

# PROCEEDINGS OF 2006 CIE INTERNATIONAL CONFERENCE ON RADAR 

Edited by Wu Shumjun

## Oct. 16-19, 2006 Shanghai, Chima

| Chinese | The Institute of | The Institution | Societe Des | Engineers |
| :---: | :---: | :---: | :---: | :---: |
| Institute of | Electrical and | of Electrical | Electiciens Et | Australia |
| Electronics | Electronics | Engineers | Des |  |
|  | Engineers, Inc |  | Electroniciens |  |
|  |  |  | see | ENGINEERS Australia |

Sponsored by:
Chinese Institute of Electronics (CIE)
Co-Sponsored by:
IEEE AESS/U.S.A.
IEE Electromics Division/U.K.
SEE/France
EA/Australia
Organized by:
Radar Society of $\mathbb{C L E}$
Incorporated with
IEEE AESS Beijing Chapter

PRESS

## PROCEEDINGS OF 2006 CIE INTERNATIONAL CONFERENCE ON RADAR

## COPYRIGHT

Copyright and Reprint Permission: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Operations Center, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331. All rights reserved. Copyright©2006 by the Institute of Electrical and Electronics Engineers, Inc.

| IEEE Catalog Number: | $06 T H 8857$ |
| :--- | :--- |
| ISBN: | $0-7803-9582-4$ |
| Library of Congress: | 2005935003 |

Printed in Beijing, China

## Table of Contents

## RADAR 2006 Technical Papers

Plenary Sessiom
Oct. 17th, Morning
Ten Years EUSAR - state of the art and trends in SAR ..... $\cdot 1$
Richard Klemm, FGAN-FHR, Wachtberg, Germany
The Development of Digital Array Radar in China ..... 5
WU Man-qing, East China Research Institute of Electronic Enginnerring, China
Experimental Airorne InSAR System and Method ..... 10
Yirong Wu, Maosheng Xiang, Lideng Wei, Wen Hong, Institute of Electronics, Chinese Academy ofSciences, China
Session A1 ----- MultiSite Radar
Co-Chair: Yingning Peng, Hugh Grifiths; ..... Oct. 17th, afternoon
A1_01 Realisation and Evaluation of a Low Cost Netted Radar System ..... 16
Tom Derham, Shaun Doughty, Karl Woodbridge and C. J. Baker, University College London, UK
A1_02 Receiving Signal Processing of Wideband MIMO Radar Based On Transmitting Diversity ..... 20
Bo Liu, Chunlin Han, Benyong Liu, University of Electronic Science and Technology of china
A1_03 A new method of improving the weak target detection performance based on the MIMO radar ..... 24
Xi-Zeng Dai, Jia Xu, Ying-ning Peng, Xiang-Gen Xia, Tsinghua University, China
A1_04 Multiple-input Multiple-output Radar and Sparse Array Synthetic Impulse and Aperture Radar ..... 28Duofang Chen, Baixiao Chen, Shouhong Zhang, Xidian University, China
A1_05 MIMO radar performance in clutter environment ..... 32
P.F. Sammartino, C.J. Baker, H.D. Griffiths, University College London, UK
A1_06 Experimental system and experimental results for coast-ship bi/multistatic ground-wave over-the-horizon radar ..... 36
Baixiao Chen, Duofang Chen, Shouhong Zhang, Xidian University, China
A1_07 Research of Satellite-to-Satellite Passive Tracking Using Bearings-Only Measurements In J2000 ECI Frame ..... 41
Qiang Li, Fu-cheng Guo, Jun Li, Yi-yu Zhou, NUDT
A1_08 A Simple Multistatic Radar Based on Alamouti Space-time Code ..... 45Huan Tao, Jian-Yun Zhang, Lin Yu, Information Engineering Dept, Electronic EngineeringInstitute, Hefei, China
A1_09 Principles of UWB Multisite Radar Devices for Searching Survivors in Rubble ..... 49
Victor Chernyak ,Moscow Aviation Institute (State Technical University), Russia
A1_10 Bistatic Synthetic Aperture Radar Timing Synchronization Based on DSSS ..... 53
Zhang Shengkang, Wang Guangding, Yang Ruliang, Institute of Electronics, Chinese Academy of Sciences
A1_11 Model-based Adaptive Target Detection in Clutter Using MIMO Radar ..... 57
Abbas Sheikhi, Ali Zamani, Yaser Norouzi, Shiraz University, Iran
A1_12 A New Approach to Improve Coherence in SAR/GMTI Processing of Distributed Micro-satellites Systems61
Zhang ZhenHua, Wang Tong, Ding JinShan, Bao Zheng, Xidian University, China
A1_13 Netted Radar Sensitivity and the Ambiguity Function ..... 65
Yu Teng, Chris Baker, Karl Woodbridge, University College London, UK
A1_14 Analysis on Rank of Channel Matrix for Monostatic MIMO Radar System ..... 69
Yong Wu, Jun Tang, Yingning Peng, Tsinghua University, China
Session B1 ------- Emerging Technologies
Co-Chair: Renbiao Wu, Jean-Louis Boulay; Oct. 17th, afternoon
B1_01 Effects of geometry on clutter characteristics of hybrid bistatic space based radar ..... 73
Hua Li, Jun Tang, Yingning Peng, Tsinghua University, China
B1_02 The Cao Method for Determining the Minimum Embedding Dimension of Sea Clutter ..... 77
Xiaoke Xu,Xiaoming Liu,Xiaonan Chen, Dalian Maritime University, China
B1_03 Elimination of ionospheric multipath propagation effect for over-the-horizon radar- ..... 81Kun Lu, Zhijian Chen, Nanjing Research Institute of Electronics Technology, China
B1_04 Geometric Analysis on Moving Targets and First-order Sea Clutters in Bistatic Shipborne SWR• ..... 86Bo Li, Xu Bin, Yeshu Yuan, Harbin Institute of Technology, China
B1_05 Parameters Estimation for Generalized K-Distributed Clutter Model ..... 90
Ren Shuang-qiao, Liu Yong-xiang, Li Xiang, etc., National University of Defense Technology
B1_06 Analysis of Ground Clutter Characteristics of Airborne Forward Looking Pulse Doppler Radar in High PRF ..... 94
Zhang Chun-cheng, Ge Jian-jun, Luo jian, Sheng Jing-ta, East China Research Institute of ElectronicEngineering
B1_07 Fully-Polarized Scattering Center Extraction and Parameter Estimation: P-ESPRIT Algorithm ..... 97
Dai Da-hai, Wang Xue-song, Chang Yu-liang, Yang Jian-hua, Xiao Shun-ping, National University of Defense Technology, China
B1_08 Ionosphere Decontamination of High Frequency Radar Echoes ..... 101
Chen Xi-xin, Huang Yin-he, Nanjing Research Institute of Electronics Technology, China
B1_09 Study of Calibration and Remedy of Distributed Small Satellite Radar Array ..... 105Ying Liu, HongYang Wang, GuiSheng Liao, Xidian University, China
B1_10 The Detection of Deception Jamming against SAR Based on Dual-Aperture Antenna Cross-Track Interferometry ..... 109
Chen Li, Daiyin Zhu , Nanjing University of Aeronautics andAastonautics, China
B1_11 Polyphase Orthogonal Code Design for MIMO Radar Systems ..... 113Bo Liu, Zishu He, Jiankui Zeng, Benyong Liu, University of Electronic Science and Technology, China
B1_12 Estimation of InSAR baseline based on the Frequency Shift Theory ..... 117
Bing Chen, Shaojian Xu, Ping Zhang, Institute of Electronics, Chinese Academy of Sciences
B1_13 Ultra-wideband Radar Signals Generated with Two-channel ..... 120
Wan Yonglun, Si Qiang, Lu Youxin, Wang Xuegang, University of Electronic Science and Technology
02_14 Research on UWB SAR Image Formation with Suppressing Multipath Ghosts ..... 124Liang Wang, Xiaotao Huang, Qian Song, Zhimin Zhou, National University of Defense Technology, China
Session C1 ..... SAR I
? 0 -Chair: Jianyu Yang, Wolfgang-Martin Boerner; Oct. 17th, afternoon
C1_01 Forward Looking Bistatic SAR Range Migration Alogrithm ..... 127
Cheng Hu, Tao Zeng, Teng Long, Chun Yang, BeiJing institute of technology, BeiJing, China
C1_02 A new method of motion error extraction from radar raw data for SAR motion compensation. ..... 131
Yanping Li, Mengdao Xing, Zheng Bao, Xidian University, China
C1_03 Image Formation Algorithm for the Implementation of Circular Scanning SAR ..... 135
Bing Sun, Yinqing Zhou, Tianchi Li, Beijing University of Aeronautics and Astronautics, China
C1_04 A New Subaperture Nonlinear Chirp Scaling Algorithm for Real-Time UWB-SAR Imaging ..... 139Jian Wang, Guoyi Xue, Zhimin Zhou, National University of Defense Technology, China
C1_05 Modified Range-Doppler Algorithm for Space-Surface BSAR imaging. ..... 143Michail Antoniou, Mikhail Cherniakov, James Edwards, etc., university of birmingham, UKC1_06 Back-Projection Algorithm Characteristic Analysis in Forward-Looking Bistatic SAR.147
DaZhi Zeng, Cheng Hu, Tao Zeng, Teng Long, BeiJing institute of technology, China
C1_07 Burst Mode Imaging with ENVISAT-1 ASAR Alternating Polarisation Data ..... 151
Tan Weixian, Zhou Huanxue, Hong Wen, Institute of Electronics, Chinese Academy of Sciences
C1_08 The Real-time Coarse Compensation of motion error Based on UAV SAR ..... 155
Jian Huang, Wanming LEI, Wenzheng YU, Nanjing Research Institute of Electronics Technology
C1_09 SAR Images Despeckling Based on Hidden Markov Mixture Model in the Wavelet Domain ..... 159
Yan Wu, Qiang Zhang, Xia Wang, Guisheng Liao, Xidian University, China
C1_10 A New Approach for DEM Generation Based on Polarimetric SAR Interferometry ..... 163
Tao XIONG, Jian YANG, Yingning PENG, Tsinghua University, China
C1_11 A Special Operation Mode of BoomSAR in Application to Foliage Penetration Imaging ..... 167Hongbo Sun, Weixian Liu, Yilong Lu, Pierre Borderies, Francois Lemaitre,Ling Chiat Tai,Heong Wann Seah, Hian Lim Chan, Nanyang Technological University, Singapore
C1_12 Contrast Optimized PGA Algorithm for P-band UWB SAR ..... 171
Daoxiang An, Xiaotao Huang, Liang Wang, National University of Defense Technology, China
C1_13 Research on Bistatic SAR Motion Compensation ..... 175
Zhu Zhenbo, Tang Ziyue,Zhang Yabiao, Jiang Xingzhou, University of Naval Engineering, China
C1_14 Detection, Velocity Estimation and Imaging of fast Moving Targets Using Single Antenna SAR- ..... 179
Gang Li,Jia Xu, Ying-Ning Peng,Xiang-Gen Xia, Tsinghua University, China
Session D1 -----..- Detection
Co-Chair: Zhiming Zhou, Laura Anitori; Oct. 17th, afternoom
D1_01 Target Detection with Adaptive Power Regression Thresholding for HF Radar ..... 183
A.L.Dzvonkovskaya, H. Rohling, Hamburg University of Technology, Germany
D1_02 A CFAR Based on Statistics of Cell Under Test ..... 187
Zhi-guo Qu, Xian-si Tan, Wang Hong, Gang He, Air Force Radar Academy, China.
D1_03 Quadrature Coherent Detector of Wideband Intermediate Frequency Signal ..... 191
Minglei Yang, Baixiao Chen, Shouhong Zhang, Xidian University, China
D1_04 GLRT Detection for Range and Doppler Distributed Targets in non-Gaussian Clutter ..... 195
Nicolas Bon, Ali Khenchaf, Jean-Michel Quellec, René Garello, Laboratoire E3I2-EA 3876, France
D1 05 A Distributed Detection Scheme for Multiple Monostatic Radars ..... 200
Xiangyang Liu,Jun Yan, Yingning Peng, Tsinghua University, China
D1_06 Target Detection in Long Duration Energy Integration by Time-Frequency Distribution and Morphological Filtering. .....  204
Haiyan SHANG, Penglang SHUI, Shouhong ZHANG, Xidian University, China
D1_07 Order Statistic and Algebraic Product CFAR Detector for Weibull Clutter ..... 208Amir Zaimbashi, Mohammad Reza Taban, Mohammad Mehdi Nayebi, Yazd university, Iran
D1_08 Radar Track-Before-Detect Algorithm of Multitarget Based on the Dynamic Programming ..... 212Huang Yong, Jiang Guo-feng, Qiu Kai-lan, etc., Naval Aeronautical Engineering Institute, China
D1_09 Radar Targets Detection in Formation Based on Time-Varying AR Model ..... 216Lin Li, Hongbing Jji, Xidian University, China
D1_10 Rank CFAR Detector in Presence of Randomly Arriving Impulse Interference ..... 220I. Garvanov, Chr. Kabakchiev, P. Daskalov, S. Babalov, Institute of Information Technologies, Bulgaria
D1_11 A Robust CFAR Detector Based on Ordered Statistic ..... 224WenLin Hu, YongLiang Wang, ShouYong Wang, Qianxue Fang, Air Force Radar Academy, China.
