

Grand Ballroom 4 (Grand Ballroom 4), 2F

**P2**  
Poster Session II

June 30 (Tue), 2026  
16:30-18:00

**P2-1** 16:30-18:00

### **A Digital Low-Dropout Regulator for Silicon Photonic Thermo-Optic Tuning Applications**

Jenchieh Liu<sup>1</sup>, Hsuan-Cheng Liu<sup>1</sup>, Zhen Jie Hong<sup>2</sup>  
<sup>1</sup>National United University, <sup>2</sup>Feng Chia University

A digital LDO with automatic bit switching is proposed for driving silicon photonic heaters. It can arrive a high power-efficient, DAC-less driver for overshoot suppression, ensuring precise thermal control and device reliability.

**P2-2** 16:30-18:00

### **Measurement of Electrical Crosstalk Intensity in Dual-Parallel Mach-Zehnder Modulator**

Taiki Aritomi, Qingchuan Huang, Tetsuya Kawanishi  
Waseda University

Using our crosstalk model for a dual-parallel Mach-Zehnder modulator, we performed measurements under expanded conditions. Results confirm a frequency dependence of the electrical crosstalk and demonstrate improved accuracy and scalability of the method.

**P2-3** 16:30-18:00

### **Design of Circular Antenna Integrated Microring Resonator Optical Modulator for 100 GHz Band Radio over Fiber Systems**

Jihan Ryu<sup>1</sup>, Yuto Yamada<sup>1</sup>, Hiroshi Murata<sup>2</sup>, Taro Arakawa<sup>1</sup>  
<sup>1</sup>Yokohama National University, <sup>2</sup>Mie University

We present a theoretical design of a 100-GHz-band antenna-integrated microring resonator (MRR) optical modulator for radio-over-fiber systems. By combining a single MRR with an optimized InGaAs/InAlAs multiple-quantum-well, the proposed device enables highly efficient modulation.

**P2-4** 16:30-18:00

### **Ultra-Wideband InP/EO Polymer Modulators with Coaxial Segmented Electrodes**

Kensuke Ikai, J Fujikata  
Tokushima University

We analyzed the effect of the square lattice and triangular lattice-based photonic crystal (PC) structures application to the InP/EO polymer hybrid (IPH) modulators on optical loss and wavelength bandwidth.

**P2-5** 16:30-18:00

### **Silicon Nitride Slot Waveguide Thermo-Optic Phase Modulator Embedded in Polymer Layer**

Min-Cheol Oh, Siuh Wei Tan, Eun-su Lee, Kwon-Wook Chun, Jinung Jin  
Pusan National University

We demonstrate a silicon nitride slot waveguide thermo-optic phase modulator embedded in polymer platform. Enhanced optical confinement in the high thermo-optic polymer region enables low  $\pi$ -phase shift power, improved modulation efficiency, and compact photonic integration.

**P2-6** 16:30-18:00

### **Identical-Active III-V Laser and Electro-Absorption Modulator on SOI for Silicon Photonic O-Band Applications**

HoSung Kim, Dongsik Shim, Rafael Chu, Youngzoon Yoon, Bongyoung Jang, Jaesoong Lee, Byunghoon Na, JungHo Cha, Young-Geun Roh  
Samsung Electronics

We demonstrate an identical-active electro-absorption modulated laser (IA-EML) on SOI, where the laser diode (LD) and electro-absorption modulator (EAM) share the same III-V active region without regrowth.

**P2-7** 16:30-18:00

### **The Zero-Static-Power MZI Optical Convolution Matrix Based on Sb<sub>2</sub>S<sub>3</sub>**

Qiuyan Yao, Libin Zhang, Daqing Meng, Yijie Liang, Hui Hui, Jie Zhang  
Beijing University of Posts and Telecommunications

We developed an optical convolution matrix for the SVD Clements architecture, by introducing a non-volatile Sb<sub>2</sub>S<sub>3</sub>-

based MZI, achieving a PCC of 0.916 and a significant reduction in power consumption.

**P2-8** **16:30-18:00**

**Plasmonic Lead Zirconate Titanate Phase Modulator**

Liao Chen<sup>1</sup>, Ruiji Gao<sup>1</sup>, Jihao Zhao<sup>1</sup>, Feng Qiu<sup>2</sup>, Chi Zhang<sup>1</sup>, Yang Liu<sup>1</sup>, Xinliang Zhang<sup>1</sup>  
<sup>1</sup>Wuhan National Laboratory for Optoelectronics, <sup>2</sup>Juhe Electro-Optic Tech. Co. Ltd.

We demonstrate an efficient plasmonic lead zirconate titanate phase modulator. The proposed plasmonic modulator achieves a modulation efficiency of 996 V· $\mu\text{m}$  and a 6-dB electro-optic bandwidth exceeding 65 GHz.

**P2-9** **16:30-18:00**

**Fabrication of a DBR Resonator Based on Nb<sub>2</sub>O<sub>5</sub> Horizontal Slot Waveguides with a 100-nm-Thick Hollow Slot for Sensing Devices**

Katsumi Nakatsuhara, Umi Endo, Nao Suzuki, Yoshiki Hayama  
Kanagawa Institute of Technology

We designed and fabricated DBR resonators based on Nb<sub>2</sub>O<sub>5</sub> horizontal slot waveguides with 100-nm-thick hollow slots. Furthermore, refractive-index changes were observed in the fabricated devices.

