

IET International Radar Conference 2013

IET Conference Publications 617

**Xi'an, China
14-16 April 2013**

Volume 1 of 3

ISBN: 978-1-62993-134-0

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.

Copyright© (2013) by the Institution of Engineering and Technology
All rights reserved.

Printed by Curran Associates, Inc. (2013)

For permission requests, please contact the Institution of Engineering and Technology
at the address below.

Institution of Engineering and Technology
P. O. Box 96
Stevenage, Hertfordshire
U.K. SG1 2SD

Phone: 01-441-438-767-328-328
Fax: 01-441-438-767-328-375

www.theiet.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Volume 1

Scale Characteristic of Sea Surface Backscattering Echo	1
<i>Qiang Zhou, Jian Yang, Changwen Qu, Ning-Bo Liu</i>	
Comparison Study of Two Approaches for Bioradar Data Processing	5
<i>L. N. Anishchenko, S. I. Ivashov, F. Soldovieri, I. Catapano, L. Crocco</i>	
Research on Implementation of Elementary Symmetric Function in GM-CPHD Filter	9
<i>Shicang Zhang, Jianxun Li, Liangbin Wu</i>	
Multiple Manoeuvring Targets Tracking Via GM-PHD and IMM-SB/MHT	13
<i>Shicang Zhang, Xinmei Hu, Liangbin Wu</i>	
CRB of Target Location and Velocity Estimation in MIMO Radar	18
<i>Shuyuan Chao</i>	
Impact of Spatially and Temporally Nonstationary Clutter on Covariance Matrix Estimation	24
<i>Yan-Ling Shi</i>	
Holographic Subsurface Imaging Radar for Applications in Civil Engineering	28
<i>A. V. Zhuravlev, S. I. Ivashov, V. V. Razevig, I. A. Vasiliev, A. S. Türk, A. Kizilay</i>	
Analysis of Clutter Characteristics of Integrated Sensor Is Structure	33
<i>Xinmiao Zhang</i>	
Effect of Temporal Variation in Tropospheric Refractive Index on GEOCSAR Imaging	37
<i>Leilei Kou, Maosheng Xiang, Xiaoqing Wang</i>	
Adaptive Radar Detection for Targets in Compound-Gaussian Clutter with Inverse-Gamma Texture	40
<i>Yi-Nan Zhao, Xiao-Yu Pang, Bin Yin</i>	
A Range-Variant Channel-Calibration Algorithm for the Multi-Channel in Azimuth HRWS SAR Imaging	44
<i>Shuangxi Zhang, Yi Liao, Guangcai Sun, Mengdao Xing</i>	
Edge Detection for Polarimetric SAR Images Combining Adaptive Optimal Polarimetric Contrast Enhancement and ROA Operator	48
<i>Shaoping Deng, Pingxiang Li, Jixian Zhang, Jie Yang</i>	
Forest and Non-Forest Discrimination Using PolSAR Data Based on K-Wishart Distribution	54
<i>Lan Li, Zengyuan Li, Erxue Chen, Chong Ren</i>	
Automatic Local Thresholding Algorithm for SAR Image Edge Detection	59
<i>Qian-Ru Wei, Da-Zheng Feng, Ming-Dong Yuan</i>	
Dynamic Programming Algorithm for the Detection of Air Dim Target	64
<i>Changhai Shi, Ding Luo, Xiaobo Deng</i>	
Enhancement Imaging on Multi-path Signals in Ultra-wideband Radar	67
<i>Zhejun Lu, Tian Jin, Zhimin Zhou</i>	
Estimating Radial Velocity for Ground Moving Targets from Multi-channel SAR by Spectral Estimation	71
<i>Jun Wen, Min Bao, Lin Shi</i>	
Quaternion Based Micro-doppler Simulation of Ballistic Targets	75
<i>Y. J. Sun, Y. Fu, Z. Cheng, B. L. Cheng</i>	
A Novel Ultra-wide Swath SAR Based on Variable PRF and Digital Beamforming	80
<i>Yadong Liu, Qian Chen</i>	
Difference Pattern Synthesis Through Adding Fictitious Jammers	85
<i>Di Yao, Yangke Hu, Feng Li</i>	
Two-dimensional Chirp Z-transform Algorithm to the Range-Dependence Problem for Forward Looking Airborne Radar	88
<i>Yi Qu, Hongxia Guo</i>	
An Improved Shift-and-correlation (ISAC) Algorithm for Doppler Rate Estimation Based on the Radon Transform	92
<i>Yufeng Wu, Guangcai Sun, Xueshi Li, Mengdao Xing, Zheng Bao</i>	
Atomic Decomposition-based SAR Imaging	97
<i>Yesheng Gao, Kaizhi Wang, Xingzhao Liu</i>	
Compressive Sensing Radar Imaging with Perturbations	101
<i>Chaoyu Wang, Yapeng He, Kerang Wang, Xiaohua Zhu</i>	
Sparse Array SAR 3-D Imaging Using Compressed Sensing	105
<i>Shun-Jun Wei, Xiao-Ling Zhang, Jun Shi</i>	
Coherent Radon Transform Based Weak Target Detection for Phased Array Radar	109
<i>Lixiao Zhan, Ziyue Tang, Zhenbo Zhu</i>	
A Bayesian Method for Weak Target Tracking Aided by Strong Target	114
<i>Tao Zeng, Chunxia Li, Xinliang Chen, Yang Li, Xin Guo</i>	
High-capacity Matrix Access Research Based on C6678	120
<i>Ye Jin, Qingqing Tan, Man Li, Guanghui Xu</i>	
SAR Echo Simulation from Numerous Scattering Cells Based on GPU	125
<i>Hui Sheng, Ming Zhou, Kaizhi Wang, Xingzhao Liu</i>	
Study on Along-track Motion Compensation for FMCW SAR	130
<i>Gaowei Jia, Wenge Chang</i>	

Azimuth Resolution Improvement of Spaceborne SAR Images with Nearly Nonoverlapped Doppler Bandwidth	135
<i>Yan-Yang Liu, Zhen-Fang Li, Zhi-Yong Suo, Zheng Bao</i>	
A Novel Imaging Algorithm for Circular Scanning SAR Based on the Cardano's Formula	139
<i>Yi Liao, Shuangxi Zhang, Gang Xu, Mengdao Xing</i>	
Bandwidth Synthesis for Stepped Chirp Signal: A Multichannel Sampling Prospective	144
<i>Yanhua Wang</i>	
A Research on SAR Autofocusing Algorithms for Compressive Sensing Technique	149
<i>Linuo Xia, Daiyin Zhu, Rui Jiang</i>	
Performance Evaluation of SSAP for Clutter Rejection in CP-OFDM Signal Based Passive Radar	155
<i>Jianxin Yi, Xianrong Wan, Zhixin Zhao, Feng Cheng, Hengyu Ke</i>	
Enhancements of the Satellite Selection Method for Multi-Constellation GNSS Using Convex Geometry	160
<i>Lei Zhang, Hui Zhou, Youzhe Xu, Jin-Shuai He, Jian Li</i>	
Robust High-Resolution and Wide-Swath SAR Imaging Based on Topelitz Preprocessing	168
<i>Guang Wang</i>	
Resonance-Region Target Detection with Wideband VHF Radar	172
<i>Jun You, Xianrong Wan, Hengyu Ke, Ziping Gong, Yunhua Rao</i>	
Sea Clutter Simulation Based on Sea Surface Model and Two-scale Scattering Model	178
<i>Ming-Bo Zhu, Jian-Wu Zou, Wei Dong, Xiang-Ping Li</i>	
IPIX Radar Small Target Detection in Sea Clutter Based on Local Backscattering Amplitude Statistics	182
<i>Fuyou Wang, Ding Luo, Yaxin Ji, Xinmei Hu</i>	
An Algorithm for Detection of Hidden Objects by Passive/Active Radiometer	186
<i>S. I. Ivashov, A. S. Bugaev, A. S. Turk, A. V. Zhuravlev</i>	
Impact of Pattern Distortion on Clutter Canceller Beamformer	191
<i>T. Fickenscher, A. Gupta, P. Ludwig, B. Razza</i>	
3-D Imaging Method for ROSAR	196
<i>Ke Yang, Guisheng Liao, Wei Wang, Qing Xu, Dong Li</i>	
Based on Minimum-Entropy HRWS SAR Channel-Calibration Method	200
<i>Shuangxi Zhang, Guo Rui, Letian Zeng, Mengdao Xing</i>	
High Resolution LASAR 3-D Imaging Based on IAA Algorithm	205
<i>Chen Cheng, Xiaoling Zhang, Wenjie Peng</i>	
Bistatic ISAR Image Fusion With Sub-aperture Based Parameter Estimation	209
<i>Ran Xu, Peng Shao, Yachao Li, Mengdao Xing</i>	
Aerial Flight Calibration Test of Precipitation Radar	215
<i>Chonghui Zhao, Wei Xiang, Danru Yu, Zhiqiang Ge, Zhaoyang Li, Xiaobin Feng</i>	
Design of Navigation Radar Signal Acquisition and Analysis System	220
<i>Jie Song, Teng Long, You He</i>	
Adaptive Waveform and Sampling Interval Tracking Based on Estimation Accuracy for Doppler Radar	224
<i>T. Cheng, D. Q. Zou, Z. S. He</i>	
Micro-doppler Analysis of Nutation Target in Ballistic Midcourse	228
<i>H. Y. Yao, X. X. Li, W. F. Sun, X. Y. Ma</i>	
A Method of Controlling Gating Lobes Based on Spectra Synthesis Algorithm	233
<i>Chengfa Xu, Chengcheng Li, Yingmin Ma</i>	
Estimation of Initial Phase Offset in Real-time for Airborne Dual-Antenna INSAR System	238
<i>Li-Fu Chen, Wen-Biao Xie, Ya-Fei Huang</i>	
Cross-range Scaling Combining Motion Compensation for ISAR Imaging	242
<i>Jialian Sheng, Jia Duan, Mengdao Xing, Lei Zhang</i>	
Establishment and Analysis of Accurate Signal Model for Forward-looking Imaging Radar with Motion Platform	248
<i>Chao Lin, Yulin Huang, Jianyu Yang</i>	
The Industrial Challenges of Airborne AESA Radars	253
<i>S. Kemkemian, A. Larroque, C. Enderli</i>	
A Generator of Ultra-wideband Balanced Pulses	258
<i>Xinfan Xia, Lihua Liu, Jie Chen, Hongfei Guan, Qunying Zhang, Guangyou Fang</i>	
A New Approach for Radar Echo Simulation of Targets Based on High Precision Motion Characteristics	262
<i>Tao Li, Wei-Min Xue, Tian-Song Liu</i>	
The Research of Image Registration Algorithm Based on the Combination of Cross-Correlation and Matrix-Multiply DFT	268
<i>Xiujie Qu, Ying Zhang, Fu Zhang, Li Tang</i>	
An Improved Method for SAR Image Coastline Detection Based on Despeckling and SVM	272
<i>Guangzhou Qu, Qiuzhe Yu, Yufan Wang</i>	
High Performance Local-Texture-Information Weighted SAR Template Image Matching	278
<i>Qiuzhe Yu, Yufan Wang, Yan Zhang, Guangzhou Qu</i>	
A Full-aperture Imaging Algorithm for Hybrid Sliding Spotlight Bistatic SAR	283
<i>F. Zhou, G. C. Sun, M. D. Xing, J. Yang</i>	
Microwave Staring Imaging Based on Bjorck-Schmidt Orthogonalization	288
<i>P. Shao, R. Xu, H. L. Li, Y. C. Li, M. D. Xing</i>	
Synthetic Aperture Radar Processing Using a Novel Implementation of Fast Factorized Back-Projection	293
<i>H. L. Li, J. Li, Y. X. Hou, L. Zhang, M. D. Xing, Z. Bao</i>	
Bistatic Interferometer Based on Spaceborne SAR	299
<i>Qilei Zhang, Wenge Chang, Feifei Yan</i>	