D1_12 Comparison and Simulation of Linear/LOG CFAR Algorithms. ..... 228R Praveen, Dinesh Kumar T, P.K Kiran DVN, Sri Venkateswara College of Engineering,Sriperumbudur ,India
D1_13 Coherent Integration Detection Algorithm Research of Space Debris ..... 232
Fengsen Deng, Xuegang Wang, University of Electronic Science and Technology, China
D1_14 Detection Performance Analysis of Distributed OSCA CFAR with Nonconherent Integration. ..... 236
Ma Xiaoyan, Yang Jun (corresponding author), Xiang Jiabin, Air Force Radar Academy, China.
Session P1
Co-Chair: Zemin Xi, Christo Kabakchiev; Oct. $17 / \mathrm{h}$, afternoon
P1_01 The Study of Radar Resolution Experiment Method ..... 240
Xingmin Li, Changwen Qu,Guojun Li, Bingrong Li, 92941 troop 93 unit Hulu-dao, China P1_02 Analogue TV Signal-Based Passive Radar onboard Single Air-Platform- ..... 245
Sun Long-xiang, Liu jian, Chen Si-xing, Shanghai Research Institute of Microwave Equipment, ChinaP1_03 A Practical Method Against Passive Centroid Jamming in Monopulse Radar249
Zhao YiNan, Jin Ming, Wang Jun, Qiao Xiaolin, Qingdao University of Science and Technology, China
P1_04 Chirp-Pulse Stepped-Frequency Radar Based on Decorrelation Processing ..... 252
Chaoshu Jiang, Xuegang Wang, Zhuming Chen, University of Electronic Science and Technology of China
P1_05 Doppler Frequency-Only and $T^{\wedge} 2 / R$ Radar Based Moving Target Location ..... 255
Yangcan Xiao,Ping Wei,Ting Yuan , University of Electronic Science and Technology of China
P1_06 Design of Multi-carrier Digital Frequency Synthesizer for Coast-ship Multi-static Ground Wave OTH Radar ..... 259
Fenglin Li, Baixiao Chen,Shouhong Zhang, Xidian University, China
P1_07 Research on Design and Control of Spaceborne Multistatic Radar System- ..... 264
Xiang Junhua, Zhang Yulin, National University of Defence Technology, China
P1_08 In Time Passive Localization using Multi Base-Line Phase comparison Receivers ..... 269
Xing Wei, Jian-wei Wan, Kan HuangFu, National University of Defence Technology, China
P1_09 Study on HPRF Pulsed Doppler Stepped Frequency Radar System ..... 272
Li-xiang Ren,Er-ke Mao, Beijing Institute of Technology, China
P1_10 Real-time Signal Processing Implemention of the Missile-Borne SAR Using High performance DSP $\cdots 276$ Jiang Zhu, Zhiming He,Bo Zhou, Jianbin Li, University of Electronic Science and Technology of China P1_11 Considerations for Non-cooperative Bistatic SAR with Spacebome Radar Illuminating ..... 280
Yonghong Yang, Yiming Pi, Ran Li, University of Electronic Science and Technology of China
P1 12 Comparison of Distributed and Federated Filtering in Multi-Coordinate Systems ..... 284
Lei Chen, You He,Xiao-ming Tang, Naval Aeronautical Engineering Institute, China
P1_13 A Synchronization-based Algorithm for Calculating the Wideband Auto/cross Ambiguity Functions of Chaotic Signal ..... 288
Wen Hu,Zhong Liu,Chun Biao Li, Nanjing University of Science and Technology, China
P1_14 A Range-parameterized Emitter Location Method from a Single Moving Observer with Variable Attitudes ..... 292
Danxing Zhong,Xinpu Deng,Yiyu Zhou, National University of Defence Technology, China
P1_15 Detection and Imaging of Aerial Moving Targets Based on Spaceborne SAR ..... 296
Jianfeng Yin, Daojing Li, Libo Tang, Yirong Wu, Institute of Electronics, China
P1_16 Dual-Polarized Signal Processing for Weather Radar ..... 301
Zaihua GUO,Mingyuan XIE, University of Information and Technology, China
P1_17 LEO Space-Based Radar Constellation Design Using A Genetic Algorithm ..... 305
Kai Xie, Zhengbin Yang, Zhitao Huang, Yiyu Zhou, National University of Defence Technology, China
P1 18 Anti-jamming Performance Analysis for Random Noise UWB Imaging Radar ..... 309
Xianyi Zhang, Weimin Su, Hong Gu, Nanjing University of Science and Technology, China
P1_19 A method of hybrid ATI and DPCA technique to detect moving target ..... 313Fang Qin, Min Dong, Xiaoling Zhang, University of Electronic Science and Technology of China
P1_20 Performance Analysis of A Long-Term Integration Algorithm for Space-borne Radar Based on Segment Processing ..... 317
Ying-hui Hou, Yin-sheng Wei, Wei Bian, Rong-qing Xu, Harbin Institute of Technology, China
P1_21 Design and Implementation of Optical True Time Delay in Optically Controlled Phased Array Antennas ..... 321
Jihong Yan, Zishu He, Chunlin Han, Yuxiang Gao, Junyou Cao, UEST, China
P1_22 Chaff Jamming effect to Radar and Math Model Building. ..... 324
XianLi Wu, Qi Shen, Teng Long, Beijing Institute of Technology, China
P1 23 Research on 2-Channel Outdoor Instrumentation Radar ..... 329
Liang Yi, Tian Jin-jun,Hong Tao, Wang Zhen-rong, Beihang University, China
P1_24 PCL System with Illuminator of Opportunity ..... 333
Huaiying Tan, MIn Ren, Bo Liu, Jinning Song, the AirFforceSsecond institute, China
P1_25 Radar Control Software Design Based on Real-time UML. ..... 336
Hai Li, Beijing Institute of Technology, China
P1_26 Study of location based on T-R and T/R-R mode in Bistatic radar ..... 340
Shuxuan Chen, Baixiao Chen, Shouhong Zhang, Xidian University, China
P1_27 The Calibration Processing for Impulse Ground Penetrating Radar ..... 345Chunlin Huang, Min Lu, Yi Su, National University of Defence Technology, China
P1_28 Target polarization recognition under rain and snow cluster ..... 349Xianhe Shao, Ming Jin, Hongjuan Zhou, Jinghong Xue, Harbin Institute of Technology, China
P1_29 PNPM-LFM Combined Radar Signal Analysis. ..... 353
Xiong gang, Yang xiaoniu, Zhao huichang, NO. 36 Research Institute of CETC, China
P1_30 A Scheduling Simulation for a Multi-Function Phased Array Radar • ..... 357
Zhang wei, Chen mingyan, Tian zhong, Nanjing University of Aeronautics \& Astronautics
P1_31 Coordinates Registration and Error Analysis Based on Spherical Measurement Model for OTH Radar 361Kong Min, Wang Guo-hong, Wang Xiao-Bo, Naval Aeronautical Engineering Institute, China
P1. 32 Passive Location Using TDOA Measurements In Four Sites ..... 365
Fei Linghan, Yin Jinrong ,etc., Nanjing Research Institute of Electronics Technology, ChinaP1_33 Design and Implementation of Millimeter-wave Active phased Array Radar369
Shi Xing, Peng Xianglong, No. 10th Institute of China Electronics Technology Group Corporation
P1_34 High-resolution 8mm Radar Imaging Technique ..... 373
Ren Peihong, No. 10th Research Institute of China Electronics Technology Group Corporation
P1_35 The Design of Wind Profiler Based on Active Phased Array Antenna ..... 376
Li Chen, Nanjing Research Institute of Electronics Technology, China
P1_36 The Simulation and research of Electronics Jamming Influence on Radar Net Detection Space and Flight Path Planning of Aircraft ..... 379
Shi Hesheng, Li Dan, Zhao ZongGui, Mao Shaojie, Min Rongbao, The 28th Research Institute of CETC
P1_37 Theoretical analysis of direct-finding targets with rolling-airframe passive radar by phase interference technique ..... 384
Xi Wei, Yu BianZhang, Wang SongShan, Northwestern Polytechnical University, China
P1_38 The Detection Performance of Bistatic Seacoast Surveillance Radar ..... 388
Dai Zheng-jian, Wang Jian, etc., Chinese Ocean Exploitation And Research Center, China
P1 39 Parallel Processing Design of Multi-Channel LIF Digital Receiver ..... 391
Yu Faxin, Jin Xiaojun, Liu Zhaoqing, Zhe Jiang University, China
P1_40 A New Active Phase Array Based on Injection-locking Loop Technique ..... 395
Ling Xiang, Jiang Yonghua, Li Jun, Gao Weiliang, etc., Naval Aeronautical Engineering Institute, China
P1_41 Design and Implementation of Channel Equalization for a Multi-frequency CW Ranging Radar ..... 398
Rong Xie,Zheng Liu,Shouhong Zhang, Xidian University, China
P1_42 Design of Solid-state Transmitter for Some HF Ground-wave Radar ..... 402
Tao Hong,Baixiao Chen,Shouhong Zhang, Xidian University, China
P1_43 Helicopter-borne SAR Imaging Processing of Chirp-stepped Signal ..... 406
Xiangru Hong, Tao Zang, Zicheng Du, Xi'an Electronic Engineering Research Institute, China
P1_44 The Performance Analysis of Circular Array Antennas in VHF/ UHF Band ..... 411
Qi Shen, Er-Ke Mao, Si-liang Wu, Air Force Equipment Academy, China
P1_45 The Design of Miniature UHF SAR Antenna ..... 415
Li Ping, Wang Xin-wen,Zhang Dian-fu,etc., ENGR College of the Chinese People Armed Police Force
P1_46 Design of X-Band Solid State Power Amplifier ..... 417
Bo Lv, Xiao-Fa Zhang, Nai-Chang Yuan, National University of Defence Technology, China
P1_47 30MW FULL-Solid High-Stability Synchronization-synthesis Nanosecond Pulse Source ..... 420
Buge Liang, Naichang Yuan, National University of Defence Technology, China
P1_48 The Application of HIS in Planner Spiral Antenna- ..... 424
Chao Wang,Nao-chang Yuan, National University of Defence Technology, China
P1_49 The Radiation Characteristic of UWB Planar TEM Horn Antenna Array ..... 428
Wu Fengtao, Yuan Naichang, National University of Defence Technology, China
P1 50 Design of UWB Radar Receiver Based on Intersection of Frequency Spectrum ..... 432Ming Li, XiaoJuan Shi, HaiFeng Meng, Wu Shunjun, Xidian University, China
P1_51 An S-band Direct Radar Frequency Source ..... 436
Wenying GAO, Xi'an Electronic Engineering Research Institute, China
Session A2
Co-Chair: Dechun Wang, Hermann Rohling; Oct. 18th, morning
A2_01 Phased-Array and Radar Breakthroughs ..... 440
Eli Brooker, Raytheon Co. Sudbury, MA, USAA2_02 Software Radar: New Reality445V.G.Bartenev, All Russian Research Institute of Radio Engineering, Russiia
A2_03 Frequency diversity to low-angle detecting using a highly deterministic multipath signal model ..... 449Jian-hong Zhao, Jianyu Yang, University of Electronic Science and Technology, China
A2_04 Low Cost Millimeter Wave Radar in the automotivef field ..... 454
Jean-Paul Artis, Stéphane Kemkemian, Thales Airborne Systems, France
A2_05 Angular Strobe and Tracking of Jammers for Passive Monopulse Seeker ..... 459
Songtao Xu, Shengda Wang, Chongzhao Han, Jian Ma, Xi'an Jiaotong University, , China
A2_06 Advanced High Precision Radar Gauge for Industrial Applications• ..... 463
Bin Sai, Bas Kastelein , Enraf BV, Delft Instrument Group, Netherlands
A2 07 Coherent Dual Point Sources Deceive Semiactive Monopulse Radar Seeker Technology ..... 467Xiaohui Qi, Tao Jin, Ming Jin, Xiaolin Qiao, Harbin Institute of Technology, China
A2_08 On scheduling the Dwells of a Multifunction Radar ..... 471
Emilie Winter, Ludovic Lupinski, Thales Airborne Systems / LIX Ecole Polytechnique, France
A2_09 On Usage of Radar Equation ..... 475
Huang Jinjie,Bao Zheng, Xidian University, China
A2_10 Lateral velocity estimation based on automotive radar sensors ..... $\dot{4} 81$
Florian Fölster, Hermann Rohling, Hamburg University of Technology, Germany
A2_11 On Concept and SCR of PCL AEW Utilizing Illuminators of Opportunity ..... 485Wang Chao, Wang Yongliang, Li Rongfeng, Fan Xikun, Air Force Radar Academy, China.
