

Scientific Workshop SW03

Antennas and Propagation Aspects for THz Communications

Abstract:

THz Communications operating at 300 GHz and beyond is seen as one of the candidates for 6G wireless systems. This high frequency band with its high path loss and the small size of objects impacting the radio channel contains many challenges in terms of radio channel characterisation and antenna development. Numerous research projects on various aspects on THz communications are currently ongoing. This workshop – jointly organized by the projects H2020 EU-Japan ThoR (www.thor-project.eu), H2020 Terapod (www.terapod-project.eu) and DFG FOR 2862 Meteracom (www.meteracom.de) - will specifically discuss aspects on antennas and propagation of THz communications presenting recent results from these three projects.



Workshop Program (Friday 26 March 2021, 9h-12.40)

- 9.00 Welcome and Workshop Opening
Thomas Kürner, Technische Universität Braunschweig, Germany
- 9.05 Introduction to DFG FOR 2863 Meteracom
Thomas Kürner, Technische Universität Braunschweig, Germany
- 9.15 Development of calibration techniques and traceability of the measured variables in THz wireless channel
Mohamad Al-Dabbagh, Physikalisch-Technische Bundesanstalt, Germany
- 9.35 Terahertz time-domain spectroscopy characterization of atmospheric propagation and building materials
Enrique Castro Camus, Philips-Universität Marburg, Germany
- 9.55 Introduction to H2020 Terapod
Alan Davy, Waterford Institute of Technology, Ireland
- 10.05 Substrate integrated 1x4 Antenna Array at 300 GHz using BCB layers
Luis Pessoa, INESC TEC, Portugal
- 10.25 Physical Layer Simulation of THz-Communication Systems in the Context of Data-Center Applications
Christoph Herold, Technische Universität Braunschweig, Germany
- 10.45 Break
- 11.00 Submillimeter-wave Agile Antenna Systems (Invited Talk)
Ronan Sauleau, Université de Rennes 1, France
- 11.30 Introduction to H2020 EU-Japan ThoR
Tetsuya Kawanishi, Waseda University, Japan
- 11.40 Near-field measurement and far-field characterization of J-band antennas in the ThoR project
Shintaro Hisatake, Gifu University, Japan
- 12.00 300 GHz transmission of E/V bands data-flows in the ThoR project
Guillaume Ducournau, Université de Lille, France
- 12.20 Panel Discussion – THz Communications – what is required to become reality?
Panelists: Bruce Napier (Vivid Components, Chair), Ronan Sauleau, Thomas Kürner, Alan Davy, Tetsuya Kawanishi