

# **AIAA Guidance, Navigation, and Control Conference and Exhibit 2009**

**Chicago, Illinois, USA  
10-13 August 2009**

**Volume 1 of 11**

**ISBN: 978-1-61567-448-0**

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

The contents of this work are copyrighted and additional reproduction in whole or in part are expressly prohibited without the prior written permission of the Publisher or copyright holder. The resale of the entire proceeding as received from CURRAN is permitted.

For reprint permission, please contact AIAA's Business Manager, Technical Papers. Contact by phone at 703-264-7500; fax at 703-264-7551 or by mail at 1801 Alexander Bell Drive, Reston, VA 20191, USA.

# TABLE OF CONTENTS

## VOLUME 1

<b>Optimal Control Modification for Robust Adaptation of Singularly Perturbed Systems with Slow Actuators .....</b>	1
<i>N. Nguyen, A. Ishihara, V. Stepanyan</i>	
<b>Adaptive Control of the NASA Generic Transport Model Using Retrospective Cost Optimization .....</b>	21
<i>M. Sanitilo, M. Holzel, J. Hoagg, D. Bernstein</i>	
<b>Modeling and Model Reference Adaptive Control of Aircraft with Asymmetric Damage .....</b>	46
<i>Y. Liu, G. Tao, S. Joshi</i>	
<b>Design and Verification of an Adaptive Controller for the Generic Transport Model.....</b>	71
<i>L. Crespo, J. Jang, M. Matsutani</i>	
<b>L<sub>1</sub> Adaptive Control Augmentation System for the X-48B Aircraft .....</b>	93
<i>T. Leman, E. Xargay, G. Dullerud, N. Hovakimyan, T. Wendel</i>	
<b>A Direct Adaptive Control Approach in the Presence of Model Mismatch.....</b>	107
<i>S. Joshi, G. Tao, T. Khong</i>	
<b>Fault-Tolerant Model Predictive Control with Flight Test Results on ATTAS.....</b>	125
<i>F. de Almeida, D. Leissling</i>	
<b>Adaptive Nonlinear Model Predictive Path Tracking Control for a Fixed-Wing Unmanned Aerial Vehicle .....</b>	148
<i>K. Yang, S. Sukkarieh, Y. Kang</i>	
<b>A Nonlinear Multi-Objective Receding Horizon Flight Control Design .....</b>	161
<i>C. Gao, H. Liu, P. Zhang</i>	
<b>A Path-Parametrization Approach Using Trajectory Primitives for 3-Dimensional Motion Planning .....</b>	184
<i>A. Pachikara, J. Kehoe, R. Lind</i>	
<b>Trajectory Optimization for Maximizing the Range of Powered Sailplanes with Retractable Propeller .....</b>	197
<i>G. Sachs, J. Lenz, F. Holzapfel</i>	
<b>Nonlinear Stochastic Control Part I: A Moment-Based Approach .....</b>	207
<i>Y. Xu, P. Vedula</i>	
<b>Disturbance Accommodating Controller for Uncertain Stochastic Systems with Controller Saturation .....</b>	220
<i>J. George, P. Singla, J. Crassidis</i>	
<b>A Probabilistic Approach for Robust Input Shapers Design for Precise Point-to-Point Control .....</b>	237
<i>P. Singla, T. Singh, U. Konda</i>	
<b>Robust Statistical Controller for Stochastic Systems.....</b>	252
<i>J. George, K. Pham</i>	
<b>Rotorcraft Fault Detection Using Difference Flatness .....</b>	266
<i>N. Zhang, J. Fernandez, A. Doncescu</i>	
<b>Near Optimal Obstacle Avoidance Using Exploring Trees and Waypoint Guidance .....</b>	278
<i>J. Curtis, J. Cloutier</i>	
<b>LPV Modeling, Analysis and Design in Space Systems: Rationale, Objectives and Limitations .....</b>	286
<i>A. Marcos, S. Bennani</i>	
<b>Application of LPV/LFT Modeling and Data-Based Validation to a Re-Entry Vehicle .....</b>	309
<i>A. Marcos, M. Kerr, G. De Zaiacomo, L. Peñin, Z. Szabo, J. Bokor, G. Rodonyi</i>	
<b>An LPV Loop Shaping Controller Design for the NASA-HL-20 Re-Entry Vehicle.....</b>	328
<i>P. Menon, E. Prempain, I. Postlethwaite, D. Bates, S. Bennani</i>	
<b>IQC-Based LPV Controller Synthesis for the NASA HL20 Atmospheric Re-entry Vehicle.....</b>	346
<i>J. Veenman, C. Scherer, H. Koroglu</i>	
<b>Analysis of the Controlled NASA HL20 Atmospheric Re-Entry Vehicle Based on Dynamic IQCs .....</b>	364
<i>J. Veenman, H. Koroglu, C. Scherer</i>	
<b>Nonlinear Worst-Case Analysis of an LPV Controller for Approach-Phase of a Re-Entry Vehicle .....</b>	380
<i>P. Menon, E. Prempain, I. Postlethwaite, D. Bates, S. Bennani</i>	
<b>Non-Linear Autopilot Design Using the Philosophy of Variable Transient Response .....</b>	400
<i>J. Counsell, M. Macdonald, J. Brindley</i>	
<b>Advances in Agile Maneuvering for High Performance Munitions .....</b>	412
<i>R. Ratliff, J. Ramsey, K. Wise, E. Lavretsky</i>	
<b>H<sub>∞</sub> Control for Attitude Manoeuvres of a Spinning Asymmetric Vehicle .....</b>	420
<i>M. Creagh, R. Lind</i>	
<b>Synthesis of Robust Feedback Missile Control Strategies by Using LMI Techniques .....</b>	436
<i>E. Trottman, M. Weiss</i>	

<b>Control System's Algorithms for Gasodynamic Controlled Bombs .....</b>	450
<i>R. Glebocki</i>	
<b>Methods for Aircraft State Estimation from Airport Surface Surveillance .....</b>	465
<i>S. Pledgie, S. Atkins, C. Brinton</i>	
<b>Receding Horizon, Iterative Optimization of Taxiway Routing and Runway Scheduling .....</b>	487
<i>G. Clare, A. Richards, S. Sharma</i>	
<b>A Persistent Monitoring System to Reduce Navy Aircraft Carrier Flight Deck Mishaps.....</b>	501
<i>J. Johnston, E. Swenson</i>	
<b>Assigning Gates by Resolving Physical Conflicts .....</b>	521
<i>S. Kim, E. Feron, J. Clarke</i>	
<b>Queuing Models of Airport Departure Processes for Emissions Reduction .....</b>	537
<i>I. Simaiakis, H. Balakrishnan</i>	
<b>Info-Gap Approach to Multi Agent Search Under Severe Uncertainty .....</b>	563
<i>I. Sisso, T. Shima, Y. Ben-Haim</i>	
<b>Human-Swarm Interface for Abstraction Based Control .....</b>	584
<i>L. Pollini, M. Niccolini, M. Rosellini, M. Innocenti</i>	
<b>Collaborative Mission Planning &amp; Autonomous Control Technology (CoMPACT) System Employing Swarms of UAVs.....</b>	594
<i>J. Boskovic, N. Knoebel, N. Moshtagh, J. Amin, G. Larson</i>	
<b>Multi-UAV Persistent Surveillance with Communication Constraints and Health Management.....</b>	618
<i>B. Bethke, J. How, J. Vian</i>	
<b>Reaching Consensus with Imprecise Probabilities over a Network.....</b>	641
<i>C. Fraser, L. Bertuccelli, J. How</i>	
<b>Fault Detection and Isolation Strategy for a Network of Unmanned Vehicles in Presence of Large Environmental Disturbances .....</b>	663
<i>N. Meskin, K. Khorasani, C. Rabbath</i>	

## VOLUME 2

<b>Angular Rate Encoding in Haltere Feedback for Flight Stabilization of Dipteron Insects .....</b>	684
<i>R. Thompson, N. Rummelt, W. Dixon</i>	
<b>Indoor Navigation for Unmanned Aerial Vehicles.....</b>	698
<i>D. Sobers, G. Chowdhary, E. Johnson</i>	
<b>Advanced Research Integrated Avionics (ARIA) System for Fault-Tolerant Flight Research.....</b>	727
<i>J. Gross, Y. Gu, B. Seanor, S. Gururajan, M. Napolitano</i>	
<b>Vision-Based Autonomous Landing of an Helicopter on a Moving Target .....</b>	740
<i>S. Saripalli</i>	
<b>Temperature Variation of Optical Sensors on a wing during wind tunnel tests .....</b>	748
<i>A. Popov, R. Botez, M. Mamou, L. Grigor</i>	
<b>An Alternative Methodology for Fiber Optic Gyroscope Calibration .....</b>	760
<i>F. du Plessis, F. Swanepoel, A. Nel</i>	
<b>Visual Landmark Constellation Matching for Spacecraft Pinpoint Landing.....</b>	784
<i>B. Pham, S. Lacroix, M. Devy, M. Drieux</i>	
<b>Neural Networks as a Guidance Solution for Soft-Landing and Aerocapture .....</b>	797
<i>G. Gelly, P. Vernis</i>	
<b>Handling Qualities Evaluation of Pilot Tools for Spacecraft Docking in Earth Orbit.....</b>	818
<i>K. Bilimoria, E. Mueller, C. Frost</i>	
<b>Performance Evaluation of Global Trajectory Optimization Methods for a Solar Polar Sail Mission .....</b>	833
<i>J. Spaans, E. Mooij</i>	
<b>On Autonomous Optimal Deorbit Guidance.....</b>	854
<i>M. Baldwin, B. Pan, P. Lu</i>	
<b>Integrated Guidance and Fault Tolerant Adaptive Control for Mars Entry Vehicle.....</b>	874
<i>M. Marwaha, B. Singh, J. Valasek, R. Bhattacharya</i>	
<b>Formulation and Analysis of Matching Points of Interest in Two-Spacecraft for Optimal Rendezvous .....</b>	901
<i>G. Boyarko, O. Yakimenko, M. Romano</i>	
<b>Integrated Control of Position, Attitude, and Flexible Motion for Satellite Proximity Operations.....</b>	923
<i>M. Xin, H. Pan</i>	
<b>Spacecraft Formation Flying Control Using Sliding Mode and Neural Networks Controller .....</b>	942
<i>J. Bae, Y. Kim, C. Park</i>	
<b>Obstacle Avoidance Guidance and Control Algorithm for Spacecraft Maneuvers .....</b>	960
<i>N. Martinson</i>	

