

Special Issue

Advanced UAV Communication and Sensor Technologies for Electromagnetic Environment Awareness and Channel Optimization

Message from the Guest Editors

In future integrated space–air–ground communication networks, unmanned aerial vehicles (UAVs) are expected to play a critical role as flexible aerial platforms enabling connectivity among network components. Integrated sensing and communication (ISAC), reconfigurable intelligent surfaces (RISs), intelligent spectrum management, and so on, have provided new opportunities to jointly sense and optimize the wireless environment. Meanwhile, rapid advances in sensor technologies (i.e., remote sensing, cameras, LiDAR, radar, and other onboard sensors) enable UAVs to acquire rich multimodal sensor data for enhanced environment awareness and channel optimization. allocation.

This Special Issue aims to bring together cutting-edge research on UAV communication systems and sensor-assisted electromagnetic environment awareness and channel optimization. Contributions addressing theoretical analysis, algorithm design, system implementation, and practical deployment are all encouraged, with the goal of advancing both academic research and real-world applications in next-generation integrated networks.

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. *Sensors* organizes Special Issues devoted to specific sensing areas and applications each year.

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