

PAPERS

Modeling of Air Traffic Flow Using Cellular Automata	<i>H. Yun-Xiang and H. Xiao-Qiong</i>	2623
AGAR: Array-Geometry-Aided Ambiguity Resolution for Baseline Growing With Global Navigation Satellite Systems	<i>Y. Li, X. Zou, B. Luo, W. Pan, L. Yan, and R. Kang</i>	2632
LILO: A Novel Lidar-IMU SLAM System With Loop Optimization	<i>Y. Zhang</i>	2649
Distributed Prescribed-Time Attitude Coordination for Multiple Spacecraft With Actuator Saturation Under Directed Graph	<i>C. Xu, B. Wu, and D. Wang</i>	2660
3D ISAR for an Along-Track Airborne Radar	<i>C. Y. Pui, B. Ng, L. Rosenberg, and T.-T. Cao</i>	2673
Emitter Localization Algorithm Based on Passive Synthetic Aperture	<i>L. Zhang, H. Huan, R. Tao, and Y. Wang</i>	2687
Cybersecurity Attacks on Software Logic and Error Handling Within ADS-B Implementations: Systematic Testing of Resilience and Countermeasures	<i>S. Khandker, H. Turtiainen, A. Costin, and T. Hämäläinen</i>	2702
Reachable Set of Spacecraft With Finite Thrust Based on Grid Method	<i>B. Pang and C. Wen</i>	2720
Effect of Kinematics and Fluency in Adversarial Synthetic Data Generation for ASL Recognition With RF Sensors	<i>M. M. Rahman, E. A. Malaia, A. C. Gurbuz, D. J. Griffin, C. Crawford, and S. Z. Gurbuz</i>	2732
On the Use of Reciprocal Filter Against WiFi Packets for Passive Radar	<i>F. Colone, F. Filippini, M. Di Seglio, and K. Chetty</i>	2746
Joint Transmit Resource Management and Waveform Selection Strategy for Target Tracking in Distributed Phased Array Radar Network	<i>C. Shi, Y. Wang, S. Salous, J. Zhou, and J. Yan</i>	2762
Signal Tracking Algorithm With Adaptive Multipath Mitigation and Experimental Results for LTE Positioning Receivers in Urban Environments	<i>P. Wang, Y. Wang, and Y. J. Morton</i>	2779
Fault-Tolerant Formation Control for Heterogeneous Vehicles Via Reinforcement Learning	<i>W. Zhao, H. Liu, K. P. Valavanis, and F. L. Lewis</i>	2796
Nonlinear Guidance Laws for Maneuvering Target Interception With Virtual Look Angle Constraint	<i>Y. Wang, H. Wang, D. Lin, and W. Wang</i>	2807
BeiDou Satellite Radiation Force Models for Precise Orbit Determination and Geodetic Applications	<i>B. Duan, U. Hugentobler, I. Selmke, S. Marz, M. Killian, and M. Rott</i>	2823
Fuel-Optimal Guidance for End-to-End Human-Mars Entry, Powered-Descent, and Landing Mission	<i>C. Wan, G. Jing, R. Dai, and J. R. Rea</i>	2837
HAPS Selection for Hybrid RF/FSO Satellite Networks	<i>O. B. Yahia, E. Erdogan, G. K. Kurt, I. Altunbas, and H. Yanikomeroglu</i>	2855
Strong Ionospheric Spatial Gradient Events Induced by Signal Propagation Paths Aligned With Equatorial Plasma Bubbles	<i>B. J. Affonso, A. Moraes, J. Sousasantos, L. Marini-Pereira, and S. Pullen</i>	2868
Fractional Ambiguity Function for the Generalized Wideband MIMO Radar	<i>C. Gao, Y. Li, and R. Tao</i>	2880
Ground Moving Target Detection and Trajectory Reconstruction Methods for Multichannel Airborne Circular SAR	<i>B. Ge, D. An, L. Chen, W. Wang, D. Feng, and Z. Zhou</i>	2900
Accurate Modeling and Homing Control for Parafoil Delivery System Based on Wind Disturbance Rejection	<i>H. Sun, Q. Sun, M. Sun, J. Tao, and Z. Chen</i>	2916
Multispectrally Constrained MIMO Radar Beampattern Design via Sequential Convex Approximation	<i>X. Yu, H. Qiu, J. Yang, W. Wei, G. Cui, and L. Kong</i>	2935
Similarity Relations of PID Flight Control Parameters of Scaled-Model and Full-Size Aircraft	<i>T. Yue, X. Zuo, L. Wang, J. Geng, and H. Zhang</i>	2950
Adaptive Distributed Target Detection for FDA-MIMO Radar in Gaussian Clutter Without Training Data	<i>B. Huang, J. Jian, A. Basit, R. Gui, and W.-Q. Wang</i>	2961