<b>A Validation Tool for Diagnostic Systems .....</b>	969
<i>A. Bateman, M. DeVore, G. Balas</i>	
<b>Switch Control Architecture for Advanced Control System Certification .....</b>	985
<i>L. Rudd</i>	
<b>Applications of Linear and Nonlinear Robustness Analysis Techniques to the F/A-18 Flight Control Laws.....</b>	1000
<i>A. Chakraborty, P. Seiler, G. Balas</i>	
<b>A Comparison of Fault-Tolerant GN&amp;C System Architectures Using the Objects Process Network (OPN) Modeling Language .....</b>	1025
<i>G. Hanuschak, N. Harrison, E. Crawley, S. Hal</i>	
<b>3-D Obstacle Detection Using a Single Camera.....</b>	1046
<i>S. Shah, E. Johnson</i>	
<b>Vision-Based Navigation Frame Mapping and Path Planning for Micro Air Vehicles .....</b>	1061
<i>H. Yu, R. Beard, J. Byrne</i>	
<b>Vision-Based Precision Landings of a Tailsitter UAV .....</b>	1071
<i>P. Millet, B. Ready, T. McLain</i>	
<b>Development and Implementation of L<sub>1</sub> Gimbal Tracking Loop Onboard of Small UAV .....</b>	1082
<i>Z. Li, V. Dobrokhodov, E. Xargay, N. Hovakimyan</i>	
<b>Spiral Landing Trajectory and Pursuit Guidance Law Design for Vision-Based Net-Recovery UAV.....</b>	1100
<i>S. Yoon, H. Kim, Y. Kim</i>	
<b>A Comparison Study of Several Adaptive Control Strategies for Resilient Flight Control .....</b>	1125
<i>J. Boskovic, N. Knoebel</i>	
<b>Neuroadaptive Model Following Controller Design for Non-Affine and Non-Square Aircraft Systems .....</b>	N/A
<i>K. Rajagopal, S. Balakrishnan, N. Nguyen, K. Krishnakumar</i>	
<b>L<sub>1</sub> Adaptive Control Design for NASA AirSTAR Flight Test Vehicle .....</b>	1147
<i>I. Gregory, C. Cao, E. Xargay, N. Hovakimyan</i>	
<b>L<sub>1</sub> Adaptive Augmentation of Gain-Scheduled Controller for Racetrack Maneuver in Aerial Refueling.....</b>	1174
<i>J. Wang, N. Hovakimyan</i>	
<b>An Indirect Adaptive Control Scheme in the Presence of Actuator and Sensor Failures .....</b>	1209
<i>J. Sun, S. Joshi</i>	
<b>Adaptive Control of a Transport Aircraft Using Differential Thrust .....</b>	1228
<i>V. Stepanyan, N. Nguyen, K. Krishnakumar</i>	
<b>A Dynamic Programming Approach for Aircraft Conflict Detection .....</b>	1243
<i>J. Ding, C. Tomlin</i>	
<b>Collision Detection System Based on Differential Carrier-Phase GPS Broadcasts.....</b>	1262
<i>S. Hwang, J. Speyer</i>	
<b>Towards an Ecological Four-Dimensional Self-Separation Assistance Display .....</b>	1287
<i>J. Ellerbroek, M. Visser, S. Van Dam, M. Mulder, R. van Paassen</i>	
<b>The Use of Intent Information in an Airborne Self-Separation Assistance Display Design .....</b>	1300
<i>S. Van Dam, M. Mulder, R. Paassen</i>	
<b>Performance Analysis of a Horizontal Separation Assurance Algorithm for Short-Range Conflicts .....</b>	1319
<i>A. Trapani, H. Erzberger, W. Dunbar</i>	
<b>Experimental Performance of a Genetic Algorithm for Airborne Strategic Conflict Resolution .....</b>	1343
<i>D. Karr, R. Vivona, D. Roscoe, S. DePascale, M. Consiglio</i>	

### VOLUME 3

<b>Required Action Time and Control Effectiveness in Resolving Pairwise Conflicts .....</b>	1358
<i>H. Chen, Y. Zhao</i>	
<b>Adaptive Control Augmentation to Existing Autopilots for Fixed-Wing UAVs.....</b>	1378
<i>B. Yang, J. Corban</i>	
<b>LPV Autopilot Design of a Jindivik UAV .....</b>	1394
<i>S. Chumalee, J. Whidborne</i>	
<b>L<sub>1</sub> Adaptive Control for Indoor Autonomous Vehicles: Design Process and Flight Testing.....</b>	1414
<i>B. Michini, J. How</i>	
<b>Analysis of Feedforward/Feedback Control Design for Underwater Gliders Based on Slowly Varying Systems Theory .....</b>	1429
<i>N. Mahmoudian, C. Woolsey</i>	
<b>An Aerodynamic Data System for Small Hovering Fixed-Wing UAS.....</b>	1447
<i>D. Yeo, J. Henderson, E. Atkins</i>	

<b>Feasible Agile Maneuver Identification and Generation Algorithms on Multi Modal Control Framework.....</b>	1465
<i>N. Ure, G. Inalhan</i>	
<b>Approximate Input Reconstruction for Diagnosing Aircraft Control Surfaces .....</b>	1483
<i>H. Fu, S. Kirtikar, E. Zattoni, H. Palanthandalam-Madapusi</i>	
<b>Accommodation of Control Actuator Failures in Morphing Aircraft.....</b>	1514
<i>J. Boskovic, J. Redding</i>	
<b>Piloted Assessment of a Fault Diagnosis Algorithm on the ATTAS Aircraft .....</b>	1529
<i>M. Kerr, A. Marcos, L. Peñin, O. Breiger, M. Turner</i>	
<b>Vortex Model Based Adaptive Flight Control Using Synthetic Jets.....</b>	1550
<i>J. Muse, R. Chandramohan, A. Calise, A. Tchieu</i>	
<b>Importance of Model Simulations in Cassini In-Flight Mission Events .....</b>	1574
<i>J. Brown, E. Wang, J. Hernandez, A. Lee</i>	
<b>Titan Atmospheric Density Reconstruction Using Cassini Guidance, Navigation, and Control Data .....</b>	1594
<i>S. Sarani</i>	
<b>The Challenge of Implementing Reaction Wheel Biases on the Cassini Spacecraft During Extended Mission Sequence Development.....</b>	1617
<i>M. Luna, D. Bates</i>	
<b>Rapid Terminal-Trajectory Planner for an Unpowered Reusable Launch Vehicle .....</b>	1633
<i>C. Kluever, K. Horneman, J. Schierman</i>	
<b>Constrained Predictor-Corrector Entry Guidance.....</b>	1646
<i>P. Lu, S. Xue</i>	
<b>Terminal Area Energy Management Trajectory Optimization Using Interval Analysis .....</b>	1668
<i>N. Salgueiro Filipe, E. de Weerdt, E. van Kampen, Q. Chu, J. Mulder</i>	
<b>Optimal Terminal Area Strategies and Energy Tube Concept for a Winged Re-Entry Vehicle .....</b>	1688
<i>S. de Ridder, E. Mooij</i>	
<b>Distributed Global Trajectory Optimization of a Moderate Lift-to-Drag Re-Entry Vehicle .....</b>	1709
<i>E. Mooij, G. Hanninen</i>	
<b>Robust Skip Entry Guidance and Control for a Capsule Returning from Lunar Orbit .....</b>	1724
<i>G. De Zaicom, M. Kerr, R. Haya, L. Peñin</i>	
<b>Rapid Generation of Accurate Entry Landing Footprint.....</b>	1746
<i>S. Xue, P. Lu</i>	
<b>An Entry Trajectory Design Methodology for Lunar Return .....</b>	1769
<i>Z. Putnam, G. Barton, M. Neave</i>	
<b>Collaborative Mission Planning, Autonomy and Control Technology (CoMPACT) for Unmanned Surface Vehicles .....</b>	1786
<i>J. Redding, J. Amin, J. Boskovic, J. Jackson</i>	
<b>Multiple UAVs Autonomous Mission Implementation on COTS Autopilots and Experimental Results.....</b>	1809
<i>N. Li, H. Liu, E. Earon, C. Fulford, R. Huq</i>	
<b>Real-Time Multi-UAV Task Assignment in Dynamic and Uncertain Environments .....</b>	1829
<i>L. Bertuccelli, H. Choi, P. Cho, J. How</i>	
<b>Task Assignment and Motion Planning for Multiple UAVs Tracking Multiple Targets in Urban Environments .....</b>	1845
<i>V. Shaferman, T. Shima</i>	
<b>Cooperative UAV Search for Moving Targets Using a Modified Diffusion Uncertainty Model.....</b>	1862
<i>A. Sun, H. Liu</i>	
<b>Multi Vehicle Avoidance Using Nonlinear Branch and Bound Optimisation.....</b>	1881
<i>A. Eele, A. Richards</i>	
<b>Evaluating the Feasibility of a Particle Filtering Approach for Tracking Unmanned Surface Vehicles.....</b>	1895
<i>K. Pamadi</i>	
<b>Simultaneous Estimation of Target Pose and 3-D Shape Using the FastSLAM Algorithm.....</b>	1903
<i>S. Augenstein, S. Rock</i>	
<b>Cooperative Interception in a Multi-Missile Engagement.....</b>	1918
<i>V. Shaferman, Y. Oshman</i>	
<b>Improved Ground Trajectory Prediction by Multi-Aircraft Track Fusion for Air Traffic Control .....</b>	1941
<i>I. Lympertopoulos, J. Lygeros</i>	
<b>Wind Forecast Error and Trajectory Prediction for En-Route Scheduling .....</b>	1963
<i>C. Tino, L. Ren, J. Clarke</i>	
<b>UKF-Based Spacecraft Parameter Estimation Using Optimal Excitation .....</b>	1985
<i>P. Sekhavat, M. Karpenko, I. Ross</i>	
<b>Robust Control of a Vibrating Beam Using the Hybrid Passivity and Finite Gain Stability Theorem .....</b>	2001
<i>J. Forbes, C. Damaren</i>	

