We2E-1 **13:15-13:30**

Compact and Low-Loss Silicon Nitride Rib Waveguide Bends Using Width-Modulated NAdjustable Trajectories

Ja-Hyun Ku[1], Hui-jae Cho[1], Ga-Young Park[1], Kap-Joong Kim[2], Byung-Seok Choi[2], Jong-Bum You[1]
[1]National NanoFab Center, [2]Electronics and Telecommunications Research Institute

We experimentally demonstrate compact, low-loss silicon nitride rib waveguide bends using width-modulated Nadjustable trajectories. By effectively suppressing both slab leakage and radiation loss, substantial loss reductions are achieved across various bend radii.

We2E-2 **13:30-13:45**

Compact Silicon Nitride Edge Coupler Optimized via Covariance-Matrix-Assisted Particle Swarm Optimization

Zhengyang Li, Yichen Zhang, Lei Zhang
Beijing University of Posts and Telecommunications

We report a compact SiN edge coupler optimized via covariance-matrix-assisted particle swarm optimization. It exhibits approximately 1.1 dB insertion loss and below 0.3 dB polarization-dependent loss at 1550 nm for 4-μm modefield diameter fibers.

We2E-3 **13:45-14:00**

Near-Athermal Silicon Nitride (De)multiplexer with a Wavelength Shift of ~2 pm/K

Shiqi Zhang, Donghao Li, Luyang Liu, Haojie Xue, Yichen Zhang, Lei Zhang
Beijing University of Posts and Telecommunications

We report a silicon nitride (de)multiplexer that employs varying waveguide widths to achieve a temperature-insensitive response. The device exhibits a low temperature-dependent wavelength shift of 2 pm/K and a π-phase-shift power of 29 mW.

We2E-4 **14:00-14:15**

Effective Depth and Nonlinearity in an Integrated Photonic Recurrent Network

Yongdi Zhang[1], Qishen Liang[1], Zichao Zhao[1], Haoran Ma[1], Baojie Hou[1], Yawen Tu[1],Bin Zhang[1,2], Bangmin Gong[1], Huihui Zhu[1], Yuehai Wang[1], Jianyi Yang[1,3]
[1]Zhejiang University, [2]Zhejiang Lab, [3]Jinhua Institute of Zhejiang University

We demonstrate an integrated photonic recurrent network in which optical feedback enhances effective depth and enables nonlinear input–output mappings without increasing physical layers.

We2E-5 **Invited** **14:15-14:45**

From Sensing Applications to 200Gbps/lane Silicon Photonics Using 300mm Platforms

Frédéric Boeuf, Louise-Eugenie Bataille, Leopold Virot, Lorenzo Lazzari, Stephane Monfray, Eva Kempf, Sebastien Cremer
STMicroelectronics

Beginning in the 1980s, Silicon Photonics evolved into a key technology for low-cost, high-speed optical transceivers. We present STMicroelectronics' PIC50 and PIC100 platforms, enabling high-speed modulators, detectors, OPAs, and heterogeneous III–V/SOI integration for datacom, LiDAR, and quantum applications.