Mo2D-1 **14:45-15:00**

Real-Time 162 Gbit/s Photonic THz Transmission at 300 GHz Using a Novel Orthomode Transducer

Liga Bai[1], Zhe Ding[1], Lu Zhang[1], Zhidong Lyu[1], Zian Wang[1], Oskars Ozolins[3], Xiaodan Pang[1,3], Changming Zhang[2], Shilie Zheng[1], Xianbin Yu[1,3]
[1]Zhejiang University, [2]Zhejiang Lab, [3]Riga Technical University

We demonstrate a photonic terahertz communication system achieving a record 162 Gbit/s real-time data rate at 300 GHz, enabled by frequency and polarization multiplexing with a novel orthomode transducer of single symmetric Bøifot structure.

Mo2D-2 **15:00-15:15**

Record 221 Gb/s Dual Polarization THz Wireless Transmission Over 500 m Using PCS-64QAM at 300 GHz

In-Ho Baek[1], Oliver Stiewe[1], Robert Elschner[1], Markus Rösch[2], Axel Tessmann[2], Markus Nölle[3], Lutz Molle[3], Colja Schubert[1], Ronald Freund[1,4]
[1]Heinrich Hertz Institute (HHI), [2]Fraunhofer-Institut für Angewandte Festkörperphysik, [3]Hochschule für Technik und Wirtschaft Berlin, [4]Technische Universität Berlin

We report a record dual-polarization (DP) terahertz (THz) wireless transmission, achieving a net data rate of 221.5 Gb/s over a 500-m distance at 300 GHz carrier frequency.

Mo2D-3 **15:15-15:30**

Investigation of Scalability for Multi-hop Inter-Satellite Links using All-optical Relays

Satoshi Shinada, Shoichiro Oda, Hideaki Kotake, Toshimasa Umezawa, Yusuke Hirota, Hideaki Furukawa
National Institute of Information and Communications Technology

Transmission performance in multi-hop optical intersatellite links using all-optical relays was experimentally investigated. Results show all-optical repeaters with highpower optical fiber amplifiers can support over 10,000 km transmission distance of all-optical inter-satellite relays.

Mo2D-4 **15:30-15:45**

Intelligent Reflecting Surface-Assisted Pointing, Acquisition, and Tracking Algorithm for Cellular FSO Communication

Gihong Park, Hoon Kim
Korea Advanced Institute of Science and Technology

We propose a pointing, acquisition, and tracking algorithm to secure a reflected path for free-space optical links in cellular environment. The proof-of-concept experimental demonstration is performed by using fast steering mirrors and variable focus lenses.

Mo2D-5 **Invited** **15:45-16:15**

FMCW LiDAR Architectures: Overview, Trade-offs, and Design Selection

Javier Pérez Santacruz[1], Jac Romme[2], Esteban Venialgo Araujo[2], Joonyoung Kim[1], Mathias Prost[1], Ruud M. Oldenbeuving[3], Marcus S. Dahlem[1], Dongjae Shin[2]
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This work provides a high-level overview of FMCW LiDAR architectures, outlining key performance indicators and the main trade-offs that guide optimal architectural selection once system requirements are defined.