488
A2_12 Collision Avoidance Radar for UAV
Young K Kwag, Min S Choi and Chul H Jung,Kwang Y Hwang, Hankun Aviation University, South Korea
A2_13 Calculation of Radar Detection Range in the Condition of Evaporation Duct ..... 492
Cha Hao, Shi Jian-wei, Zhou Mo, Xi Ze-min, Zhang Ping, Naval University of Engineering, China
A2_14 Stretch Processing for Long Integration Time Passive Coherent Radar ..... 496
Krzysztof S. Kulpa, Jacek Misiurewicz, Warsaw University of Technology, POLAND
Session B2 ----- Subsystem I
Co-Chair: Lin Jin, Don Sinnott; Oct. 18th, morning
B2_01 Coordinate Transform Suitable for Row-by-Row Elevation Scanning and azimuth sector scanning planar Phased Array ..... 500
Zou Yongqin, Zhang Yumei, Cao Jun, etc., East China Research Inst. of Electronic Engineering
B2_02 Sidelobe Reduction of Linear Nonuniformly Spaced Arrays. ..... 504
Ke-song Chen, Zi-shu He, Chun-lin Han, University of Electronic Science and Technology, China
B2_03 Development of a novel Millimeter Wave TR module for 1-D active phased array ..... 508
Jian Huang, Tiguo Gan, Southwest electronic technique institute China
B2_04 Integrated Antenna Architecture for High Frequency Multifunction Naval Systems ..... 512
W.N.Dawber,M.F.Pote, S.D.Turner, J.M.Graddon,D.Barker,G.Evans, S.G.Wood, QinetiQ, UK
B2_05 The Synthesis Technique of Design the Shape of the Shaped-Beam Radiation Patterns Conveniently $\cdots . .517$ Zhang Yu-mei, East China Research Institute of Electronic Engineering
B2_06 Passive Emitter Position Estimation Algorithm Using Time Difference of Arrival of Five Sites ..... 521
Xiang-yi Gong, Guang-ping Yang, Nanjing Research Institute of Electronics Technology, China
B2_07 An improved super-resolution direction finding method at subarray level for coherent sources ..... 525
Hang Hu, Xiuwei Jing, Harbin Institute of Technology, China
B2_08 Dual-Band Broadband Antennas for SAR Applications ..... 529
Wei Wang, Mou-Ping Jin, Zhi-Hui Zhang, East China Research Institute of Electronic Engineering
B2_09 Design of fast-scanning millimeter-wave monopulse antenna ..... 532
Haidan He, Xiumei LI, Zhangliang Cheng, Southwest electronic technique institute, China
B2_10 Effect of Element Characteristic on The Scanning Range of A Phased Array Radar ..... 536
Binay k. Sarkar, , Indian Institute of Technology, India
B2_11 Design Considerations of The Active Scalable Array Antenna ..... 539
Wang Zhouhai, Wang Xiaolu, Lu Jiaguo, East China Research Institute of Electronic Engineering
B2_12 Improved Resistive Loading Profile for Ground-Penetrating Radar Antenna Applications ..... 543Yuchun Guo,Xu Le, Xiaowei Shi, Xidian University, China
B2_13 Ferrite Dual Mode Variable-Polarization Technique ..... 547Cai Qunfeng, Jiang Renpei, Nanjing Research Institute of Electronics Technology, China
B2_14 Double Mode X-band T/R Module Based on LTCC ..... 551
Dai Yuefei, Lv Chunming, Xie Qilin, HANJun, East China Research Institute of Electronic Engineering
Session C2 ------- SAR II
Co-Chair: Hong Sun, Les Novak; Oct. 18 th, morning
C2_01 Improved Classification of Polarimetric SAR Data Based on Four-component Scattering Model ..... 555
Haijian Zhang, Wen Yang, Jiayu Chen, Hong Sun, Wuhan University, China
C2_02 A Modified ROEWA Method for Edge Detection in SAR Images ..... 559Cheng-li Jia, Xiao-guang Zhou, Ling-jun Zhao, etc., National Univ. of Defense Technology
C2_03 Analysis of PRF Jitter in Bistatic SAR ..... 563Junjie Wu, Jintao Xiong, Yulin Huang, etc., Univ. of Electronic Science and Technology, China
C2_04 An Improved Cloude-Pottier Decomposition Using H/a/SPAN and the Complex Wishart Classifier for Polarimetric SAR Classification ..... 567
Fang Cao, Wen Hong, Yirong Wu, Institute of Electronics, Chinese Academy of Sciences
C2_05 SAR PRF-Ambiguity Resolving by Range-Doppler Domain Normalized Variance Maximization ..... 571Mingcheng Yu, Jia Xu, Yingning Peng,Xiutan Wang, Tsinghua University, China
C2_06 SAR Image Segmentation Based on Multiresolution GLCP in Overcomplete Brushlet Domain ..... 575Jumei Li, Hua Zhong, Licheng Jiao, Xidian University, China
C2_07 Feature Extraction Using Polynomial and Sigmoidal Kernels for Classification of Radar SAR Images ..... 579
Cyrille Enderli, Thales Airborne Systems, France
C2_08 Pixel level fusion for multiple SAR images using PCA and wavelet transform• ..... 584
Jin Yue, Ruliang Yang, Ruohong Huan, Institute of Electronics, Chinese Academy of Sciences
C2_09 Detection and Location of Fast Moving Targets Using Minimum Redundancy Linear Array SAR ..... 588Yu Zuo, Gang Li, Jia Xu, Ying-Ning Peng, Xiang-Gen Xia, Tsinghua University
C2_10 A Rail-mounted UWB SAR Landmines Detection System - Rail-GPSAR• ..... 592Han-hua Zhang, Qian Song, Zhi-min Zhou,etc., National University of Defense Technology, ChinaC2_11 Ant Colony Fuzzy Clustering Algorithm Applied to SAR Image Segmentation596Chunmao Li, Lingzhi Wang, Shunjun Wu, Xidian University, China
C2_12 Ship Wakes Detection in SAR Images Based on the Joint Radon Transform and Entropy ..... 600Pengfei Du, Ziyue Tang, Yongliang Wang, Yongjian Sun, Wuhan Radar Institute, China
C2_13 Railway Substructure Lacuna Detection Using a Forward-Looking SAR GPR ..... 604Zhao Taiyin, Zhou Zhengou, University of Electronic Science and Technology of China
C2_14 Aspect-invariant feature extraction and associated landmine detector in UWB SAR ..... 607Tian Jin, Zhimin Zhou,Wenge Chang,Qian Song, National University of Defense Technology, China
Session D2 ------- Signal Processing I
Co-Chair: Teng Long, Kwang-Yun Hwang; Oct. 18 th, morning
D2_01 Analysis of Doppler Features of Spiral Maneuver of Reentry Missile with Time-Frequency Transform ..... 611
Ruiting Guo, Zheng Liu, Shouhong Zhang, Xidian University, China
D2 02 A Wavelet-based Algorithm Tocompensate Fast-moving One-dimension Target's range Profile ..... 615
Wang Gan , Xing Lie, Wang Jianming, etc., Nanjing Research Institute of Electronics Tech., China
D2_03 A New Method of Velocity Estimation for Inverse v-shape Stepped Frequency Signal ..... 618
Wang Fei,Long Teng, BeiJing institute of technology, China
D2_04 Suppression of Azimuth Ambiguities with constellation of micro-satellites• ..... 621
Wei Jing, Meng-dao Xing, Zheng Bao, Xidian University, China
D2_05 Fast and Accurate Polynomial-Phase Signal Parameter Estimation ..... 625
Liangchen Zhou, Jianyu Yang, Bin Tang,Nanjun Li, University of Electronic Science and Tech. of ChinaD2_06 Study on the Design Method of Quasi-CW Radar Waveform629
Yuan Weiming, Nanjing Research Institute of Electronics Technol, China
D2_07 Polyphase Coded signal Design for Netted Radar Systems ..... 633
S P Singh singh,Kakarla Subba Rao Rao, Mahatma Gandhi Institute of Technology, India
D2_08 A Comparative Study of Several Compression Algorithms for Miss Distance Measurement ..... 637Yanhai Shang, Zhe Liu, University of Electronic Science and Technology of China
D2_09 Method of Resolving the Range Ambiguity for High PRF Stepped-Frequency Radar ..... 641
Feixing Wang, Yongfeng Zhu, Hongzhong Zhao, etc., National Univ. of Defense Technology, China
D2_10 Technique of Doppler compensation for phase-coded signal pulse compression ..... 645
Yanyan Zhang, Lifeng Jiang, Wanjie Song, Shunjun Wu, Xidian University, China
D2_11 A Fast Method for Time Delay, Doppler Shift and Doppler Rate Estimation ..... 649
Tao Shan, Ran Tao, Rong Rong Sun, BeiJing institute of technology, China
D2_12 The analyses and improvement of passive radar pulse pairing histogram statistic method ..... 653
Yan Shiqiang, Zhang Yabiao, Zhang Xianda, Tsinghua Univisity, China
D2_13 Optimum M-sequence Search via Immune Clonal Selection Algorithm ..... 656
Jiaqi Lian,Feng Luo, Shunjun Wu,Cailing Yin, Xidian University, China
D2_14 Frame-overlapped Zoom-FFT Optimization in PD Radar Spectrum Analysis Application ..... 660
Hongqi Fan,Sheng Wang,Fubin Chen, Yilong Zhu, National University of Defense Technology, China
Session $\mathbb{P}^{2}$
Co-Chair: Kangze Yao, Abbas Sheikhi; Oct. 18th, morning
P2 01 Back Projection Algorithm for Spotlight Bistatic SAR Imaging ..... 665
Yonghong Yang, Yiming Pi, Ran Li, University of Electronic Science and Technology of China
P2_02 Processing ASAR IM Mode Data Based on Approximate Omega-K Algorithm ..... 669
Yuxin hu, Yirong Wu, The graduate School of Chinese Academy of Sciences
P2_03 Velocity Layover Solution in VSAR Image ..... 673Gang Li,Jia Xu, Ying-Ning Peng,Xiang-Gen Xia, Tsinghua University, China
P2_04 Resolution-Preserving Two-Look Despeckling of SAR Images ..... 677
Junfeng Wang,Xingzhao Liu, Shanghai Jiaotong University, China
P2_05 A synthetical pose estimation of SAR imagery using Hough transform and 2-D continuous wavelet transform ..... 680
Ning Xin,Guo-hong Wang,Jing Zhang, Naval Aeronautical Engineering Institute
P2_06 High Forward-looking Squint Image Processing for Air-to-air Missile-borne SAR ..... 684
Caihong Guo, Jie Chen, Yumeng Sun, Bing Sun, Yinqing Zhou, Beihang University, China
P2_07 Multi-target Imaging Processing Algorithms of ISAR Based on Time-frequency Analysis ..... 688
Luhong Fan, Yiming Pi, Shunji Huang, University of Electronic Science and Technology of China
P2_08 Target multi-dimensional rotations effects on ISAR imaging ..... 692Hualin Yu, Minhui Zhu, The graduate School of Chinese Academy of SciencesP2_09 Quantitative Analysis of Statistical Models for Typical Terrains in SAR Data696
Yu Li, KeFeng Ji, Yi Su, National University of Defence Technology, China
P2_10 Application of RELAX Algorithm to ISAR Superresolution Imaging ..... 700
Yun Jiao, Jizhou Yu, Renquan Che, Beijing Institute of Radio Measurement, China
P2_11 A Modified RD Algorithm for High squint SAR• ..... 704Zhu ShangGuan, Wanming Lei, Wenzheng Yu, Nanjing Research Inst. of Electronics Tech., China
P2_12 Joint Phase and Power Estimation for Polarimetric Interferometric SAR Based on TEL-ESPRIT Algorithm ..... 708
Yang Lei, ZhaoYongJun, Wang zhi Gang, Information Engineering University, China
P2_13 A Motion Compensation Technique Based on GPS and Refined MapDrift for Ultra-Wide Band SAR ... 712 Xue Guo-yi,Wang Jian, and Zhou Zhi-min , National University of Defence Technology, China
P2_14 SAR Image Compression Using HVS Model ..... 716
Aili Wang, Ye Zhang, Yanfeng Gu, Harbin Institute of Technology, China
P2_15 Signal Processing Method for Distributed SAR Imaging Improvement ..... 720
