

# 电讯技术

Dianxun Jishu

(1958年创刊,月刊)

第66卷

第3期(总第448期)

2026年3月28日

## 目次

### 应用基础与前沿技术

- 基于 Sinc 函数和径向神经网络的非线性干扰抵消方法 ..... 姚元飞,邱吉刚,张小舟,蔡方凯,吴建光(343)
- 一种基于 Transformer-TCN-GRU 的未来空管 4D 航迹预测方法 ..... 孔建国,李龙超,梁海军,黄宇杰(350)
- 基于去噪扩散模型的多尺度图像条件生成算法 ..... 向涛,朱佩佩,常祥辉,刘杰,李鹏(360)
- 一种基于 BiLSTM 的 OTFS 信道估计算法 ..... 王华华,文梓臣,魏凡博(370)
- 深度学习驱动的空中大规模 MIMO 混合波束赋形技术 ..... 吉红慧,孙强,李泽君,陈晓敏(377)
- IRS 辅助 MISO 系统中基于 GNN 的保密速率优化算法 ..... 唐崇鑫,席兵,邓炳光(386)
- 一种基于 TLNet 的无线通信信号检测与调制识别算法 ..... 张雪芹,骆忠强,兰梦轩(397)
- 面向短波信号检测识别的 YOLOv8s 网络压缩方法 ..... 朱小俊,赵排航,唐涛,吴志东,栾银森(405)

### 电子与信息工程

- 基于 FFT 插值的铱星信号捕获与多普勒测量 ..... 郭文飞,冯伟峻,陈小莉,朱溢涛,代采荷(413)
- 低轨巨星座空间网络分段路由技术应用 ..... 屠嘉豪,党建成,吴侃侃,李林伟,汪少林(422)
- 星载超宽带无线网络高精度时间同步技术 ..... 李林伟,吴侃侃,周军,刘波,汪少林,王勃怡(430)
- 无人飞行集群定向自组网传输容量优化方法 ..... 王德昊,张凤,高思宇,夏耘,王法俊,李旭鹏,赵阳(437)
- 提升 DOA 估计的孔径扩展位移填孔的互质阵列 ..... 王桂宝,刘云龙,王向辉,余可义,王书振(446)
- 基于多站协同显著路径筛选的多径利用雷达遮蔽目标成像方法 ..... 刘永龙,邹旺,葛富超,贾勇,赖元明(455)
- 基于自适应可调 Q 因子小波变换的目标检测改进算法 ..... 连子鸣,尚尚,李允璐,徐环(465)
- 基于离群点检测理论的超高频谐波检测算法 ..... 周慧,余铁鑫(473)
- 9 GHz 超大瞬时带宽频谱分析仪硬件设计 ..... 陈飞龙(482)
- 基于卫通应用的 Ka 波段 AB 类宽带 CMOS 功率放大器 ..... 刘智卿(488)
- 一种新型的无线无源温度传感器系统的设计与试验 .....  
..... 李超毅,刘勇,刘峰,欧阳海军,程学俊,范志勇,赵立,廖勇(496)

### 综述与评论

- 星载嵌入式 Linux 系统容错技术综述 ..... 陈玲慧,宫禄齐,武鹏,罗逸璋(506)

### 其他

- 公益广告:增强保密意识 维护国家安全 ..... 封二
- 稿约 ..... 封三

# TELECOMMUNICATION ENGINEERING

( Monthly, Started in 1958 )

Vol. 66

No. 3 ( Series No. 448 )

