Special Issue

Multiphysics Simulation and Design of Antennas and Devices for Next-Gen Wireless Sensor Networks

Message from the Guest Editors

This Special Issue aims to explore the integration of multiphysics simulation frameworks with advanced design methodologies to address emerging challenges in next-generation wireless sensor networks (WSNs). Topics of interest include, but are not limited to, the following: (1) Multiphysics Modeling: High-fidelity simulation algorithms of electromagnetic–thermal–mechanical interactions in antennas and microwave devices. (2) Optimization-Driven Design: AI/ML-enhanced inverse design strategies for miniaturized, tunable antennas and devices. (3) High-Frequency Applications: Development of terahertz (THz) and millimeter-wave (mmWave) systems. (4) Material Innovation: Integration of low-dimensional materials (e.g., graphene, metasurfaces) and phase-change materials to enhance device efficiency and reconfigurability.

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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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