Special Issue

Design and Application of Millimeter-Wave/Microwave Antenna Array

Message from the Guest Editors

Millimeter-wave (MMW)/microwave communication and sensing are critical technologies for wireless data transfer and image acquisition. With the increase in operating frequency or transmission/detection range, high-gain antennas are necessary for compensating the wireless propagation losses, thus improving the received system signal-to-noise ratio. MMW/microwave antenna arrays are the more preferred solutions compared with those bulky reflector or lens antennas of large apertures, featuring light weights, low costs, and ease of fabrication. Moreover, active devices like phase shifters or PIN diodes can be integrated with the array antenna to realize rapid beam steering or reconfigurable radiation characteristics, thus allowing the beam coverage or radiation flexibility to be considerably increased, in addition to achieving high gains. In addition, utilizing antenna arrays is also helpful in increasing the capacity for MIMO communications and enhancing image resolution or target recognition for array sensors. This Special Issue aims to gather novel structural designs, beamforming algorithms, and implementation techniques for MMW/microwave antenna arrays.

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Deadline for manuscript submissions

25 November 2025

Sensors

an Open Access Journal by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed

mdpi.com/si/225043

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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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