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## Advanced Millimeter Wave Antenna Systems for 5G and beyond 5G Wireless Communications

Guest Editors:

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### Message from the Guest Editors

Recently, higher frequency bands, especially millimeter wave (mmWave) frequency bands, have been utilized to improve the transmission data rate for fifth generation (5G) and beyond 5G (B5G) wireless communication systems. As the frequency increases, the available bandwidth increases, while the wave length decreases. More antenna elements are required to compensate for the high path loss, blockage, gas absorption, etc. Advanced antenna designs and technologies need to be explored, such as (ultra-)massive multiple-input multiple-output (MIMO), holographic MIMO, and reconfigurable intelligent surface (RIS) communications. The emerging new application scenarios, such as integrated sensing and communications (ISAC), unmanned aerial vehicle (UAV), and maritime communications at mmWave bands, are promising. MmWave channel measurements, characteristics analysis, and channel modeling are also important for system design and performance evaluation.

This Special Issue therefore aims to bring together original research and review articles on recent advances, technologies, solutions, applications, and new challenges in the field of mmWave wireless communication systems.



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## Message from the Editor-in-Chief

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