Title:
Channel Modeling for THz Wireless Communications

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Abstract:
The THz band communications has been a very popular research topic during the past decade. While there are limitations on implementing THz band solutions to many mobile applications, such as cell phones and internet of things devices, there are plenty of interesting applications where THz band has huge potential. Channel models are crucial element in system design and feasibility analysis. Without channel models it is impossible to predict system performance and assess the potential of developed system solutions. This presentation focuses on THz band specific channel modeling from static links to mobile multipath links. We investigate different basic propagation phenomena and also look what is still needed in the future to serve future THz wireless applications, and what kind of challenges there are in the THz band channel modeling.

Biography:
Joonas Kokkoniemi received his B.Sc. (Tech.), M.Sc. (Tech.), and Dr.Sc. (Tech.) degrees in communications engineering from University of Oulu, Finland in 2011, 2012, and 2017, respectively. Currently he is a senior research fellow (University Researcher) at Centre for Wireless Communications, University of Oulu. He is an adjunct professor (docent) in the field of THz communications technology (since 2021). His research interests are in terrestrial and satellite THz band and mmWave channel modeling and communication system analysis.