A Novel 3D Visualization Method of SAR Data	304
<i>Yiming Lin, Fan Zhang, Wei Hu</i>	
Airborne SAR Motion Compensation and Imaging Based on GPU Architecture	308
<i>Li Jun, Liu Yang, Qingrong Hu</i>	
Signal Coherent Processing Methods of MIMO Radar Based on RFT	314
<i>Zhen Jin, Shu-Liang Wen, Xian-Jie Xiao</i>	
Faraday Rotation Angle Estimation from Polarimetric Covariance Matrix	319
<i>Li Li, Yongsheng Zhang, Lin Yang, Zhen Dong</i>	
A Combined Mode of Tops and Inverse Tops for Mechanical Beam Steering Space-borne SAR	324
<i>Qi Chen, Haifeng Huang, Feng He, Zhen Dong, Diannong Liang</i>	
Range-spread Target Detection in Homogenous Clutter via Short-time GLRT Estimation and HOCC Integration	328
<i>Shu-Wen Xu, Peng-Lang Shui</i>	
A Novel High-Resolution Imaging Method for ROSAR	334
<i>Wei Wang, Guisheng Liao, Dong Li, Ke Yang, Qing Xu</i>	
Piecewise Adaptive Beamforming Method with Multiple Constraints for OTHR	340
<i>Zheng Bao, Jian-Wen Chen</i>	
Velocity Measurement Using the Chaos Radar with Coherent Reception	344
<i>Shengmiao Zhang, Jingfeng Hu, Zishu He</i>	
Radiation Pattern Improvement in Closely-packed Array Antennas by Using Mushroom-like EBG Structure	349
<i>X. Chen, Z. J. Su, L. Li, C. H. Liang</i>	
Geometry Correction Method for Bistatic Spaceborne/Stationary SAR	352
<i>Rui Wang, Feng Li, Cheng Hu, Tao Zeng</i>	
Modified Sub-integer Range Alignment Based on Minimum Entropy for ISAR	355
<i>Rui Wang, Feng Li, Tao Zeng</i>	
Latest Velocity Estimation and Normalization Result of the Ground Forward Scatter Radar System	359
<i>Chunyang Xu</i>	
Simulation of Volume Scattering in SAR Interferometry System	363
<i>Zaoyu Sun, Guanghu Jin, Zhen Dong</i>	
Research on Mono-pulse Forward-looking Imaging Airborne Radar System	367
<i>Xiaojing Zhang, Min He, Zhiyi He, Hongyan Su, Jun Zhang</i>	
A Target Extraction Algorithm Based on Multiple Thresholds in Through-Wall-Imaging	370
<i>Jiangang Liu, Lingjiang Kong, Xiaobo Yang, Yong Jia</i>	
Research on Parallel Debugger in Bus-based Multi-DSP System in Radar Data Processing	374
<i>Man Li, Qing-Qing Tan, Ye Jin, Hong-Zhu Guo</i>	
Ultra Wide Swath SAR Based on Waveform Diversity	379
<i>Yan Zhang, Ze Yu, Chunsheng Li</i>	
Research of Effective Scheduling Strategy on Implementing High Speed Serial Transmission Switch Module	386
<i>Jing-Hua Wang, Ye Jin, Yan Li</i>	
SAR Image Target Detection Based on Multiscale Auto-convolution Variance Saliency	390
<i>Guo-Li Wang, Wei Zhou, Li-Bo Yao, Jian Guan</i>	
Improved Capon Beamforming Algorithm By Using Inverse Covariance Matrix Calculation	394
<i>Weiheng Chen, Yihuan Zhao, Jing Gao</i>	
GPU Acceleration of Range Alignment Based on Minimum Entropy Criterion	400
<i>Xin-Liang Shi, Xiao-Chun Xie</i>	
A New Method to Fit Real Sea Clutter Data Based On IPIX Radar	404
<i>Dan Huang, Ji-Yang Yu, Hong Meng, Xu-Guang Sun, Guang-Yun Li, Yong Sun, Yuan Feng</i>	
Landmine Detection Based on Morphological Component Analysis	409
<i>Yuming Wang, Qian Song, Hanhua Zhang, Xiaotao Huang, Tian Jin</i>	
Polarimetric Characteristics of Step Frequency Echo in Through-Wall-Imaging	413
<i>Xin Sun, Biying Lu, Tian Jin, Zhimin Zhou</i>	
Study on Search Performance of Subarray Multi-channel Phased Array Radar Based on Multiple Received Beams	418
<i>Yang Li, Hui-Hui Lv, Peng Sun, Xin-Yu Zhang</i>	
An Integrated Filtering Antenna of Terahertz Antenna-in-Package	424
<i>Hongda Lu, Chao Zheng, Yong Liu, Xin Lv</i>	
Moving Target Track Detection in Radar Low Angle Environment	428
<i>Jiayi He, Guisheng Liao, Zhiwei Yang</i>	
Design of Frequency-Scanning Asymmetric Antipodal Vivaldi Antenna	432
<i>Zi-Jian Gao, Li-Ming Si, Yong Liu, Xin Lv</i>	
Radar Echo Simulation Capability Incorporated Into Signal Processor	436
<i>Yongbin Hong, Chengfa Xu, Jiang Yan, Guojie Qin</i>	
Adaptive Waveform Design in Random Stepped Frequency Radar	440
<i>Tianyao Huang, Yimin Liu, Huadong Meng, Xiqin Wang</i>	
Parallel Multilevel Fast Multipole Algorithm for Analysis of Targets Above Ground	445
<i>Xun-Wang Zhao, Sio-Weng Ting, Ji-Rong Zhou, Yu Zhang, D. Garcia Donoro</i>	
Fast Generation of SAR Deceptive Jamming Signal Based on Inverse Range Doppler Algorithm	449
<i>Xiaohong Lin, Peiguo Liu, Guoyi Xue</i>	
Micro-Doppler Frequency Estimation Method for Micro-motion Object Using TVAR Model	453
<i>Xun Han, Lan Du, Hongwei Liu, Changyu Shao, Baoshuai Wang</i>	
Classification Scheme for Airplane Targets Based on Empirical Mode Decomposition	458
<i>Baoshuai Wang, Lan Du, Yanbing Li, Long Ruan, Hongwei Liu</i>	