<b>Discrete Pseudo-Control Sets for Optimal Control Problem</b>	.....	2016
<i>Y. Ulybyshev</i>		

## VOLUME 4

<b>On the Minimum-Time Reorientation of a Rigid Body</b>	.....	2031
<i>A. Fleming, P. Sekhavat, I. Ross</i>		
<b>Gradient Based Optimal Output Feedback Using a Sylvester Expansion</b>	.....	2051
<i>B. Burchett</i>		
<b>A State Approximation-Based Mesh Refinement Algorithm for Solving Optimal Control Problems Using Pseudospectral Methods</b>	.....	N/A
<i>C. Darby, A. Rao</i>		
<b>Exact Modal Decomposition of Nonlinear Hamiltonian Systems</b>	.....	2060
<i>W. Lohmiller, J. Slotine</i>		
<b>A Design Method of Feedback Controller Based on Integral-Type Optimal Servomechanism</b>	.....	2078
<i>H. Kondo, Y. Ochi</i>		
<b>Control of a Hovering Mini Fixed Wing Aerial Vehicle</b>	.....	2098
<i>P. Bilodeau, É. Poulin, E. Gagnon, F. Wong, A. Desbiens</i>		
<b>Swing Damping for Helicopter Slung Load Systems Using Delayed Feedback</b>	.....	2107
<i>M. Bisgaard, A. la Cour-Harbo, J. Bendtsen</i>		
<b>Conceptual Development of the Free-Degree Decelerating Approach</b>	.....	2118
<i>M. Westerlaken, A. in 't Veld, M. Mulder, M. van Paassen, A. de Lege</i>		
<b>Rotor State Feedback Control for Rotorcraft with Variable Rotor Speed</b>	.....	2141
<i>W. Guo, J. Horn</i>		
<b>Observer-Based Realization of a Computational-Intelligence Designed Launcher Attitude Controller</b>	.....	2153
<i>F. Ramos, D. Alazard</i>		
<b>Sequences of Passively Stable Dynamic Equilibria for Hybrid Control of Reconfigurable Spacecraft</b>	.....	2169
<i>J. Shoer, M. Peck</i>		
<b>Attitude Stabilization with Network Delay in Feedback Control Implementation</b>	.....	2181
<i>A. Chumodkar, M. Akella</i>		
<b>Optimal Control of a Librating Electrodynamiic Tether Performing a Multirevolution Orbit Change</b>	.....	2196
<i>R. Stevens, W. Baker</i>		
<b>Output-Torque Error Analysis and Steering Law Design of SGCMGs Based on SVD Theory</b>	.....	2216
<i>J. Jin, J. Zhang, Z. Liu</i>		
<b>An Investigation of Potential Performance Impacts of the Lander Descent Engine Plume on a Laser Sensing System for Precision Lunar Landing</b>	.....	2229
<i>R. Henderson, J. Taylor, A. Goldfinger, W. Torruellas</i>		
<b>APLNav Terrain Relative Navigation Helicopter Field Testing</b>	.....	2239
<i>J. White, T. Criss, D. Adams</i>		
<b>Performance Analysis of the APLNav System for Passive Optical Lunar Navigation</b>	.....	2254
<i>T. McGee, U. Shankar, S. Shapiro, W. Shyong, C. Krupiarz, D. Reid</i>		
<b>Study of Low Illumination Sensing Aids Applicable to Lunar Landing</b>	.....	2278
<i>A. Goldfinger, D. Blewett, T. Criss, E. Darlington, P. McEvaddy, T. McGee, C. Kum</i>		
<b>Predictor-Based Model Reference Adaptive Control</b>	.....	2298
<i>E. Lavretsky, R. Gradient, I. Gregory</i>		
<b>Flight Test Validation of a Neural Network based Long Term Learning Adaptive Flight Controller</b>	.....	2309
<i>G. Chowdhary, E. Johnson</i>		
<b>Adaptive Tracking Control of Linear Systems with Unknown Delays and Persistent Disturbances (Or Who You Callin' Retarded?)</b>	.....	2334
<i>M. Balas, S. Gajendar, L. Robertson</i>		
<b>Reduced Order Model of Cylinder Wake with Direct Adaptive Feedback Control</b>	.....	2349
<i>C. Fagley, M. Balas, S. Siegel, J. Seidel, T. McLaughlin</i>		
<b>Retrospective Cost Adaptive Flow Control Using a Dielectric Barrier Discharge Actuator</b>	.....	2360
<i>M. Fledderjohn, Y. Cho, J. Hoagg, M. Santillo, W. Shyy, D. Bernstein</i>		
<b>A Kalman Filter Optimization Approach to Direct Adaptive Control</b>	.....	2380
<i>T. Yucelen, A. Calise</i>		
<b>Design Analysis of Corridors-in-the-Sky</b>	.....	2401
<i>M. Xue</i>		
<b>Optimization Based Tube Network Design for the Next Generation Air Transportation System (NextGen)</b>	.....	2412
<i>P. Kotecha, I. Hwang</i>		

<b>Flexible Tube-Based Network Control .....</b>	2427
<i>J. Chen, D. Andrisani, J. Krozel, J. Mitchell</i>	
<b>Design and Evaluation of a Dynamic Programming Flight Routing Algorithm Using the Convective Weather Avoidance Model.....</b>	2449
<i>H. Ng, S. Grabbe, A. Mukherjee</i>	
<b>Continual, Probabilistic Airspace Congestion Management.....</b>	2462
<i>C. Wanke</i>	
<b>A Multi-Objective Generalized Random Adaptive Search Procedure for Resolving Airspace Congestion.....</b>	2482
<i>C. Taylor, C. Wanke</i>	
<b>Obstacle Detection Around Aircraft on Ramps and Taxiways Through the Use of Computer Vision .....</b>	2501
<i>J. Gauci, D. Zammit-Mangion</i>	
<b>Stand-Alone Ship-Relative Navigation System Based on Pseudolite Technology .....</b>	2524
<i>C. Aulitzky, O. Heinzinger, U. Bestmann, P. Hecker</i>	
<b>Error Analysis for GPS Based Position and Attitude Determination for Motion Compensation in TerraSAR-X/PAMIR Bistatic SAR Experiment .....</b>	2537
<i>Z. Dai</i>	
<b>Trajectory Estimation for a Hybrid Rocket .....</b>	2552
<i>P. Bristeau, N. Petit</i>	
<b>Development of the European IMU for Space Applications .....</b>	2561
<i>S. Clerc, P. Martella, D. Durrant, N. Bertsch, S. Duss</i>	
<b>Situation Aware Trajectory Tracking for Micro Air Vehicles in Obstacle Rich Environments .....</b>	2578
<i>A. Berry, J. Howitt, I. Postlethwaite, D. Gu</i>	
<b>Travel Trajectory Planning for Micro Air Vehicles in Winds .....</b>	2590
<i>Y. Ketema, Y. Zhao</i>	
<b>Control and Guidance of a Highly-Flexible Micro Air Vehicle Using Model Predictive Control.....</b>	2608
<i>C. Campbell, J. Maciejowski</i>	
<b>Automatic Control of VTOL Micro Air Vehicle During Transition Maneuver .....</b>	2630
<i>D. Chu, J. Sprinkle, R. Randall, S. Shkarayev</i>	
<b>Convex Chance Constrained Predictive Control Without Sampling .....</b>	2646
<i>L. Blackmore, M. Ono</i>	
<b>Data-Based Identification of Time-Varying Poles.....</b>	2660
<i>S. Sorley, A. Chakravarthy, R. Lind</i>	
<b>Immunity-Based Aircraft Failure Detection and Identification Using an Integrated Hierarchical Multi-Self Strategy .....</b>	2676
<i>H. Moncayo, M. Perhinschi, J. Davis</i>	
<b>Adaptive Disturbance Accommodating Controller for Nonlinear Stochastic Systems.....</b>	2690
<i>J. George</i>	
<b>Higher Order Statistical Approach to Nonlinear Stochastic Optimal Control Problem .....</b>	2702
<i>J. George, P. Singla</i>	

## VOLUME 5

<b>Nonlinear System Identification of Discrete Systems Using GLO-Map.....</b>	2717
<i>M. Marwaha, J. Valasek, P. Singla</i>	
<b>Constrained Relative Attitude Determination for Two Vehicle Formations .....</b>	2736
<i>R. Linares, J. Crassidis, Y. Cheng</i>	
<b>Using Frequency-Response Functions to Investigate String Stability of Cooperative Control Laws .....</b>	2751
<i>L. Weitz, J. Hurtado</i>	
<b>Three-Dimensional Formation Flying Using Bifurcating Potential Fields.....</b>	2770
<i>M. Suzuki, K. Uchiyama, D. Bennet, C. MacInnes</i>	
<b>Formation Control for Lightweight UAVs Under Realistic Communications and Wind Conditions .....</b>	2781
<i>A. Sivakumar, C. Tan</i>	
<b>Bio-Inspired Adaptive Cooperative Control of Heterogeneous Robotic Networks .....</b>	2794
<i>I. Chang, S. Chung</i>	
<b>Multiple UAVs Formation Flight Experiments Using Virtual Structure and Motion Synchronization .....</b>	2814
<i>N. Li, H. Liu</i>	
<b>Path Planning for a UAV Performing Reconnaissance of Static Ground Targets in Terrain.....</b>	2833
<i>K. Obermeyer</i>	
<b>Adaptive Detection of Sensor Uncertainties and Failures .....</b>	2844
<i>G. Tao, J. Burkholder</i>	