(Contents Continued on Page 2621)

On-Orbit Implementation of Discrete Isolation Schemes for Improved Reliability of Serial Communication Buses	2973
. <i>M. Holliday, Z. Manchester, and D. G. Senesky</i>	
A Multipath Local Route Repair Scheme for Bidirectional Traffic in an Airborne Network of Multibeam FDD Nodes	2983
. <i>S. Devaraju, M. Parsinia, E. S. Bentley, and S. Kumar</i>	
Vector Trajectory Method for Obstacle Avoidance Constrained Planetary Landing Trajectory Optimization	2996
. <i>J. Long, P. Cui, and S. Zhu</i>	
A Likelihood Ratio Detector for QTMS Radar and Noise Radar	3011
. <i>D. Luong, B. Balaji, and S. Rajan</i>	
Proportional-Integral-Type Event-Triggered Coupled Attitude and Orbit Tracking Control Using Dual Quaternions	3021
. <i>C. Li, H. Zou, D. Shi, J. Song, and J. Wang</i>	
Structure Priors Aided Visual-Inertial Navigation in Building Inspection Tasks With Auxiliary Line Features	3037
. <i>Y. Lyu, S. Yuan, and L. Xie</i>	
Agile Flight Control Under Multiple Disturbances for Quadrotor: Algorithms and Evaluation	3049
. <i>J. Jia, K. Guo, X. Yu, L. Guo, and L. Xie</i>	
Fixed-Time Formation Tracking for Heterogeneous Multiagent Systems Under Actuator Faults and Directed Topologies	3063
. <i>W. Cheng, K. Zhang, B. Jiang, and S. X. Ding</i>	
Transmit Code and Receive Filter Design for PMCW Radars in the Presence of One-Bit ADC	3078
. <i>F. Foroozmehr, M. Modarres-Hashemi, and M. M. Naghsh</i>	
Reward Factor-Based Multiple Agile Satellites Scheduling With Energy and Memory Constraints	3090
. <i>A. Chatterjee and R. Tharmarasa</i>	
Evaluation Model, Intelligent Assignment, and Cooperative Interception in Multimissile and Multitarget Engagement	3104
. <i>J. Guo, G. Hu, Z. Guo, and M. Zhou</i>	
Fusion Recognition of Space Targets With Micromotion	3116
. <i>X. Tian, X. Bai, R. Xue, R. Qin, and F. Zhou</i>	
Feeder Link Precoding for Future Broadcasting Services	3126
. <i>A. Guidotti, C. Sacchi, and A. Vanelli-Coralli</i>	
Factorized Geometrical Autofocus for UWB UHF-Band SAR With a GPS-Supported Linear Track Model	3147
. <i>J. Torgrimsson, P. Dammert, H. Hellsten, and L. M. H. Ulander</i>	
When Infrared Small Target Detection Meets Tensor Ring Decomposition: A Multiscale Morphological Framework	3162
. <i>L. Deng, J. Song, G. Xu, and H. Zhu</i>	
Tracking Accuracy of Signal Power-Independent Early-Minus-Late Code Discriminators	3177
. <i>R. S. Cassel</i>	
Real-Time Adaptive Dwell Scheduling for Digital Array Radar Based on Virtual Dynamic Template	3197
. <i>T. Cheng, Z. Li, Q. Tan, S. Wang, and C. Yue</i>	
Finite-Time Prescribed Performance Control for Space Circumnavigation Mission With Input Constraints and Measurement Uncertainties	3209
. <i>H. Dong and X. Yang</i>	
Principal-Agent Problem as a Principled Approach to Electronic Counter-Countermeasures in Radar	3223
. <i>A. Gupta and V. Krishnamurthy</i>	
Multichannel Clutter Modeling, Analysis, and Suppression for Missile-Borne Radar Systems	3236
. <i>P. Huang, H. Yang, Z. Zou, X.-G. Xia, and G. Liao</i>	
The Strong Tracking Innovation Filter	3261
. <i>M. Kiani and R. Ahmadvand</i>	
Sliding-Mode Control and Strategic Thrust-Vectoring Based Aircraft Flat Spin Recovery With Altitude Loss Minimization	3271
. <i>S. Salahuddin, A. T. Das, and A. K. Ghosh</i>	
Adaptive Radar Detection in the Presence of Missing-data	3283
. <i>A. Aubry, V. Carotenuto, A. De Maio, M. Rosamilia, and S. Marano</i>	
A Generalized Low-Rank Double-Tensor Nuclear Norm Completion Framework for Infrared Small Target Detection	3297
. <i>L. Deng, D. Xu, G. Xu, and H. Zhu</i>	
Dynamic Resource Allocation With Decentralized Multi-Task Assignment Approach for Perimeter Defense Problem	3313
. <i>S. Velhal, S. Sundaram, and N. Sundararajan</i>	
Dynamic Biasing for Improved On-Orbit Total-Dose Lifetimes of Commercial Electronic Devices	3326
. <i>M. Holliday, T. A. Heuser, Z. Manchester, and D. G. Senesky</i>	
Oscillation Phenomenon in Trust-Region-Based Sequential Convex Programming for the Nonlinear Trajectory Planning Problem	3337
. <i>L. Xie, R.-Z. He, H.-B. Zhang, and G.-J. Tang</i>	
Estimators for Space-Time Block-Coded ARTM CPM in Aeronautical Mobile Telemetry	3353
. <i>C. Josephson, S. Giddens, E. Perrins, W. K. Harrison, and M. Rice</i>	
Time-Correlated Window-Carrier-Phase-Aided GNSS Positioning Using Factor Graph Optimization for Urban Positioning	3370
. <i>X. Bai, W. Wen, and L.-T. Hsu</i>	
Semidefinite Programming Solutions for Elliptic Localization in Asynchronous Radar Networks	3385
. <i>X. Wu, Y. Shen, X. Zhu, and Q. Lin</i>	