Batch Initiation Using Weighted Least Square Algorithm for Tactical Ballistic Missile Tracking	463
<i>Yonghua Tian, Yanling Jia, Yong Huang</i>	
Research and Implementation of CTM for Real-Time SAR Imaging Processing	467
<i>Xiaoning Liu, He Chen, Yizhuang Xie</i>	
Polarimetric Characteristics Analysis of Interior Structures of a Building in Through-the-Wall Radar Imaging	471
<i>Bo Chen, Tian Jin, Biying Lu, Zhimin Zhou</i>	
Employing DGS Structures in Dual-band Antennas for MIMO Applications with High Port Isolation	476
<i>Fu-Wei Wang, Ying Liu, Shu-Xi Gong, Rui-Xiang Liang</i>	
Parallel Implementation of Physical Optics by using GPU with CUDA	480
<i>C. Pang, J. Dong</i>	
Impacts of Wind Turbine Siting on Radar Clutter Mitigation	486
<i>F. Kong, Y. Zhang, R. D. Palmer</i>	
An Efficient Design of High-Accuracy and Low-Cost FFT	491
<i>Cuimei Ma, He Chen, Long Ma</i>	
Target Tracking with Infrared Imaging and Millimetre-wave Radar Sensor	495
<i>Xuejing Zhang, Long Ma, He Chen, Jing Yang</i>	
Time-shared Fitting Method of Doppler Parameters and the Implementation on FPGA	503
<i>Wen Yan, He Chen</i>	
SAR Image Preprocessing Based on the CFAR and ROA Algorithm	508
<i>Jun-Xia Li, He Chen</i>	
Motion Compensation for Missile-borne Frequency Stepped Chirp Radar	512
<i>Bo Liu, Wenge Chang</i>	
A Study on Compensation of Aperture Fill Time Based on Frequency-shifting	518
<i>Xinguo Zhu, Kai Zhang</i>	
Effects of Ionospheric High-order Dispersion and Multiple Scattering on Space-based SAR Imaging	522
<i>Cheng Wang, Zheng-Wen Xu, Min Zhang, Chun Chen</i>	
The Performance Analysis of Micro-doppler Extracted from Radar Echoes Under Different Bandwidth	526
<i>Lumin Shi, Xiongjun Fu, Cai Wang, Ting Li, Meiguo Gao</i>	
Research on Measurement Algorithm of Vector Miss Distance Based on Impulse Radar	531
<i>Yuxiang Zhou, Haibo Liu, Xiaoying Deng</i>	
Adaptive Threshold Backtracking Matching Pursuit for Compressive Sensing	535
<i>Zhao Hao, Zhang Gong</i>	
Development of Distributed Aperture Coherence - Synthetic Radar Technology	539
<i>Hong-Wei Gao, Zhe Cao, Yao-Bing Lu, Peng-Xiang Wang</i>	
Parallel Implementation of High Resolution Radar Signal Processing System Based On Multi-IC Architecture	545
<i>Xiang Hong, Wang Jun, Zhang Yuxi</i>	
A Novel Design of Parallel and High-speed Signal Processor Architecture for PD Radar	549
<i>Changshun Yuan, Jun Wang, Yanxian Bi, Yuxian Zhang</i>	
Study on the Impact of Polarization on Forest Parameters Retrieval of (PolInSAR)	553
<i>Liyang Xu, Shiqiang Li, Weidong Yu, R. Wang</i>	
An Alternative Algorithm for Wave Information Extraction from X-band Nautical Radar Images	558
<i>Weimin Huang, E. W. Gill</i>	
Extended Fractal Analysis of Sea Clutter Frequency Spectrum	563
<i>Guo-Qing Wang, Ning-Bo Liu, Zhong-Hua Bao, Jian Guan</i>	
A Novel Polarimetric SAR Ship Detection Filter	567
<i>Xi Zhang, Jie Zhang, Jun-Min Meng, Li-Min Chen</i>	
Processing of SAR Data based on the Heterogeneous Architecture of GPU and CPU	572
<i>Ming-Cong Song, Ya-Bo Liu, Feng-Jun Zhao, R. Wang, Hong-Yu Li</i>	
An Ultra-high Speed SAR Raw Data Recording and Playback System Based on NAND Flash	577
<i>Guojie Qin, Min Xie, Guoman Liu, Peng Xu</i>	
Phased Array Radar Beamforming Method Based on MIMO Radar Covariance	581
<i>A. S. Roshanzamir, M. H. Bastani</i>	
LOG-periodic Slot Antenna with Modified Cavity	587
<i>Wei Wang, Ying Liu, Hao Yi, Jinyang Xue</i>	
The Analysis of Dispersive Distortions on Linear Polarization Radar Signal	591
<i>Chun Chen, Zonghua Ding, Cheng Wang</i>	
A Novel Omnidirectional Microstrip Coaxial Collinear Antenna Array	596
<i>Peng-Fei Zhao, Li-Ming Si, Yong Liu, Xin Lv</i>	
An Estimation Approach for Equivalent Wall Parameters in Through-Wall-Radar Imaging	600
<i>Zhongxing Zhao, Lingjiang Kong, Yong Jia, Jiangang Liu</i>	
Compensation Method for Intensity Difference of Wall Images	604
<i>Zhixi Li, Lingjiang Kong, Yong Jia, Jing Ma</i>	
Marine Radar Antenna Height Design under Multi-path Effect	607
<i>Yang Zhang, Hao Zeng, Yi-Min Wei, Yu-Jing Liu, Chun-Hua Yang</i>	
Research on Forward-looking Synthetic Aperture Radar Imaging Algorithm of High Velocity Platform	611
<i>Bo Pang, Shi-Qi Xing, Da-Hai Dai, Yong-Zhen Li, Xue-Song Wang</i>	
Circular SAR Motion Compensation Using Trilateration and Phase Correction	617
<i>Z. Y. Guo, Y. Lin, W. X. Tan, Y. P. Wang, W. Hong</i>	
Characterization of Level Sea-Ice Thickness in the Labrador Sea Using C-band Polarimetric SAR Data	622
<i>Meijie Liu, Yongshou Dai, Jie Zhang, Xi Zhang, Junmin Meng</i>	

A Novel Particle Filter for Target Tracking in Wireless Sensor Network	627
<i>Gang Lu, Wei Zhao, Jinping Sun, Shuqin Sun, Shiyi Mao</i>	
Ku-Band Step Frequency Ground-Based SAR System and Experiments	633
<i>Xueming Peng, Xuguang Lu, Weixian Tan, Yanping Wang, Wen Hong, Yirong Wu</i>	
Accelerated Higher-order MoM Using GPU	638
<i>Zhaofeng Lv, Zhongchao Lin, Ying Yan, Yu Zhang, Xunwang Zhao, Hui Qu</i>	
Simulation of a Microstrip Array Antenna Using Parallel Higher-Order MoM	642
<i>Wen-Hui Ge, Zhao-Feng Lv, Xun-Wang Zhao, Ying Yan, Yu Zhang, Hui Qu</i>	
Feature Enhancement of InSAR Imaging Using Joint Sparse Constraints of Magnitude and Phase	646
<i>Gang Xu, Lei Zhang, Meng-Dao Xing</i>	
Hybrid Orthogonal-Phased Array MIMO RADAR	652
<i>A. S. Roshanzamir, M. H. Bastani</i>	

Volume 2

A Method for Extracting Radar Words of Multi-function Radar at Data Level	657
<i>Cheng Li, Wei Wang, Xuesong Wang</i>	
HYCAM: A New S Band Surface Radar Testbed	662
<i>P. Brouard, L. Constancias, A. Brun, S. Attia, J. Peyret, P. Dreuillet</i>	
Adaptive PRI Selection for Tracking in Clutter	666
<i>Guan Zhai, Huadong Meng, Xiqin Wang</i>	
Experimental Demonstration of Passive GNSS-based SAR Imaging Modes	670
<i>M. Antoniou, M. Cherniakov</i>	
A Novel Broadband Bionic Yagi-Uda Antenna with Low Radar Cross Section	675
<i>Jinyang Xue, Ying Liu, Wei Wang, Hu Liu</i>	
Improved Two-Step Algorithm in Geosynchronous SAR	679
<i>W. Yang, Z. Ding, Y. Zhu, C. Ni, C. Hu</i>	
Optimal ISAR Imaging Time Selection of Ship Targets Using Real Data	684
<i>Ning Li, Ling Wang, Daiyin Zhu</i>	
A Novel Method for Occlusion Modeling and Micro-Doppler Analysis of Truck Target	688
<i>Kai-Ming Li, Qun Zhang, Bi-Shuai Liang, Hui Wang, Hong-Jing Li</i>	
Fast Optimal Design and Simulation of the Waveguide Slotted Array	693
<i>Chunxiao Jian, Dongming Zhou, Chong Wang, Peiguo Liu</i>	
Analysis and Correction of the Doppler Frequency Shift of Airborne Forward Looking Array FMCW SAR	696
<i>Yingjie Zhang, Weixian Tan, Yanping Wang, Wen Hong</i>	
Detection of Tree Roots and Root Biomass Estimation Based on Ground Penetrating Radar with High Accuracy Positioning System	701
<i>Shiping Zhu, Yi Su, M. Sato</i>	
Experimental Results and Analysis for Bistatic SAR Interferometry Using Stationary Receiver	706
<i>Mao Zhu, Cheng Hu, Tao Zeng, Yangte Gao, Lixin Wu</i>	
Radar Assignment for Stealth Targets Detection and Tracking Based on BPSO in Air-defense Radar Network	710
<i>Q. Liu, Z. Liu, R. Xie, S. H. Zhou, Y. F. Liu</i>	
Multisensor-multitarget Tracking Based on Hierarchical Association Only Using Range-Doppler Measurements	715
<i>Gongjian Zhou, Junyu Zhou, Tianjiao Fu, Taifan Quan</i>	
Colocated MIMO Radar Sidelobe Suppression Using Random Space-time Coding	719
<i>S. H. Zhou, B. C. Liu, K. Y. Yin, Q. Liu, H. W. Liu</i>	
Radiation of an Airborne Patch Array Antenna	723
<i>Ze-Nan Yang, Shu-Gang Jiang, Xun-Wang Zhao, Yu Zhang, Hui Qu</i>	
Time Resource Scheduling Algorithm for Multiple Target Tracking in Jamming	727
<i>Lanying Cao, Kefeng He</i>	
Super-Resolution Image Reconstruction Algorithm Based on Double Sparse Representation	731
<i>Huan Wang, Jinping Sun</i>	
EKFD Based of Tracking Highly Maneuvering Target using Radial Acceleration and Radial Velocity	736
<i>Shuyi Jia, Guohong Wang, Lei Zhang, Yujie Ji</i>	
Sky-wave OTHR Ionospheric Channel Simulation	743
<i>Yong-Hua Xue, Zhong-Hua Bao, Yong Chai, Jian Guan</i>	
Principal Component Analysis and Akaike Information Criterion Based Image Enhancement for Ground Penetrating Radar	749
<i>M. M. Riaz, A. Ghafoor</i>	
Wavelet Transform and Singular Value Decomposition based Clutter Reduction for Through Wall Imaging	755
<i>M. M. Riaz, A. Ghafoor</i>	
Carrier Leakage Cancellation in Pulse Doppler Radar Applied for Single Target Detection	761
<i>Qing Shen, Wei Cui, Jiangang Hou, Siliang Wu, Hongbao Li</i>	
Wall Parameter Estimation Using Propagation Time Delay	766
<i>A. Shahid, A. Ghafoor, M. M. Riaz</i>	
Analysis of the Influence of Water Body on Polarimetric SAR Calibration	772
<i>Lu Liao, Jie Yang</i>	
Adaptive Ground Clutter Suppression for Airborne Weather Radar Based on Echoes Power	777
<i>Renbiao Wu, Yanfei Han, Hai Li</i>	