<b>A Hardware Demonstration of an Integrated Adaptive Wing Shape and Flight Control Law for Morphing Aircraft.....</b>	2856
<i>N. Gandhi, J. Cooper, D. Ward, D. Howard, D. Neal</i>	
<b>Evolutionary Algorithm for Artificial Immune System-Based Failure Detector Generation and Optimization .....</b>	2881
<i>J. Davis, M. Perhinschi, H. Moncayo</i>	
<b>A Bumpless Transfer Approach in Augmenting Adaptive Control .....</b>	2901
<i>B. Yang, J. Corban</i>	
<b>Adaptive Neuro-Fuzzy Controllers for an Open Loop Morphing Wing System.....</b>	2918
<i>L. Grigorie, R. Botez, A. Popov</i>	
<b>Optimal Guidance: A Guaranteed Miss Approach.....</b>	2937
<i>S. Gutman, O. Goldan Ben-Aharon</i>	
<b>L<sub>q</sub>-Optimal Missile Guidance and its Relation to Mixed L<sub>2</sub>/L<sub>q</sub> Laws .....</b>	2951
<i>C. Heller, I. Yaesh, Ramat Hasharon, J. Ben-Asher</i>	
<b>Interceptor Predictive Mid-Course Higher Order Sliding Mode Guidance and Control.....</b>	2964
<i>C. Tournes, Y. Shtessel, D. Liano</i>	
<b>Impact Time and Angle Guidance with Sliding Mode Control.....</b>	2989
<i>N. Harl, S. Balakrishnan</i>	
<b>Violet: A High-Agility Nanosatellite for Demonstrating Small Control-Moment Gyroscope Prototypes and Steering Laws .....</b>	3011
<i>J. Gersh, M. Peck</i>	
<b>Low-Cost Sensor-Based Integrated Attitude Filter for Space Applications .....</b>	3026
<i>P. Batista</i>	
<b>Attitude Tracking Control of a Small Satellite in Low Earth Orbit.....</b>	3041
<i>A. Sanyal, Z. Lee-Ho</i>	
<b>A Generalized Framework for Linearly-Constrained Singularity-Free Control Moment Gyro Steering Laws.....</b>	3055
<i>L. Jones, M. Peck</i>	
<b>Demonstration of a Magnetic Locking Flux-Pinned Revolute Joint for Use on CubeSat-Standard Spacecraft.....</b>	3065
<i>W. Wilson, J. Shoer, M. Peck</i>	
<b>In-Orbit Magnetic Disturbance Estimation and Compensation Using UKF in Nano-Satellite Mission.....</b>	3078
<i>T. Inamori</i>	
<b>An Overview of Experiments on the Dynamic Sensitivity of MAVs to Turbulence.....</b>	3093
<i>S. Watkins, M. Abdulrahim, M. Thompson, M. Shorti</i>	
<b>Dynamic Sensitivity to Atmospheric Turbulence of a Fixed-Wing MAV with Varying Configuration .....</b>	3105
<i>M. Abdulrahim, S. Watkins, R. Segal</i>	
<b>Control Limitations of Small Unmanned Aerial Vehicles in Turbulent Environments.....</b>	3123
<i>W. Pisano, D. Lawrence</i>	
<b>Real-Time Insitu Strategies for Enhancing UAV Endurance by Utilizing Wind Energy.....</b>	3134
<i>K. Turkoglu, Y. Zhao, B. Capozzi</i>	
<b>A Comparison of Gyroless Implementations on Scientific Spacecraft .....</b>	3152
<i>D. Bruno, B. Class, D. Rovner, G. Baird, J. Groszkiewicz, K. Lebsack</i>	
<b>Gyroless Stellar Acquisition Algorithm for Spacecraft Closed-Loop Control and Its Accuracy .....</b>	3167
<i>T. Tsao, D. Liu</i>	
<b>Gyroless Transfer Orbit Sun Acquisition Using Only Wing Current Feedback.....</b>	3175
<i>T. Tsao, R. Chiang</i>	
<b>Spacecraft Acquisition Maneuvers Using the Position Based Gyroless Control .....</b>	3189
<i>D. Liu, R. Chiang</i>	
<b>Attitude Estimation Without Rate Gyros Using Generalized Multiple Model Adaptive Estimation .....</b>	3199
<i>J. Marschke, J. Crassidis, Q. Lam</i>	
<b>The Magnetic Attitude Control System for the Parkinson Satellite (PSAT) A US Naval Academy Designed CubeSat .....</b>	3211
<i>J. Thienel, R. Bruninga, R. Stevens, C. Ridge, C. Healy</i>	
<b>Gyroless-Extending the TIMED Mission.....</b>	3220
<i>W. Dellinger</i>	
<b>A Comparative Analysis of Body-Rate Estimation Techniques for the NASA Magnetospheric Multiscale (MMS) Mission Spacecraft .....</b>	3228
<i>N. Mushaweh, B. Jenkins, D. Castelli, M. Thein</i>	
<b>Anti-Windup Design for Satellites Control with Microthrusters .....</b>	3243
<i>J. Boada, C. Prieur, S. Tarbouriech, C. Pittet</i>	

<b>Non-Linear and Robust Stability Analysis for ATV Rendezvous Control.....</b>	3261
<i>M. Ganet-Schoeller, J. Bourdon, G. Gelly</i>	
<b>Linear Parameter-Varying Control for Variations in Thermal Gradients Across Hypersonic Vehicles.....</b>	3279
<i>S. Bhat, R. Lind</i>	
<b>Verification and Validation of Attitude and Orbit Control Systems for Flexible Satellites .....</b>	3290
<i>W. Wang, P. Menon, D. Bates, S. Bennani</i>	
<b>Analytical Solutions to Approximations of the Hamilton-Jacobi Equation Applied to Satellite Formation Flying .....</b>	3302
<i>S. LeBel, C. Damaren</i>	
<b>Bang-bang Control Design by Combing Pseudospectral Method with a novel Homotopy Algorithm .....</b>	3313
<i>X. Bai, J. Turner, J. Junkins</i>	
<b>Nonlinear Stochastic Control Part II: Ascent Phase Control of Reusable Launch Vehicles.....</b>	3327
<i>Y. Xu, M. Xin, P. Vedula</i>	
<b>Ascent Flight Control of Ares-I Crew Launch Vehicle in the Event of Uncontrolled Roll Drift.....</b>	3339
<i>W. Du, B. Wie</i>	
<b>Hybrid Adaptive Launch Vehicle Ascent Flight Control .....</b>	3359
<i>B. LeFevre, R. Jha</i>	
<b>Limited Adaptive Authority Flight Control for the Crew Launch Vehicle .....</b>	3374
<i>J. Muse, A. Calise</i>	

## VOLUME 6

<b>Highly Constrained Optimal Launch Ascent Guidance.....</b>	3393
<i>P. Lu, B. Pan</i>	
<b>State Space Implementation of Linear Perturbation Dynamics Equations for Flexible Launch Vehicles.....</b>	3419
<i>J. Orr, M. Johnson, J. Wetherbee, J. McDuffie</i>	
<b>Parametric Optimization of Ares I Propellant Slosh Characteristics Using Frequency Response Criteria .....</b>	3433
<i>J. Orr, C. Hall</i>	
<b>On the Computation of Stability Margins for Adaptive Controllers Using Linear System Tools .....</b>	3442
<i>E. Lavretsky, A. Annaswamy, Z. Dydek, W. Vega-Brown</i>	
<b>Stability and Performance Metrics for Adaptive Flight Control.....</b>	3452
<i>V. Stepanyan, K. Krishnakumar, N. Nguyen, L. Van Eykeren</i>	
<b>A Process to Obtain Robustness Metrics for Adaptive Flight Controllers .....</b>	3471
<i>M. Kimbrell, E. Johnson, G. Chowdhary, A. Calise, R. Chandramohan</i>	
<b>A Loop Recovery Method for Adaptive Control.....</b>	3480
<i>A. Calise, T. Yucelen, J. Muse, B. Yang</i>	
<b>Bounded Linear Stability Analysis - A Time Delay Margin Estimation Approach for Adaptive Control.....</b>	3496
<i>N. Nguyen, A. Ishihara, K. Krishnakumara</i>	
<b>Time Delay Margin Computation via the Razumikhin Method for an Adaptive Control System .....</b>	3516
<i>A. Ishihara, S. Ben-Menahem, N. Nguyen</i>	
<b>Self-Calibration for Land Navigation Using Inertial Sensors and Odometer: Observability Analysis.....</b>	3535
<i>Y. Wu, M. Wu, X. Hu, D. Hu</i>	
<b>Improved Calibration Algorithm for SDINS Considering Body-Frame Drift .....</b>	3545
<i>K. Han, C. Sung, M. Yu</i>	
<b>Kalman Filtering and Smoothing to Estimate Real-Valued States and Integer Constants .....</b>	3558
<i>M. Psiaki</i>	
<b>Aircraft Attitude Determination Using GPS and an Interval Integer Ambiguity Resolution Algorithm .....</b>	3578
<i>E. van Kampen, E. de Weerdt, Q. Chu, J. Mulder</i>	
<b>Asymptotically Efficient Estimation of Pulse Time Delay for X-Ray Pulsar Based Relative Navigation.....</b>	3593
<i>A. Emadzadeh, J. Speyer, A. Golshan</i>	
<b>Force-Stiffness Feedback in UAV Tele-Operation with Time Delay .....</b>	3605
<i>T. Lam, M. Mulder, M. Van Paassen, J. Mulder, F. Van der Helm</i>	
<b>SPHERES Reconfigurable Framework and Control System Design for Autonomous Assembly .....</b>	3627
<i>S. Mohan, D. Miller</i>	
<b>Tasking Human Agents: A Sigmoidal Utility Maximization Approach for Target Identification in Mixed Teams of Humans and UAVs .....</b>	3641
<i>M. Donohue, C. Langbort</i>	