Yanjun Zuo, RuliangYang, The graduate School of Chinese Academy of Sciences
P2_16 An Effective Approach to Ground Moving Target Imaging for Single Channel SAR System ..... 724Feng Zhou, Yachao Li, MengDao Xing, Zheng Bao, Xidian University, China
P2_17 Synthesis Bandwidth Method Integrated with Characteristics of SAR ..... 728
Lijuan Zhou, Mengdao Xing, Haiping Sun, Xidian University, ChinaP2_18 SAR Image Compression Using Bandelets and SPIHT732
Hanqiang Liu, Biao Hou, Shuang Wang, Licheng Li, Xidian University, China
P2_19 Interferometric Phase Estimation in Polarimetric SAR Interferometry ..... 736
Liu Wei, Yang Lei, Zhao Yongjun, Zhengzhou Information Science and Technology Institute, China
740
P2_20 Study of Composite Mode Curvilinear SAR
Liu Xiangle, Yang Ruliang, The graduate School of Chinese Academy of Sciences
P2_21 Study on Imaging Algorithm of De-chirped FM-CW SAR ..... 744Shu-min Geng, Zhu Cheng, Kan HuangFu, National University of Defence Technology, China
P2_22 Fusion of Multi-Sensor SAR Images via Adaptive Selection of Wavelet and Contourlet Coefficients … 748
Fan Liu, Shuyuan Yang, Licheng Jiao, Xidian University, China
P2_23 Fast Implementation of $\mathrm{H} / \alpha$-Wishart Classification to Polarimetric SAR Images ..... 752Wenguang Wang, Jun Wang, Shiyi Mao, Peng Wu, Beihang University, China
P2_24 SAR Image Despeckling Using Local Contextual Hidden Markov Model in the Contourlet Domain $\cdot$ ..... 756Shuang Wang, Xiao Xu, Biao Hou, Licheng Jiao, Xidian University, China
P2_25 Analysis of Squint Angle in Point Target Assessment ..... 760
Zhang Fan, Hong Wen, The graduate School of Chinese Academy of Sciences
P2_26 A novel Fusion and Target Recognition Method of Airborne SAR Images and Optical Images ..... 764
Mingxin Nie, Ling Lu, Wei Xu, Wuhan University of Technology, China
P2_27 Model Based SAR Image Segmentation ..... 768
Wen Sheng, Xiaoli Jiao, Wuhan Radar, China
P2_28 Range-doppler Approach for Calibration and Location of Air-borne SAR Image ..... 772
Sun Wenfeng, Chen An, Zhang Changyao, East China Research Institute of Electronic Engineering
P2_29 Analysis of decorrelation caused by mast oscillation in spaceborne dual-antenna InSAR ..... 776
Xiaoqing Tang, Yirong Wu, Yanping Wang, etc., The graduate School of Chinese Academy of Sciences
P2_30 ANew method of Resolving Velocity Ambiguities in Multi-Channel Interferometric SAR/GMTI ..... 781
Xinwei Wu, Changyao Zhang, East China Research Institute of Electronic Engineering
P2_31 Analysis of Target Loss Due to Suppressing SAR Jamming Using Dual-channel Cancellation ..... 785
Qin Jiangmin, Yang Jun, He Zhaohui, Cai Chun, Wuhan Radar Academy, China
P2_32 An Improved Coherence Optimization Method in Polarimetric SAR Interferometry ..... 789Lu Bai, Yanping Wang, Wen Hong, Hailiang Peng, The graduate School of Chinese Academy' of SciencesP2_33 Research on Spaceborne SAR Raw Data Simulation793Haixia Yue, Boxiong Hu, Ruliang Yang, The graduate School of Chinese Academy of Sciences
P2_34 An Omega-K Algorithm with Integrated Synchronization Compensation for Bistatic SAR ..... 797
Wenqin Wang, Xingdong Liang, Chibiao Ding, The graduate School of Chinese Academy of Sciences
P2 35 The Extended Chirp Scaling Algorithm for Bistatic SAR Imaging ..... 801
Wang Feng, Tang Ziyue, Sun Yongjian, Wuhan Radar Academy, China
P2_36 An Anisotropic Gaussian Filter for Noise Filtering of InSAR Interferogram ..... 805Pei Wang, Bing-chen Zhang, Yan-fei Wang, The graduate School of Chinese Academy of Sciences
P2_37 Analysis of ScanSAR Radiometric Resolution and Relative Parameters ..... 809Zhiwei Zhao, Haiying Li, Ruliang Yang, The graduate School of Chinese Academy of Sciences
P2_38 Imaging Performance Analysis of Space-Air Non-Cooperative BSAR ..... 813
Zhe Liu, Yanhai Shang, Jianyu Yang, University of Electronic Science and Technology of China
P2_39 Phase cancellation for synthesizing range profile of target with micro-motion ..... 817
Hang-yong Chen, Yong-xiang Liu, etc., National University of Defence Technology, ..... China
P2_40 Approach Based on ICA and SVM to Identify Field Mixed Acoustic Targets ..... 821Fugui Huang, Gong Chen, Xiongwei Zhang, Information Engineering University, China
P2_41 Matching-Pursuits Based Feature Extraction with Reduced Aspect Sensitivity for Ultra Wide-band Radar Target Identification ..... 825
Dangwei Wang, xinyi Ma, xinpu Guan, etc., National University of Defence Technology, China
P2_42 Using the Amplitude Fluctuation Property of Target HRRP for Radar Automatic Target Recognition .... 829 Lan Du, Hongwei Liu, Zheng Bao, Xidian University, China
P2_43 A New Approach for Intra-pulse Modulation Recognition ..... - 834
Fenghua Wang, Zhitao Huang, Yiyu Zhou, Wenli Jiang, National University of Defence Technology, China
P2_44 RSOM Algorithm for Radar Target Recogniton ..... 838
Lefeng Zhang, Hua Yu, National University of Defence Technology, China
P2_45 Building Recognition and Reconstruction from Aerial Imagery and LIDAR Data- ..... 842Minghong Xie, Kun Fu, Yirong Wu, The graduate School of Chinese Academy of Sciences
P2_46 Automatic Target Recognition Using Multiple Radar High Range Resolution Profiles ..... 846
Li Yuan, Hongwei Liu, Zheng BAO, Xidian University, China
P2_47 Maneuverability calculation based on synthetically targets recognition ..... 850
Kai Zhang, Hongfei Yin, Zhenjiang Watercraft College, China
P2_48 A New Algorithm of Target Classification Based on Maximum and Minimum Polarizations ..... 854
Wang Yang, Lu Jiaguo, Zhang Changyao, East China Research Institute of Electronic Engineering
P2_49 Research on Ship Target Auto-Recognition Technique for Low Resolution Radar ..... 858Sun Junping,, Dai yi, East China Research Institute of Electronic Engineering
P2_50 A Fast BAVQ Algorithm For SAR Raw Data Compression ..... 862
Ting Li, Dongjin Wang, Falin Liu, University of Science and Technology of China
Session A3 -------- Radar System II
Co-Chair: Peinan Jiao, Marc Lesturgie; Oct. 18 th , afternoon
A3_01 Detection and Recognition of High-speed Anti-Radiation Missiles with Simple Multi-antenna VHF Radar ..... 865Baixiao Chen, Yongtian Wang, Shouhong Zhang, Xidian University, China
A3_02 Synthesis of the Optimal Discriminator for a FMCW Radar with the Beat Signal ..... -869Min-Ho Ka;V. V. Egorov, Korea Polytechnic University, South Korea
A3_03 A Method to Remove Rebound Jamming against Bistatic Synthetic Aperture Radar ..... 874
Ying Zhang,Jianguo Wang, University of Electronic Science and Technology of China
A3_04 Cochannel Interference Suppression for Ship-Based Passive Synthetic Impulse and Aperture Radar ..... 878
Ya-bin Zhang, Bai-xiao Chen, Shou-hong Zhang, Hai-yan Shang, Xidian University, , China
A3_05 A Multipath Viterbi Data Association Algorithm for OTHR ..... 882
Huixia Liu, Northwestern Polytechnical University, China
A3_06 Spatial temporal and frequency methods to mitigate interference in HF surface wave radar ..... -886Su Hong-tao, An Zhi-juan, Bao Zheng, Zhang Shou-hong, Xidian University, China
A3_07 DVB-T Signal Cross-Ambiguity Functions Improvement for Passive Radar .....  890Zhiwen Gao, Ran Tao, Yongfeng Ma, BeiJing institute of technology, China
A3_08 Fractal Features and Detection of Meteor Interference in OTHR .....  894
Liu Tao, Gong Yaohuan, Wei Min, Li Jun, University of Electronic Science and Technology of China
A3_09 The Analysis and Design of Direct Path Interference Cancellation in FM Radio-Based Passive Radar ..... 899Shentang Li, Hong Wan, Zhigang Wang, Information Engineering University of PLA
A3_10 Null Function as a Fast and Accurate Algorithm for Noisy Environment Target Detection in PCL Radars ..... 903
Amir Jafargholi, M.R Mousavi, Mohammad Emadi, etc., K. N. Toosi University of Technology, Iran
A3_11 Broad Beam HFSWR Array Calibration Using Sea Echoes ..... 907Xiongbin Wu, Feng Cheng, Zijie Yang, Hengyu Ke, Wuhan University, China
A3_12 Passive Radar Imaging Algorithm Based on Subapertures Synthesis of Multiple Television stasion ..... 910Wang Jun, Xinwen Zhang, Bao Zheng, Xidian University, China
A3_13 A Fast Convergence Adaptive Approach In Sidelobe Cancellation System ..... 914Jun Zhao, Zhaoda Zhu, Nanjing University of Aeronautics \& Astronautics, China
A3 14 Passive Radar Based on FM Radio Transmitter ..... 918Zhu Jiabing, Hong Yi, Tao Liang, East China Research Institute of Electronic Engineering
Session B3 -------- Array Signal Precessing
Co-Chair: Guisheng Liao, Huaijin Gu; Oct. 18th, afternoon
B3_01 A Novel Method for Direction Of Arrival Measurement ..... 922
Yang Li, Tao Zeng, Teng Long, Zheng Wang, BeiJing institute of technology, China
B3_02 Properties of digital beamforming with subarrays ..... 926
Ulrich R.O. Nickel, FGAN-FHR, 53343 Wachtberg, Germany
B3_03 Novel Approaches for DOA Estimation of Coherent Sources in the Presence of Impulsive Noise ..... 930
Hongsheng Li, You He, Hong Wang, Rijie Yang, Naval Aeronautical ngineering Institute, China
B3_04 Fast and Robust GSC Beamformer based on Variable Diagonal Loading ..... 934
Zhiqiang Bao, Shujun Wu, Linrang Zhang, Xidian University, China
B3 05 Approximate Invariance of the Inverse of the Covariance Matrix and Its Applications ..... 938
Yunhan Dong, Defence Science and Technology Organization, Australia
B3_06 Temporal Side Manifold-A New Approach for Spatial Spectrum Estimation Using Temporal Information ..... 943
Bao Zheng, Wang Yongliang, Key Research Lab, Wuhan Radar Institute, China
B3_07 Fast Algorithm for Root-MUSIC with Real-Valued Eigendecomposition ..... 947
Liu Congfeng, Liao Guisheng, Xidian University, China
B3_08 Further Results on Peak Sidelobe Control in Adaptive Arrays ..... 951Renbiao Wu, Zhisong Wang, Dan Lu, Qing Feng, Jian Li, Civil Aviation University of China
B3_09 A Novel Algorithm for Estimating DOA of Coherent Signals Based on Uniform Circular Array ..... 957Gao Shuyan, Chen Hui, Wang Yongliang, Meng Cangzhen, Wuhan Radar Institute, China
B3_10 Gratinglobes Resolving in Sparse Array Beamforming ..... 961Long Zhuang,Xingzhao Liu, Shanghai Jiaotong University, China
B3_11 Study on Distinguish of Two Overlapped Target Signals in DBF ..... 965
Hong Yi, Fang Tilian, East China Research Institute of Electronic Engineering
B3_12. Calibration of mutual coupling using direct wave for multi-carrier bi/multi-static radar ..... 969Shou-ping Zhu, Bai-xiao Chen, Shou-hong Zhang, Xidian University, China