An Improved Particle Filter for Dim Radar Target Detection and Tracking	783
<i>Lu Jia, Ming Li, Lu Xing, Yan Wu, Wanying Song</i>	
Robust DOA Estimation for a MIMO Array Using Two Calibrated Transmit Sensors	788
<i>Wei Zhang, Wei Liu, Siliang Wu, Ju Wang</i>	
Parameter Estimation of LFM Signal Via Compressive Sensing	793
<i>Song Zha, Peiguo Liu, Jijun Huang</i>	
An Ambiguity-resolved Correction Algorithm of Phase Interferometer Based on Kalman Prediction	798
<i>Zixiang Wei, Wei Cui, Feng Li, Jingling Li, Jing Tian</i>	
Resolving Targets Using Space-time Snapshot Based on GLRT Algorithm	803
<i>Dinghong Lu, Yang Li, Chaojie Liang</i>	
Adaptive Cancellation of Direct Wave Interference based on A New Variable-Step-Size NLMS Algorithm	808
<i>Jie Song, Teng Long, You He</i>	
A Channel Equalization Approach using the Spatial Correlation Property of Clutters	812
<i>Xiangyang Liu, Jing Wang, Weiwei Zhao, Wei Cao, Xuyang Hou</i>	
Study of Ocean Mesoscale Eddies Simulation in Shipboard High Frequency Surface Wave Radar	816
<i>Zhenyuan Ji, Xiaonan Wang, Junhao Xie, Chunlei Yi, Yang Li</i>	
Antenna Area Constraint in GEO SAR	820
<i>Xichao Dong, Cheng Hu, Tao Zeng</i>	
Research on the Method of Radar-to-ESM Track Correlation	824
<i>Chengbin Guan, Guohong Wang, Zhonghua Chen</i>	
Analysis of Wire Antenna Around Dielectric or Coated Object Using Parallel MoM-PO Technique	830
<i>Ying Yan, Xun-Wang Zhao, Chang-Hong Liang</i>	
Considerations of Spaceborne SAR System Design	836
<i>Liangbo Zhao, Jie Liu, Changjiang Zhao, Zhenxing Wang</i>	
Target Tracking using Range and RCS Measurements in a MIMO Radar Network	842
<i>Bin Sun, Xuezi Wang, B. Moran, Xiang Li</i>	
Generalized Model-based Decomposition for Polarimetric SAR Data	848
<i>Si-Wei Chen, Xue-Song Wang, Shun-Ping Xiao, M. Sato</i>	
Data Association Method Comparison with Amplitude Information	853
<i>Juan Yu, Shaoming Wei, Jun Wang</i>	
Phase Error Analysis in GEO SAR Imaging based on MSR	857
<i>Dexin Li, Zaoyu Sun, Feng He, Zhen Dong, Diannong Liang</i>	
Estimation of Number of Signal Sources in Far Separated Subarrays	862
<i>Qiang Yang, Ruibin Han</i>	
RFI Suppression Algorithm Based on Median Filter for SAR Data	866
<i>Tengfei Zhao, Yongsheng Zhang, Lin Yang, Zhen Dong</i>	
A New Maneuvering Target Tracking Method for HPRF Radars	871
<i>Hao Wang, Na Wang, Zhigang Song</i>	
Rotational Motion Estimation from ISAR Data Using Frame Processing Structure	877
<i>Ya Jing Huang, Xuezi Wang, Xiang Li, B. Moran</i>	
One Method and Realization of Real-time Calculating Phase Factor of Chirp Scaling Algorithm	882
<i>Lin Wang, Liang Chen, Shenghao Xu, Teng Long</i>	
Angle and Doppler Estimation Using Alternating Least Squares Method in Bistatic MIMO Radar	886
<i>Hui Lv, Meng Zhang</i>	
Detection of Fast Air Moving Din Targets Via STAP with Low Computation Burden	890
<i>Qiongqiong Jia, Renbiao Wu</i>	
GPU-accelerated 3D Compressive Sensing CSAR Imaging	895
<i>Lingjuan Yu, Guanghua Huang, Xiaochun Xie</i>	
Task Scheduling in the Non-ideal Topology	899
<i>Wei Liu, Chao Wang, Xian Zhang</i>	
Signal Modulation Characteristic Analysis Based on SFFT-Haar Algorithm	907
<i>W. Liu, X. Zhang</i>	
A High-speed Large-capacity Embedded Storage System Based on SATA	911
<i>Wei Liu, Xiao-Ming Zhao, Bao-Jun Hu, Xian Zhang</i>	
An Improved Sub-Aperture Motion Compensation Algorithm for Airborne Repeat-Pass InSAR	917
<i>Yin-Wei Li, Mao-Sheng Xiang</i>	
Parametric Spectral Moments Estimation Algorithm Based on Fitting Autocorrelation Sequence	922
<i>Xiaoguang Lu, Renbiao Wu, J. Qin</i>	
High-resolution fm Stepped-Frequency MINISAR System	926
<i>Weiming Tian, Di Yao, Tao Zeng</i>	
A Novel Particle Filtering Algorithm Based on State Fusion	930
<i>H. B. Yu, G. H. Wang, Q. Cao, Y. Sun</i>	
A Novel CAEMD Filtering Algorithm for SAR Image Speckle Noise	935
<i>S. Q. Huang, D. Z. Liu, H. You, B. Ge</i>	
A Novel Range Profiles Splicing Approach in Stepped-frequency Radars	939
<i>Lizhi Zhao, Xiongjun Fu, Jintie Wu, Meiguo Gao, Qian Zhang</i>	
Influence of Ionosphere on SCR of HF Hybrid Sky-surface Wave Radar	944
<i>Yajun Li, Yinsheng Wei, Chen Zhang, Chao Shang, Xiudong Tang</i>	
Multi-view Imaging of Building Layout in Through-wall-radar Based on Real Data	950
<i>Liang Yuan, Jing Ma, Lingjiang Kong, Yong Jia</i>	