<b>Design of an Integrated Traffic, Terrain and Energy Awareness Display Concept for UAVs.....</b>	3653
<i>J. Tadema, Den Helder, E. Theunissen</i>	
<b>Methods of Modeling of an Underwater Unmanned Vehicle (UUV).....</b>	3665
<i>J. Gobeaut, M. Couffignal, N. Boely, Q. Bourgeteau, N. Mareschal</i>	
<b>Theoretical Foundations of an Ecological Synthetic Vision Display.....</b>	3708
<i>C. Borst, M. Mulder, R. Van Paassen, J. Mulder</i>	
<b>Experimental Evaluation of an Ecological Synthetic Vision Display .....</b>	3728
<i>C. Borst, M. Mulder, R. Van Paassen, J. Mulder</i>	
<b>Predictive Landing Guidance in Synthetic Vision Displays .....</b>	3747
<i>R. Arents, J. Groeneweg, M. Mulder, M. Van Paassen</i>	
<b>Design and Certification of a Fly-by-Wire System with Minimal Impact on the Original Flight Controls .....</b>	3762
<i>P. Zaal, D. Pool, F. Postema, M. Mulder, M. van Paassen, J. Mulder</i>	
<b>A Simple Altitude Capture Avoiding TCAS Resolution Advisories During Level-Off Situations.....</b>	3777
<i>T. Miquel, P. Louyet</i>	
<b>Design and Evaluation of a Flight Director for Zero and Partial Gravity Flight.....</b>	3787
<i>B. Masselink, A. in 't Veld, M. Mulder, R. van Paassen,</i>	
<b>Longitudinal Flight Control Synthesis with Guardian Maps.....</b>	3814
<i>D. Saussié, O. Akhrif, C. Bérard</i>	
<b>Direct Trajectory Optimization and Costate Estimation of General Optimal Control Problems Using a Radau Pseudospectral Method .....</b>	3841
<i>D. Garg, M. Patterson, C. Darby, C. Francolin, G. Huntington, W. Hager</i>	
<b>Pre and Post Optimality Checking of the Virtual Motion Camouflage Based Nonlinear Constrained Subspace Optimal Control.....</b>	3870
<i>Y. Xu, G. Basset</i>	
<b>H<math>\infty</math> Controller Synthesis Versus Reliability-Based Design Optimization for Active Trussed Architectures.....</b>	3885
<i>E. Pollard, L. Peterson</i>	
<b>On the LQ feedback formulation of H<math>\infty</math> Output Feedback Control.....</b>	3896
<i>A. Karthikeyan, M. Safonov</i>	
<b>Predictive Control of General Nonlinear Systems Using Series Approximations .....</b>	3905
<i>N. Slegers, C. Gorman</i>	
<b>Development of an End to End Simulation Tool for Autonomous Cislunar Navigation .....</b>	3922
<i>S. Muñoz, J. Christian, E. Lightsey</i>	
<b>Lisa Pathfinder Mission: Attitude and Orbit Control Based on Micropulsion Systems.....</b>	3943
<i>L. Giulicchi, T. Fenal, S. Wu</i>	
<b>Yaw-Steered Payload Pointing and Orbital Control for a HIEO Spacecraft .....</b>	3955
<i>S. Munir, D. Allison, M. Machlis, X. Price, B. Kemper, M. Bruno</i>	
<b>Earth-Oriented Safe Mode: Concept, Design, and Results for the GMES Sentinel-2 Satellite .....</b>	3970
<i>S. Winkler, N. Duske, G. Wiedermann, W. Gockel</i>	
<b>Lorentz Accelerations in the Earth Fly-By Anomaly.....</b>	3986
<i>J. Atchison, M. Peck, B. Streetman</i>	
<b>An Investigation of the Orbital Status of Viking-1 .....</b>	3999
<i>D. Jefferson, S. Demcak, P. Esposito, G. Kruizinga</i>	
<b>Solution Space Based Analysis of the Difficulty of Aircraft Merging Tasks.....</b>	4010
<i>P. Hermes, M. Mulder, M. Van Paassen, H. Boering</i>	
<b>Merging of Air Traffic Flows.....</b>	4036
<i>A. Michelin, M. Idan, J. Speyer</i>	
<b>A Method for Scheduling Air Traffic with Uncertain En Route Capacity Constraints.....</b>	4055
<i>H. Arneson, M. Bloem</i>	

## VOLUME 7

<b>Traffic Flow Management Using Aggregate Flow Models and the Development of Disaggregation Methods .....</b>	4071
<i>D. Sun, B. Sridhar, S. Grabbe</i>	
<b>Integrated Traffic Flow Management Decision Making .....</b>	4087
<i>S. Grabbe, B. Sridhar, A. Mukherjee</i>	
<b>Massively Parallel Dantzig-Wolfe Decomposition Applied to Traffic Flow Scheduling.....</b>	4105
<i>J. Rios, K. Ross</i>	

<b>A Comparison of Optimization Approaches for Nationwide Traffic Flow Management.....</b>	4119
<i>J. Rios, J. Lohn</i>	
<b>Fuel Optimization of Figure-8 Flight for Unmanned Aerial Vehicles .....</b>	4130
<i>M. Harada, K. Bollino</i>	
<b>Dynamic Soaring Flight in Turbulence.....</b>	4140
<i>M. Deiter, A. Richards, C. Toomer</i>	
<b>Unlimited Endurance Performance of Solar UAVs with Minimal or Zero Electrical Energy Storage.....</b>	4154
<i>G. Sachs, J. Lenz, F. Holzapfel</i>	
<b>Sensitivity and Solar Power Analysis of Optimal Trajectories for Autonomous Airships .....</b>	4167
<i>J. Mueller, Y. Zhao, W. Garrard</i>	
<b>Trajectory Optimization for Target Localization Using Small Unmanned Aerial Vehicles.....</b>	4185
<i>S. Ponda, R. Kolacinski, E. Frazzoli</i>	
<b>Periodic Energy-Optimal Path Planning for Solar-Powered Aircraft .....</b>	4210
<i>S. Spangelo, P. Kabumba, A. Klesh, A. Girard, E. Gilbert</i>	
<b>Mapping 3D Guidance Performance Using Approximate Optimal Cost-to-go Function.....</b>	4225
<i>Z. Kong, V. Korukanti, B. Mettler</i>	
<b>A Comparison of a New Neuroadaptive Controller Architecture with the <math>\sigma</math>- and <math>e</math>- Modification Architectures.....</b>	4246
<i>T. Yucelen, A. Calise, W. Haddad, K. Volynskyy</i>	
<b>Time Varying Switched Adaptive Systems: Stability .....</b>	4268
<i>M. Stefanovic</i>	
<b>Adaptive Control of Plants with Actuators Operating on Different Time Scales.....</b>	4277
<i>J. Boskovic, N. Knoebel</i>	
<b>Model Selection Analysis in Multiple Model Adaptive Control.....</b>	4291
<i>N. Knoebel, J. Boskovic</i>	
<b>L<sub>1</sub> Adaptive Controller in the Presence of Input Saturation.....</b>	4306
<i>D. Li, N. Hovakimyan, C. Cao</i>	
<b>Combined / Composite Model Reference Adaptive Control .....</b>	4317
<i>E. Lavretsky</i>	
<b>Modeling and Feedback of Turbulence Hazards Based on Automated Real-Time Pilot Reports .....</b>	4332
<i>J. Krozel, P. Robinson, B. Buck, D. Wang</i>	
<b>Impact Analysis of Clear Air Turbulence Hazards .....</b>	4348
<i>V. Klimenko, J. Krozel</i>	
<b>Impact Analysis for In-Flight Icing Hazards.....</b>	4367
<i>S. Krishna, J. Krozel</i>	
<b>Traffic Volume Intersection Metric for Metroplex Clustering Analysis.....</b>	4384
<i>E. McClain, J. Clarke, A. Huang, D. Schleicher</i>	
<b>Supplemental Radar Integrity Monitoring for ADS-B Surveillance in TMA Airspace.....</b>	4395
<i>A. Warren, W. Richards</i>	
<b>Modifying L<sub>1</sub> Adaptive Control for Augmented Angle of Attack Control.....</b>	4407
<i>O. Harkgard</i>	
<b>Applications of Calculus of Variations to Aircraft and Spacecraft Path Planning .....</b>	4421
<i>A. L'Aflietto, C. Sultan</i>	
<b>Control of a PVTOL Aircraft Using Finite-Time Output Feedback .....</b>	4439
<i>M. Frye, S. Ding, C. Qian, R. Colgren</i>	
<b>LFT-Based Stability Analysis of a Generic Guided Missile .....</b>	4449
<i>H. Pfifer, S. Hecker, G. Michalka</i>	
<b>Robustness Analysis of Linear Time Periodic Systems Using Harmonic Transfer Function.....</b>	4459
<i>F. Saupe, J. Maurice, F. King, W. Fichter</i>	
<b>An Algorithmic Method for Regression Analysis of Conflict Probe Accuracy.....</b>	4473
<i>A. Crowell, C. Santiago</i>	
<b>Effectiveness of Pairing Flights When Evaluating The Accuracy of a Conflict Probe.....</b>	4486
<i>M. Paglione, R. Oaks</i>	
<b>Improving Ground-Based Trajectory Prediction through Communication of Aircraft Intent .....</b>	4503
<i>M. Konyak, S. Doucett, R. Safa-Bakhsh</i>	
<b>Examination of Airborne Position-Time Estimates from Enroute Automatic Dependent Surveillance .....</b>	4528
<i>C. Falk, L. Martin, T. Brewer-Dougherty</i>	
<b>An Approach for Nonlinear Uncertainty Propagation: Application to Orbital Mechanics .....</b>	4545
<i>D. Giza, P. Singla, M. Jah</i>	
<b>Dynamic Filtering for the Analysis of Astrometric and Radial Velocity Data Sets for the Detection of Exoplanets .....</b>	4564
<i>D. Savransky, N. Kasdin</i>	