**P2-10** **16:30-18:00**

**Quantitative Characterization of Nonlinear Resonance Shifts in Silicon Microrings Using Multi-FSR Probe Characterization**

Chia-Chien Wei, Shou-Ting Peng, Huei-Hua Lai, Yung-Jr Hung  
National Sun Yat-sen University

We experimentally demonstrate the true resonance shifts of silicon microrings under high-power injection using multiFSR characterization. This method eliminates nonlinear artifacts, enabling the first experimental reconstruction of intrinsic, steady-state spectral profiles.

**P2-11** **16:30-18:00**

**Time-Domain Interleaving Model for Nonlinear Dynamics in Silicon Micro-Ring Modulators**

Zhiyuan Zhou<sup>1,3</sup>, Zhihan Sun<sup>1,3</sup>, Yueyang Yu<sup>1,3</sup>, Yu Lu<sup>1,3</sup>, Qingyun Xian<sup>1,3</sup>, Qi Tian<sup>1,3</sup>, Changyu Hu<sup>2</sup>, Hao Hu<sup>2</sup>, Jun Liu<sup>2</sup>, Shengjiang Dai<sup>2</sup>, Shuang Zheng<sup>1,3,4</sup>, Minming Zhang<sup>1,3,4</sup>  
<sup>1</sup>Huazhong University of Science and Technology, <sup>2</sup>Hubei Jiufengshan Laboratory, <sup>3</sup>National Engineering Research Center for Next Generation Internet Access System, <sup>4</sup>Optics Valley Laboratory

We propose a time-domain interleaving model for silicon micro-ring modulators capturing thermal and free-carrier nonlinearities. Validated by experiments, the model accurately simulates sweep-speed-dependent spectra and insertion-loss-dependent bandwidths, while predicting selfpulsation dynamics.

**P2-12** **16:30-18:00**

**A 36 Gb/s Silicon Micro-Ring Modulator Transmitter with Driver Resistance Optimized for Bonding-Wire Inductance**

Sehwan Park<sup>1</sup>, Dae-Won Rho<sup>2</sup>, Yongjin Ji<sup>1</sup>, Jaewon Lee<sup>1</sup>, Woo-Young Choi<sup>1</sup>  
<sup>1</sup>Yonsei University, <sup>2</sup>Texas A&M University

This paper presents a silicon (Si) micro-ring modulator (MRM) transmitter with package-level optimization of the driver resistance considering bonding-wire inductance. The implemented MRM transmitter achieves 36 Gb/s PRBS-31 NRZ operation with 3.87 pJ/bit energy efficiency.

**P2-13** **16:30-18:00**

**SiN 2 × 2 Mach-Zehnder Thermo-Optic Switch with P $\pi$  < 40 mW and Response Time < 30  $\mu\text{s}$**

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

We report a 2 × 2 SiN thermo-optic switch with folded Euler-spiral phase shifter. At 1550 nm, it achieves ~ 38 mW P $\pi$ , > 50 dB cross-port extinction ratio, < 30  $\mu\text{s}$  switching.

**P2-14** **16:30-18:00**

**Resonance-Enhanced Coherence Network for an On-Chip IR Computational Spectrometer**

Zhijie Wei, Zunyue Zhang, Rui Niu, Tiegeng Liu, Zhenzhou Cheng  
Tianjin University

We investigate an on-chip infrared computational spectrometer based on a resonance-enhanced coherence network, aiming to enhance spectral diversity by jointly magnifying structural dispersion and effective optical path difference.

**P2-15** **16:30-18:00**

**Optical Switch Using Cascaded Rotatable Diffractive Layers**

Mian Wu<sup>1</sup>, Lin Wu<sup>1</sup>, Zichen Liu<sup>2</sup> Jin Tao<sup>1,2</sup>

<sup>1</sup>China Information and Communication Technologies Group Corporation, <sup>2</sup>Peng Cheng Laboratory

Based on cascaded diffraction layers and rotation mechanism, we demonstrate an optical switch with mode multiplexing function, offering new perspectives for future high-speed optical switching.

**P2-16** **16:30-18:00**

**Dual-Size Microlens Array Integration on 6x6 Arrayed Photodetector**

Y. Ohnuki<sup>1,2</sup>, T. Umezawa<sup>2</sup>, N. Yamamoto<sup>2</sup>, K. Akahane, T. Kawanishi<sup>1,2</sup>

<sup>1</sup>Waseda University, <sup>2</sup>National Institute of Information and Communications Technology

We designed a microlens array on a high-speed photodetector array to improve the sensitivity between its pixels. The microlenses, comprising lenses with two different sizes, were fabricated using a thermal reflow process.

**P2-17** **16:30-18:00**

**High-Efficiency Fiber-to-Silicon Nitride Grating Coupling Enabled by Printed Diffractive Optical Elements**

Zhuo Deng<sup>1,2</sup>, Shu Jiang<sup>1</sup>, Jianran Zhang<sup>1,2</sup>, Jiahao Wei<sup>1,2</sup>, Kenneth K.Y. Wong<sup>1,2</sup>

<sup>1</sup>Advanced Biomedical Instrumentation Centre, <sup>2</sup>The University of Hong Kong

A novel fiber-to-chip coupling strategy has been proposed using diffractive optical element printed on fiber to enhance the mode overlap. Coupling efficiency of 85.1% is numerically demonstrated for a DBR-equipped SiN grating coupler at 920 nm.