A Micro-motion Measurement Method Based on Wideband Radar Phase Derived Ranging	954
<i>Hua-Yu Fan, Li-Xiang Ren, Er-Ke Mao</i>	
Radar Emitter Signal Recognition Based on Time-frequency Analysis	958
<i>L. B. Yang, S. S. Zhang, B. Xiao</i>	
Study on Ground Based Space Surveillance Collocated MIMO Radar	962
<i>Can Xu, Zhi Li</i>	
Azimuth Spectrum Reconstruction Using FRFT for Formation-flying Satellites SAR	966
<i>Zhulin Zong, Jianhao Hu, Lidong Zhu</i>	
Particle Filter for HPRF Radar Range Ambiguity Resolving in Clutters	971
<i>Shuncheng Tan, Guohong Wang, Chengbin Guan, Na Wang</i>	
A Novel Channel Phase Bias Estimation Method for Spaceborne Along-track Multi-channel HRWS SAR in Time-domain	976
<i>Yan-Yang Liu, Zhen-Fang Li, Zhi-Yong Suo, Zheng Bao</i>	
Detection of Air Maneuvering Targets Based on the Reconstruction of the Target Signal	980
<i>Hai Li, Renbiao Wu, Xiaohan Wang, Jingzhong Zheng</i>	
New Parameters in Compact Polarimetry for Ocean Target Detection	986
<i>J. J. Yin, J. Yang, Z.-S. Zhou</i>	
Gaussian Mixture Implementation of PHD Filter Based on Dirichlet Distribution	992
<i>Gang Wu, Chongzhao Han, Xiaoxi Yan</i>	
A DBS Image Stitching Algorithm Based on Affine Transformation	998
<i>Hongmeng Chen, Ming Li, Vunlong Lu, Yan Wu</i>	
Block NLMS Cancellation Algorithm and Its Real-time Implementation for Passive Radar	1002
<i>Y. D. Zhao, Y. K. Zhao, X. D. Lu, M. S. Xiang</i>	
A Double-Capon Iterative STAP Algorithm for Airborne Radar	1007
<i>Xiao-Ming Li, Ding Luo</i>	
Optical/SAR Image Registration Based on Cross-Correlation with Multi-scale and Multi-direction Gabor Characteristic Matrixes	1011
<i>Yun-Hui Jiang</i>	
Analysis of Primary Parameters Estimation with Space Time Processing in Forward Scatter Radar	1015
<i>Zhou Chao, Zhu Can Yan, Hu Cheng, Liu Xiang Rong</i>	
Parallel Implementation of Radar Simulation	1020
<i>Beongju Ryu, Jaehun Lee, Fan Fan, Hyunguk Kim, Jinhwan Koh</i>	
Research on Method of Flat Earth Effect Removal Based on Refined Local Fringe Frequency	1025
<i>Chun-Yan Lin, Liang Chen, Shi-Qi Ge</i>	
Empirical Performance Analysis of Linear Frequency Modulated Pulse and Multitones on UWB Software Defined Radar Prototype	1031
<i>J. Le Kernec, O. Romain</i>	
Robust Blind Beamforming with Arbitrary Sidelobe Shape for MIMO Radar Based on Second Order Cone Program	1037
<i>Hao Liang, Xiaobo Li</i>	
Analysis of Horn Antennas Including the Horn Transition into Half Space Employing a Full Wave Hybrid Technique	1041
<i>R. Jana, R. Bhattacharjee</i>	
A 79-GHZ LTCC Radar Frontend Using a Nonuniform Array with Non-identical Elements	1045
<i>Xin Wang, C. Schmid, A. Stelzer</i>	
An Optimal Beam Position Combination Method in ScanSAR	1049
<i>Yan Li, Qingjun Zhang, Jiuli Liu</i>	
Multiple Sources DOA and Polarization Estimations Using Vector Circular Array	1052
<i>L. Huang, Y. L. Lu</i>	
High Accuracy Signal Simulation of SSBSAR System with Navigation Satellite	1056
<i>Hanwei Sun, Cheng Hu, Tao Zeng</i>	
A Hybrid Scheduling Algorithm of High Speed Radar Tracking System Based on Canbus	1059
<i>Qinsheng Niu, Hai Hu, Yi Cao, Yuan Pu, Pei Li</i>	
Least Squares Approach to the Design of Frequency Invariant Beamformer with Sensor Delay Lines in Subbands	1063
<i>Hui Chen, Yongjun Zhao, Donghai Li, Chengcheng Liu, Wanqiu Wang</i>	
A Novel Probability-constrained Approach to Robust Wideband Beamforming with Sensor Delay Lines	1071
<i>Wanqiu Wang, Yongjun Zhao, Chengcheng Liu, Hui Chen</i>	
New Method for Detection and Parameter Estimation of STLFM Signal	1076
<i>Jiang Tang, Yongjun Zhao, Kun Yang</i>	
Automatic Recognition of Radar Signals Based on Time-frequency Image Character	1083
<i>Jiandong Zhu, Yongjun Zhao, Jiang Tang</i>	
The Study of Mono-pulse Angle Measurement Based on Digital Array Radar	1089
<i>Haibo Liu, Xiaoqian Yang, Han Jiang, Mengmeng Sheng</i>	
New Method for Passive Radar Seeker to Antagonize Non-coherent Radar Decoy	1094
<i>Liang Zhang, Zhen-Hai Xu, Zi-Yuan Xiong, Xue-Song Wang</i>	
A Method of Achieving High Precision Time Delay in Subarray Stretch Processing	1099
<i>Honggang Zhang, Jingchao Chen, Quanhua Liu</i>	
Compressive Sensing Technique for Through-Wall-Radar Imaging	1103
<i>Weiwei Zhao, Ruixue Zhou, Feifeng Liu, Cheng Hu</i>	

A Method of Determining the Direction of Velocity Space-variance in GEO SAR	1107
<i>Teng Long, Ye Tian, Cheng Hu, Zegang Ding, Chong Ni</i>	
Detection of Range Spread Target with Coherent Integration	1111
<i>Li Wang, Xinliang Chen</i>	
Sensitivity Analysis of Along-track Interferometric Synthetic Aperture Radar (ATI-SAR) in the Presence of Squint	1115
<i>Zhang Hui, Hong Jun</i>	
Scan Performance of Low Index Lens Reflector	1120
<i>D. Gray, J. Thornton</i>	
Doppler Ambiguity Correction Using Energy Accumulation	1126
<i>Xiaofei Lu, Xinliang Chen, Xingbin Huang, Xiaoming Zhao</i>	
A Secure Threshold of Dynamic Programming Techniques for Track-Before-Detect	1130
<i>Liang Cai, Chunlei Cao, Yanhua Wang, Guoxiao Yang, Shulin Liu, Le Zheng</i>	
Metamaterial Resonators Based Dual-band Antenna	1133
<i>Li-Ming Si</i>	
The Impact of Step Selection in NLMS Algorithm on Low Velocity Target Detecting for Passive Radar	1137
<i>Jichuan Li, Yaodong Zhao, Xiaode Lu</i>	
An Implementation of FFT Processor	1141
<i>Xing Sun, Dongli Qiu, He Chen, Dong Chen</i>	
Statistical Analysis and Simulation Method of Forward Scattering Clutter in Bistatic Radar	1145
<i>Chuan-Fang Zhang, Chang-Jiang Liu, Cheng Hu, Xiang-Rong Liu</i>	
A Novel Broadband Magic-t Based on Slotline T-Junction and Microstrip-Slotline Transition	1151
<i>Fuping Hou, Dewu Kong, Ting Zheng</i>	
Improvements on SAR Simulation of Three-dimensional Forest Canopies	1155
<i>Hanwei Sun, Tao Zeng, Jian Yang</i>	
A Range Profile Motion Compensation Method for Inverse Synthetic Aperture Radar	1160
<i>H. Ruan, Y. H. Wu, W. Ye</i>	
Suppress Cross-correlation Noise of Same Frequency Coding Orthogonal Signals in MIMO-SAR	1165
<i>Cangzhen Meng, Jia Xu, Shibao Peng, Jian Yang, Xiaojun Wang, Yingning Peng</i>	
A Method to Reduce Sensitivity of Fabrication Errors in Design of Proximity-Coupled Cavity-backed Stacked Patches Antenna	1171
<i>Dan Sun, Wenbin Dou, Zhaocheng Zhang</i>	
Experimental Formation Algorithm Based on Direct Wave of BiSAR with the Squint Transmitter and a Fixed Receiver	1175
<i>Tao Zeng, Lixin Wu, Cheng Hu, Yangte Gao</i>	
Status in U.S. AESA Fighter Radar and Development Trends	1180
<i>Yue Wang, Lanying Cao</i>	
Constrained Adaptive Monopulse Algorithm Based on Sub-array	1186
<i>Ling Yan Dai, Rong Feng Li, Can Rao</i>	
Repeat Jamming Against LFM Radars Based on Spectrum-Divided	1190
<i>Xiao-Yi Pan, Wei Wang, De-Jun Feng, Qi-Xiang Fu, Guo-Yu Wang</i>	
Airport Target Detection Algorithm in Remote Sensing Images Based on JPEG2000 Compressed Domain	1197
<i>Jinglin Yang, Linbo Tang, Baojun Zhao, Chenwei Deng, Baoxian Wang</i>	
A Modified Multiple Hypothesis Tracking Algorithm with Application to Range and Doppler Measurements	1201
<i>Peng Lv, Guohua Wei, Shan Lu, Yingjie Zhang, Jing Liu</i>	
Space-borne Spotlight SAR Interferometry Processing	1206
<i>Yuanhao Li, Cheng Hu, Teng Long, Chong Ni</i>	
Geo SAR Interferometry: Theory and Feasibility Study	1210
<i>Cheng Hu, Xiaorui Li, Teng Long, Yangte Gao</i>	
Design of High Isolation KA-band Waveguide Power Divider with Phase Balance	1215
<i>Xugang Wang, Ting Zheng</i>	
Track-Before-Detect of Weak Ballistic Target Using Elliptical Hough Transform	1219
<i>Bin Rao, Zhi-Wei Zong, Yuanping Nie</i>	
Analysis on Broadband Scattering Characteristics of Antenna Arrays	1226
<i>X. C. Guo, Z. Xu, L. Z. You</i>	
FPGA Implementation of Digital Local Oscillator for Digital Stretch Processing	1230
<i>Yuan Jian, Qingdan Luo, Quanhua Liu</i>	
Research on Software Cache Applied to the Geometric Correction of SAR Images	1234
<i>Lining Gao, Xiaosong Xie, Xiao Ma</i>	
An Implantable Stripline-Fed Slot Antenna for Biomedical Applications	1241
<i>Xuyang Li, M. Jalilvand, W. You, W. Wiesbeck, T. Zwick</i>	
Compact Radar Polarimetry for Fire Scar Mapping and Landcover Classification	1246
<i>H. Chen, D. G. Goodenough, S. R. Cloude</i>	
Three-dimensional ISAR Imaging Using High Resolution Range Profiles	1250
<i>Huipeng Zhao, Xiongjun Fu, Yingjie Zhang, Meiguo Gao</i>	
Hardware Platform Design of Dual Mode Portable Navigator Based on OMAP-I138	1256
<i>Hao Shi, He Chen, Yong-Fei Zhao</i>	
A Efficient Design of a Real-time FFT Architecture Based on FPGA	1260
<i>Chen Yang, He Chen</i>	