B3_13 A Novel Adaptive Pattern Control Method Based on LCMV ..... 974Su Baowei, Wang Yongliang,Zhou Liangzhu, Wuhan Radar Institute, P.R.China
B3_14 Recursive Beam-forming for Large Array ..... 978
Xiaoxu Chen, Shengxian Sun, Jun Li, Yaohuan Gong, Univ. of Electronic Science and Tech., China
Session C3 ---un--ISAR
Co-Chair: Hongwei Liu, F.Le Chevalier; Oct. 18th, aftermoon
C3_01 Division of Imaging Intervals and Selection of Optimum Imaging Time for Ship ISAR Imaging Based on Measured Data ..... 983
Haiping Sun, Mengdao Xing, Lijuan Zhou, Xidian University, China
C3_02 Range Alignment in ISAR Motion Compensation Based on Minimum Sum ..... 987
Ling Wang, Daiyin Zhu, Zhaoda Zhu, Nanjing University of Aeronautics and Astronautics, China
C3_03 Relative Speed Step Size in SAR Processing for Moving Target Detection ..... 991
M.I. Pettersson, Blekinge Institute of Technology, Sweden
C3_04 ISAR High-Resolution Imaging of Sparse Aperture ..... 996
Qi Wang, Feng Zhou, Meng-dao Xing, Zheng Bao, Xidian University, China
C3_05 ISAR Imaging Enhancement Using Vernier Ranging Method ..... 1000
Hwee Siang Tan, Qun Zhang, Yang Lu, Tat Soon Yeo, Chun Sum Ng, National University of Singapore
C3_06 Optimizing and Implementing the Fast Algorithm for Real Time SAR Imaging ..... 1004
Tao Su, Xuehui He, Shunjun Wu, Xidian University, China
C3_07 ISAR Imaging Based on Sparse Signal Representation with Multiple Measurement Vectors ..... 1008
Ping Cheng, Yicheng Jiang, Rongqing Xu, Harbin Institute of Technology, China
C3_08 ISAR Imaging of Multiple Targets Based on Adaptive Gaussian Chirplet Decomposition ..... 1012
XianQuan Luo, Qiang He, GuiZhou Lv, Chaoxuan Shang, Ordnance Engineering College, , China
1016
C3_09 Effect of Noise FM Jamming against ISAR Imaging
Chunxi Dong, Shaoquan yang, Guoqing Zhao, Yu Zhang, Xidian University, China
C3_10 An auto-adaptive accumulation ISAR imaging algorithm based on time-frequency analysis ..... 1019Xiang Jiabin, Hu Guoqi, Ma Xiaoyan, Zhu Yutao, Wuhan RadarAcademye, China
C3_11 A postfilter method for refraction and dispersion effects compensation in GPSAR image ..... 1022
Tian Jin,Zhimin Zhou, Wenge Chang,Qian Song, National University of Defense Technology, China
C3_12 An Effective Method for Ship Imaging of Real Data in Helicopter SAR system ..... 1026
YaChao Li, Feng Zhou, Zhen Bao,Si-fei SHAO, Xidian University, China
C3_13 Highly Squint Airborne SAR Real-time Imaging ..... 1030
Zegang Ding, Teng Long, Tao Zeng, Chunyang Dong, BeiJing institute of technology, China
C3_14 Detection and Store Technique of Radar Echoes in Bi- and Multistatic SAR ..... 1034Youxin Lu, Lin Liu, Lin Deng, Jianyu Yang, Univ. of Electronic Science and Technology of China
Session D3 ------- Signal Processing III
Co-Chair: Jianyun Zhang, Simon Watts; Oct. 18th, afternoon
D3_01 Lightning Interference Cancellation in High-Frequency Surface Wave Radar ..... 1038
Xin Guo, Hongbo Sun, Tat Soon Yeo, Yilong Lu, Nanyang Technological University, Singapore
D3 02 Clutter Reduction Based on Apex Shifted Radon Transform in Sub-surface Forward-Looking Ground Penetrating Radar ..... 1042
Fan Yong, Zhou Zheng-ou, Xu Jia-li, University of Electronic Science and Technology of China
D3_03 Sea Clutter Suppression Based on Radon Transform at High Grazing Angles ..... 1045
Qiang LI,Shou-hong ZHANG,Huan-ying ZHANG, Yun-he CAO, Xidian University, China
D3_04 Range Pre-filter Realization of Ground Real-time Imaging processor for Spaceborne SAR ..... 1049
Xiao-Bing MA, Yu-Li Xia, Ping ZHANG, Institute of Electronics, Chinese Academy of Sciences
D3_05 A Modified Parametric Adaptive Matched Filter without Dimensionality Loss ..... 1053Yunhan Dong, Defence Science and Technology Organization, Australia
D3_06 A Novel KICA Method for Ground Bounce Removal with GPR ..... 1058Qian gao, Tang Li, Renbiao Wu, Civil Aviation University of China, China
D3_07 Clutter Suppression Method for Airborne Radar with Cylindrical Array Antennas ..... 1062
Wenchong Xie, Yongliang Wang, Key Research Lab, Wuhan Radar Institute, China
D3_08 Research on SAR Jamming Technique Based on Man-made Map ..... 1066
Yan Zhu, Guoqing Zhao, Yu Zhang, Xidian University, China
D3_09 A novel similar clutter jamming (SCJ) method to high-resolution SAR ..... 1070
Jiangyuan Li,Jianguo Wang, University of Electronic Science and Technology of China
D3_10 Method for Radar Clutter Distribution Test Based on Distribution Transform ..... 1074
Shouyong Wang, Wenlin Hu, Junkai Liu, Yongliang Wang, Wuhan Radar Institute, China
D3_11 Side-Lobe Blanking In Doppler-Domain For An Airborne Side-Looking Phased Array PD Radar- ..... 1077
Fan Mingyi, Ge Jianjun, Qiu Wei, Wu Manqin, East China Research Institute of Electronic Engineering1081QianXue Fang, YongLiang Wang, etc., National University of Defense Technology, China
D3_13 Interferogram Phase Noise Suppressing Using Nonlinear Partial Differential Equation ..... 1084
Sun Long, Zhang Chang-yao, etc., East China Research Institute of Electronic Engineering
D3_14 Novel Ground Bounce Removal algorithms Based on Non-homogeneous Detector ..... 1088 Jiaxue Liu, Renbiao Wu, Tang Li, Bei Zhang, Civil Aviation University of China, China
Session P3
Co-Chair: Jian Guan, Hwee Siang Tan; Oct. 18th, afternoon
P3_01 Resolution Theory of Polarization Sensitive Array Signals ..... 1093
Zhenhai Xu, Youping Ni, Jin Lin, National University of Defence Technology, China
P3_02 A Novel Algorithm for Arbitrary Array Pattern Control With Broad Nulls ..... 1097Yingchen Han, Yangying Gao, Yongliang Wang, Air Force Equipment Academe, China
P3_03 Maximum Likelihood DOA Estimation Using Particle Swarm Optimization Algorithm ..... 1101
Zeng Jiankui, He Zishu, Liu Benyong, University of Electronic Science and Technology of China
P3_04 Robust Constrained LMS Adaptive Beamformer ..... 1105
Deng Xin,Liao Guisheng, Liu Hongqing, Tao Haihong, Xidian University, China
P3_05 Maximum Entropy Method for Angular Estimation ..... 1109
Qiang Li,Shou-hong Zhang,Huan-ying Zhang,Mei Dong, Xidian University, China
P3_06 A Second Order Conjugate Augmented MUSIC Algorithm for direction finding. ..... 1113
Jian Liu,Hongqi Yu,Zhitao Huang, Yiyu Zhou, National University of Defence Technology, China
P3_07 Simple and Accurate DOA Estimator with UCA in Multiplicative Noise Environments ..... 1117Jianwu Tao,Jun Tao,Huibin Xu, Aviation University, China
P3_08 DOA Estimation of Currents Based on Toeplitzization With HF Ground Wave Radar ..... 1121
Zhijuan An,Hongtao Su, Zheng Bao, Xidian University, China
P3_09 2-D Angle-of-Arrival Estimation with Two Parallel Uniform Linear Arrays ..... 1125
Tieqi Xia,Yi Zheng, Qun Wan,Xuegang Wang, Wanlin Yang, UEST, China
P3_10 Diagonal Loading Level Estimation For Robust Beamforming ..... 1129
Cao Zeng,Gui-sheng Liao,Zhi-wei Yang, Xidian University, China
P3_11 New Beamformer for Coherent Signal Reception. ..... 1133
Yongbo Zhao,Penglang Shui,Shouhong Zhang, Xidian University, China
P3_12 A Efficient TOA Estimation Using TLS-ESPRIT Based on FBCM Matrix ..... 1137Haiyang Yang, Dongjin Wang, University of Science and Technology of China
P3 13 Fast Algorithm for Estimating 2-D DOA in Coherent Signals Case ..... 1141
Jianfeng Gu, Ping Wei, University of Electronic Science and Technology of China
P3_14 A Fast realization for spatial spectrum estimate on high speed DSP ..... 1145
Zhao yongjun, Fan meijun, Beijing Institute of Technology, China
P3_15 Clutter Rank of Sparse Linear Array Radar ..... 1149
Yong Wu, Jun Tang, Yingning Peng, Tsinghua University, China
P3_16 Adaptive Filtering in Polarization Domain with the Criterion of LCMV ..... 1153Jinghong Xue, Hongjuan Zhou, Xiaolin Qiao, Harbin Institute of Technology at Weihai, China
P3_17 A Novel Robust Beamformer based on Worst-case Performance Optimization ..... 1157Zhiqiang Bao, Cao Zheng, Shunjun Wu, Xidian University, China
P3_18 2-D WSF Method at Subarray Level Based on Ideal Patterns ..... 1161Hang Hu, Xiuwei Jing, Harbin Institute of Technology, China
P3_19 Implementation of Radar Emitter Intelligent Recognition System Based on Neural Network ..... 1165Xianghui Yuan, Gaoming Huang, Qi Zhang, Jinghui Li, Naval Univ. of Engineering, China
P3_20 A New Anti-interference Preprocess Method for DOA Estimation Based on Uniform Circular Array •• ..... 1170
Wang Guangxue, Peng Shirui, Dong Wenfeng, Pan Yichun, Radar Academy, Wuhan, China
P3_21 Analysis of STAP on MDV for Spaceborne SAR-GMTI Applications ..... 1174Chen Jianwen, Ren lei, Department of Graduate Management, Radar Academy, Wuhan, China
P3_22 The Universal Implementation of Space-Time Adaptive Processing ..... 1177Yin-bo Shao, Yong-lian Wang, Yu Deng, Qiang Li, Radar Academy, Wuhan, China
P3_23 A Single-point Passive Location Algorithm of Fixed Emitter Using Direction of Arrival and Its Rate of Change ..... 1180
Wang Jiangang, Zhu Yuanqing, Hua Xinglai, Dong Wenfeng, Radar Academy, Wuhan, China
P3_24 Performance Analysis of Mutual Coupling Compensation in Adaptive Arrays ..... 1184
Li Rong feng, Dai Ling yan, Wang Yong liang, Wang Chao, Radar Academy, China
P3_25 Decoupled Tracking Filter with Modified Unbiased Converted Measurements ..... 1188
Byung-Doo Kim, Ja-Sung Lee, ETRI, South Korea
P3 26 Adaptive Beam Scheduling Algorithm for an Agile Beam Radar in Multi-Target Tracking ..... 1192
Jianbin Lu, Weidong Hu, Wenxian Yu, National University of Defence Technology, China
P3_27 Error Correction Based on Genetic Algorithm for Digital Array Radar ..... 1196
Jiang Jianmin, Sheng Jingtai, East China Research Institute of Electronic Engineering
P3_28 An Algorithm for Multitarget Tracking in Dense Clutter ..... 1201Wu Wei, Wang Dongjin, Chen Weidong, University of Science and Technology of China
P3_29 Maneuvering Target Tracking Using Dalayed Update Filter ..... 1206
Yujing Liu, Huadong Meng, Desheng Wang, Xiqin Wang, Tsinghua University, China
P3_30 A Study of Kalman-Based Algorithm for the Maneuvering Group-Target Tracking. ..... 1211
Geng Wen-dong,Liu Hong-ya , etc., The Academy of Equipment Command \& Technology, , China
P3_31 Design of A Modified Algorithm for Maneuvering Targets Tracking ..... 1215
Fang Qing, Li Chuan, East China Research Institute of Electronic Engineering
P3_32 High Accurate Multiple Target Detection in PCL Radar Systems ..... 1220
Amir Jafargholi, Mohammad Reza Mousavi, etc., K. N. Toosi University of Technology (Iran)