<b>Continuous-Time Kalman Filtering with Implicit Discrete Measurement Times</b>	4574
<i>S. Mohiuddin, M. Psiaki</i>	
<b>Reduced-Order Filter Design for Discrete-Time Systems Corrupted with Multiplicative Noise</b>	4608
<i>A. Stoica, M. Barbelian, C. Dragasaru</i>	
<b>Enhanced Direct Quadrature Based Method of Moments for Nonlinear Filtering</b>	4622
<i>J. Yoon, Y. Xu, P. Vedula</i>	
<b>Nonlinear Filter Formulation for Rapid Estimation of Damaged Aircraft Performance</b>	4634
<i>J. Kim, K. Palaniappan, P. Menon</i>	
<b>Satisfying Terminal Angular Constraint Using Proportional Navigation</b>	4651
<i>A. Ratnoo, D. Ghose</i>	
<b>Target Maneuver Adaptive Guidance Law for a Bounded Acceleration Missile</b>	4675
<i>R. Atir, G. Hexner, H. Weiss, T. Shima</i>	
<b>Online Dynamic Flight Optimisation Applied to Guidance of a Variable-Flow Ducted Rocket</b>	4701
<i>W. Halswijk</i>	
<b>Shape-Generalized Modeling of Relative Spacecraft Translation</b>	4715
<i>S. Segal, P. Gurfil</i>	
<b>Stereoscopic Vision-Based Spacecraft Relative State Estimation</b>	4727
<i>S. Segal, P. Gurfil</i>	

## VOLUME 8

<b>Necessary and Sufficient Conditions for Attitude Estimation in Fractionated Spacecraft Systems</b>	4750
<i>L. Blackmore, F. Hadaegh</i>	
<b>Applied Reachability for Space Situational Awareness and Safety in Spacecraft Proximity Operations</b>	4765
<i>M. Holzinger, D. Scheeres</i>	
<b>Orbit Maneuvers Through Inter-Satellite Forcing</b>	4786
<i>M. Norman, M. Peck</i>	
<b>Analytic Solution to the Relative Orbital Motion Around an Oblate Planet</b>	4795
<i>D. Condurache, V. Martinusi</i>	
<b>Hybrid Control of Long Endurance Unmanned Aerial Vehicles for Robust Wireless Communication Networking</b>	4808
<i>D. Lee, K. Andersson, K. Jones</i>	
<b>Fault Diagnosis in a Network of Unmanned Aerial Vehicles with Imperfect Communication Channels</b>	4832
<i>N. Meskin, K. Khorasani, C. Rabbath</i>	
<b>Balancing Mission Requirement for Networked Autonomous Rotorcrafts Performing Video Reconnaissance</b>	4850
<i>N. Gans, J. Curtis, P. Barooah, J. Shea, W. Dix</i>	
<b>Use of Neural Network Approximation in Multiple-Unmanned Aerial Vehicle Trajectory Optimization</b>	4867
<i>J. Horn, B. Geiger, E. Schmidt</i>	
<b>An Autonomous Onboard Targeting Algorithm Using Finite Thrust Maneuvers</b>	4881
<i>S. Scarritt, B. Marchand, M. Weeks</i>	
<b>Rapid Optimization of Multiburn Rocket Trajectories Revisited</b>	4899
<i>B. Pan, P. Lu</i>	
<b>Improving Autonomous Optical Navigation for Small Body Exploration Using Range Measurement</b>	4917
<i>K. Dionne</i>	
<b>A Simple Targeting Procedure for Lunar Trans-Earth Injection</b>	4931
<i>S. Robinson, D. Geller</i>	
<b>An Explicit Guidance Method for a Lifting Interplanetary Re-Entry Vehicle</b>	4957
<i>M. Afzal, H. Roeser, M. Graesslin</i>	
<b>Maximum Torque and Momentum Envelopes for Reaction Wheel Arrays</b>	4970
<i>F. Markley, R. Reynolds, F. Liu</i>	
<b>Determination of Acquisition Time and Wheel Control for Spacecraft Using a Momentum Transfer Technique</b>	4985
<i>A. Pukniet, J. Kang, V. Coverstone</i>	
<b>Satellite Torque Management Using Solar Array Thermal Radiation Control</b>	5000
<i>J. Wehner, L. Rudd, C. Harris, S. Foroozan</i>	
<b>Wind Energy Based Path Planning for a Small Gliding Unmanned Aerial Vehicle</b>	5010
<i>N. Lawrance, S. Sukkarieh</i>	
<b>Energy Maps for Long-Range Path Planning for Small- and Micro- UAVs</b>	5028
<i>A. Chakrabarty, J. Langelaan</i>	

<b>Stability of a Thermal Centering Controller .....</b>	5041
<i>K. Andersson, I. Kaminer</i>	
<b>Reduction of Computational Complexity for Guidance of Unmanned Aircraft Through Strong Wind Fields.....</b>	5056
<i>J. Elston, E. Frew</i>	
<b>Learning Covariance Dynamics for Path Planning of UAV Sensors in a Large-Scale Dynamic Environment .....</b>	5062
<i>S. Park, H. Choi, N. Roy, J. How</i>	
<b>Cooperative Control of Unmanned Vehicles in a Time-Varying Flowfield .....</b>	5080
<i>C. Peterson, D. Paley</i>	
<b>Flight Test with an Adaptive Feed-Forward Controller for Alleviation of Turbulence Excited Wing Bending Vibrations.....</b>	5092
<i>A. Wildschek, R. Maier, K. Hahn, D. Leissling, M. Press, A. Zach</i>	
<b>Sliding Mode Propulsion Control Tests on a Motion Flight Simulator.....</b>	5114
<i>H. Alwi, C. Edwards, O. Stroosma, J. Mulder</i>	
<b>Pitch Control Law Analysis and Flight Test Demonstration of an Executive Transport Aircraft .....</b>	5137
<i>J. Shin, C. Harden, N. Saeed, R. Hartley, K. Chen</i>	
<b>Closed-loop Control Schemes for Aeroviscoelasticity Studies.....</b>	5159
<i>A. Hidee, R. Botez, N. Boely</i>	
<b>In-Flight Evaluation of Tactile Situational Awareness System During High Hover and Simulated Shipboard Landing.....</b>	5169
<i>K. Schultz, B. McGrath, B. Cheung</i>	
<b>Experience with Highly Automated Unmanned Aircraft Performing Complex Missions.....</b>	5193
<i>N. Rooz, E. Johnson, A. Wu, C. Christmann, J. Halswijk, G. Chowdhary, D. Sobers, S. Kannan, W. Pickell, H. Christophersen, A. Tannenbaum, J. Lee</i>	
<b>Rigid Multi-Body Equations-of-Motion for Flapping Wing MAVs Using Kane's Equations .....</b>	5210
<i>M. Bolender</i>	
<b>Altitude Control of a Single Degree of Freedom Flapping Wing Micro Air Vehicle .....</b>	5233
<i>D. Doman, M. Oppenheimer, M. Bolender, D. Sigthorsson</i>	
<b>Dynamics and Control of a Minimally Actuated Biomimetic Vehicle: Part I - Aerodynamic Model.....</b>	5252
<i>D. Doman, M. Oppenheimer, D. Sigthorsson</i>	
<b>Dynamics and Control of a Minimally Actuated Biomimetic Vehicle: Part II-Control.....</b>	5277
<i>M. Oppenheimer, D. Doman, D. Sigthorsson</i>	
<b>Active Vibration Control Using Adaptive Positive Position Feedback.....</b>	5300
<i>R. Orszulik, J. Shan</i>	
<b>Assisting Air Traffic Control in Planning and Monitoring Continuous Descent Approach Procedures .....</b>	5315
<i>A. van der Eijk, M. Mulder, M. van Paassen, A. in 't Veld</i>	
<b>An Interface for Inbound Traffic Management by Air Traffic Control .....</b>	5338
<i>E. van Dijk, M. Mulder, M. Van Paassen, M. Roerdink</i>	
<b>Time-Based Spaced Continuous Descent Approaches in Busy Terminal Manoeuvring Areas.....</b>	5361
<i>L. Meijer, N. De Gelder, M. Mulder, M. Van Paassen, A. In 't Veld</i>	
<b>Objective Function for 4-D Trajectory Optimization in Trajectory Based Operations .....</b>	5384
<i>O. Peletier, C. Constantinescu, I. Stefanescu</i>	
<b>Performances and Sensitivities of Optimal Trajectory Generation for Air Traffic Control Automation.....</b>	5404
<i>D. Wu, Y. Zhao</i>	

## VOLUME 9

<b>Analysis of Trajectory Flexibility Preservation Impact on Traffic Complexity .....</b>	5426
<i>H. Idris, T. El-Wakil, D. Wing, N. Shen</i>	
<b>A Network-Based Approach to En-Route Sector Aircraft Trajectory Planning.....</b>	5440
<i>H. Huang, C. Tomlin</i>	
<b>An Algorithm for Conformance Monitoring in Air Traffic Control .....</b>	5454
<i>C. Seah, A. Aligawesa, I. Hwang</i>	
<b>Enhancing Flight Control System Performance Using SDRE Based Controller as an Augmentation Layer.....</b>	5471
<i>Q. Lam, P. Krishnamurthy, F. Khorrami</i>	
<b>Lyapunov-based Fault Tolerant Flight Control Designs for a Modern Fighter Aircraft Model .....</b>	5485
<i>L. Sonneveldt, E. van Oort, Q. Chu, C. de Visser, J. Mulder</i>	
<b>Aircraft Dynamics with Input Rate Constraints: An Adaptive Flight Control Application .....</b>	5508
<i>N. Kahveci, P. Ioannou</i>	