Simulation and Analysis of Micro-Doppler Signatures of Tracked Vehicles	1265
<i>Chaojie Liang, Yang Li, Dinghong Lu, Jie Li, Litao Yan</i>	
Spurious Components Introduced by Nonlinearity in Direct Digital Synthesis.....	1270
<i>H. Wang, C. Liu</i>	
An Innovative Subarray Partition Method Based on Genetic Algorithm for Linear Arrays.....	1274
<i>Zi-Yuan Xiong, Zhen-Hai Xu, Liang Zhang, Shun-Ping Xiao</i>	
A Recursive Algorithm for the Design of Array Antenna in STAP Application.....	1279
<i>Zi-Yuan Xiong, Zhen-Hai Xu, Liang Zhang, Shun-Ping Xiao</i>	
The Optimal LCMV Beamformer Under Multiple Desired Signals Case	1284
<i>Zhen-Hai Xu, Ming-Zui Chen, Bin Rao</i>	
An Autofocusing Approach for Airborne/Stationary Bistatic SAR Imagery Based on Acquired Raw Data	1288
<i>Song Zhou, Lei Yang, Xiang-Gen Xia, Ya-Chao Li, Zheng Bao</i>	
Multi-target Frequencies and Directions Estimation Algorithm for Monobit Digital Wideband Array Receiver	1294
<i>Jinze Zhang, Xiaolu Guo, Xiao Gao, Haihong Tao, Weiping Li</i>	
Analysis of Multipath Rejection Performance in GNSS Receiver Using Direct RF Sampling Technology.....	1299
<i>Yuan Gao, Lei Zhang, Feng Liu</i>	
Feature Level Fusion of SAR and Optical Image and MPSoC Implementation.....	1304
<i>Jing Feng, Jun-Xia Li, Long Ma, He Chen</i>	
Pattern Synthesis of a Smart Skin Array with Low Cross-Polarization	1310
<i>Qing Qiang He, Hai Dan He, Zheng Tao Guan</i>	
A Subbandadaptive Filter for DTV Based Passive Radar	1315
<i>Z. H. Zhuo, T. Shan, Y. Feng, S. H. Liu, J. Zhang</i>	

Volume 3

Research on the Microwave Snapshot Imaging Radar Based on Antenna Array	1319
<i>Y. L. Qi, X. L. Yang, W. X. Tan, Y. P. Wang, W. Hong</i>	
A Fully Automatic Registration Method for Laser Scanner Data	1324
<i>K. Al-Manasir</i>	
An Approach to Manifold Estimation for Antenna Array in Situation of Interferences	1330
<i>Qun Wan, Bao Gen Xu, Fang Fang, Yi He Wan, Si Long Tang</i>	
Research on Antenna Stabilization Technology of Micro SAR System	1334
<i>Lin Sun, Di Yao, Wei-Ming Tian, Tao Zeng</i>	
Subspace Signal Detection in Compound-Gaussian Clutter.....	1339
<i>Xiaobo Deng, Changhai Shi, Mingming Guo</i>	
Modified Range Migration Algorithm Integrated with Motion Compensation for FMCW SAR	1344
<i>Guoyi Xue, Jungang Yang, Peiguo Liu</i>	
Sparse Passive Radar Imaging Based on FM Stations Using the U-ESPRIT for Moving Target.....	1348
<i>Shuo Wang, Yuanhang Tang, Changchang Liu, Tianyun Wang, Weidong Chen</i>	
Multielement Information Extraction from City Area SAR Images Using the Permanent Scatterers Technique.....	1354
<i>Anxi Yu, Haijun Wei, Zhen Dong, Zaoyu Sun</i>	
GB-SAR Deformation Monitoring: Performance Analysis and Primary Experimental Results.....	1358
<i>Cong Mao, Feifeng Liu, Chong Ni, Cheng Hu</i>	
Aspects of Interference Suppression Method for Formation of Aircraft.....	1364
<i>Meifang Luo, Zhimei Hao, Lingjiang Kong</i>	
Analysis on Bump-Jump Threshold in BOC(1,1) Signal Tracking	1368
<i>Jing Tang, Lei Zhang, Feng Liu</i>	
Cache-optimized Implementation of Long Sequences FFT on TS201.....	1373
<i>Lining Gao, Xiao Ma, Yuan Yuan, Fengqian Pang</i>	
The Design and Analysis of PD Radar Aid by GPS/INS Ultra-tightly Coupled Navigation.....	1378
<i>Jian Li, Hang Ruan, Feng Liu</i>	
Grating Lobes Suppression Technique in Stepped Chirp Radar	1384
<i>Shuang Xu, Weiming Tian, Lin Sun, Di Yao, Tao Zeng</i>	
A New Estimation Method for SAR Frequency Difference Drift Base on Frequency Band Synthesis	1390
<i>Guangzuo Lee, Weidong Sun, Guangcai Sun, Sujuan Fang, Mengdao Xing</i>	
Ground Moving Targets Signal Modeling For Multi-Channel Squint-looking SAR	1396
<i>Bo Xiong, Jia Xu, Shibao Peng, Jian Yang</i>	
Experimental Image Formation of SS-BiSAR Systems with Fixed Receiver Using Modified RMA Algorithm	1403
<i>Feifeng Liu, Cheng Hu, M. Antoniou, Tao Zeng, M. Cherniakov</i>	
Experimental Verification of Stepped Frequency Continuous Wave Ground-based SAR.....	1407
<i>Zhenyu Ding, Yanping Wang, Weixian Tan, Wen Hong</i>	
An Approach of Bridge Detection Over Water in High Resolution SAR Image.....	1412
<i>Wei Xiong, Juanjuan Zhong, Lanying Cao</i>	
Principles and Error Analysis of GNSS-laser Rangefinder Integrated System for Orientation and Positioning	1416
<i>Dalin Feng, Jian Li, Feng Liu</i>	
Micro-Doppler Feature Extraction Using Single-frequency Radar for High-speed Targets.....	1422
<i>Cai Wang, Xiongjun Fu, Ting Li, Lumin Shi, Meiguo Gao</i>	
Computation of Target Scattering Over the Half-Space Using a Semi-Analytic FDTD Method.....	1428
<i>Le Cao, Bing Wei, Wei-Juan Wang, Xunwang Zhao</i>	