P3_33 Maneuvering Emitter Tracking by a Single Observer Using IMM Algorithm Based on Unscented Transformation ..... 1224
Zhengbin Yang,Kai Xie,Fucheng Guo, Yiyu Zhou, National University of Defence Technology, China
P3_34 Vector Miss Distance Measurement Based on Range-only Target Tracking. ..... 1228
Bingyi Fang,Siliang Wu,Guohua Wei, Beijing Institute of Technology, China
P3_35 Asymptotically Optimal Rank Test Detection in Long Tailed Clutter ..... 1232Yaser Norouzi, Mohammad Mahdi Nayebi, etc., Sharif Univ. of Technology, IRAN
P3_36 Novel Filter Design for detecting weak targets of slow speed out of multi-mode clutters ..... 1236
Haihong Tao, Nintao Li, Guisheng Liao, Xidian University, China
P3 37 Detection of Ultra-High Speed Moving Target Based on Matched Fourier Transform ..... 1240Jian-jun Chen, Juan Chen, Sheng-li Wang, Nanjing Research Institute of Electronics TechnologyP3_38 Muti-Channel Digital LPI Signal Detector1244
Jie Song,Xiaoming Tang, You He, Naval Aeronautical Engineering Institute
P3_39 Detcetion of weak pulse signal via stochastic resonance ..... 1248
Mingyang Wang, Yiyu Zhou,Le Han, Wenli Jiang, National University of Defence Technology, China
P3 40 Multi-cycle Integration of Weak Target Signals in LFMCW Radar ..... 1252Hui Xiao, Weidong Hu, Wenxian Yu, National University of Defence Technology, China
P3_41 An Improvement on Adaptive Diffusion for Detecting Nonstationary Signals ..... 1257Xiaogang Tan, Liping Li, Ping Wei, University of Electronic Science and Technology of China
P3_42 Detection of Sinusoidal Signals in Frequency Domain ..... 1261
Fathy M. Ahmed, Khairy A. Elbarbary, Abdel Rahman H. Elbardawiny, Military Technical College,Egypt
P3_43 Novel Long-term Coherent Integration Method for Moving-Target-Detection ..... 1266
Bing Deng, Ran Tao, Lu Ma, Beijing Institute of Technology, China
P3_44 Detection and Parameter Estimation of LPI Signals in Passive Radar ..... 1269
Xiaoming Tang,Benqing Jiang, Caisheng Zhang, You He, Naval Aeronautical Engineering Institute
P3 45 An IMF-product detector for the UWB radar signal ..... 1273Mingyang Wang, Wei Pan, Yiyu Zhou, Wenli Jiang, National University of Defence Technology, ChinaP3_46 Improved Evolutionary Particle Filter Algorism Used in Radar Tracking1277Wang Jian, Dai Dingzhang, Dong Huachun, etc., Harbin Institute of Technology, China
P3_47 AR Model-based Rapid Detection of SAR Phase History Data with Wald Tests ..... 1281
Zhang Yanfei, Guan Jian, Wang Jie, Naval Aeronautical Engineering Institute, China
P3_48 An Improved DPT-based Estimator and its Application to Maneuvering Air Target Detection for OTH Radar ..... 1285Wei Bian, Yinsheng Wei, Rongqing Xu, Harbin Institute of Technology, China
P3_49 Small Target Detection in Sea Clutter Based on Doppler Spectrum Features ..... 1289Xue Wang,Jin Liu, Hongwei Liu, Xidian University, China
P3_50 Simultaneously Velocity Measuring and HRR Profiling with a Novel CSF Sequence ..... 1293
Yongfeng Zhu, Hongzhong Zhao, Qiang Fu, National University of Defence Technology, China
Session A4---- Radlar System IIII
Co-Chair: Jianqi Wu, Victor S. Chernyalk; Oct. 19th, morning
A4_01 High Resolution, Wide Swath SAR Using Sub-aperture Sub-band Technique ..... 1298Yuepeng Song, Ruliang Yang, Institute of electronics, Chinese Academy of Sciences, Beijing, ChinaA4_02 CloudSat: The Cloud Profiling Radar Mission1302
Eastwood Im, Stephen L. Durden, Simone Tanelli, Jet Propulsion Laboratory, USA
A4_03 Internal Time and Phase Synchronization for Distributed Micro-Satellite SAR ..... 1306
Gong Xiaochun, Xu Guodong, Harbin Institute of Technology, China
A4_04 Topographic Effect on Multistatic Spotlight SAR Azimuth Spectrum Combination ..... 1310
Xin-Zhe Yuan, Hong-Chuan Feng, Zhen-Yong Guo, Institute of Electronics, Chinese Academy of Sciences
A4_05 The Imaging Principle and Method based on Distributed Multi-channel radars ..... 1314
Han Xingbin, Du Xiaoyong, Hu Weidong, Yu Wenxian, National University of Defense Technology, China
A4_06 Suppressing Range Ambiguity for Spaceborne Synthetic Aperture Radar Based on Linearly Constrained Minimum Variance Algorithm ..... 1319
Ze Yu, Yinqing Zhou, Jie Chen, Chunsheng Li, Beijing University of Aeronautics and Astronautics, China
A4_07 Focusing Bistaitc Images use RDA based on Hyperbolic Approximating ..... $\cdot 1323$
Xiaolan Qiu, Donghui Hu, Chibiao Ding, Institute of Electronics, Chinese Academy of Sciences
A4_08 A perceptive uniform pseudo-color coding method of SAR images ..... 1327Zhang Chunhua, Zhou Xiaodong, Li Song, Naval Aeronautical Engineering Institute, China
A4_09 An Image Regulation Technique for Passive Millimeter Wave Focal Plane ArrayImaging Radar System1331
Zeyu Luo, Jintao Xiong, Jianyu Yang, University of Electronic Science and Technology of China
A4_10 Space-aero Bistatic Forward-look SAR ..... 1335
Min Gong, Xiaoming Wang, Min Gong, Sichuan Jiuzhou Electric Group Co., Ltd. , China
A4_11 Bistatic Synthetic Aperture Radar Simulation for Forests including Border Effects- ..... 1339
L. Villard, P. Borderies, J.B. Laforest, Office National d'Études et de Recherches Aérospatiales, ONERA,Toulouse, France
A4_12 Moving Target Position with Through-Wall Radar ..... 1343
Zhiguo Wang, Xi Li, Yuanchun Fei, BeiJing institute of technology, China
A4_13 Feasibility of DBS Signal for Air/Space Surveillance - ..... 1347
Shiyou Xu, Zengping Chen, National University of Defense Technology, China
A4_14 Evaluation of the Aperture in the Curvilinear SAR ..... 1351
Zhigang Su, Yingning Peng,Xiutan Wang, Tsinghua University, China
Session B4 --------. STAP
Co-Chair: Yongliang Wang, Ulrich Nickel; Oct. 19th, morning
B4_01 STAP processing without noise-only reference: requirements and solutions ..... 1355
F. Le Chevalier, S. Maria, THALES Aerospace Division, Elancourt, France
B4_02 Effects of multiple targets on the mean level STAP detector ..... 1359Tri-Tan Van Cao, Defence Science \& Technology Organisation, Autralia
B4_03 Bistatic Radar DPCA Technique ..... $\cdot 1363$
Juan Chen, Jianjun Chen, Shengli Wang, Nanjing Research Institute of Electronics Technol, China
B4_04 Importance sampling for NMF class of STAP detectors ..... $\cdot 1367$
Laura Anitori,Rajan Srinivasan,Muralidhar Rangaswamy, University of Twente, Netherlands
B4_05 2-D ADBF at Subarray Level with Pattern Control Based on Subspace Projection ..... $\cdot 1371$Hang Hu, Xinhong Deng, Harbin Institute of Technology, China
1375
B4_06 Adaptive monopluse with STAP
Richard Klemm,Ulrich Nickel, FGAN-FHR, 53343 Wachtberg, Germany
B4_07 Further research on Space-Time Multiple-Beam STAP Algorithm- ..... 1379Fan Xikun, Wang Yongliang, Wang Chao, Wuhan Radar Institute, China
B4_08 A Pre-Doppler Approach for Reduced Loss Bistatic STAP ..... 1383
Fabiola Colone, Massimo Labriola, Fabio Poli, etc., University of Rome La Sapienza, Italy
B4_09 Wideband Phased Subarray Jammer Nulling Technique ..... $\cdot 1387$
YunHe Cao, Zheng Liu, ShouHong Zhang,Li Qiang, Xidian University, China
B4_10 Robust Adaptive Beamforming Based on Generalized Sidelobe Cancellation ..... 1391Lei Li, Rongqing Xu, Gaopeng Li, Harbin Institute of Technology, China
B4_11 Benefits of Space Time Adaptive Processing for Air to Air operations ..... $\cdot 1395$
Laurent SAVY, Thales Airborne Systems, France
B4_12 An Improved Dominant Mode Rejection Adaptive Beamforming Algorithm ..... $\cdot 1399$
Ning Li, Jun Tang, Yingning Peng, Xiutan Wang, Tsinghua University, ChinaB4_13 Averaging of Sorted Eigenvalues for STAP1403Chin Heng Lim, Elias Aboutanios, Bernard Mulgrew, University of Edinburgh, UK
B4_14 Fast DOA Tracking of Coherently Distributed Sources Based on Subspace Updating ..... 1407Xian Sheng Guo, Qun Wan, Wan Lin Yang, Univ. of Electronic Science and Technology of China
Session C4 -......-. Target Identification
Co-Chair: Wenxian Yu, D. Barker; Oct. 19th, morning
C4_01 Radar Micro-motion Target Resolution- ..... 1411Yongxiang Liu, Hangyong Chen, etc., National University of Defense Technology, China
C4_02 Radar Automatic Target Recognition Based on Complex High-Resolution Range Profiles ..... 1415Lan Du, Hongwei Liu, Zheng Bao, Xidian University, China
C4_03 Outline Structural Representation for Radar Target Classification Based on Non-Radar Templates.... ..... 1420Michele Vespe, Chris J. Baker, Hugh D. Griffiths, University College London, UK
C4_04 HF Radar Target identification Based on Optimized Multi-frequency Features ..... 1424Guang-xin Wu, Wei-bo Deng, Harbin Institute of Technology, China
C4_05 Radar HRRP Target Recognition using influence region of samples: ..... - 1428
Feng Chen, Lan Du, Li Yuan, Zheng Bao, Xidian University, China
C4_06 The Performance Comparison of Adaboost and SVM Applied to SAR ATR- ..... 1432Ying Wang, Ping Han, Xiaoguang Lu, etc., Civil Aviation University of China
C4_07 Micro-Doppler Signature Classification ..... 1436Graeme Smith, Karl Woodbridge, Chris Baker, University College London, UK
C4_08 An Efficient Kernel Optimization Method for High Range Resolution Profile Recognition ..... 1440
Bo Chen, Hongwei Liu, Zheng Bao, Xidian University, China
C4_09 SAR ATR based on Support Vector Machines and Independent Component Analysis ..... 1444
Maokuan Li, Jian Guan, Hui Duan, Xin Gao, Naval Aeronautical Engineering Institute, China
C4_10 Reasearch on SDR Architecture for Radar Target Signatures Measurement ..... 1447Weidong Hu, Houjun Sun, Xin Lv, Shiyong Li, BeiJing institute of technology, China
C4_11 UWB signature analysis for detection of body-worn weapons ..... 1450
M. Gashinova, M.Cherniakov, A. Vasalos, The University of Birmingham, UK
C4_1 Radar Target Recognition Based on Low Frequency Bispectra- ..... 1454Xianghai Cao, Hongwei Liu, Shunjun Wu, Xidian University, China
C4_13 Geometric Hashing Classifier Based on Modified D-S Theory in SAR Target Recognition ..... 1458
Wang Guohong,Zhang Jing,Liang Famai, Naval Aeronautical Engineering Institute, China
C4_14 A Novel Preprocessing Approach for SAR ATR ..... 1462
Ping Han, Renbiao Wu, Jingxiong Huang, Civil Aviation University of China
Session D4 ---u-- Sigmal Processing IIII
Co-Chair: Xuegang Wang, Yunhan Dong; Oct. 19th, morning
D4_01 Range Migration Compensation and Doppler Ambiguity Resolution by Keystone Transform ..... 1466
Yang Li,Tao Zeng,Teng Long,Zheng Wang, BeiJing institute of technology, China
D4_02 A Novel Method for Reconstructing 3D Scattering Centers Based on Multiple HRR Profiles and Its
