

中国雷达行业协会会刊

ISSN 2095-283X
CN10-1030/TN

雷达学报

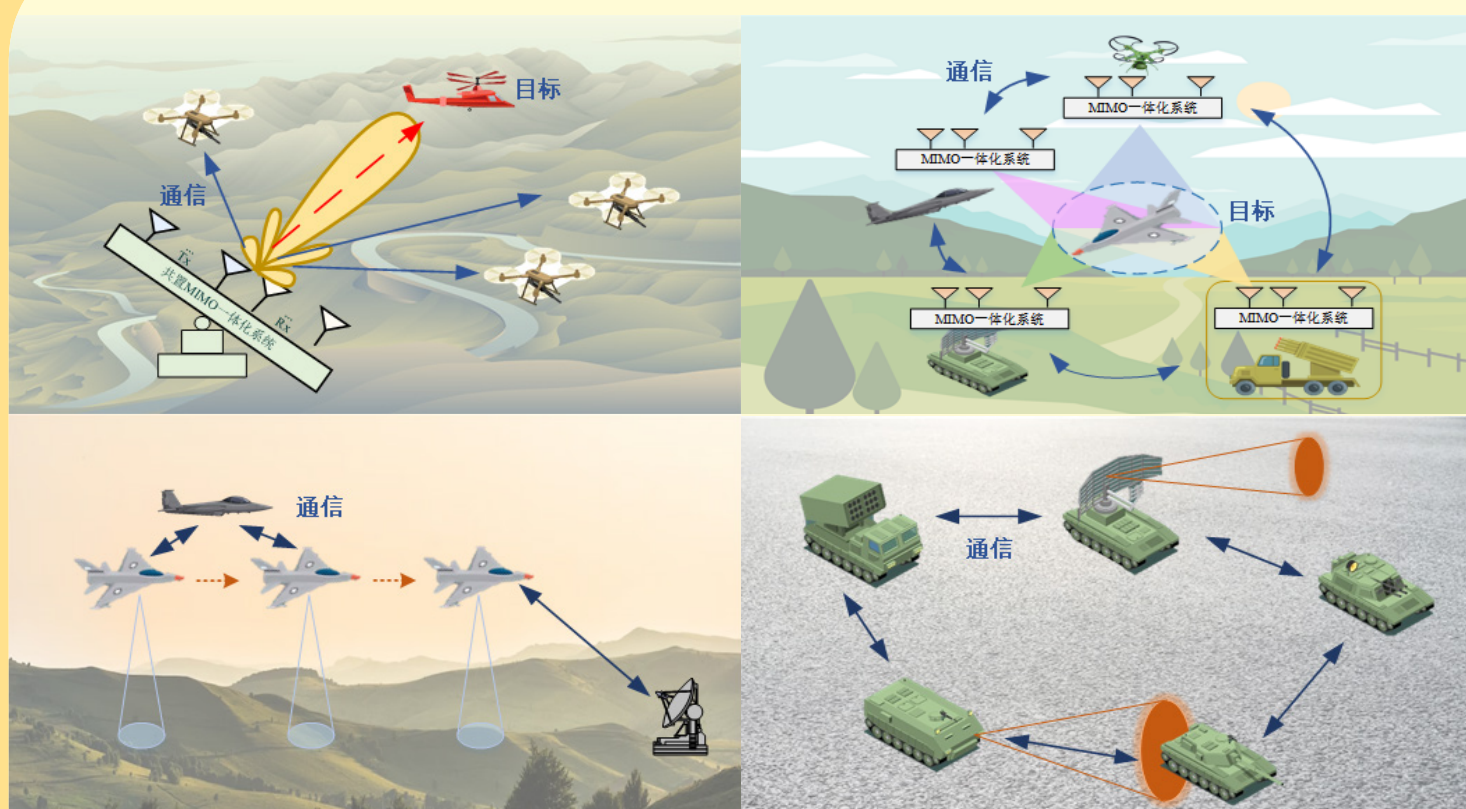
JOURNAL OF RADARS

2
2023
Vol.12 No.2

本期导读：多功能一体化信号理论研究专题

专题主编：廖桂生 梁兴东 崔国龙

探通一体典型场景：中心节点、组网、SAR 成像、车联网



MIMO 系统探通一体化信号矩阵设计方法

Dual Function Radar and Communication Signal Matrix Design Method for MIMO System

主办：中国科学院空天信息创新研究院
中国雷达行业协会

 科学出版社

雷 达 学 报

LEIDA XUEBAO

第 12 卷 第 2 期

2023 年 4 月

目 次

多功能一体化信号理论研究专题

专题主编:廖桂生 梁兴东 崔国龙

面向感知应用的通感一体化信号设计技术与综述.....	
..... 余显祥, 姚 雪, 杨 婧, 陆 军, 崔国龙, 孔令讲	(247)
MIMO系统探通一体化信号矩阵设计方法.....	杨 婧, 余显祥, 沙明辉, 崔国龙, 孔令讲 (262)
一种具有多普勒容忍性的通感一体化波形设计.....	王佳欢, 范平志, 时 巧, 周正春 (275)
基于FBMC信号的低截获雷达通信一体化波形设计.....	李琬璐, 相 征, 任 鹏 (287)
一种基于分布式孔径的雷达通信一体化波形设计方法.....	
..... 刘 柳, 梁兴东, 李焱磊, 曾致远, 唐海波	(297)

