Room A (Grand Ballroom 1), 2F — Chair: Akira Kawai. (NTT, inc.)

Mo1A — June 29 (Mon), 2026
Transmission over Hollow-Core Fiber — 13:00-14:30

Mo1A-1 **13:00-13:15**

1.2T(4λx300G) 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 (4λ×300Gb/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.

Mo1A-2 **13:15-13:30**

4.96 Tbit/s DWDM-IMDD Transmission over 11.6 km of Hollow-Core DNANF

Suttikarn Wantee, Kyle R.H. Bottrill, Hilmi Othman, Hao Liu, Periklis Petropoulos
University of Southampton

We demonstrate transmission of 4.96 Tbit/s DWDMIMDD signals in the C-band over 11.6-km of dispersionuncompensated hollow-core fibre with 31×160 Gbit/s PAM6 channels, all operating below the 6.25% HD-FEC threshold.

Mo1A-3 **13:30-13:45**

SOA based Full C-Band 800G ZR Transmission over a 60.85 km AR-HCF DCI Link

Carina Castineiras Carrero[1], Arnaud Dupas[1], Amirhossein Ghazisaeidi[1], Haïk Mardoyan[1], Célia Cruz[2], Cosimo Caló[2], Fabrice Blache[2], Arnaud Wilk[2], Olivier Delorme[2], Nicolas Vaissiere[2], Karim Mekhazni[2], Igor Mijovic[2], Oriol Bertan Pardo[3], Jérémie Renaudier[1]
[1]Nokia Bell Labs, [2]III-V Lab, Palaiseau, [3]Nokia

We demonstrate 800G ZR transmission over 60.85 km of low loss AR-HCF using dual-polarization variable confinement SOA. Full C-band transmission of 39x800G ZR channels is achieved over a DCI link, yielding 31.4 Tb/s throughput with 6.4 b/s/Hz spectral efficiency.

Mo1A-4 **13:45-14:00**

WSS-Based Optical Domain Equalization to Mitigate Gas Absorption Penalties in Hollow-Core Fiber for Wide-Area AI Interconnects

Hong Liu[1,2], Shan Huang[5], Chengbo Li[1,3], Baoluo Yan[1,2], Dongchen Zhang[1,2], Jun Chu[4], Yangguang Liu[1,2], Hu Shi[1,2]
[1]State Key Laboratory of Mobile Network and Mobile Multimedia Technology, [2]WDM System Department of Wireline Product R&D Institute, [3]Hardware System Department, [4]State Key Laboratory of Optical Fibre & Cable Manufacture technology, [5]China Mobile Information Technology Co., Ltd.

A WSS-based optical equalization method is proposed to compensate gas absorption in hollow-core fiber, extending transmission distance from ~200km to 400km for high-speed signals.

Mo1A-5 **14:00-14:15**

Ultra-Dense WDM Transmission Using SSB A-RoF Signals Over a Hollow-Core Fiber

Natsuhiro Yamada[1], Hironori Yamaji[1], Kimitami Yanai[1], Satoshi Fujita[1], Takeshi Takagi[2], Kazunori Mukasa[2], Motoharu Matsuura[1,3]
[1]University of Electro-Communications, [2]Lightera Japan Co., Ltd., [3]Keio University

We demonstrate ultra-dense wavelength division multiplexing transmission using single-sideband analog radio-over-fiber signals over a 1-km hollow-core fiber. We successfully achieved high tansmission performance with a channel spacing twice the carrier frequency of the modulated signal.

Mo1A-6 **14:15-14:30**

Evaluation of Nonlinear Effects in DWDM Transmission Using a Hollow-Core Fiber

Kimitami Yanai[1], Natsuhiro Yamada[1], Takeshi Takagi[2], Kazunori Mukasa[2], Motoharu Matsuura[1,3]
[1]University of Electro-Communications, [2]Lightera Japan Co., Ltd., [3]Keio University

We experimentally evaluated nonlinear effects in dense wavelength-division multiplexing transmission using a hollow-core fiber (HCF) in detail. We demonstrated that HCFs significantly suppress these effects compared with silica-core fibers and provide high transmission characterics.