SCOPE

Recently, there has been increasing interest and rapid growth in the use of millimeter-wave (mm-wave) antennas and devices for future mm-wave mobile communications in fifth generation (5G) cellular networks. Using 5G technologies, we will achieve superior performances over today’s wireless systems both in terms of bandwidth and data-transfer rates.

Despite the benefits, the designers and researchers in the antenna and propagation fields have many challenges in order to make mm-wave practically feasible. At high frequencies, the design of the radiated elements needs to provide characteristics such as: low cost, intelligent and universally applicable and compatible with various mobile terminals and platforms. These challenges need to be addressed adequately. To meet these challenges, antennas for 5G wireless communication networks require to exhibit the following performances: (a) wide pass-band (b) low insertion loss, (c) high gain, (d) beam forming capability and (d) re-configurability to enhance the capabilities of data transport, transmission, and reception between end users and the core network. A promising way to provide these characteristics is to use: mm-wave beamforming antenna arrays, meta-materials based antennas, mm-Wave massive MIMO systems, advanced antennas using electromagnetic periodic structures (FSS, EBG, and AMC). These methodologies provide a basis for developing, designing, analysis, dimensioning, and optimization of transmitting and receiving antennas for 5G wireless networks. We expect to explore these key technologies along with the prospects and challenges of future 5G communication networks.

The aim of this special issue is to explore new ideas and developments to address these challenging problems and to encourage researchers to present original and recent work on advanced antennas for 5G wireless communication systems.

TOPICS

This special issue will focus on the recent research advances in mm-wave antennas and the topics of interest include, but are not limited to the following areas of mm-wave communications:

- 5G reconfigurable antennas
- Antenna arrays
- Antenna layouts and topologies at microwave or mm-wave/THz frequencies
- Beam steering, tilting, or switching and beam combining architectures at microwave or mm-wave/THz frequencies
- Frequency selective surface FSS and their use for mm-wave band antennas
- Meta-materials based antennas
- MIMO and massive MIMO systems
- mm-wave beamforming antennas
- Smart antennas

EDAS submission link: http://edas.info/N23923

Accepted and presented papers will be published in the IEEE PIMRC 2017 Conference Proceedings and submitted for inclusion in IEEE Xplore®.

IMPORTANT DATES

Review paper submission: 04 August 2017
Notification of acceptance: 18 August 2017
Camera-ready submission: 25 August 2017

WORKSHOP SP-03 CO-CHAIRS

Tayeb A. Denidni, INRS, Canada
Mohamad Mantash, INRS, Canada

MORE INFO

E-mail: special-session.sp-03.co-chairs@pimrc2017.org
Special-sessions webpage: http://pimrc2017.ieee-pimrc.org/authors/cfp-special-sessions/