**P2-18** **16:30-18:00**

**Inverse Design of Photonic Devices in Hybrid Silicon Nitride-on-Lithium Niobate Platform**

Aman Verma, Varun Raghunathan  
Indian Institute of Science

Adjoint-based inverse design is used to design 50:50 beam splitters and mode converters in hybrid silicon nitride on lithium niobate guided-wave platform. Fabrication compatible design optimization, device fabrication and experimental characterization results are presented.

**P2-19** **16:30-18:00**

**Inverse Design of Photonic Devices via Gradient-Guided Network Screening**

Qi Zhou<sup>1</sup>, Jiahao Li<sup>1</sup>, Ming Luo<sup>2</sup>, Lin Wu<sup>2</sup>, Bohao Sun<sup>2</sup>, Hanbing Li<sup>2</sup>, Ying Qiu<sup>2</sup>, Hailong Zhou<sup>3</sup>, Xiang Li<sup>1</sup>

<sup>1</sup>China University of Geosciences, <sup>2</sup>State Key Laboratory of Optical Communication Technologies and Networks, <sup>3</sup>Huazhong University of Science and Technology

A hybrid inverse-design algorithm combining gradient guidance and neural network screening is proposed for silicon photonic devices. A 3:7 power splitter is designed, achieving an insertion loss of 0.52 dB with accurate power splitting.

**P2-20** **16:30-18:00**

**Patterning Technology of Benzocyclobutene-Based Graphene Modulator on Si Photonics**

Era Budi Prayekti, Wei-Cheng Feng, Rih-You Chen, Yanita Devi, Chun-Hu Chen, Yi-Jen Chiu  
National Sun Yat-sen University

Patterning technologies for Benzocyclobutene (BCB)- based graphene modulator on the top of silicon-on-insulator (SOI)-waveguide was demonstrated. The BCB was used as planarization material for patterned graphene, leading to modulator function in silicon photonics(SiP) template.

**P2-21** **16:30-18:00**

**Compact Silicon Nitride Passive Components Optimized via Fused Polygon Search Algorithm**

Yi Xu, Lei Zhang  
Beijing University of Posts and Telecommunications

We report silicon nitride power splitter, mode converter and (de)multiplexer with lengths < 30  $\mu\text{m}$ , optimized via fused polygon search algorithm. The losses and crosstalk are below 1.54 dB and -18 dB in C band.

**P2-22** **16:30-18:00**

**Si<sub>3</sub>N<sub>4</sub> Bend at O-Band with 25- $\mu\text{m}$  Radius and 5 mdB/90° via Modified Hermite Optimization**

Donghao Li, Yi Xu, Lei Zhang

Beijing University of Posts and Telecommunications

An optimized modified Hermite Si<sub>3</sub>N<sub>4</sub> waveguide bend with a 25- $\mu$ m radius is reported for O-band. Measurements across an 8-inch wafer yield a loss of  $5.18 \pm 0.38$  mdB/90°, demonstrating high fabrication uniformity.

**P2-23** **16:30-18:00**

### **Frequency Doubling to Quintupling by Using Phase to Intensity Modulation**

Sangjoon, Park, Kyoungsik Yu  
Korea Advanced Institute of Science and Technology

We applied dispersion induced phase-to-intensity modulation to demonstrate frequency multiplication from doubling to quintupling with a favorable link budget and high output tone power. Using this approach we generated frequency-multiplied RF tones up to 76.5 GHz via quintupling.

**P2-24** **16:30-18:00**

### **Low-Scattering-Loss Waveguide Bragg Gratings via Femtosecond Laser Direct Writing Method**

Jiacheng Hu<sup>1</sup>, Yuying Wang<sup>1</sup>, Xuhu Han<sup>1</sup>, Lijing Zhong<sup>2</sup>, Jianrong Qiu<sup>1</sup>  
<sup>1</sup>Zhejiang University, <sup>2</sup>Ningbo University

We propose a femtosecond plane-by-plane inscription technique to fabricate low-scattering loss waveguide Bragg gratings. By optimizing beam shaping, the resulting refractive index distribution significantly reduces scattering loss while maintaining high reflectivity.

**P2-25** **16:30-18:00**

### **Low Loss Edge Couplers for Thin Film Deeply Etched Lithium Niobate Integrated Circuits**

Christian Niclaas Saggau, Michael Galili, Leif Katsuo Oxenløwe, Yunhong Ding  
Technical University of Denmark

LiNbO<sub>3</sub> is crucial for high performance integrated optical devices. Coupling from fiber to chip stays a challenging task. We investigate a simplified approach for deeply etched devices with a theoretical facet loss < 2dB.

**P2-26** **16:30-18:00**

### **VAD-Based Radiation-Hardened Optical Fiber for High-Temperature Nuclear Applications**

Dae Seung Moon<sup>1</sup>, Chang Hyun Jung<sup>1</sup>, Minhyeok Wie<sup>1</sup>, Gukbeen Ryu<sup>2</sup>, Wookjin Jeong<sup>2</sup>, Youngwoong Kim<sup>2</sup>, Jongyeol Kim<sup>2</sup>, Young Ho Kim<sup>3</sup>  
<sup>1</sup>Taihan Fiberoptics Co., Ltd, <sup>2</sup>Korea Atomic Energy Research Institute, <sup>3</sup>Korea Photonics Technology Institute

A radiation-resistant optical fiber was developed using fluorine-doped silica fabricated by the VAD process, which enables high-purity fluorine-doped silica, and an optimized high-temperature polyimide coating. The fiber exhibited stable performance at 300 oC and significantly reduced radiation-induced attenuation.

