



Best Paper Award

Mo1A-1

13:00-13:15

1.2T(4λ×300G) Interconnect over 14km NANF using Shared-Carrier Kramers-Kronig Detection

Hilmi Othman, Kyle R.H. Bottrill, Suttikarn Wantee, Gregory T. Jasion, Hesham Sakr, Francesco Poletti, Periklis Petropoulos

University of Southampton

We present 1.2Tb/s ($4\lambda \times 300\text{Gb/s}$) directdetection transmission over 14-km of NANF using KramersKronig receiver and carrier sharing. By harnessing the high linearity and low dispersion of hollow-core NANF, penaltyfree transmission was demonstrated at high-launch power.

Tu1G-1

08:30-08:45

Quantum Teleportation over a Metropolitan Fiber Network in Berlin

Matheus Sena¹, Zofia A. Borowska¹, Shane Andrewski², Olivia Brasher², Giorgio de Pascalis³, Mael Flament², Marc Geitz¹, Mehdi Namazi², Oliver Holschke¹

¹Deutsche Telekom AG, ²Qunnect Inc., ³Paderborn University

We demonstrate quantum teleportation using off-the-shelf components over a 13.7-km metropolitan fiber link in Berlin carrying co-propagating classical traffic. An average fidelity of $88.9 \pm 4.0\%$ is achieved under carriergrade real-world conditions, demonstrating compatibility with telecom infrastructure.

Tu3C-1

13:15-13:30

350 Gb/s Hybrid TDM/TFDM Coherent Access Supporting Concurrent PON and Fiber/FSO Links

Haipeng Zhang, Zhensheng Jia

Cable Television Laboratories Inc.

We demonstrate a TDM/TFDM hybrid coherent access network concentrating DSC processing at the OLT while using simple SC ONUs/endpoints. Three adaptable DSCs deliver 350 Gb/s bidirectional capacity, supporting P2MP PON and dedicated fiber/FSO P2P links.

Tu4B-2

15:30-15:45

Coupled 4-Core Erbium-Doped Fiber Amplifier with A Power Conversion Efficiency of 39 %

Masato Tanaka, Takafumi Ohtsuka, Koichi Shirahata, Hirotaka Sakuma, Takemi Hasegawa, Soichi Endo, Shintaro Mouri, Hidehisa Tazawa

Sumitomo Electric Industries, Ltd.

A coupled 4-core erbium-doped fiber amplifier (EDFA) with power conversion efficiency of 39.0 % is reported. The highest record in multi-core EDFAs is achieved using core pumping and multi-core fibers with a narrower core pitch.



Th1E-3

09:15-09:30

THz-Optical Signal Conversion Demonstration using Metasurface-based Transparent EO Modulator

Rizadi Sasmita Darwis^{1,2}, Yui Otagaki¹, Hiroshi Murata¹

¹Mie Univeristy, ²Politeknik Caltex Riau

We proposed a novel transparent electro-optic (EO) modulator based on a metasurface for THz-optical signal conversion, which operated with a wideband frequency response and can pass through THz signals, enabling integration with wireless communication and sensor systems.

Th1F-2

09:00-09:15

A Quasi-Monostatic Focal-Plane-Array LiDAR on a 200-mm Silicon Photonics Platform

Guillaume Croes¹, Mathias Prost¹, Huaqing Qiu¹, Manuel Reza¹, Jac Romme², Javier Perez Santacruz^{1,2}, Elbert Bechthum², Ziduo Lin¹, Jochem Govers², Pawel Bemnowicz², Brecht Berteloot¹, Esteban Venialgo², Erik Emmen¹, Tangla D. Kongnyuy¹, Nicolas Chauvet², Peter Girouard², Maliheh Ramezani¹, Puvendren Subramaniam¹, Padraic E. Morrissey³, Sean Collins³, Matthew L. Hall³, Peter O'Brien³, Christian Bachmann², Ruud Oldenbeuving², Joost Brouckaert¹, Dongjae Shin², Roelof Jansen¹, Peter Gerets¹, Marcus S. Dahlem¹

¹imec, ²imec Netherlands, ³Tyndall National Institute

We demonstrate an integrated quasi-monostatic focalplane-array FMCW LiDAR on a 200-mm silicon photonics platform, achieving a 15-m range that is currently constrained by system low-pass filtering, indicating clear scalability towards substantially longer distances.