<b>Design of Nonlinear Adaptive Flight Control System based on Immersion and Invariance</b>	5518
<i>Y. Kobayashi, M. Takahashi</i>	
<b>Stochastic Evaluation and Optimization of the Hierarchy-Structured Dynamic Inversion Flight Control</b>	5538
<i>J. Kawaguchi, Y. Miyazawa, T. Ninomiya</i>	
<b>H<math>\infty</math>-LTR Technique Applied to Robust Control of Propulsion-Controlled Aircraft</b>	5556
<i>Y. Hitachi, H. Liu</i>	
<b>Neural Network-Based Compensation of Synthetic Jet Actuator Nonlinearities for Aircraft Flight Control</b>	5580
<i>C. Singhal, G. Tao, J. Burkholder</i>	
<b>Collision Free Path Generation in 3-D with Turning and Pitch Radius Constraints for Aerial Vehicles</b>	5599
<i>F. Scholer, A. la Cour-Harbo, M. Bisgaard</i>	
<b>UAS Collision Avoidance Algorithm Minimizing Impact on Route Surveillance</b>	5610
<i>A. Smith, F. Harmon</i>	
<b>Reactive Collision Avoidance for Fixed-Wing MAVs Flying in Urban Terrain</b>	5630
<i>R. Sharma, J. Saunders, C. Taylor, R. Beard</i>	
<b>Robust Hybrid Control for Unknown Obstacle Avoidance</b>	5641
<i>M. Naderhirn, P. Langthaler, L. del Re</i>	
<b>Robust Lunar Spacecraft Autopilot Design Using High Order Sliding Mode Control</b>	5656
<i>J. Orr, Y. Shtessel</i>	
<b>Position and Attitude Control of a Planar Satellite by Two Thrusters</b>	5672
<i>S. Hokamoto, M. Iwase</i>	
<b>Control Performance Variation Due to Nonlinear Aerothermoelasticity in a Hypersonic Vehicle: Insights for Structural Design</b>	5682
<i>Z. Wilcox, S. Bhat, R. Lind, W. Dixon</i>	
<b>Robust Adaptive Reconfigurable Control for a Hypersonic Cruise Vehicle</b>	5691
<i>H. Youssef, S. Reiman, C. Dillon, H. Lee</i>	
<b>Stability Analysis for a Nonautonomous, Inhomogeneous System with Application to Tethered Satellite Formations</b>	5701
<i>J. Slane, S. Tragesser</i>	
<b>Robust Nonlinear Tracking Control Design for Flexible Spacecraft</b>	5715
<i>M. Malekzadeh, A. Naghash, A. Talebi</i>	
<b>Experimental Validation of a Metrics Driven L<sub>1</sub> Adaptive Control in the Presence of Generalized Unmodeled Dynamics</b>	5734
<i>I. Kitsios, V. Dobrokhotov, I. Kaminer, K. Jones, E. Xargay, N. Hovakimyan</i>	
<b>LMI-Based Analysis for Stability Margins of Adaptive Flight Control</b>	5770
<i>B. Yang, T. Yucelen, A. Calise, J. Shin</i>	
<b>Region of Attraction with Performance Bounds</b>	5788
<i>S. Ganguli, K. Ariyur, D. Enns</i>	
<b>Extremum Seeking for Model Reference Adaptive Control</b>	5809
<i>K. Ariyur, S. Ganguli, D. Enns</i>	
<b>Probabilistic Prediction of Aggregate Traffic Demand Using Uncertainty in Individual Flight Predictions</b>	5821
<i>E. Gilbo, S. Smith</i>	
<b>Weather-Weighted Periodic Auto Regressive Models for Sector Demand Prediction</b>	5841
<i>N. Chen, B. Sridhar</i>	
<b>Sensitivity of Capacity Estimation Results Subject to Convective Weather Forecast Errors</b>	5851
<i>J. Kim, J. Zou, J. Mitchell, J. Krozel</i>	
<b>Two Methods for Computing Directional Capacity Given Convective Weather Constraints</b>	5866
<i>J. Zou, J. Krozel, J. Krozel</i>	
<b>Describing Air Traffic Flows Using Stochastic Programming</b>	5881
<i>K. Lee, D. Delahaye, S. Puechmorel</i>	
<b>The Air Transportation System as a Supply Chain</b>	5896
<i>O. Pinon, K. Fry, J. Clarke</i>	
<b>Quantifying the Tradeoff Between Fairness and Delay in Traffic Flow Management and Planning: A Queueing-Theory Approach</b>	5920
<i>S. Roy, Y. Wan</i>	
<b>Simulation-Based Study to Quantify Data-Communication Benefits in Congested Airport Terminal Area</b>	5937
<i>G. Enea, A. Trani</i>	
<b>Analysis of Spinning Spacecraft with Wire Booms, Part 1: Derivation of Nonlinear Dynamics</b>	5957
<i>B. Kemp, T. McGee, U. Shankar</i>	

<b>Analysis of Spinning Spacecraft with Wire Booms, Part 2: Out of Plane Dynamics and Maneuvers .....</b>	5969
<i>T. McGee, U. Shankar, B. Kemp</i>	
<b>Analysis of Spinning Spacecraft with Wire Booms, Part 3: Spin-Plane Dynamics, Maneuvers, and Deployment .....</b>	5986
<i>U. Shankar, T. McGee, B. Kemp</i>	
<b>Design of Feedback Control System Using Nominal Inputs for Satellite Attitude Maneuver Using Control Moment Gyros .....</b>	6011
<i>Y. Kusuda, M. Takahashi</i>	
<b>Flexible Spacecraft Rest-to-Rest Maneuvers With CMGs Parallel Gimbal Arrangement.....</b>	6025
<i>T. Kamiya, K. Maeda, N. Ogura, S. Sakai</i>	
<b>Design, Modeling and Control of an Optical Pointing Sensor for the Formation Control Testbed (FCT) .....</b>	6037
<i>J. Shields, B. Metz, R. Bartos, A. Morfopoulos, C. Bergh, J. Keim, D. Scharf, A. Ahmed</i>	
<b>Normal Matrix Design Methodology of Spacecraft Robust Attitude Control .....</b>	6049
<i>H. Zhu</i>	
<b>Base Defense Using a Task Assignment Framework .....</b>	6072
<i>D. Kingston, S. Rasmussen, M. Mears</i>	
<b>Coordinated Perimeter Patrol with Minimum-Time Alert Response .....</b>	6083
<i>D. Paley, L. Techy, C. Woolsey</i>	
<b>Effective Task Assignment for Complex UAV Operations Using Genetic Algorithms.....</b>	6093
<i>S. Karaman, T. Shima, E. Frazzoli</i>	

## VOLUME 10

<b>Optimal Waypoint Placement for Road Surveillance using Unmanned Aerial Vehicles.....</b>	6107
<i>S. McDonald, R. Holsapple, D. Kingston</i>	
<b>Optimal Perimeter Patrol Alert Servicing with Poisson Arrival Rate .....</b>	6115
<i>P. Chandler, J. Hansen, R. Holsapple, S. Darbha</i>	
<b>Stochastic Patrolling and Collision Avoidance for Two UAVs in a Base Defense Scenario .....</b>	6122
<i>J. Jackson, Z. Hasan, R. Bencatel, A. Girard</i>	
<b>Specification and Planning of Interactive UAV Missions in Adversarial Environments.....</b>	6133
<i>S. Karaman, M. Faiad, E. Frazzoli</i>	
<b>Dynamic Mission Planning of Multiple Unmanned Autonomous Platforms for Sensing and Autonomous Urban Reconnaissance .....</b>	6146
<i>Y. Ke, A. Tsourdos, B. White, P. Silson</i>	
<b>Air-to-Ground Target Tracking in a GPS-Denied Environment Using Optical Flow Estimation.....</b>	6179
<i>Y. Watanabe, P. Fabiani, G. Le Besnerais</i>	
<b>Real-Time Mosaic-Aided Aerial Navigation: I. Motion Estimation .....</b>	6193
<i>V. Indelman, P. Gurfil, E. Rivlin, H. Rotstein</i>	
<b>Real-Time Mosaic-Aided Aerial Navigation: II. Sensor Fusion.....</b>	6216
<i>V. Indelman, P. Gurfil, E. Rivlin, H. Rotstein</i>	
<b>Cooperative Geolocation and Sensor Bias Estimation for UAVs with Articulating Cameras .....</b>	6242
<i>M. Campbell, W. Whitacre</i>	
<b>Navigation for Performing Visual Surveys of Non-Planar Surfaces .....</b>	6257
<i>K. Murthy, S. Rock</i>	
<b>Radar Tracking Optimization for Ballistic Target Scenarios .....</b>	6269
<i>N. Israeli, J. Ben-Asher, D. Cohen</i>	
<b>Multi-Static Radar Target Tracking Using Information Consensus Filters.....</b>	6281
<i>D. Casbeer, R. Beard</i>	
<b>On-Line Cooperative Observation Based on ESMF in Three-Dimensional Enviroments.....</b>	6290
<i>F. Gu, Y. He, J. Qi, J. Han, Y. Wang</i>	
<b>A Generalized Dynamic Programming Approach for a Departure Scheduling Problem .....</b>	6306
<i>S. Rathinam, Z. Wood, B. Sridhar, Y. Jung</i>	
<b>Planning Routes with Wiggle Room in En Route Weather-Impacted Airspaces .....</b>	6318
<i>V. Polishchuk, A. Paakko, J. Mitchell, J. Krozel</i>	
<b>An Algorithm for Dynamic Airspace Configuration Based on the Air Route Structure .....</b>	6329
<i>J. Li, C. Seah, I. Hwang</i>	
<b>Ground Delay Program Planning Under Uncertainty in Airport Capacity .....</b>	6349
<i>A. Mukherjee, M. Hansen, S. Grabbe</i>	
<b>Robust Air-Traffic Control Using Ground-Delays and Rerouting of Flights .....</b>	6362
<i>P. Dutta, R. Bhattacharya, S. Chakravorty</i>	