**P2-27** **16:30-18:00**

### **Optical Cable Identification to Reduce Service Recovery Time**

Hongseok Shin, Hyunbin Na  
SK Telecom

We propose an optical cable identification method using pluggable modules that autonomously broadcast unique IDs upon fiber loss. A low-rate random-slot scheme enables robust detection in WDM networks, accelerating restoration and improving operational resilience.

**P2-28** **16:30-18:00**

### **Birefringence Properties of PM Double Clad Fiber Depending on Geometry and Materials of Stress-Appling Parts**

Suh-young Kwon<sup>1</sup>, Taeho Woo<sup>1</sup>, Janghyun Ryu<sup>1</sup>, Jaesun Kim<sup>2</sup>, Ju Han Lee<sup>1</sup>  
<sup>1</sup>University of Seoul, <sup>2</sup>Taihan Fiberoptics

We numerically investigated the birefringence properties of 20/400- $\mu$ m polarization-maintaining DCFs depending on the geometry and materials of the stress-applying parts (SAPs). Results show that the SAP geometry and boron doping concentrations significantly impact birefringence.

**P2-29** **16:30-18:00**

### **Measurement of GAWBS Phase Noise Correlation in Two-Core Fiber**

Tetsuya Yoshida, Masato Yoshida, Keisuke Kasai, Toshihiko Hirooka, Masataka Nakazawa  
Tohoku University

We measured the GAWBS phase noise correlation in a two-core fiber. We found that there is a refractive index

fluctuation along the fiber, which reduces the correlation between the two cores.

**P2-30** **16:30-18:00**

### **Contact-Position Detection based on Reflection Spectrum Variations in Wet-Etched POF**

Yuri Wada<sup>1</sup>, Koyo Shibuta<sup>2</sup>, Motoki Kouchi<sup>2</sup>, Keito Ishida<sup>2</sup>, Taiki Kumagai<sup>3</sup>, Keita Kikuchi<sup>1,3</sup>, Shimbu Shirai<sup>3</sup>, Daisuke Yamane<sup>2</sup>, Yosuke Mizuno<sup>3</sup>, Heeyoung Lee<sup>1</sup>

<sup>1</sup>Shibaura Institute of Technology, <sup>2</sup>Ritsumeikan University, <sup>3</sup>Yokohama National University

We propose a distributed contact-position sensing method using reflection-spectrum variations in wet-etched perfluorinated plastic optical fiber. The dip wavelength shifts linearly with contact position ( $-0.126$  nm/cm), enabling position detection using a simple broadband reflection measurement.

**P2-31** **16:30-18:00**

### **Experimental Demonstration of Online Random Bit Generation by Mixing Chaotic Signals with a Pulse-Amplitude Modulation Signal**

Itzel S. Castillo-Garcia<sup>1,2</sup>, Ignacio E. Zaldivar-Huerta<sup>1</sup>, Min Won Lee<sup>2</sup>

<sup>1</sup>Instituto Nacional de Astrofísica, Óptica y Electrónica, <sup>2</sup>Université Sorbonne Paris Nord

This work experimentally demonstrates an optoelectronic Random Bit Generator based on amplitude-domain modification of chaotic laser signals using an 8-level Pulse Amplitude Modulation waveform, unlike conventional digital post-processing, maintaining the full 8-bit in real time.

**P2-32** **16:30-18:00**

### **Crosstalk Characteristics of Two Core Fiber Submarine Cables**

Yuki Kawaguchi<sup>1</sup>, Hirotaka Sakuma<sup>1</sup>, Tetsuya Haruna<sup>1</sup>, Tetsuya Hayashi<sup>1</sup>, Hideki Yamaguhi<sup>1</sup>, Masaaki Hirano<sup>1</sup>, Takemi Hasegawa<sup>1</sup>, Keisuke Yasuhara<sup>2</sup>, Juan Carlos Aquino<sup>2</sup>, Daishi Masuda<sup>2</sup>

<sup>1</sup>Sumitomo Electric Industries, Ltd., <sup>2</sup>OCC Corporation

We demonstrated the XT characteristics of submarine two-core fiber cables. The cabled fiber XT is improved by 30 dB compared to a spooled fiber. The measured cables' XTs are low enough to suppress SNR degradation.

**P2-33** **16:30-18:00**

### **Cobalt Doped Single Mode Optical Fiber with Flat Attenuation within Telecom Band**

Haitao Zhang, Joseph E McCarthy, Rick C Layton, Anthony Carapella, David E Baker, Guangran Zhang, Ming-Jun Li

Corning Incorporated

A cobalt-doped single-mode optical fiber with flat attenuation spectrum was fabricated. The attenuation across 1310-1560nm varies between 0.37 dB/cm and 0.40 dB/cm, representing a variation of less than 8%.

