



INVITED SESSION SUMMARY

Title of Session:

RF and FSO channel modelling for wireless transmission and performance analysis

Name, Title and Affiliation of Chair:

Stefan Panić, PhD, Associate professor,
Faculty of Natural Science and Mathematics, University of Pristina, Kosovska Motrovica

Details of Session (including aim and scope):

The rapid development of various wireless communication system services has created a need for deeper understanding of nature of fading and other wireless propagation phenomena. Novel communication scenarios and services demand theoretical characterization of channel models or extensions of those models currently used in the field of wireless propagation. The aim of this section is introducing the basic theoretical principles for wireless propagation performance analysis and its mathematical formalization of these phenomena. This section would include coverage of multichannel reception in various fading environments, influence of cochannel interference, and diversity reception when propagation channels are simultaneously affected by various types of fading and shadowing, supplying you with the methods and tools for performing an accurate performance evaluation of the proposed communication scenarios.

Continuously increasing demand for higher data rates, larger network capacity, higher energy efficiency, and higher mobility has motivated research for 5G communication systems. 5G is generally agreed for set of new requirements for wireless communications systems. These requirements will need to address several critical performance areas including cost constraints, traffic latency, reliability, security, availability, heterogeneous structure of networks, multicast/broadcast requirements, the need to serve a variety of different devices, and reduced energy consumption. Accurate 5G indoor and outdoor channel characterization and modeling are crucial for determining the system performance and thus for system and for 5G network realization. Namely, 5G radio wave propagation is affected by various drawbacks that more or less corrupt the original transmitted signal arriving at the receiver (free-space propagation, object penetration, reflection, scattering, diffraction, and absorption caused by atmospheric gases, fog, and precipitation).

We invite authors to contribute original research articles as well as review articles that will illustrate and stimulate the continuing effort to understand the essential nature of wireless propagation phenomena. Accepted papers will show a span of new developments from the propagation and fading theory. This session will let the participants of this conference know more about these fundamental principles of wireless communications

Potential topics include, but are not limited to:

- Fading channel modeling
- Fading channel simulation
- Path loss characterization
- FSO channel modeling
- Interference mitigation
- Diversity reception
- MIMO
- Cooperative communications
- Performance evaluation
- Modulation/Detection
- Visible light communications
- Information theory
- Performance analysis of wireless systems
- 5G system

Main Contributing Researchers / Research Centres (tentative, if known at this stage):

To generate reliable wireless propagation models for 5G systems and further to determine standard

performance measures of 5G systems. To provide general propagation models in order to assess the performance of system and specific models related to real-world reference scenarios with fine classification of terms.

Website URL of Call for Papers (if any):

Email & Contact Details:

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