Circular Sparse Array Beam Synthesis Based on Particle Swarm Optimization with Consideration of Polarization	1432
<i>Jieran Li, Jia Xu, Xudong Zhang</i>	
Critical Baseline Analysis in GEO Repeat Pass InSAR	1436
<i>Tiandong Liu, Yu Zhu, Chong Ni, Zegang Ding, Cheng Hu</i>	
An Improved Velocity Calculation Model in GEO SAR System	1440
<i>Tao Zeng, Wei Yin, Liangbo Zhao, Zegang Ding</i>	
A Compressed Sensing Method for a Wider Swath in Synthetic Aperture Imaging	1445
<i>Huichen Yan, Jia Xu, Shibao Peng, Xudong Zhang</i>	
EM Scattering Analysis by Multilevel Green's Function Interpolation Method Based on GPS Technique	1451
<i>Yang Li, Yan Shi, Bo Zhang, Chang Hong Liang</i>	
Design of Dual-Polarization and Parallel-Series-Fed Microstrip Antenna Array	1455
<i>Ting Zheng, Bingyun Shi</i>	
Range Ambiguity Suppression by Azimuth Phase Coding in Multichannel SAR Systems	1458
<i>Jun Yang, Guangcai Sun, Yufeng Wu, Mengdao Xing</i>	
RCS Analysis of General Uniaxial Media Using Equivalence Principle Algorithm	1463
<i>Bo Zhang, Yan Shi, Yang Li, Chang Hong Liang</i>	
Micro-Doppler of Non-ideal Scattering Centers	1467
<i>Jin Liu, Feng Zhao, Yanqing Zhang, Xiaofeng Ai, Jianhua Yang</i>	
Semi-automatic Image Registration Using Harris Corner Detection and Random Sample Consensus (RANSAC)	1471
<i>M. Safy, Guangming Shi, A. S. Amein</i>	
Research on an Improved Version of Quasi-Z Source Inverter	1475
<i>Chunxia Sun, Chengming Wang, Qingfang Teng</i>	
Effect of Satellite Attitude Errors on Spotlight SAR Image	1480
<i>Yalin Qi, Qingjun Zhang, Jiajia Guo</i>	
A New Low Order Phase Error Estimation Method Based on the Overlapped Spectrum in Stepped-frequency SAR	1485
<i>Wenbin Gao, Zegang Ding, Donglin Zhu, Di Yao</i>	
Direct Digital Generation of Ultra-wideband LFM Signal and Its Compensation Technology	1489
<i>Mengmeng Sheng, Haibo Liu, Junfu Wang, Han Jiang</i>	
Accurate Two-Dimension Spectrum of the GEO SAR Echo Based on a Modified Range Model at Apogee	1493
<i>Dacheng Liu, Yu Zhu, Chong Ni, Zegang Ding, Cheng Hu</i>	
Statistical Resolution Limit Based on Cramer-Rao Bound	1498
<i>Dinghong Lu, Yang Li, Chaojie Liang</i>	
Design and Implementation of Modulated Stepped Frequency Radar Signal	1503
<i>Junfu Wang, Haibo Liu, Yang Niu, Weitao Zhang</i>	
Design and Analysis of Scanning Mode in Squinted SAR	1507
<i>Jie Long, Di Yao, Yingqin Sun</i>	
LFMCW Bistatic ISAR Space Target Velocity Compensation Based on IPD Method	1512
<i>Shibao Peng, Jia Xu, Cangzhen Meng, Jian Yang, Yingning Peng</i>	
Analysis of SNR Loss for Passive Coherent Location Radar	1516
<i>Wei Jin, Xiaode Lv, Maosheng Xiang</i>	
A Novel Method of Non-Cooperative Space-Surface Bistatic SAR Image Geo-Rectification	1520
<i>Tian Zhang, Weiming Tian, Tao Zeng, Cheng Hu</i>	
Reconstruction of Direction of LOS Arrival for Passive Emitter Localization	1526
<i>Zhang-Xin Chen, Jiyan Huang, Guan Gui</i>	
Experimental Study Using Natural Frequencies for Fruit Identification	1529
<i>T. Tantisopharak, M. Krairiksh, T. K. Sarkar</i>	
Pulse Jamming Suppression for Airborne Radar Based on Joint Time-frequency Analysis	1533
<i>Fangyuan Li, Jia Xu, Xudong Zhang</i>	
High Resolution Range Profile with Promoted Sparsity and Refined Grid	1537
<i>Z. C. Liu, G. H. Zhao, X. L. Wang, G. M. Shi</i>	
An Efficient Method to Correct Target Range Migration	1541
<i>Jiao Wang, Ming Li, Zeyu Wang, Yan Wu</i>	
Tracking in the Presence of RGPO Or VGPO Using the Kalman Filter with a New Modified PDA	1545
<i>Xiaoying Deng, Jian Hu, Haibo Liu</i>	
Threshold Setting of Track-Before-Detect Based on Dynamic Programming for Radar Target Detection	1549
<i>Xiaoying Deng, Ruihui Bi, Haibo Liu</i>	
Dynamic Polarimetric Calibration Using a Single Dual-polarized Antenna Polarimetric Active Radar Calibrator	1553
<i>Y. Z. Li, M. He, J. Huang, Y. J. Luo, S. P. Xiao</i>	
Performance Analysis of a Track Before Detect Dynamic Programming Algorithm Via Generalized Pareto Distribution	1558
<i>Liang Cai, Chunlei Cao, Yanhua Wang, Guoxiao Yang, Shulin Liu, Le Zheng</i>	
Range Profile Synthesis for Stepped Chirps Via Multichannel Blind Deconvolution	1562
<i>Yanhua Wang</i>	
Doppler Ambiguity Estimation of Stepped-frequency SAR System	1566
<i>Kai Jing, Ji Zhang, Di Yao</i>	
Research of Non-coherent Detection in Jamming Environment	1570
<i>Chengquan Luo, Xiaolin Li</i>	
Image Registration of SAR and Optical Image Based on Feature Points	1574
<i>Tao Zeng, Dongyang Ao, Cheng Hu</i>	

Implementation of Parallel Interface and Matrix Transpose for SAR Imaging Based On Virtex6 FPGA	1579
<i>Ying Liu, Yi-Zhuang Xie, Xing-Bin Huang</i>	
A New Method of Multi-Target Detection for FMCW Automotive Radar	1583
<i>Yuanzhang Fan, Kai Xiang, Jianping An, Xiangyuan Bu</i>	
Three Dimensional ISAR Imaging for Human Being	1587
<i>Chuanfang Zhang, Ruixue Zhou, Cheng Hu</i>	
Multifractal Modeling of Aircraft Echoes from Low-Resolution Radars	1591
<i>Qiusheng Li, Weixin Xie</i>	
Study on CFAR in GMTI for Airborne Fire-Control Radar	1596
<i>Jiang Ming, Wu Liang Bin, Luo Ding</i>	
Noise Jamming to ISAR Based on Multiplication Modulation	1601
<i>Shixiang Gong, Xizhang Wei</i>	
Identification of Multiple Objects Using Their Natural Resonant Frequencies from Both Frequency and Time Domain Data	1606
<i>W. Lee, T. K. Sarkar, H. Moon, M. Salazar-Palma</i>	
SAR Imaging Method for High Speed and Maneuverability Based on Modified Hyperbolic Range Equation	1613
<i>Lei Yang, Guoan Bi</i>	
Adaptive Mainlobe Jamming Suppression Method for STAP Airborne Radar	1619
<i>Zhimei Hao, Meifang Luo</i>	
Signal Integrity of High-performance and Real-time Signal Processing System	1623
<i>Xingming Li, Shanqing Hu, Jiming Zhang, Teng Long</i>	
Amplitude and Phase Calibration of Digital Array Radar Using Frequency Stepped Signals	1630
<i>Haibo Liu, Han Jiang, Xiaoqian Yang, Junfu Wang</i>	
Electrically Scanned Slope Monitoring Radar with Antenna Switching	1635
<i>Hao-Fei Wang, Li-Xiang Ren, Er-Ke Mao</i>	
Signal Dynamic Analysis and Capturing Technology Research of High-speed Target	1639
<i>Haibin Zeng, Ling Wu, Tao Li, Xifu Huang</i>	
An Improved Target Extraction Algorithm for Stepped Frequency Chirp Signal	1643
<i>Chaojie Liang, Yang Li, Dinghong Lu, Teng Long, Peng Chen</i>	
Study on MSK Modulation and Tracking Technique for Satellite Navigation Systems	1647
<i>Xinglin Gu, Rui Li, Dazhi Zeng, Di Yao</i>	
A Reference Signal Extraction Technique of Passive Radar	1653
<i>Kui Wang, Jian Yang</i>	
A Study of MMW Collision Avoidance Radar System for Trains	1657
<i>Haibo Liu, Mengmeng Sheng, Xiaoqian Yang</i>	
Matching Between SAR Images and Optical Images based on HOG Descriptor	1661
<i>Qing Li, Guangzhou Qu, Zengliang Li</i>	
Ultra-wideband Multistatic Tracking of Human Targets	1665
<i>Yuan He, P. Aubry, F. Le Chevalier</i>	
3-D Frequency Estimation of Multiple Damped Sinusoids Using Subspace Approach	1670
<i>Cao Hui, Wu Yuntao, Zhang Yanbin, Huang Longting</i>	
Design of 60GHZ MMIC LNA in MHEMT Technology	1674
<i>Da-Wei Zhang, Jun Li, Hai-Hong Ma</i>	
Ionospheric Model for GPS-Based Precise Relative Navigation of LEO Spacecraft in Formation Flying	1679
<i>Rui Li, Yong Li, A. G. Dempster, Dazhi Zeng</i>	
Regional Accuracy Analysis of Tropospheric Delay Error Models	1684
<i>Xie Xiao-Gang, Zeng Da-Zhi, Long Teng</i>	
Research on Analysing and Simulation for Effect of Ionosphere to Space-borne Synthetic Aperture Radar	1690
<i>Xiao-Gang Xie, Da-Zhi Zeng, Teng Long</i>	
An Improved Scheme of Digital Beam-forming in Elevation for Spaceborne SAR	1695
<i>Fan Feng, Hongxing Dang, Xiaomin Tan, Guangting Li, Caipin Li</i>	
A Disposition Algorithm for Radar Netting	1701
<i>Chunling Feng, Guanhua Wang, Kefeng He</i>	
An Evaluation System for SAR Real-time Processing System	1705
<i>Yingqin Sun, Jian Yang, Di Yao</i>	
Modified Hybrid Digital Correlation Algorithm for Highly Squint SAR Image Formation	1709
<i>Zengliang Li, Xin Zhao</i>	
Design of Digital IF Receiver Based on ADCs and FPGAs	1712
<i>Wei Liu, Di Yao, Yingqin Sun</i>	
A Design Method for SAR Real-Time Processing System Based on Superstep	1716
<i>Yingqin Sun, Wei Liu, Di Yao, Weitao Zhang</i>	
A Multi-layer Half Mode Substrate Integrated Waveguide In-phase Power Combiner	1721
<i>Yazhou Dong, Shi-Wei Dong, Ying Wang, Liming Gong</i>	
A Non-local Despeckling Approach Using Pixel-Similarity Thresholding	1726
<i>Guangting Li, Hongxing Dang, Xiaomin Tan, Yapeng He</i>	
A Cascaded False-Alarm Elimination Method for Accurate Ship Detection in SAR Images	1732
<i>Fukun Bi, Fengqian Pang, Bocheng Zhu, Liang Chen</i>	
Design of a Novel DRFM Jamming System Based on AFB-SFB	1736
<i>Jing Yang, Xiaoxu Guo, Yunjie Li</i>	