**P2-34** **16:30-18:00**

### **On the Impacts of Polarization Related Impairments in OPGW**

Shengqi Qian<sup>1</sup>, Fang Chen<sup>1</sup>, Bozhong Li<sup>1</sup>, Yi Zhang<sup>1</sup>, Ruyi Zhang<sup>1</sup>, Rongjia Lei<sup>1</sup>, Yixuan Zhang<sup>2</sup>, Xianhua Liu<sup>2</sup>, Chuan Bowen Sun<sup>2</sup>

<sup>1</sup>State Grid Information & Telecommunication Center, <sup>2</sup>Huawei Technologies Co., Ltd.

We experimentally demonstrate that the coupling among SOP rotation, DGD and PDL induces an extra 3.6-dB penalty in 100G OPGW systems. Furthermore, system stability under lightning-induced SOP transients along with DGD and PDL is investigated.

**P2-35** **16:30-18:00**

### **Fiber Bending-Induced Wavelength-Dependent Loss Monitoring via Spectral Power Tracing**

Yu Wang<sup>1</sup>, Shengnan Li<sup>2</sup>, Zhengsi Shi<sup>1</sup>, Hong Zhu<sup>1</sup>, Ying Zhou<sup>1</sup>, Yixin Zhao<sup>1</sup>, Jingjing Shi<sup>1</sup>, Wenbin Chen<sup>2</sup>, Min Zhang<sup>2</sup>, Danshi Wang<sup>2</sup>

<sup>1</sup>China United Network Communications Group Co., Ltd., <sup>2</sup>Beijing University of Posts and Telecommunications

We propose a spectral power tracing method to localize fiber bending and characterize its wavelength-dependent loss by tracing power evolution, achieving localization errors below 0.8 km, verified by C+L-band experiments.

**P2-36** **16:30-18:00**

### **Temperature-Insensitive Photon Buffer based on a Hybrid PANDA Fiber Configuration**

Eun Chae Ha<sup>1,2</sup>, Hee Su Park<sup>2</sup>, Kwang Yong Song<sup>1</sup>

<sup>1</sup>Chung-Ang University, <sup>2</sup>Korea Research Institute of Standard and Science

We experimentally demonstrate a temperature-insensitive all-fiber photon buffer utilizing a hybrid PANDA fiber

configuration. We achieve enhanced optical path length stability with a significantly reduced fiber length compared to a former single-fiber-based scheme.

**P2-37** **16:30-18:00**

### **Design and Fabrication of a 10-Fold Pitch-Converting Fused Fiber FIFO for High Yield**

Kazusa Shinno<sup>1</sup>, Yusuke Fujii<sup>2</sup>, Soichi Kobayashi<sup>2</sup>, Naoto Yoshimoto<sup>1</sup>

<sup>1</sup>Chitose Institute of Science and Technology, <sup>2</sup>Photonic Science Technology Inc.

We report a 10-fold pitch-converting fused fiber FIFO. Optimized double-core tapering achieves < 0.5dB loss and < -50dB crosstalk. Extensive measurements (N=40,60) validate high yield, demonstrating scalable mass production using existing fiber drawing infrastructure.

**P2-38** **16:30-18:00**

### **EDA-RoF: Elastic Digital-Analog Radio-Over-Fiber (RoF) Modulation and Demodulation Architecture Enabling Seamless Transition between Analog-RoF and Digital-RoF**

Xiaobo Zeng<sup>1</sup>, Liangcai Chen<sup>1</sup>, Pan Liu<sup>1</sup>, Ruonan Deng<sup>2</sup>

<sup>1</sup>Xiangtan University, <sup>2</sup>National University of Defense Technology

We propose and demonstrate an elastic digital-analog radio-over-fiber modulation and demodulation architecture, which firstly enables seamless connection between analog RoF and digital-RoF solutions, achieving quasi-linear SNR scaling with respect to  $1/\eta$  and with  $R_2=0.9908$ .

**P2-39** **16:30-18:00**

### **Impact of Single-WSS Architecture on Wavelength Requirements in Colorless-Directionless ROADMs**

Masahiro Kitada<sup>1</sup>, Fuma Sato<sup>1</sup>, Takashi Miyamura<sup>2</sup>, Satoru Okamoto<sup>2</sup>, Naoaki Yamanaka<sup>2</sup>, Masahiko Jinno<sup>1,2</sup>

<sup>1</sup>Kagawa University, <sup>2</sup>Keio Frontier Research & Education Collaborative Square

Numerical results for various small-scale network topologies indicate that, when joint switching is employed, a single multi-input-port WSS-based CDROADM requires no additional wavelengths compared with a conventional CDROADM, thereby supporting the effectiveness of the single-WSS architecture.