Frequency-Variable Resonant Self-Heating Technique for Lithium-Ion Batteries at Low Temperature	3399
..... S.-H. Ha, J.-I. Lee, H. Yoon, T.-R. Park, J. Baek, J.-S. Kim, and G.-W. Moon	
Multiple-Kernelized-Correlation-Filter-Based Track-Before-Detect Algorithm for Tracking Weak and Extended Target in Marine Radar Systems	3411
..... Y. Zhou, H. Su, S. Tian, X. Liu, and J. Suo	
Accurate Clutter Synthesis for Heterogeneous Textures and Dynamic Radar Environments	3427
..... D. Kim, A. J. Park, U.-S. Suh, D. Goo, D. Kim, B. Yoon, W.-S. Ra, and S. Kim	
Development of an Aircraft Electric Power Architecture With Integrated Ground Power Unit	3446
..... C.-W. Yang, M.-Z. Lu, and C.-M. Liaw	
Flow Field Reconstructions With GANs Based on Radial Basis Functions	3460
..... L. Hu, W. Wang, Y. Xiang, and J. Zhang	
Concept Design and Intelligent Control of Solar Sail With Numerous Discrete Elements	3477
..... L. Chen, T. Luo, M. Xu, and X. Zuo	
Natural Landing Simulations on Generated Local Rocky Terrains for Asteroid Cubic Lander	3492
..... X. Zeng, T. Wen, Z. Li, and K. T. Alfriend	
Probe Dynamics Direct Control for Aerial Recovery With Preassigned Docking Performance	3509
..... Z. Su, Y. Liu, and H. Wang	
Modeling and Control of Spacecraft with Multiple Active Pointing Ultra-Quiet Platforms	3524
..... L. Tang, X. Feng, X. Guan, R. Hao, and Y. Wang	
Nonfragile Quantitative Prescribed Performance Control of Waverider Vehicles With Actuator Saturation	3538
..... X. Bu, B. Jiang, and H. Lei	
DNCNet: Deep Radar Signal Denoising and Recognition	3549
..... M. Du, P. Zhong, X. Cai, and D. Bi	
Stiffness Mitigation in Stochastic Particle Flow Filters	3563
..... L. Dai and F. Daum	
Observability Criterion Guidance for Passive Towed Array Sonar Tracking	3578
..... T. Northardt	
Automatic Carrier Landing System With Fixed Time Control	3586
..... H. Duan, Y. Yuan, and Z. Zeng	
On Polarization, Combining, and Equalization in Aeronautical Mobile Telemetry	3601
..... F. Arabian and M. Rice	

