



## Millimeter-Wave Antenna Arrays: Design, Challenges, and Applications

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### Message from the Guest Editors

The growing interest in the exploitation of the millimeter-wave domain for satisfying the increasing capacity demands of forthcoming spatial and terrestrial wireless systems has raised novel significant challenges to antenna array designers. On the one hand, the possibility to package many elements in a limited space, the need to manage specific propagation and interference conditions, and the expected implementation of IoT and Internet of Everything (IoE) paradigms, require novel processing and synthesis techniques. On the other hand, the significant attenuations that characterize the mmWave propagation environment proposes to extend or rethink well-established channel access strategies, with the purpose of exploiting the directionality of the links for enabling operations in dense network scenarios.

This Special Issue will present a comprehensive overview of the state-of-the-art multi-antenna solutions for 5G cellular systems, satellite/nanosatellite constellations, drone swarms, and WPANs/WLANs, with the aim of providing novel insights on the design, simulation, implementation, testing, and application of antenna arrays in EHF-based next-generation networks.





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