**P2-40** **16:30-18:00**

### **Experimental Evaluation of Coherent Transceiver Mode Optimization for IP over DWDM with Multi-Model YANG Support**

Tatsuya Matsumura<sup>1</sup>, Kazuya Anazawa<sup>1</sup>, Hideki Nishizawa<sup>1</sup>, Yoshiaki Sone<sup>1</sup>, Betoule Christophe<sup>2</sup>, Olivier Renais<sup>2</sup>, Dmitrii Briantsev<sup>3</sup>, Daniel Kilper<sup>3</sup>

<sup>1</sup>NTT, Inc., <sup>2</sup>Orange Innovation/Networks, <sup>3</sup>Trinity College Dublin

We experimentally evaluate coherent transceiver mode optimization for an IP-over-DWDM network that employs multiple YANG models, using a unified SDN controller to enable automatic optimization of 200G/400G transmission performance

**P2-41** **16:30-18:00**

### **Simultaneous 5G NR Signal and Power Transmission over a Hollow-Core Fiber for Radio Units without Power Amplifiers**

Ryotaro Osada<sup>1</sup>, Satoshi Fujita<sup>1</sup>, Yuki Gomi<sup>1</sup>, Takeshi Takagi<sup>2</sup>, Kazunori Mukasa<sup>2</sup>, Motoharu Matsuura<sup>1,3</sup>

<sup>1</sup>University of Electro-Communications, <sup>2</sup>Lightera Japan Co., Ltd., <sup>3</sup>Keio University

We demonstrate simultaneous downlink 5G new-radio (NR) signal and power transmission using a hollow-core fiber and high-power photodiode. We successfully achieved the 5G output power of approximately 10 dBm without electrical amplifiers in radio units.

**P2-42** **16:30-18:00**

### **Adaptive Trellis-Path Control MLSE based on Gaussian Mixture Model Fitting for O-Band Net 400-Gbps PAM-6 IM-DD 2-km Transmission**

Hiroki Taniguchi, Shuto Yamamoto, Masanori Nakamura, Yukinobu Nakajima, Etsushi Yamazaki  
NTT, inc.

We propose an adaptive trellis-path-control MLSE using Gaussian mixture model fitting to simplify trellis diagrams, achieving BER comparable to conventional MLSE in a Net 400-Gb/s O-band PAM-6 IM-DD 2-km transmission with only 0.92% computational cost.

**P2-43** **16:30-18:00**

### **Robust Service Migration under Network State Data Missing for Industrial PON-MEC: A Tensor-Train-Enhanced DRL Approach**

Shu Dong<sup>1</sup>, Jin Li<sup>2</sup>, Yintao Li<sup>3</sup>, Menghui Li<sup>4</sup>, Danshi Wang<sup>1</sup>, Min Zhang<sup>1</sup>

<sup>1</sup>Beijing University of Posts and Telecommunications, <sup>2</sup>South China Normal University, <sup>3</sup>State Grid Jibei Electric Power Company Limited, <sup>4</sup>State Grid Jibei Information and Telecommunication Company

To tackle network state data missing in industrial passive optical networks, we propose a tensor-train-enhanced deep reinforcement learning framework. By reconstructing global states, our framework minimizes delay and jitter, ensuring resilient service continuity against baselines.

**P2-44** **16:30-18:00**

### **Flow-Aware Scheduling for Hybrid AWGR-MEMS Optical Switching in Data Centers**

Tingting Bao, Xin Li, Yongli Zhao, Meng Lian, Jie Zhang  
Beijing University of Posts and Telecommunications

Data center traffic is highly heterogeneous, and a single OCS cannot meet diverse demands. Therefore, a hybrid MEMS-AWGR architecture and a flow-aware scheduling algorithm are proposed to optimize weighted completion time and improve overall throughput.

**P2-45** **16:30-18:00**

### **Evaluation of Transmission throughput Increase in Approximate-Computing Interconnection Networks Using PAM Signals**

Eisuke Hara, Tasuku Takabuchi, Itsuro Morita  
Waseda University

The effectiveness of the Approximate-computing interconnection networks using PAM signals was evaluated. Assuming FP64 numbers transmission, 1.6- and 1.9-times higher throughput can be achieved with the appropriate number of protected and truncated bits.

**P2-46** **16:30-18:00**

### **Experimental Demonstration of a Hardware-Based Multi-Band RF Platform for Radio-over-Fiber Transmission**

Joon Young Huh<sup>1</sup>, Jongwan Kim<sup>1</sup>, Hun-Sik Kang<sup>1</sup>, Byoung Chul Lim<sup>2</sup>, Young Jin Lee<sup>2</sup>, Gang Deuk Yun<sup>2</sup>, Jun Ki Lee<sup>1</sup>

<sup>1</sup>Electronics & Telecommunications Research Institute, <sup>2</sup>FRTeK Co., Ltd.

We demonstrate a multi-band RF platform for radio-over-fiber transmission generating five bands spanning 0.5– 10 GHz. The signals are optically transmitted over 20 km fiber, achieving EVM below the 3GPP requirement of 8% for 64-QAM transmission.

**P2-47** **16:30-18:00**

### **A Safety Guardrail Framework for AI Agents in Optical Network Configuration Loops**

Hong Zhu<sup>1</sup>, Yidi Wang<sup>2</sup>, Zhi Meng<sup>1</sup>, Shengsheng Sha<sup>1</sup>, Dan Wang<sup>1</sup>, Mingyu Xia<sup>1</sup>, Ting Lan<sup>1</sup>, Min Zhang<sup>2</sup>, Danshi Wang<sup>2</sup>

<sup>1</sup>China United Network Communications Group Co., Ltd., <sup>2</sup>Beijing University of Posts and Telecommunications

Proposed a safety framework for optical network agents using automated policy pipelines. It enhances intent recognition and operational reliability, enabling secure deployment of AI agents in critical intelligent network infrastructures.