The Spaceborne Terahertz Remote Sensing Techniques	1741
<i>Feng Liu, Wanzhao Cui, Zhongbo Zhu, Shiwei Dong, She Shang, Zhoushi Ya</i>	
A Realization of Convenient Structure with Electrical Coupling in Coaxial Cavity	1746
<i>Jinsong Zhan, Liming Gong, Xiaolong Chen</i>	
System Design and Analysis of L-band Aperture Synthesis Microwave Radiometer	1750
<i>Yinan Li, Hao Li, Ruiqing Liu</i>	
Compressive Sensing Radar Imaging Under Low SINR Via Waveform Optimization	1754
<i>Yapeng He, Hongxing Dang, Xiaomin Tan</i>	
Study on Microwave Scattering of Rough Sea Surface Based on the Corrected TS Model	1758
<i>Dawei Song, Tao Han, She Shang, Dong Li, Wenfeng Sun, Xiaoyan Fan</i>	
Scattering Characteristic Analysis of Dual-band for New Precipitation Radar	1763
<i>Xiaoyan Fan, Tao Han, She Shang, Dawei Song, Wenfeng Sun, Dong Li</i>	
A Compressed Sensing Imaging Method Based on Radar Signal Construct Sparsity Basis	1767
<i>Wen-Feng Sun, Tao Han, She Shang, Da-Wei Song, Dong Li, Xiao-Yan Fan</i>	
Signal Characteristics Analysis of GEO SAR	1771
<i>Caipin Li, Mingyi He</i>	
L-Band High Efficiency GaN HEMT Power Amplifier for Space Application	1776
<i>Chi Chen, Jun Chen, Lei Wang</i>	
High Resolution Detection in Application of Railway Radar System	1780
<i>Le Zheng, Xinliang Chen, Han Jiang</i>	
Research of High-speed Radar Signal Processing System Based on OpenVPX Standard	1784
<i>Yuan Yuan, Xiao Ma, Lining Gao, Xiaosong Xie</i>	
Research of the Pulse Compression Method for High Power and Short Duration Pulse Radar	1789
<i>Jing Sun, Jinyong Fang, She Shang</i>	
Design and Simulation of One Dimensional Frequency-domain Algorithm Based on FPGA	1793
<i>Yinhui Xu, Dazhi Zeng, Hong Zhao, Xinming Wu</i>	
ISAR Imaging of Space Objects Based on Stepped Frequency Modulation	1799
<i>Xiaoyan Bian, Xiongkui Zhang, Yingmin Ma, Yingjie Zhang, Lizhi Zhao</i>	
Simple Systematic Frequency Reconfigurable Microstrip Patch Antenna	1804
<i>H. Hamza, Biao Hou</i>	
FWT-DCT Feature Based Face Authentication	1808
<i>Jiatong Li, Linbo Tang, Yixiao Zhao</i>	
DOA Estimation by Exploiting Spatial and Doppler Sparsity	1812
<i>Yan Wang, Tuo Fu, Meiguo Gao, Shuai Ding</i>	
Analysis of Parallel Performance of MPI based Parallel FDTD on Supercomputer	1816
<i>Shugang Jiang, Zhaofeng Lv, Yu Zhang, Bing Wei, Xunwang Zhao</i>	
RCS Calculation using Parallel PO on Supercomputer	1820
<i>Zhong-Chao Lin, Zhao-Feng Lv, Yu Zhang, Xun-Wang Zhao, Ying Yan</i>	
Imaging of Space Targets in FMCW-ISAR	1824
<i>W. Chang, Z. Li, K. Jin, J. Yang</i>	
RCS Computation of Engine by Parallel Higher-Order Mom with Out-of-Core Technique	1828
<i>Jingyan Mo, Liang Shen, Bing Wei, Weidong Fang, Ying Yan</i>	
Simulations of Airborne Phased Array using Parallel MoM	1831
<i>Yu Zhang, Zhong-Chao Lin, Ze-Nan Yang, Wen-Hui Ge, Xun-Wang Zhao, Hui Zhao</i>	
New Ground Penetrating Radar System for Quantitative Characterization of Snow and Sea Ice	1835
<i>Hai Liu, Xiongyao Xie, M. Sato</i>	
Research of Sparse Signal Time-frequency Analysis Based on Compressed Sensing	1840
<i>Ying-Ni Hou, Jun Sun, Ru-Jiang Guo, Shi-Guo Li</i>	
Fast and Accurate Interpolation of Frequency Domain Response from Non-uniform Sampling	1844
<i>Jie Yang</i>	
Ground-based SAR Imaging Based on Improved Range-Doppler Algorithm	1850
<i>Jun Zhang, Zhijun Pei</i>	
Design of a High-performance Balanced Frequency Tripler at 94GHz	1855
<i>Xiaoyang Zhang, Hongxi Yu, Hui Xu, You Lv</i>	
Performance Analysis of Costas-PLL Based on Four-way Signal Processing	1858
<i>Yuan Gao, Lei Zhang, Jing Yuan</i>	
Design of Spaceborne SAR Imaging Processing and Fast Verification Based on FPGA	1862
<i>Jin Liu, Liang Chen, Ying Liu, Yizhuang Xie</i>	
Joint Sparse Modeling For Target Parameter Estimation In Distributed MIMO Radar	1867
<i>Tao Yu, Zhang Gong, Ben De</i>	
Micro-motion Analysis Based on HRRP Sequence	1871
<i>Da-Qing Chen, Su-Dao Xie, Rong-Chen Wang, Zhe Zhang</i>	
Doppler Ambiguity Resolution Based on Random Sparse Probing Pulses	1876
<i>Zhenmiao Deng, Linmei Ye, Maozhong Fu, Chen Zhao</i>	
Sea Clutter Covariance Matrix Estimation with Data-adaptive Selection	1881
<i>Na Wei</i>	
A Novel Multipath Mitigation Approach for BOC(1,1) Based on Pseudo-Correlation Function	1886
<i>Hang Ruan, Yiqing Zhang</i>	
Influence of Uncertainty of Measurement Time on Receiver's Precision and Assessment Method	1892
<i>Jing Yuan, Lei Zhang, Yuan Gao, Guo Zhang</i>	

Design of the APF for Radar Power System Based on Multi-resolution Control	1897
<i>Qiankun Dai, Xiaoyu Zou, Hong Shi, Ge Wang</i>	
Waveform Design for MIMO Over-the-horizon Radar Detection in Signal Dependent Clutter and Colored Noise	1903
<i>Shuangling Wang, Qian He, Zishu He, R. S. Blum</i>	
Micro-motion Period Estimation of Coning Target Using Four-Point Method	1909
<i>Ting Li, Xiongjun Fu, Lumin Shi, Weijie Yang, Meiguo Gao</i>	
Radar Waveform Design Under the Constraint of Auto-correlation, Orthogonality and Doppler Tolerance	1913
<i>Lin Wang, Xiongjun Fu, Lumin Shi, Ting Li, Meiguo Gao</i>	
Simulation of Geosynchronous Radar and Atmospheric Phase Compensation Constraints	1917
<i>S. E. Hobbs, B. Snapir, R. Corstanje, C. Mitchell, B. Forte, R. Holley, P. Whittaker, K. Graham, R. Burren</i>	
Two-step Motion Compensation Method for Step-frequency UAV SAR Imagery	1923
<i>Bangkui Fan, Teng Long, Zegang Ding</i>	
Monopulse Radar Angle Extractor of Multiple Unresolved Targets Via Matching Pursuits	1927
<i>Zheng Lu, Feng Li, Tao Zeng</i>	
Space-time Codes for Active Antenna Systems: Comparative Performance Analysis	1932
<i>G. Babur, P. Aubry, F. Le Chevalier</i>	
Space Debris Narrowband Imaging Via General Radon Transform in Reassigned Spectrogram	1938
<i>B. Yuan, Z. P. Chen, W. C. Zhang</i>	
Rotational Motion Compensation for Wide-angle Isar Imaging Based on Integrated Cubic Phase Function	1943
<i>W. C. Zhang, Z. P. Chen, B. Yuan</i>	
Cramer-Rao Bound of Direction of Arrival Estimation in Presence of Mutual Coupling	1948
<i>Xinyu Zhang, Yang Li, Dinghong Lu</i>	
Reduced-rank sub-CPI STAP with Fast Convergence Measure of Effectiveness in Nonhomogenous Clutter	1953
<i>Xiaopeng Yang, Yongxu Liu, Teng Long</i>	
Calculation of Adaptive Weight Using Pulse Order-based Inverse Covariance Matrix Recursion for STAP	1958
<i>Xiaopeng Yang, Yongxu Liu, Teng Long</i>	
Modified PRI-staggered STAP Algorithm Using Projection Approximation Subspace Tracking	1963
<i>Xiaopeng Yang, Peng Wang, Yongxu Liu</i>	
Design of Data Transmission System for Distributed Detection Nodes	1968
<i>Y. Z. Zhang, T. Shan</i>	
Time and Phase Synchronization for Wideband Distributed Coherent Aperture Radar	1972
<i>Xiaopeng Yang, Pilei Yin, Tao Zeng</i>	
Design of Experimental Adaptive Beamforming System Utilizing Microphone Array	1977
<i>Yuze Sun, Ji Zhang, Xiaopeng Yang</i>	
Derivative Constraint-based Householder Multistage Wiener Filter for Adaptive Beamforming	1982
<i>Xiaopeng Yang, Yuze Sun, Yongxu Liu, Ji Zhang</i>	
Author Index	