

Special Issue

Sensing in Wireless Communication Systems

Message from the Guest Editors

The fusion of sensing and wireless communications is becoming central to future networks, especially in 5G-Advanced, 6G, and DSRC technologies such as WiFi. Integrated Sensing and Communication (ISAC) uses a single wireless infrastructure to transmit data while sensing the environment, enabling motion detection, object identification, and precise positioning for applications in autonomous driving, smart cities, industrial IoT, and XR. These applications require high bandwidth, AI-driven adaptability, strong security, reliability, QoS, and energy efficiency. Key technologies include massive MIMO, mmWave/THz bands, AI/ML-based signal processing, and advanced antennas. Despite progress, challenges remain in waveform co-design, hardware integration, interference management, and large-scale deployment. The Special Issue seeks high-quality contributions on ISAC architectures, testbeds, waveform design, KPIs, spectrum management, channel modeling, AI-enhanced sensing, resource allocation, green ISAC, sensor fusion, vehicular and industrial IoT, wideband antennas, 3GPP/IEEE standardization, Non-Terrestrial Networks, and advanced short-range IoT sensing.

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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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