**P2-48** **16:30-18:00**

### **Two-Branch Transformer-CNN-Based Adaptive Compensation Network for Phase Noise in Photonic Terahertz OFDM System**

Shenao Cai, Jianguo Yu, Long Zhou, Tong Li, Zhanjiang Wang, Feixiang Zhang  
Beijing University of Posts and Telecommunications

This paper proposes a two-branch deep-learning network, named AdaPhaseNet, for compensating phase noise in photonic terahertz OFDM systems. Experiments show that the proposed network substantially surpasses the baseline methods, achieving lower BER and improved EVM.

**P2-49** **16:30-18:00**

### **Real-Time Simplified MLSE with Shift-Only Branch Metrics for High-Speed IM/DD Systems**

Meiqi Li, Zijin Zhou, Wenjun Yu, Weihao Ni, Baihui Jiang, Jialin Zhou, Ziyang Li, Zuyu Li, Fan Li  
Sun Yatsen University

This paper proposes a real-time simplified MLSE equalizer for high-speed IM-DD systems. By employing a DSP-free shift-only branch metric unit and saturation-based path metrics, the FPGA implementation achieves significant resource savings with negligible performance penalty.

**P2-50** **16:30-18:00**

### **Linear Power-over-Fiber Transmission System Using 10km Hollow Core Fiber**

Yao Guo, Yuemei Li, Yuyao Wu, Jie An, Zhiguo Zhang  
Beijing University of Posts and Telecommunications

Using a 10 km hollow core fiber, the power-over-fiber system achieves a linear transmission of 4.9 W optical power, delivering an output power of up to 3.5 W with a transmission efficiency of approximately 71%.

**P2-51** **16:30-18:00**

### **Diversity-Enhanced Fluorescent Fiber Antennas for MIMO VLC Systems**

Xingchen Yu<sup>1</sup>, Zhihong Zeng<sup>1</sup>, Dengke Wang<sup>1</sup>, Fengli Yang<sup>1</sup>, Cuiwei He<sup>2</sup>, Chen Chen<sup>1</sup>  
<sup>1</sup>Chongqing University, <sup>2</sup>Japan Advanced Institute of Science and Technology

A multiple-input multiple-output (MIMO) visible light communication (VLC) system employing diversity-enhanced fluorescent fiber antennas (FFAs) is experimentally demonstrated. By introducing spatial and angle diversities in FFAs, the error performance of a 2×2 MIMO VLC system can be significantly improved.

**P2-52** **16:30-18:00**

### **Control of Interacting Spin-Pulse Waveforms in an Oscillator-Less Photonic Ising Machine and Its Similarity to the AM Mode-Locking of a Laser**

Masataka Nakazawa, Toshihiko Hirooka  
Tohoku University

We analyze pulse dynamics in an oscillator-less photonic Ising machine and show steady-state pulses become Gaussian. From its consistency with AM mode-locking theory, we show filter bandwidth can control pulse width and improve computation performance.

**P2-53** **16:30-18:00**

### **A White-Box Low-Complexity Hybrid Neural Equalizer with LMS-Only Transfer for IM/DD PAM-4 Short-Reach Links**

Ming-Lin Kan<sup>1</sup>, Benedictus Yohanes Bagus Widhianto<sup>2</sup>, Jyehong Chen<sup>1</sup>  
<sup>1</sup>National Yang Ming Chiao Tung University, <sup>2</sup>MediaTek Inc.

We propose a white-box hybrid equalizer FFE–VINN–DFE with physics-guided sizing, LRR pruning, and LMS-only transfer. Under matched complexity, it achieves lower BER than conventional FFE–DFE–VNLE and VINN–DFE baselines across B2B/2km/6km.

**P2-54** **16:30-18:00**

### **Delay-Based Photonic Reservoir Computing Equalizer for IM/DD NRZ-OOK Fiber Links**

Kaveesha Gimhana<sup>1</sup>, Christina Lim<sup>1</sup>, Ampalavanapillai Nirmalathas<sup>1</sup>, Yui Otagaki<sup>2</sup>, Hiroshi Murata<sup>2</sup>  
<sup>1</sup>The University of Melbourne, <sup>2</sup>Mie University

We investigate the performance of an IM/DD NRZ-OOK transmission link with delay-based photonics reservoir computing (PRC) equalizer experimentally, analytically and via simulation. All results show that the PRC equalizer outperform digital equalizers (NLMS FFE+DFE).

**P2-55** **16:30-18:00**

### **Modified Transition-Based Decision Feedback Equalization for VCSEL-Based Short-Reach IM/DD System**

Meng-Ci Sie<sup>1</sup>, Benedictus Yohanes Bagus Widhianto<sup>2</sup>, Jyehong Chen<sup>1</sup>  
<sup>1</sup>National Yang Ming Chiao Tung University, <sup>2</sup>MediaTek Inc.

We propose a modified transition-based decision feedback equalizer with similarity-based transition merging to reduce the complexity of transition-based equalization, while still improving coefficient adaptation robustness and BER performance in a 53-Gb/s, 500-m PAM-4 optical link

**P2-56** **16:30-18:00**

### **Optical Wireless Communication System Combining MIMO and Diversity Techniques**

Yuki Sato, Shiro Ryu  
Meiji University

A receiver pair selection criterion for optical multiple-input multiple-output systems is proposed. Maximizing the

minimum singular value enlarges the worst-case Euclidean distance. Experiments demonstrate expanded feasible communication regions compared with conventional criteria.

