glint Noise. Jinwhan Kim, Monish Tandale, and P. K. Menon, *Optimal Synthesis, Inc.*; and Ernest Ohlmeyer, *Aero Science Applications* (**33**, 6, p. 1918) Technical Note based on AIAA Paper 2010-7881

G10-181 Control Model for Robotic Samara: Dynamics About a Coordinated Helical Turn. Evan R. Ulrich, Imraan Faruque, Jared Grauer, Darryll J. Pines, J. S. Humbert, and James E. Hubbard, *University of Maryland* (**33**, 6, p. 1921) Technical Note

G10-182 Practical Method for Optimization of Low-Thrust Transfers. Jesus Gil-Fernandez, *GMV*, Spain; and Miguel A. Gomez-Tierno, *Technical University of Madrid*, Spain (**33**, 6, p. 1927) Technical Note

G10-183 Frequency-Independent Modal Damping for Flexural Structures via a Viscous "Geometric" Damping Model. George A. Lesieutre, *Pennsylvania State University* (**33**, 6, p. 1931) Technical Note based on AIAA Paper 2010-3111

G10-184 Extension of the Sun-Synchronous Orbit. Malcolm Macdonald and Robert McKay, *University of Strathclyde*, Great Britain; Massimiliano Vasile, *University of Glasgow*, Great Britain; and François Bosquillon de Frescheville, *ESA*, Germany (**33**, 6, p. 1935) Technical Note

G10-185 Transfers to Sticky Distant Retrograde Orbits. Christopher J. Scott and David B. Spencer, *Pennsylvania State University* (**33**, 6, p. 1940) Technical Note

G10-186 Unmanned Arial Vehicle Coordination on Closed Convex Paths in Wind. Laszlo Techy, *University of Washington*; Derek A. Paley, *University of Maryland*; and Craig A. Woolsey, *Virginia Polytechnic Institute and State University* (**33**, 6, p. 1946) Technical Note based on AIAA Paper 2009-6210

G10-187 Output Regulation with Actuator Saturation for the Benchmark Active Control Technology Model. Ellen Applebaum, Zvi J. Adin and Joseph Z. Ben-Asher, *Technion—Israel Institute of Technology*, Israel (**33**, 6, p. 1951) Technical Note

Book Reviewed During 2010

Vehicle Dynamics: Theory and Applications, by Reza N. Jazar (**33**, 1, p. 287); reviewed by Corina Sandu, *Virginia Polytechnic Institute and State University*