

Antenna and Propagation for 5G and Beyond

Yejun He

5G and Beyond 5G (B5G) wireless communications have demanded higher system capacity, low latency, high reliability, greater spectral efficiency as well as enabling massive internet of things (IoT). This requires some innovative solutions in antenna design and to reduce the degree of complexity and difficulty in system integration. Related research includes antenna issues, propagation issues in Millimeter-Wave (mmWave)/THz systems, and practical implementation issues across all kinds of devices and platforms.

The goal of this special session is to cover current R&D trends and findings in the design and applications of antennas for 5G and B5G wireless communications, as well as the identification of integration techniques of these antenna systems into circuits and future networks. Areas of interest include, but are not limited to the following:

- Millimeter-wave (mmWave) antennas
- THz band antennas
- Metamaterials and Metasurface Antennas
- Conformal/reconfigured antenna arrays for 5G and beyond
- Sparse arrays for mmWave/THz communication
- Massive MIMO antennas
- K, Ka-band arrays for satellites/nanosatellites
- Cooperative/distributed mmWave/THz beamforming
- Antenna prototyping, measurements.