Performance Bounds ..... 1470Jianxiong Zhou,Hongzhong Zhao,Qiang Fu, National University of Defense Technology, China
D4_03 Robust Least Squares Method for Sporadic E Ionospheric Clutter Mitigation in High Frequency Surface Wave Radar ..... 1474
Lei Li,Rongqing Xu,Gaopeng li, Harbin Institute of Technology, China
D4_04 Spatial-Temporal Differential Analysis for Profiling the Atmosphere, 1, Theoretical Background ..... 1478
Alexander Praskovsky, Eleanor Praskovskaya, EnerLab, Inc., USA
D4_05 Spatial-Temporal Differential Analysis for Profiling the Atmosphere, 2, Experimental Results ..... 1482
Eleanor Praskovskaya, Alexander Praskovsky, EnerLab, Inc., USA
D4_06 A new method to improve MDV in bistatic SBR ..... 1486
Hua Li, Jun Tang, Yingning Peng, Tsinghua University, China
D4_07 Precession Period Extraction of Ballistic Missile Based on Radar Measurement ..... 1490
Liu Lihua, Wang Zhuang, Hu Weidong, National University of Defense Technology, China
D4_08 A Novel Approach for RCS Feature Extraction Using Imaging Processing ..... 1494
Beibei Wu, Xueguan Liu, Soochow University, China
D4_09 Research of Acquiring Eigenvector of Real Symmetric Matrix ..... 1498
Luo Feng, He Kun, Wu Shunjun, Xidian University, China
D4_10 A Monopulse Based Correlation Technique for De-Garble Processing of SSR Replies ..... 1501
Rajeev Gupta, J Valarmathi,R Rajesh, etc., Vellore Institute of Technology, India
D4_11 Modifications of the ISIM Algorithm for Bound Constrained Function Minimization - ..... 1506
Jinghong Xue, Ming Jin, Xiaolin Qiao, Harbin Institute of Technology at Weihai, China
D4_12 A New Method of Improving Range Resolution Based on Waveform Characteristic Identification ..... 1510
Zhu Ziping, Deng Baoju, Liu Zhiying, Yu Jian, East China Research Institute of Electronic Engineering
D4_13 A method for radar targets position acquisition based on Possibilistic C_means algorithm. ..... 1514Qiongdan Huang, Luping Xu, Xi'an University of Posts and Telecommunications, ChinaD4_14 Flying Attitude Measurement System Research on the Rotary Pill1518Jiacai Hong, Yuanqin Wang, Institute of Command and Technology of Equipment, China
Session P4
Co-Chair: Jia Xu, V.G. Bartenev; Oct. 19th, morning
P4_01 Study on Low-angle Tracking Technique for Shipboard Phased Array Radar ..... 1522
Zhou Jie, Wang Jianming, Xing Wenge, Nanjing Research Institute of Electronics Technology, China
P4_02 Pulse compression for radar pulse signal in matched Fourier transform domain ..... 1526
Li Zhu, Xue-cheng Hu, You-quan Lin, Nanjing Research Institute of Electronics Technology, ChinaP4_03 Fast Measurement of Vector Miss Distance Based on FFT1530
Zhiyu Li,Guohua Wei, Siliang Wu, Beijing Institute of Technology, China
P4_04 Performance Analysis for Random Noise Ultra-Wideband Radar Signal- ..... 1534
Xianyi Zhang, Weimin Su, Hong Gu, Nanjing University of Science and Technology, China
P4_05 On multivariate matrix Padé-type approximants ..... 1538
Cheng-de Zheng, Zhi-bin Li, Dalian Jiaotong University, China
P4_06 The Principle and Performance Analysis of Profile Clutter map ..... 1542Wanjie Song, Juntao Liu, Haihong Tao, Shunjun Wu, Xidian University, China
P4_07 Radar Emitter Signal Fractal Feature Based on Wavelet Transform ..... 1546Fei Ye, Jingqing Luo,Lv Jiuming, Information Engineering University, China
P4 08 High Speed Real-Time Signal Processing System ..... 1550Meng Li, Jun Wang, Xiaobo Fan,Hong Li,Jing Zhao, Beihang University, China
P4_09 Adaptive Range Gate Design in A Stepped-frequency Outdoor RCS Instrumentation ..... 1554
Tian Jinjun ,Peng Gang, Xue Minghua, Wang Zhenrong, Beihang University, ChinaP4_10 A Modified Ranging Algorithm Based on Multiple Frequencies CW Radar1558
Kun-fan Zhang, Yong-jun Zhao, etc., Zhengzhou Information Science and Technology Institute, ChinaP4_11 Effects of FM Linearity of Linear FM Signals on Pulse-Compression Performance1562
Shibing Hu, Xuegang Wang, Qiang Si, University of Electronic Science and Technology of China
P4_12 Adaptive Radar Clutter Suppression Based on Real Data ..... 1567
Song Jie, He You, Tang Xiaoming, Naval Aeronautical Engineering Institute, China
P4_13 A New Radar Emitter Recognition Method Based on Variable Precision Rough Set Model ..... 1571
Xin Guan, Xiao Yi, Ying-feng Sun, You He, Naval Aeronautical Engineering Institute, China
P4_14 Lidar Signal Denoising Based on Wavelet Domain Spatial Filtering ..... 1575Shirong Yin, Weiran Wang, University of Electronic Science and Technology of China
P4_15 Survey on Radar ECCM Methods and Trends in its Development ..... 1578
Guo Jian-ming, Li Jian-xun, Lv Qiang, Radar and ECM Institute, China
P4_16 An Adaptive Compensation of Moving Clutter Doppler Shift for Helicopter MTD radar ..... 1582
Young-Kil Kwag, Min-Su Choi and Chul-Ho Jung, etc., Hankuk Aviation University, South Korea
P4_17 The Measure of Uncertainty of the Positive Conjunction Reasoning rules ..... 1586Mingjiu Gai, Bao Shi, Xiao Yi, You He, Naval Aeronautical Engineering Institute, China
P4_18 Optimized Minimum Spanning Tree Phase Unwrapping and RectificationAlgorithm of Redundancies For Phase Image ..... 1590Yang Lei, Zhao Yongjun, Wang zhi gang, Information Engineering University, China
P4_19 Applying Fractional Processing to Radar Satellite Constellations ..... 1594
Yun Zhang, Yi cheng Jiang, Harbin Institute of Technology, China
P4_20 Research of Calculation of Radial Acceleration of Maneuvering Target within One Pulse Echo ..... 1598Du Wenchao, Wang Guohong, Kong Min, etc., Naval Aeronautical Engineering Institute, ChinaP4_21 A method for MTD detectability improvement using FFT/WFFT-DWT1602
He You, Jian Tao, Su Feng, Qu ChangWen, Naval Aeronautical Engineering Institute, China
P4_22 A Study on the Technologies of Ultrahigh-speed Data Acquisition and Signal Processing of Ultrawide- band Radar ..... 1606
Song Hu, Chen Jian-jun, Nanjing Marine Radar Institute, China
P4_23 Study on Clutter Suppression Approach for Airborne Phased Radar with Non-sidelooking Array ..... 1610 Wenchong Xie, Yongliang Wang, Wenlin Hu, Radar Academy, Wuhan, China
P4 24 Research on waveform design of airborne phased array pulse Doppler radar ..... 1614
Chen Hui, Huang Benxiong, Hou Yaoqing, Ren Lei, Radar Academy, Wuhan, China
P4_25 Multicomponent Quadratic FM Signals Analysis Using Radon-CPF Transform ..... 1618
Pu Wang, Jianyu Yang, Jintao Xiong, etc., University of Electronic Science and Technology of China
P4 26 Divided Segment Maximum Likelihood Registration for Multiple Moving Platforms Multiple Dissimilar Sensors ..... 1622
Jiang Jing, Yuan Junquan, Ma Xiaoyan Sun Hong, Radar Academy, Wuhan, China
P4_27 Design of Digital Estimators with Fading Memory for Prediction Applications ..... 1627
Weng Zuyin, Beijing Institute of Radio Measurement, China
P4_28 The Derivation of a Universal Model for the Modulated Characteristics of Aircrafts Rotating Parts $\cdots 1631$
Ruan Chongji, Ding Jianjiang, Radar Academy, Wuhan, P.R.China
P4_29 Two-dimensional Zero Intermediate Frequency Vector Filtering Method for SAR Interferograms ..... 1636
Guowang Jin, Qing Xu, Zhihui Gong, Zhiyuan Qin, Information Engineering University, China
P4_30 Pulse Position Modulation Time Hopping Ultra Wideband Sharing Signal for Radar and Communication System ..... 1640
Zhiyuan Lin, Ping Wei, University of Electronic Science and Technology of China
P4_31 Millimeter-wave Radar Application in tracking Maneuvering Target. ..... 1644
Jiu-ming Lv, Jing-qing Luo, Electronic Engineering Institute, Hefei, China
P4_32 Design and Simulation of a 2.4GHz MEMS-based Voltage Controlled Oscillator ..... 1648
Yazi Cao, Li Liu, Gaofeng Wang, Wuhan University, China
P4_33 Data Quality Analysis of 3836 C-band Dual-linear Polarimetric Doppler Radar and its Observation of Melting-layer ..... 1652
Cao Junwu, Liu Liping, Zhonghui Gao, AnHui Sun-Create Co.,Ltd., China
P4_34 Analysis of First-order Sea Clutter in a Shipborne Bistatic High Frequency Surface Wave Radar ..... $\cdot 1656$
Chunbo Liu, Baixiao Chen, Duofang Chen, Shouhong Zhang, Xidian University, China
P4_35 A Fast Method of Moment to Calculate Monostatic RCS of Arbitrary Shaped Conducting Objects ..... 1660
Shaogang Wang, Xinpu Guan, Xingyi Ma,etc., National University of Defence Technology, China
P4_36 Research on the Technology of RFSS in Large-scale Universal Missile ATE ..... 1663
Hu Bao, Shangsheng Li, Qiang Li,Jianfu Teng, Tianjin University, China
P4_37 Ultra-wide band SAR subsurface metallic landmine images: simulation and measurement ..... 1667
Tian Jin,Zhimin Zhou, Qian Song, Wenge Chang, National University of Defence Technology, China
P4_38 Robust Estimation of Scattering Center Parameters in Long-Tailed K-Distribution Clutter ..... 1671
Zhiguang Shi, Jianxiong Zhou, etc., National Univ. of Defence Technology, China
P4_39 Prediction of Sea Clutter Based on Chaos Theory with RBF and k-mean clustering ..... 1675
Xiaohong Su, Jidong Suo, Dalian Maritime University, , China
P4_40 Research and Application on Real-time Acquirement Technique of OpenFlight Digital Terrain Based On Grid ..... 1679
Fang Wei, He You, Jiang BenQing, Naval Aeronautical Engineering Institute, China
P4_41 New Method for the Simulation of Coherent K-distributed Clutter ..... 1683
Jun-Ling Yang, Jian-Wei Wan, National University of Defence Technology, China
P4_42 Analysis and Simulation of Air Traffic Control Conflict ..... 1687Gao Fuxiang, Li Fengyun, Bao Shengfei, Tian Hong, Northeastern University, China
P4_43 Suppression of Ionospheric Es Clutter in HFSWR ..... 1691Wei Yin, Xiongbin Wu, Feng Cheng, Xianrong Wan, Wuhan University, China
P4_44 Ray-based Simulations of Received Signals from Ground Penetrating Radar ..... 1694
Jianzhong Zhang, Feng Li, Guohui Yang, Xiamen University, China
P4_45 Planar Near Field Measurement System and Computer Simulation for UWB Radar Antenna ..... 1698
Shen XianJun,ZOU YongQing,Zhang YuMei,etc., East China Research Institute of Electronic Engineering
P4_46 Perturbation Theory and Simulation Computation For Dual-mode Ferrite Devices ..... 1701
Hu Lan, Jiang Renpei, Nanjing Research Institute of Electronics Technology, China
P4_47 Estimation of Refractivity Profile from Radar Sea Clutter and Key Problems ..... 1705Liu Ai-guo, Cha Hao, Xi Ze-min, and Zhou Mo, Naval University of Engineering, China
P4_48 The Influence and Elimination of Algorithm's Initial Value in Passive Location ..... 1708