雷达信号与数据处理

稀疏多极化阵列设计研究进展与展望.....	悦亚星, 李天宇, 周成伟, 袁 鑫, 史治国 (312)
基于稀疏和低秩先验的雷达前视超分辨成像方法.....	唐军奎, 刘 峥, 冉 磊, 谢 荣, 秦基凯 (332)
深度学习融合超宽带雷达图谱的跌倒检测研究.....	何 密, 平钦文, 戴 然 (343)
时空域稀疏条件下基于雷达回波时序依赖关系的目标检测.....	
..... 张力文, 潘 剑, 张右承, 陈元培, 马 喆, 黄旭辉, 孙科武	(356)
机载雷达告警接收机发展现状及趋势.....	王 星, 王俊迪, 金政芝, 周一鹏, 陈 游 (376)

新体制雷达

全息凝视雷达系统技术与应用综述.....	
..... 郭 瑞, 张 月, 田 彪, 肖 钰, 胡 俊, 徐世友, 陈曾平	(389)
基于强化学习的认知雷达目标跟踪波形挑选方法.....	朱培坤, 梁 菁, 罗子涵, 沈晓峰 (412)

雷达遥感

高分辨全极化昆虫雷达极化校准与昆虫体轴方向估计.....	
..... 李沐阳, 胡 程, 王 锐, 李卫东, 姜 琦, 李云龙, 钱李昌, 王江涛	(425)
一种基于深度学习的SAR城市建筑区域叠掩精确检测方法.....	田 野, 丁赤飏, 张福博, 石民安 (441)

研究通讯

雷达对海探测试验与目标特性数据获取——海上目标双极化多海况散射特性数据集.....	
..... 关 键, 刘宁波, 王国庆, 丁 昊, 董云龙, 黄 勇, 田凯祥, 张梦雨	(456)

学术信息

机动平台前视成像与信息处理技术专题征文通知.....	(470)
雷达多维多域多特征信息处理技术专题征文通知.....	(470)
雷达与微波视觉分论坛暨第三期雷达学报大讲堂在北京举行.....	(封二)

JOURNAL OF RADARS

Vol.12 No.2 Apr. 2023

CONTENTS

Special Topic Papers: Study on Multifunctional Integrated Signal Theory

Guest Editors: LIAO Guisheng LIANG Xingdong CUI Gonglong

- Radar-centric DFRC Signal Design: Overview and Future Research Avenues. YU Xianxiang, YAO Xue, YANG Jing, LU Jun, CUI Guolong, KONG Lingjiang (247)
- Dual Function Radar and Communication Signal Matrix Design Method for MIMO System. YANG Jing, YU Xianxiang, SHA Minghui, CUI Guolong, KONG Lingjiang (262)
- Doppler Resilient Integrated Sensing and Communication Waveforms Design. WANG Jiahuan, FAN Pingzhi, SHI Qiao, ZHOU Zhengchun (275)
- Filter Bank Multi-carrier Waveform Design for Low Probability of Intercepting Joint Radar and Communication System. LI Wanlu, XIANG Zheng, REN Peng (287)
- A Novel Joint Radar-communication Waveform Design Method Based on Distributed Aperture. LIU Liu, LIANG Xingdong, LI Yanlei, ZENG Zhiyuan, TANG Haibo (297)

Radar Signal and Data Processing

- Research Progress and Prospect of Sparse Diversely Polarized Array Design. YUE Yaxing, LI Tianyu, ZHOU Chengwei, YUAN Xin, SHI Zhiguo (312)
- Radar Forward-looking Super-resolution Imaging Method Based on Sparse and Low-rank Priors. TANG Junkui, LIU Zheng, RAN Lei, XIE Rong, QIN Jikai (332)
- Fall Detection Based on Deep Learning Fusing Ultrawideband Radar Spectrograms. HE Mi, PING Qinwen, DAI Ran (343)
- Capturing Temporal-dependence in Radar Echo for Spatial-temporal Sparse Target Detection. ZHANG Liwen, PAN Jian, ZHANG Youcheng, CHEN Yuanpei, MA Zhe, HUANG Xuhui, SUN Kewu (356)
- Current Situation and Development Demands for a Radar Warning Receiver System. WANG Xing, WANG Jundi, JIN Zhengzhi, ZHOU Yipeng, CHEN You (376)

New System Radar

- Review of the Technology, Development and Applications of Holographic Staring Radar. GUO Rui, ZHANG Yue, TIAN Biao, XIAO Yu, HU Jun, XU Shiyong, CHEN Zengping (389)
- Waveform Selection Method of Cognitive Radar Target Tracking Based on Reinforcement Learning. ZHU Peikun, LIANG Jing, LUO Zihan, SHEN Xiaofeng (412)

Radar Remote Sensing

- Polarimetric Calibration and Insect Orientation Estimation of High-resolution Fully Polarimetric Entomological Radar. LI Muyang, HU Cheng, WANG Rui, LI Weidong, JIANG Qi, LI Yunlong, QIAN Lichang, WANG Jiangtao (425)
- SAR Building Area Layover Detection Based on Deep Learning. TIAN Ye, DING Chibiao, ZHANG Fubo, SHI Min'an (441)

Communications

- Sea-detecting Radar Experiment and Target Feature Data Acquisition for Dual Polarization Multistate Scattering Dataset of Marine Targets. Guan Jian, Liu Ningbo, Wang Guoqing, Ding Hao, Dong Yunlong, Huang Yong, Tian Kaixiang, Zhang Mengyu (456)

Academic Information

- Call for Papers of Forward-looking Imaging and Information Processing for Maneuvering Platforms. (470)
- Call for Papers of Radar Multi-dimension, Multi-domain and Multi-feature Information Processing. (470)
- The Radar and Microwave Vision Sub-Forum and the 3rd Journal of Radars Lecture was held in Beijing. . . . (Inside Front Cover)