March 28, 2026

## CONTENTS

### Application Fundamental Research and Advanced Technology

- Nonlinear Interference Cancellation Method Based on Sinc Function and Radial Basis Function Neural Network  
..... YAO Yuanfei, QIU Jigang, ZHANG Xiaozhou, CAI Fangkai, WU Jianguang ( 343 )
- A Transformer-TCN-GRU-based Method for 4D Trajectory Prediction in Future Air Traffic Management  
..... KONG Jianguo, LI Longchao, LIANG Haijun, HUANG Yujie ( 350 )
- Multi-scale Image Conditional Generation Algorithm Based on Denoising Diffusion Models  
..... XIANG Tao, ZHU Peipei, CHANG Xianghui, LIU Jie, LI Peng ( 360 )
- A BiLSTM-based Orthogonal Time Frequency Space(OTFS) Channel Estimation Algorithm  
..... WANG Huahua, WEN Zichen, WEI Fanbo ( 370 )
- Deep Learning-driven Hybrid Beamforming in Aerial Massive MIMO Systems  
..... JI Honghui, SUN Qiang, LI Zejun, CHEN Xiaomin ( 377 )
- A Security Rate Optimization Algorithm for IRS-assisted MISO System Based on Graph Neural Network  
..... TANG Chongxin, XI Bing, DENG Bingguang ( 386 )
- Wireless Communication Signal Detection and Modulation Recognition Algorithm Based on TLNet  
..... ZHANG Xueqin, LUO Zhongqiang, LAN Mengxuan ( 397 )
- A YOLOv8s Network Compression Method for Shortwave Signal Detection and Recognition  
..... ZHU Xiaojun, ZHAO Paihang, TANG Tao, WU Zhidong, LUAN Yinsen ( 405 )

### Electronics and Information Engineering

- IRIDIUM Signal Acquisition and Doppler Measurement Based on FFT Interpolation  
..... GUO Wenfei, FENG Weijun, CHEN Xiaoli, ZHU Yitao, DAI Caihe ( 413 )
- Segmented Routing Technology Application for Space Network in Mega LEO Constellation  
..... TU Jiahao, DANG Jiancheng, WU Kankan, LI Linwei, WANG Shaolin ( 422 )
- High-precision Time Synchronization Technology for Onboard Ultra-wide Band Wireless Networks  
..... LI Linwei, WU Kankan, ZHOU Jun, LIU Bo, WANG Shaolin, WANG Qingyi ( 430 )
- Optimization Method for Transmission Capacity of UAV Cluster Directional Ad Hoc Network  
..... WANG Dehao, ZHANG Feng, GAO Siyu, XIA Yun, WANG Fajun, LI Xupeng, ZHAO Yang ( 437 )
- Aperture-expanded Displacement Hole-filled Co-prime Array for Enhancing DOA Estimation  
..... WANG Guibao, LIU Yunlong, WANG Xianghui, YU Keyi, WANG Shuzhen ( 446 )
- Multipath Exploitation Radar Imaging Method for Shadowed Targets Based on Multi-station Cooperative Dominant Path Screening  
..... LIU Yonglong, ZOU Wang, GE Fuchao, JIA Yong, LAI Yuanming ( 455 )
- Improved Target Detection Algorithm Based on Adaptive Tunable Q-factor Wavelet Transform  
..... LIAN Ziming, SHANG Shang, LI Yunjun, XU Huan ( 465 )
- Supraharmonic Detection Algorithm Based on Outlier Detection Theory ..... ZHOU Hui, YU Tiexin ( 473 )
- Hardware Design of a 9 GHz Ultra-wide Instantaneous Bandwidth Spectrum Analyzer ..... CHEN Feilong ( 482 )
- A Ka-band Class-AB Broadband CMOS Power Amplifier for SATCOM Applications ..... LIU Zhiqing ( 488 )
- Design and Test of a New Wireless Passive Temperature Sensor System  
..... LI Chaoyi, LIU Yong, LIU Feng, OUYANG Haijun, CHENG Xuejun, FAN Zhiyong, ZHAO Li, LIAO Yong ( 496 )

### Summarization and Review

- A Review of Fault-tolerant Technologies for Spaceborne Embedded Linux Software Systems  
..... CHEN Linghui, GONG Luqi, WU Peng, LUO Yixun ( 506 )