2023第十一届中国指挥控制大会

特邀专题论坛简介

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| **特邀专题名称**  智能频谱共享与协同技术 |
| **召集人的姓名、职称、单位和邮箱**  林云 哈尔滨工程大学 教授, linyun@hrbeu.edu.cn  王健 天津大学 研究员, wangjian16@tju.edu.cn  张余 国防科技大学第六十三研究所 副研究员, zhyu63@163.com |
| 特邀专题简介（背景、目的、意见和内容）  随着无线技术快速发展及广泛应用，无线业务用户数量及其带宽需求成爆炸式增长，可用频谱资源不足与频谱使用效益不高间矛盾问题更加突出，动态频谱共享与协同被认为是下一代移动网络的八大潜在技术之一，是提高频谱效率、优化网络部署的重要手段。在区块链和人工智能技术的赋能下，动态频谱共享与协同将向智能化、分布式方向发展，通过灵活拓展频谱可用范围、优化频谱使用规则的方式，满足下一代移动网络频谱资源使用需求。“智能频谱共享与协同技术”专题论坛可以为国内外从事该领域研究的学者和机构打造一个强有力的学术交流平台，促进学科建设与发展，在信息化智能化社会发展、对军队信息化建设方面发挥更大的作用。本特邀专题邀请以下与“智能频谱共享与协同技术”主题相关的原创性论文，包含但不限于以下方向的创新思想、概念、新发现以及新应用。   * 智能频谱共享与协同架构 * 泛在频谱信息实时获取与更新 * 多域频谱感知与信息智能处理 * 电磁信号特征分析与个体识别 * 电磁环境构建与仿真模拟 * 智能无线信道建模与应用 * 频谱使用策略智能生成 * 智能频谱分配与在线调配 * 频谱自主协同与智能决策 * 频谱知识图谱构建与应用 * 频谱资源高效利用 * 靶向装备电磁环境效应评估 * 面向未来通信的频谱应用探索 |

**C2-China 2022**

**Invited Session Summary**

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| **Title of Session**  Intelligent Spectrum Sharing and Cooperation Technology |
| **Name, Salutation, Affiliation and Email of Organizers**  Yun Lin (Professor, Harbin Engineering University, linyun@hrbeu.edu.cn),  Jian Wang (Researcher, Tianjin University, wangjian16@tju.edu.cn),  Yu Zhang (Associate Researcher, The 63rd Research Institute, National University of Defense Science and Technology, zhyu63@163.com) |
| **Details of Session (background, purpose, significance and scope)**  With the rapid development of wireless communication technologies, both the number of wireless communication users and the desired bandwidth have obtained an explosive growth. However, the contradiction between insufficient available spectrum resources and low efficiency in spectrum utilization is becoming more prominent accordingly. Dynamic spectrum sharing and cooperation is one important means to improve spectrum efficiency and optimize network deployment, which has been considered one of the eight potential technologies of the next generation of mobile networks. Under the empowerment of blockchain and artificial intelligence technology, dynamic spectrum sharing and cooperation will develop towards intelligence and distribution, which can meet the needs of spectrum resource utilization in the next generation mobile network by flexibly expanding the available range of spectrum and optimizing spectrum usage rules. The special forum on "Intelligent Spectrum Sharing and Cooperation Technology" can provide a full-featured academic exchange platform for scholars and institutions engaged in this field both at home and abroad, which can promote discipline construction and development, and attempts to play a greater role in the development of information and intelligent society and military’s information construction.  This special topic invites the following original papers related to the theme of "Intelligent Spectrum Sharing and Cooperation Technology" containing innovative ideas, concepts, new discoveries, improvements, and new applications. Topics include but are not limited to:  ·Intelligent spectrum sharing and cooperation architecture  ·Real-time acquisition and updating of ubiquitous spectrum information  ·Multi-domain spectrum sensing and information intelligent processing  ·Electromagnetic signal feature extraction and target recognition  ·Intelligent radio channel modelling and application  ·Construction and simulation of electromagnetic environment  ·Intelligent generation of spectrum usage strategies  ·Intelligent spectrum allocation and online adjusting  ·Spectrum autonomous cooperation and intelligent decision-making  ·Construction and application of spectrum knowledge graph  ·Efficient utilization of spectrum resources  ·Targeted electromagnetic environment evaluation  ·Exploration of spectrum applications for the future |