



# 通信科学



# 电 信 科 学

第 38 卷第 4 期 2022 年 4 月

## 目 次

### 专题：卫星互联网

- 关于快速形成我国天地一体通信运营能力的思考 ..... 杨岭才 [2022066](1)  
通信、网络、计算融合的天地一体化信息网络体系架构研究 ..... 虞志刚, 冯 旭, 黄照祥, 陆 洲 [2022079](11)  
一种面向低轨遥感星座的路由任务规划算法研究 ..... 齐 星, 柳 震, 梁家辉, 肇启明, 刘 畅 [2022076](30)  
基于用户群组的低轨卫星网络多星切换策略 ..... 朱洪涛, 郭 庆 [2022078](39)  
低轨星座系统的可控波束到地功率通量密度研究 ..... 黄 颖, 李 伟, 简 晨, 严 康 [2022073](49)  
遥感卫星随遇接入互联网星座和在轨智能处理 ..... 常晓宇, 张伟嘉, 李旭东, 张晓男, 王 港, 贾 钢 [2022075](59)  
一种 MEO 星座的覆盖性能及组网方案分析 ..... 赵艳宾, 王任宁, 胡培培 [2022068](70)  
基于广义近似消息传递的扰码多址卫星接收技术 ..... 余 乐, 朱立东, 金 亮, 李佳立, 刘轶伦, 郭 晟 [2022077](77)

### 研究与开发

- 开放互联网环境下基于信息熵的信息传播影响力计算方法 ..... 李攀攀, 谢正霞, 王赠凯, 靳 锐 [2022026](90)  
基于拟态防御架构的服务功能链执行体动态调度方法 .....  
..... 李传煌, 唐晶晶, 陈泱婷, 雷 睿, 陈 超, 王伟明[2022070](101)  
基于混合光电传输的无人机中继通信系统性能分析 ..... 徐 溯, 张 际, 刁杨华, 刘元莹, 张 鹏[2022072](113)  
基于模板和 KNN 算法的能量分析攻击对比研究 ..... 靳济方, 刘承远, 范晓红, 段晓毅, 刘嘉瑜[2022080](121)  
5G 大气波导干扰分析及规避方法研究 ..... 汪汀岚, 李行政, 左怡民, 张冬晨[2022067](130)

### 工程与应用

- 数字孪生在网络全生命周期管理中的研究 .....  
..... 王 达, 孙 滔, 孙晓文, 郭建超, 孙 杰, 陈 果, 杨爱东, 欧阳晔[2022063](138)  
多接入、无线、有线融合架构演进及流量调度机制 ..... 时书锋, 于游洋[2022057](146)  
新一代多媒体实时通信系统架构增强演进研究 ..... 姜 怡, 周 越, 白雪茜, 吴 滨, 刘 晨, 张剑寅[2022048](156)  
面向“双碳”的 5G 网络节能技术 ..... 官 磊, 丁 洋, 李锐杰, 苏 桐, 胡丽洁, 王 轶, 胡 南[2022054](167)

# Telecommunications Science

Vol.38 No.4 April 2022

## Contents

### Topic: Satellite Network

- Thoughts on the rapid formation of China's space-ground integrated communication operation capability .....  
..... YANG Lingcai [2022066](1 )
- Research on the architecture of space-ground integrated information network: integration of communication,  
networking and computing ..... YU Zhigang, FENG Xu, HUANG Zhaoxiang, LU Zhou [2022079](11)
- Research on a routing task planning algorithm for LEO remote sensing constellation .....  
..... QI Xing, LIU Zhen, LIANG Jiahui, ZHAO Qiming, LIU Chang [2022076](30)
- User group based multi-satellite handover strategy for LEO satellite networks ..... ZHU Hongtao, GUO Qing [2022078](39)
- Research on power flux-density at the earth's surface produced by emissions from the steerable beam of LEO  
constellation system ..... HUANG Ying, LI Wei, JIAN Chen, YAN Kang [2022073](49)
- Study on remote sensing satellites random access to internet constellation and on-orbit intelligent processing  
..... CHANG Xiaoyu, ZHANG Weijia, LI Xudong, ZHANG Xiaonan, WANG Gang , JIA Gang [2022075](59)
- Analysis on the coverage performance and networking scheme of an MEO constellation .....  
..... ZHAO Yanbin, WANG Renning, HU Peipei [2022068](70)
- Generalized approximate message passing based SrCMA satellite receiver .....  
..... YU Le, ZHU Lidong, JIN Liang, LI Jiali, LIU Yilun, GUO Cheng [2022077](77)

### Research and Development

- Calculation method of information dissemination based on information entropy in public internet .....  
..... LI Panpan, XIE Zhengxia, WANG Zengkai, JIN Rui [2022026](90)
- Dynamic scheduling method of service function chain executors based on the mimic defense architecture .....  
..... LI Chuanhuang, TANG Jingjing, CHEN Yangting, LEI Rui, CHEN Chao, WANG Weiming[2022070](101)
- Performance analysis of mixed FSO-RF transmission in UAV relay communication systems .....  
..... XU Su, ZHANG Ji, DIAO Yanghua, LIU Yuanying, ZHANG Yi[2022072](113)
- Comparative study of power analysis attacks based on template and KNN algorithm .....  
..... JIN Jifang, LIU Chengyuan, FAN Xiaohong, DUAN Xiaoyi, LIU Jiayu[2022080](121)
- Analysis and avoidance method of 5G atmospheric duct interference .....  
..... WANG Tinglan, LI Xingzheng, ZUO Yimin, ZHANG Dongchen[2022067](130)

### Engineering and Application

- Study on digital twins in network lifecycle management .....  
..... WANG Da, SUN Tao, SUN Xiaowen, GUO Jianchao, SUN Jie, CHEN Guo, YANG Aidong, OUYANG Ye[2022063](138)
- Multi-access, wireless and wired convergence architecture evolution and traffic scheduling mechanism .....  
..... SHI Shufeng, YU Youyang [2022057](146)
- Study on the architecture enhancement and migration for the next generation of the multimedia real time communication system  
..... JIANG Yi, ZHOU Yue, BAI Xueqian, WU Bin, LIU Chen, ZHANG Jianxin[2022048](156)
- Network energy saving technologies for green 5G .....  
..... GUAN Lei, DING Yang, LI Ruijie, SU Tong, HU Lijie, WANG Yi, HU Nan[2022054](167)