<b>Airline and Service Provider Collaborative Algorithms for Flight Route and Delay Decisions .....</b>	6387
<i>J. Henderson, H. Idris, R. Kicinger, J. Krozel, D. Wang, K. Sheth</i>	
<b>Aircraft Accident Prevention: Loss-of-Control Analysis .....</b>	6406
<i>H. Kwatny, J. Dongmo, B. Chang, G. Bajpai, M. Yasar, C. Belcast</i>	
<b>Flight Test Evaluation of a Run-Time Stability Margin Estimation Tool.....</b>	6420
<i>M. Licher, A. Bateman, G. Balas</i>	
<b>Reachability and Region of Attraction Analysis Applied to GTM Dynamic Flight Envelope Assessment.....</b>	6441
<i>R. Pandita, A. Chakraborty, P. Seiler, G. Balas</i>	
<b>Aircraft Flight Envelope Determination Using Upset Detection and Physical Modeling Methods.....</b>	6462
<i>J. Keller, R. McKillip, S. Kim</i>	
<b>Methodologies for Adaptive Flight Envelope Estimation and Protection.....</b>	6483
<i>L. Tang, M. Roemer, J. Ge, A. Crassidis, J. Prasad</i>	
<b>Integrated Framework for Aircraft Sub-System Failure Detection, Identification, and Evaluation Based on the Artificial Immune System Paradigm .....</b>	6497
<i>M. Perhinschi, H. Moncayo, J. Davis</i>	
<b>Dynamic Structural Fault Detection and Identification .....</b>	6514
<i>T. Smith, Z. Nielsen, E. Reichenbach, J. Urnes</i>	
<b>An Adaptive Fault Management (AFM) System for Resilient Flight Control.....</b>	6522
<i>J. Boskovic, J. Redding, N. Knoebel</i>	
<b>An Autonomous Carrier Landing System for Unmanned Aerial Vehicles.....</b>	6541
<i>J. Boskovic, J. Redding</i>	
<b>Tracking Algorithm Evaluation with a Integrated Video Tracker and UAV HIL Facility.....</b>	6558
<i>O. Thériault, É. Poulin, E. Gagnon, F. Wong</i>	
<b>In-Flight Actuator Failure Detection and Identification for a Reduced Size UAV Using the Artificial Immune System Approach.....</b>	6566
<i>S. Sanchez, M. Perhinschi, H. Moncayo, M. Napolitano, J. Davis, M. Fravolini</i>	
<b>Robotic Exploration with Non-Isotropic Sensors.....</b>	6583
<i>B. Hyun, J. Jackson, A. Klesh, A. Girard, P. Kabamba</i>	
<b>Receding Horizon Model-Based Predictive Control for Dynamic Target Tracking: a Comparative Study .....</b>	6595
<i>C. Prévost, O. Thériault, A. Desbiens, É. Poulin, E. Gagnon</i>	
<b>Robust Control of Convective-Diffusion Systems .....</b>	6604
<i>M. Schmid, J. Crassidis</i>	
<b>Control Allocation with Load Balancing .....</b>	6629
<i>M. Bodson, S. Frost</i>	
<b>Distributed Modeling and Control of Turbofan Systems .....</b>	6642
<i>M. Pakmehr, N. Fitzgerald, G. Kiwada, J. Paduano</i>	
<b>Control of Systems with Slow Actuators Using Time Scale Separation .....</b>	6664
<i>V. Stepanyan, N. Nguyen</i>	
<b>Framework for Establishing the Limits of Tabular Aerodynamic Models for Flight Dynamics Analysis.....</b>	6680
<i>M. Ghoreyshi, K. Badcock, A. Da Ronch, A. Swift, S. Marques, N. Ames</i>	
<b>The Direct Construction of Lyapunov Functions for Nonlinear Systems .....</b>	6702
<i>J. Deyst</i>	
<b>Robust Partial Integrated Guidance and Control of Interceptors in Terminal Phase.....</b>	6724
<i>P. Das, C. Chawla, R. Padhi</i>	
<b>State-Space Approach to the Method of Adoints for Hybrid Guidance Loop Models .....</b>	6744
<i>M. Weiss, D. Bucco</i>	
<b>Missile Avoidance Maneuvres with Simultaneous Decoy Deployment .....</b>	6760
<i>A. Vermeulen, G. Maes</i>	
<b>Attitude Determination for the SHEFEX-2 Mission Using a Low Cost Star Tracker .....</b>	6777
<i>N. Neumann, M. Samaan, M. Conradt, S. Theil</i>	

## VOLUME 11

<b>LPV Control Design for Over-Actuated Hypersonic Vehicles Models.....</b>	6793
<i>D. Sigthorsson, A. Serrani, M. Bolender, D. Doman</i>	
<b>Decentralized Control of an Airbreathing Scramjet-Powered Hypersonic Vehicle.....</b>	6817
<i>J. Dickeson, A. Rodriguez, S. Sridharan, J. Benavides, D. Soloway</i>	

<b>Development of Linear Parameter-Varying Models of Hypersonic Air-Breathing Vehicles</b>	6842
<i>D. Sigthorsson, A. Serrani</i>	
<b>Combined Reference Governor and Anti-Windup Design for Constrained Hypersonic Vehicles Models</b>	6862
<i>A. Zinnecker, A. Serrani, M. Bolender, D. Doman</i>	
<b>Thermoelastic Formulation of a Hypersonic Vehicle Control Surface for Control-Oriented Simulation</b>	6882
<i>N. Falkiewicz, C. Cesnik, M. Bolender, D. Doman</i>	
<b>Study of Optimal Periodic Cruise Trajectories via Tradespace Visualization</b>	6900
<i>B. Kang, D. Spencer, S. Tang</i>	
<b>Controller Design for Hypersonic Vehicles Accommodating Nonlinear State and Control Constraints</b>	6926
<i>S. Vaddi, P. Sengupta</i>	
<b>Global Fuel Optimization for Constrained Spacecraft Formation Rotations</b>	6945
<i>E. de Weerdt, Q. Chu, J. Mulder</i>	
<b>LPV Polynomial Eigenstructure Assignment for Formation Flying Control Around Sun-Earth L<sub>2</sub> Point</b>	6966
<i>F. Ke, A. Tsourdos, B. White</i>	
<b>Coordinated Attitude Control of Spacecraft Formation Without Angular Velocity Feedback: A Decentralized Approach</b>	6980
<i>A. Mehrabian, S. Tafazoli, K. Khorasani</i>	
<b>Laboratory Experimentation of Multiple Spacecraft Autonomous Assembly</b>	6995
<i>R. Bevilacqua, A. Caprari, J. Hall, M. Romano</i>	
<b>Pose Estimation for In-Orbit Self-Assembly of Intelligent Self-Powered Modules</b>	7019
<i>D. Wokes, S. Smail, P. Palmer, C. Underwood</i>	
<b>Formation Flying Hardware-in-the-Loop Simulation Using a Cold-Gas Thruster</b>	7037
<i>P. Wenderski, J. Shan</i>	
<b>Proximity Operations Testing with a Rotating and Translating Resident Space Object</b>	7053
<i>J. DiMatteo, D. Florakis, A. Weichbrod, M. Milam</i>	
<b>An Integrated Mission Management System for UAS Civil Applications</b>	7071
<i>E. Santamaría, P. Royo, C. Barrado, E. Pastor</i>	
<b>A Global-Local Approach for Trajectory Generation on Rough Terrain</b>	7097
<i>C. Lin, P. Singla, T. Singh</i>	
<b>State-Control Trajectory Generation for Helicopter Slung Load System using Optimal Control</b>	7115
<i>A. la Cour-Harbo, M. Bisgaard</i>	
<b>A Mixed Local-Global Solution to Motion Planning within 3-D Environments</b>	7131
<i>R. Hurley, R. Lind, J. Kehoe</i>	
<b>Advanced Pure Pursuit Guidance via Sliding Mode Approach for Chase UAV</b>	7145
<i>T. Yamasaki, K. Enomoto, H. Takano, Y. Baba, S. Balakrishnan</i>	
<b>A Quaternion-Based Inverse Dynamics Model for Real-Time UAV Trajectory Generation</b>	7161
<i>R. Drury, J. Whidborne</i>	
<b>Noncertainty-Equivalent Adaptive Control of an Aeroelastic System Using Attractive Manifold Design</b>	7181
<i>K. Lee, S. Singh</i>	
<b>Synthesis of an Hinfinity Controller for Fully Movable Aeroelastic Control Surfaces of Air Vehicles</b>	7200
<i>A. Akmese, M. Comert, B. Platin</i>	
<b>Self-Scheduling Multiobjective Control Law Design for a Flexible Aircraft</b>	7221
<i>J. Torralba, G. Puyou, F. Demourant</i>	
<b>Time-Varying Dynamics of a Micro Air Vehicle with Variable-Sweep Morphing</b>	7240
<i>A. Chakravarthy, D. Grant, R. Lind</i>	
<b>Application of Bifurcation and Continuation Methods to Nonlinear Flexible Aircraft Dynamics</b>	7257
<i>N. Baghdadi, M. Lowenberg, A. Isikveren</i>	
<b>Reconfigurable Delta Operator Eigenstructure Assignment for a Tailless Aircraft</b>	7275
<i>C. Nieto-Wire, K. Sobel</i>	
<b>A Model-Based Hierarchical Approach to Control Design for Morphing Dynamics</b>	7300
<i>M. Kumar, S. Chakravorty</i>	
<b>Particle Filtering for Attitude Estimation Using a Minimal Local-Error Representation</b>	7314
<i>Y. Cheng, J. Crassidis</i>	
<b>Quaternion Estimation Using Kalman Filtering of the Vectorized K-Matrix</b>	7324
<i>D. Choukroun</i>	
<b>High-Bandwidth Attitude Determination Using Jitter Measurements and Optimal Filtering</b>	7349
<i>T. Iwata, T. Kawahara, N. Muranaka</i>	
<b>Decentralized Relative Attitude Estimation for Three-Spacecraft Formation Flying Applications</b>	7370
<i>C. Nebelecky, J. Crassidis, W. Banas, Y. Cheng, A. Fosbury</i>	

<b>Attitude Propagation for a Slewing Angular Rate Vector.....</b>	7385
<i>R. Patera</i>	
<b>Novel Results on Quaternion Modeling and Estimation from Vector Observations .....</b>	7402
<i>D. Choukroun</i>	
<b>Spacecraft Actuator Alignment Estimation.....</b>	7419
<i>A. Fosbury, C. Nebelecky</i>	
<b>Linear Dynamics and PID Flight Control of a Powered Paraglider.....</b>	7437
<i>Y. Ochi, H. Kondo, M. Watanabe</i>	
<b>Author Index</b>	