CORRESPONDENCE

Integrated Power, Attitude, and Vibration Control of Gyroelastic Body	3613
..... C. Guo, Q. Hu, Y. Zhang, J. Zhang, and G. Li	
A Time-Frequency Representation Approach of Undersampled Signals With Multiple Periodic FM Components	3624
..... Y. Ren, Y. Zhi, K. Feng, H. Gao, and J. Zhang	
Distributed Confidentiality Fusion Estimation Against Eavesdroppers	3633
..... X. Yan, Y. Zhang, D. Xu, and B. Chen	
Trajectory Approximation of a Solar Sail With Constant Pitch Angle and Optical Degradation	3643
..... L. Niccolai, A. A. Quarta, and G. Mengali	
Iterative Pose Estimation for a Planar Object Using Virtual Sphere	3650
..... C. Jiang and Q. Hu	
High-Accuracy DOA Estimation Algorithm at Low SNR Through Exploiting a Supervised Index	3658
..... K. Xu, M. Xing, R. Zhang, Hanyu E, M. Sha, W. Nie, and Y. Quan	
An IGGM-Based Poisson Multi-Bernoulli Filter and its Application to Distributed Multisensor Fusion	3666
..... G. Li	
Improvement of a Sample Clock Offset Estimation Method Used in Passive Radar	3678
..... S. Searle and K. Doğançay	
Nonsingular Fixed-Time Tracking Guidance for Mars Aerocapture With Neural Compensation	3686
..... Q. Yao, H. Han, and D. Qiao	
Asymptotic Performance Analysis of Distributed Non-Bayesian Quickest Change Detection With Energy Harvesting Sensors	3697
..... S. Biswas and S. Dey	
\mathcal{L}_1 Adaptive Path-Following of Small Fixed-Wing Unmanned Aerial Vehicles in Wind	3708
..... T. Souanef	
Refracting RIS-Aided Hybrid Satellite-Terrestrial Relay Networks: Joint Beamforming Design and Optimization	3717
..... Z. Lin, H. Niu, K. An, Y. Wang, G. Zheng, S. Chatzinotas, and Y. Hu	

LETTERS

Joint STO and DFO Estimation for SEFDM in Low-Earth-Orbit Satellite Communications	3725
..... X. Liang, H. Niu, A. Liu, Z. Gao, and Y. Zhang	
LEO Satellite Networks: When Do All Shortest Distance Paths Belong to Minimum Hop Path Set?	3730
..... Q. Chen, L. Yang, D. Guo, B. Ren, J. Guo, and X. Chen	

ERRATUM

Correction to “Robust Modeling of GNSS Tropospheric Delay Dynamics”	3735
..... E. Gallon, M. Joerger, and B. Pervan	
