Room C (Grand Ballroom 3), 2F | Chair: Ryo Koma (NTT, inc.)

Tu4C | June 30 (Tue), 2026
Next-Generation Coherent PON | 15:00-16:30

Tu4C-1 **15:00-15:15**

Frequency-Offset Tolerant Burst-Mode Receiver for 200G Coherent PON Supporting 27 dB Dynamic Range

Jad Sarkis[1,2], Robert Palmer[1], Giuseppe Talli[1], Maxim Kuschnerov[1], Valter Ferrero[2], Roberto Gaudino[2]
[1]Huawei Heisenberg Research Center, [2]Politecnico di Torino

We experimentally demonstrate a gross 256Gb/s DP-QPSK coherent burst-mode transmission in C-band over 40km for an extended PON uplink, using a commercial fixed-gain receiver supporting 27dB dynamic range and up to 12GHz frequency offset.

Tu4C-2 **15:15-15:30**

11-dB DC Leakage Tolerance Enhancement for 200G Coherent PON Upstream with Low-Complexity Block-Wise Adaptive Cancellation

Yutong Pan[1], Tianhong Zhang[1], Yixiao Zhu[2], Guangying Yang[2], Fan Zhang[1,3]
[1]Peking University, [2]Shanghai Jiao Tong University, [3]Peng Cheng Laboratory

We propose and experimentally demonstrate a lowcomplexity block-wise adaptive DC leakage cancellation scheme for 240-Gb/s/ λ coherent TDM-PON upstream, achieving a 11.0-dB improvement in DC tolerance and a power budget of 39.7 dB over 25-km SSMF.

Tu4C-3 **15:30-15:45**

Impact of Frequency Offset on Robust 200G Interleaved-DSCM Coherent PON

Adrian A. Juarez[1], Haipeng Zhang[2], Zhensheng Jia[2], Xin Chen[1], Ming-Jun Li[1]
[1]Corning Incorporated, [2]Cable Television Laboratories, Inc.

We evaluate frequency-offset compensation in a 200 G interleaved DSCM PON architecture, demonstrating 1 GHz frequency-offset tolerance for both LO–ONU and ONU– ONU mismatch scenarios at BER = 2×10^{-2} with standard coherent DSP.

Tu4C-4 **15:45-16:00**

Demonstration of 200-Gb/s Coherent-Lite PON with 45.2-dB Link Budget over AR-HCF

Chen Yang[1], Siyu Chen[1], Zheli Liu[1], Can Zhao[1], Hao Wen[1], Jun Wang[1], Mingming Zhang[1], Yuqi Li[1], Zihe Hu[1], Peng Li[2], Lei Zhang[2], Jie Luo[2], Lei Shi[1], Ming Tang[1]
[1]Huazhong University of Science and Technology, [2]YOFC

We propose an ultra-simple self-homodyne coherent-lite PON over HCF by incorporating on-chip optical frequency comb. Experimental results demonstrate a 45.2-dB link budget, achieving a single-wavelength net rate of 196.5 Gb/s.

Tu4C-5 **Invited** **16:00-16:30**

Next-Generation Intelligent and Flexible Optical Access Network based on Coherent Optics

Junwen Zhang, Penghao Luo, Shouyun Cai, An Yan, Renle Zheng
Fudan University

Coherent passive optical network (CPON) has become a strong candidate for next-generation optical access networks and are considered a potential solution for 100G PON specification. This paper discusses key technologies for intelligent and flexible CPON.