Zhong Fu, Ping Liao, Shao-rong Li, University of Electronic Science and Technology of China
P4 49 Adaptive Multi-path Cancellation Algorithm in Passive Radar ..... 1712Kui Wang, Ran Tao, FengYong Ma, Tao Shan, Beijing Institute of Technology, China
P4 50 A method for automatic spotting using water column ..... 1716
Yingjun Li, Xiushe Zhang, Xiaoquan Hu, Xi'an Research Institute of Navigation Technology, China ..... 1720
P4_51 A JammingTechnique against Airborne SAR
P4_51 A JammingTechnique against Airborne SAR
Nai Zhang, Ling Kuang, X.F. Shen, Q. Wan, W.L. Yang, UEST, China
Session A5 ---.----.- Simulation
Co-Chair: Ran Tao, Simon Ahlberg; Oct. 19th, afternoon
A5_01 Simulations for Evaluation of Sensor Systems Exposed to Countermeasures ..... 1723
Nils Karlsson, Simon Ahlberg, Staffan Gadd, etc., Swedish defence research agency, Sweden
A5_02 Research on Echo Simulation of Space-borne Bistatic SAR ..... 1728
Shun-sheng Zhang, Tao Zeng, Teng Long, Juan Chen, BeiJing institute of technology, China
A5_03 Feasibility of Extracting Sea Surface Current by Onboard HF-SAR ..... 1732
Wenhu Xue, Mingmin Zhang,Zemin Xi, Jinsong Tang, Shuzong Han, Tsinghua Department of Automation, Beijing 100084, China; Naval University of Engineering, China
A5_04 A Study of the Correlation between SAR Echoes Scattered By Fluctuant Rough Ground- ..... 1737
Nan Liu, Linrang Zhang, Bin Liu, Xidian University, China
A5 05 Simulation of Multi-channel SAR Raw Data Based on Real Single Channel SAR Data ..... 1741Huansheng Zhang, Ruliang Yang, Institute of Electronics, Chinese Academy of Sciences
A5_06 A Classifier for Radar Clutter Using Alpha Stable Model ..... 1745
Xutao Li,Guangxi Zhu,Shouyong Wang, etc., Huazhong University of Science and Technology, China
1749
A5_07 S-band receiver of simulation and fabrication
1752
A5_08 Radar Images of Ships on a Rough Half-Space InterfaceLe Xu, Yuchun Guo, Xiaowei Shi, Xidian University, China
A5_09 Multipath EM Scattering Modeling of Targets on Deck$\cdot 1756$Yong Wang, Xiaojian Xu, BeiHang University, China
A5_10 Performance Evaluation of Amplitude-Phase Algorithm for SAR Raw Data Compression ..... 1760
Haiming Qi, Weidong Yu, Xinzhe Yuan, etc., Institute of Electronics, Chinese Academy of Sciences
A5_11 A Simple Simulation Method of Ground Clutter for Airborne Pulse Doppler Radar ..... 1764
Ming Li, YuMei Lin, Feng Ruan, Xidian University, China
A5_12 The RCS Simulation of Plasma Plume of Missile ..... 1768Liu Bo, Shi Jiaming, Jin Lin, Zhou Wenyu, Nanjing Research Institute of Electronics Technol, China
A5_13 EM Scattering of a Special Kind of Cavities with Applications to RCS Calculation of Targets over Sea Surface ..... 1772
Kai Cui, Xiaojian Xu, Shiyi Mao, BeiHang University, China
A5_14 Simulation of Coherent Correlation K-distribution Sea clutter Based on SIRP ..... 1776
Yanhui Hu, Feng Luo, Baobao Zhang, Shunjun Wu, Xidian University, China
Session B5 -.....-- Subsystem III
Co-Chair: Jiaguo Lu, Bin Sai; Oct. 19th, afternoon
B5_01 Tree Structure for Channelized Digital Receivers ..... 1780
Hong Wang, Youxin Lu, Xuegang Wang, University of Electronic Science and Technology of China
B5_02 Novel Method for Quadrature Direct Digital Frequency Synthesizer ..... 1783
Zhao Zhanfeng, Zhou Zhiquan, Qiao Xiaolin, Harbin Institute of Technology, China
B5_03 Bandpass Sampling and Quadrature Demodulation in Synthetic Aperture Radar ..... 1787
Qian Dong, Ping Zhang, Haiming Qi, Xinzhe Yuan, Institute of Electronics, Chinese Academy of Sciences
B5_04 Channelized Receiver with WOLA FilterBank ..... 1791Hong Wang, Youxin Lu, Xuegang Wang, UEST, China
B5_05 The Design of a Centralized Charging Circuit for High Power Combined Line type Solid-state Modulator ..... 1794
Zhang Jianhua, Tao Xiaohui, Sun Fangli, He qiwen, East China Research Inst. of Elec. Engineering
B5_06 Digital I/Q Imbalance Compensation in Quadrature Receivers ..... 1798
Hong Wang, Youxin Lu,Xuegang Wang, Chonggang Wang, UEST, China
B5 07 Research on a Novel Millimeter Wave Radar Transmitter ..... 1802
Zhengxin, Qianmeng, Zhaoyujie, Nanjing Research Institute of Electronics Technol, China
B5_08 Image Rejection Research on Digital IF Quadrature Detector for Complex Band-pass Signal ..... 1806Peng Shirui, Liu Quan,Dong Wenfeng, He Feng, Wuhan Radar Institute, , China
B5_09 Design of a Two-channel Ultra High Frequence Data Acquisition System Based on FPGA ..... 1810Haibo Liu, Teng Long, Dazhi Zeng, BeiJing institute of technology, China
B5_10 Real-Time Implementation of Airborne Radar Space-Time Adaptive Processing on Multi-DSP System ..... 1813
Fan Xikun, Wang Yongliang, Wuhan Radar Institute, China
B5_11 The Application of All-digital Array Receiver to OTH Radar601 ..... 1817
Yuanbin. Wu, Nanjing Research Institute of Electronics Technol, China
B5_12 Design of the High-powered Digital Pulse Compression Real-time Processing System Based on ADSP-TS203 ..... 1821
Yingxi Zheng, Zhiming He, Zhulin Zong, Univ. of Electronic Science and Technology of China
B5_13 The optimized design of the S-band 25 kW solid-state transmitter ..... 1825
Wang Bangjin, Du Lijun, East China Research Institute of Electronic Engineering
Session C5 ------- Data Processing
Co-Chair: Hong Gu, Robert Hill; Oct. 19th, afternoon
C5_01 A Full-Rate Tracking Algorithm of Maneuvering Target Based on Multi-Rate CS and CV Models $\cdots \cdots .1829$Ting Cheng, Zishu He, Huiyong Li,Benyong Liu, Uni. of Electronic Science and Technology of China
C5_02 An Unsupervised MPM Segmentation Method Using Markov Random Field on Region Adjacency Graph for SAR Images ..... 1833
Gui-song Xia, Chu He, Hong Sun, Wuhan University, China
C5_03 Adaptive Tracking Algorithm Based on Modified Strong Tracking Filter ..... 1837
He You, Song Qiang, Dong Yunlong, Yang Jian, Naval Aeronautical Engineering Institute, China
C5_04 Real-Time Sequential Kalman Filter Sensor Registration Algorithm ..... 1841Da Li, Shaohong Li, BeiHang University, China
C5_05 Research on Target Tracking Technology of OTHR based on MPDA ..... 1845
Kong Min, Wang Guo-Hong, Bai Jing, Naval Aeronautical Engineering Institute, China
C5_06 Multiresolutional Maneuvering Target Tracking with Average Interpolation and Parallel Implementation ..... 1849
Luping Xu, Dajun Feng, Xidian University, China
C5 07 A Real Time Test Bed for 2D and 3D Multi-Radar Tracking and Data Fusion with Application to Border Control ..... 1853Annarita Di Lallo, Alfonso Farina, R. Fulcoli, etc., Domenico Vigilante, SELEX-SI, Italy
C5_08 Two-Hierarchical Hough Transform for Sky-wave Over-the-Horizon Radar Track Initiation ..... 1858Shuling Jin, Yan Liang, Peng He, Lizhen Wang, Quan Pan, Northwestern Polytechnical University, China
C5_09 Tracking Multi-target And Target Types Using Random Sets ..... 1862Shu-Rong Tian, You He, Xiao Yi, Naval Aeronautical Engineering Institute, China
C5_10 Research on the Specific Problems in Multi-Target Tracking of TWS Radar ..... 1865Ming Li, YanYao Li, YanFei Li, ShunJun Wu, Xidian University, China
C5_11 Integrated Track-to-Track Fusion with Modified Probabilistic Neural Network ..... 1869
Li-Wei Fong, Department of Information Management, Yu-Da College of Business, Taiwai, China
C5_12 A regional track correlation method for multi-radar multi-track in distributed radar network ..... 1875
Jing Bai,Guo-Hong Wang,Min Kong, Naval Aeronautical Engineering Institute, China
C5_13 A Design Model of Algorithm-Level Shareable Data Fusion Testbed ..... 1878
Zhiqi Ma, Hongwen Yang, Weidong Hu, Wenxian Yu, National University of Defense Technology, China
C5_14 Research on Target Auto-tracking Initiation Based on Plot Fusion Processing of Multi-radar ..... 1882 Wang Zhihong, Mei Xiaochun, East China Research Institute of Electronic Engineering
Session D5 --------- Signal Processing IV
Co-Chair: Jian Yang, Mim-Ho Ka; Oct. 19th, afternoon
D5_01 Blind Signal Separation Based on Feed-forward and Feedback Neural Network ..... 1886
Xiong Bo, Li Guo-lin, Xu Jing-jing, Yu Jing, Naval Aeronautical Engineering Institute, China
D5 02 A kind of Dual-Channel GMTI Real-Time Processing Method Based on Frequency DPCA ..... 1890
Longmei Xi, Changyao Zhang, East China Research Institute of Electronic Engineering, China
D5_03 A Novel Doppler Radar Using only Two Pulses ..... 1894Junqi Duan, Zishu He, Chunlin Han, University of Electronic Science and Technology of China
D5_04 A new approach for long low autocorrelation binary sequence problem using genetic algorithm ..... 1898Maryam Amin Nasrabadi, Mohammad Hassan Bastani, Sharif University of Technology, Iran
D5 05 A Novel TDOA Location Algorithm for Passive Radar ..... 1901
Gaoming Huang, Zemin Xi, Yun Zhou and Jin Zhou, Naval University of Engineering, China
D5_06 A New Approach for 2-D Spectrum Estimation ..... 1905
Bao Zheng, Wang Yongliang, Wuhan Radar Institute, China
D5_07 An Improved Joint Time Frequency Approach for Shadow Image of Bistatic Forward
Scattering Radar ..... 1908
Nuo Li, Tao Zhang, Xiaolei Lv, Shouhong Zhang, Xidian University, China
D5_08 Amplitude Shifting for Sidelobes Cancellation Pulse Compression ..... 1912Talal Darwich, Charles Cavanaugh, University of Louisiana at Lafayette, USA
D5_09 Fault Diagnosis of Sensor Network using Information Fusion defined on Different Reference Sets... ..... $\cdot 1916$
Ji Zhang, Bing-shu Wang, Yong-guang Ma, Jian Di, North China Electric Power University
D5_10 An approach to sample broadband radar signal with low-rate ADC using adaptive Beamforming Technique ..... 1921
Lun Ma, Zhenfang Li, Guisheng Liao, Xidian University, China
D5_11 The Effect of Channel Mismatch and Mutual Coupling on GPS Adaptive Antenna Array ..... 1925
Yane Lu, Yuguo Yan, Jianguo Yuan, Dewei Wu, etc., The Air Force Engineering University, China
D5_12 Particle Detection and it's Radar Application ..... 1930Mohamad Farzan Sabahi, M.M Hashemi, Abbas Sheikhi, isfahan university of thechnolog ,Iran
D5_13 Real-time Net-booting System In Large-scale DSP Network ..... N/AJin Wei, Teng Long, Feng Liu, Beijing institute of technology, China
D5_14 Accelerated GRECO based on GPU ..... 1938Yang ZhengLong, Jin Lin, Li WeiQing, Nanjing Research Institute of Electronics Technol, China
D5_15 Double-channel Cancellation Method for Mitigating DPI in PCL ..... 1942Xiaoming Tang, Benqing Jiang, etc., Naval Aeronautical Engineering Institute, China

