Mo2F-1 Invited 14:45-15:15

Beyond 300 Gb/s Optical-Amplification-Free Transmission at 85 ℃ using BTO Silicon Photonics Mach-Zehnder Modulator

Armands Ostrovskis[1,2], Thomas Kornher[3], Felix Eltes[3], Darja Cirjulina[1], Toms Salgals[1], Mateusz Zbik[3], Wouter Diels[3], Michael Koenigsmann[2], Benjamin Krüger[2], Fabio Pittalà[2], Lu Zhang[4], Xianbin Yu[4], Markus Gruen[2], Hadrien Louchet[2], Robert Jahn[2], Kazuo Yamaguchi[2], Vjaceslavs Bobrovs[1], Cyriel Minkenberg[3], Xiaodan Pang[4,1], Oskars Ozolins[1]
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We demonstrate an O-band barium titanate (BTO) MachZehnder Modulator (MZM) achieving record beyond 300 Gb/s net optical-amplification-free transmission over 500 m SMF at 85 ℃ supporting OOK, PAM4/6/8 with performance below 6.25% OH HD-FEC threshold of 4.5×10^{-3}.

Mo2F-2 15:15-15:30

Above 67 GHz Electro-optic Phase Modulators on an InP Membrane Platform

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A compact high-speed electro-optic phase modulator is fabricated on an InP membrane platform. Characterized device shows EO response of -1.26 dB at 67 GHz and $V\pi L$ of 0.357 V.cm.

Mo2F-3 15:30-15:45

Mid-Infrared Silicon Electro-Optic Modulators via Standard Foundry Processes

Zengfan Shen[1], Qiyuan Li[1], Zhiwei Yan[1], Yuheng Liu[3], Yuqin Yuan[4], Qiyuan Yi[1], Guanglian Cheng[1], Xinzhe Xiong[1], Xuchen Peng[1], Hanming Yuan[1], Jiahao Xing[1], Qixin Xu[1], Lipeng Xia[3], Jialin He[4], Junwen Zhang[4], Yi Zou[3], Li Shen[1,2]
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We demonstrate 3.55 μm mid-infrared electro-absorption (EAM) and Mach-Zehnder (MZM) modulators via standard SOI foundries. The EAM achieves a 41 dB extinction ratio and the MZM features a 15 dB ratio and a low 0.0054 V·cm $V\pi L$. Both exhibit sub 30 ns response times.

Mo2F-4 15:45-16:00

Epitaxial PLZT Electro-Optic Platform for Low-Loss, Low Vπ·L Optical Modulators

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Epitaxial PLZT thin films on sapphire enable low-loss waveguides with 1.6 dB/cm. Mach–Zehnder modulators show $V\pi$ = 3.9 V and $V\pi \cdot L$ = 0.39 V·cm, demonstrating PLZT as a practical electro-optic photonic platform.