**P2-57** **16:30-18:00**

### **A Refined Shared-Pruned FNN-Based Equalizer for Cost-Effective IM/DD Transmission**

Cancan Chen<sup>1,2</sup>, Zhaopeng Xu<sup>1</sup>, Qi Wu<sup>3</sup>, Tonghui Ji<sup>4</sup>, Honglin Ji<sup>1</sup>, Xu Zhang<sup>1</sup>, Zhongliang Sun<sup>1</sup>, Linsheng Fan<sup>1</sup>, Jianwei Tang<sup>1</sup>, Junpeng Liang<sup>1</sup>, Jinlong Wei<sup>1</sup>, Zhixue He<sup>1</sup>, Weisheng Hu<sup>1</sup>

<sup>1</sup>Pengcheng Laboratory, <sup>2</sup>Sun Yat-sen University, <sup>3</sup>The Hong Kong Polytechnic University, <sup>4</sup>Great Bay University

A refined shared-pruned FNN-based equalizer is proposed for 120-Gb/s PAM-8 DML-based IM/DD systems, combining global clustering, structured pruning, and center-constrained optimization to achieve 72.5% memory reduction compared with FNN while maintaining 7% HD-FEC-compliant BER.

**P2-58** **16:30-18:00**

### **Nonlinear Compensation of TDSC-IM Signals Using Complex-Valued Reservoir Computing**

Hayata Sukigara, Wataru Imajuku  
Meijo University

We experimentally demonstrate compensation of nonlinear optical distortions using complex-valued reservoir computing. The results indicate that time-domain single-carrier index modulation signaling reduces the required number of reservoir nodes.

**P2-59** **16:30-18:00**

### **Robust EEPN-Aware Signal Detection with Anisotropic Additive-Noise Approximation**

Buwei He, Jingyi Lyu, Zimo Cui  
Beijing Normal-Hong Kong Baptist University

We propose an anisotropic additive-noise approximation for EEPN-aware likelihood-based detection. Splitting EEPN into radial and angular variances yields BER gains in strong-EEPN regimes while matching MED under weak EEPN, with stable anisotropy factor across linewidth.

**P2-60** **16:30-18:00**

### **Hidden-Layer Unit Requirements of Complex-Valued Extreme Learning Machine for Fiber-Optic Nonlinearity Mitigation**

Hidetoshi Nishida<sup>1</sup>, Kizuku Ochiri<sup>1</sup>, Takumi Yamamoto<sup>1</sup>, Takahide Sakamoto<sup>2</sup>, Naokatsu Yamamoto<sup>3</sup>, Moriya Nakamura<sup>1</sup>

<sup>1</sup>Meiji University, <sup>2</sup>Tokyo Metropolitan University, <sup>3</sup>National Institute of Information and Communications Technology

We clarified hidden-layer unit requirements of complex-valued extreme learning machine nonlinear equalizers as a function of input tap length. Experiments on optical 16QAM transmission demonstrated effective nonlinearity mitigation and validated our equalizer design methodology.

**P2-61** **16:30-18:00**

### **Robust Neural Equalization via Bagging Ensembles in 50-GBd PAM6 DML Links**

Yuting Xu<sup>1,2</sup>, Zhaopeng Xu<sup>1</sup>, Cancan Chen<sup>1</sup>, Zhixue He<sup>1</sup>, Chuanchuan Yang<sup>3</sup>, Yuping Zhao<sup>3</sup>

<sup>1</sup>Pengcheng Laboratory, <sup>2</sup>Peking University Shenzhen Graduate School, <sup>3</sup>Peking University

We present a bagging-ensemble equalizer of lightweight FCN learners for DML-IM/DD links, trained with bootstrap resampling and diverse initialization. Experiments show 50-GBd PAM6 over 10-km SSMF with lower BER than FFE, Volterra, and single-FCN baselines.

**P2-62** **16:30-18:00**

### **Hut Skipping Using Data Distribution for Long-Haul Terrestrial Fiber-Optic Transmission**

Silas Lasak Hedeboe, Arjun Kurur, Christian Koefoed Schou, Oliver Malte Lülloff Larsen, Deming Kong, Leif Katsuo Oxenløwe  
Technical University of Denmark

We propose to decrease the number of amplifier sites, by distributing a given data amount into more fibers or cores, resulting in increased span lengths in fiber-optic cables.

**P2-63** **16:30-18:00**

### **Impact of Amplified Spontaneous Emission Noise on Optical Multi-Eigenvalue Modulated Signal**

Kojiro Nakagawa, Kazuma Nishino, Shogo Nakao, Ken Mishina, Akihiro Maruta  
The University of Osaka

We theoretically analyze impact of amplified spontaneous emission noise on optical multi-eigenvalue modulated signal and show that the result is consistent with the numerical simulation results.

**P2-64** **16:30-18:00**

**Fiber Nonlinearity Mitigation Using ComplexValued Reservoir Computing with Dispersion Compensation Preprocessing**

Shunya Uchide<sup>1</sup>, Soya Shimonura<sup>1</sup>, Takumi Yamamoto<sup>1</sup>, Tsuyoshi Yamada<sup>1</sup>, Takahide Sakamoto<sup>2</sup>, Naokatsu Yamamoto<sup>3</sup>, Moriya Nakamura<sup>1</sup>

<sup>1</sup>Meiji University, <sup>2</sup>Tokyo Metropolitan University, <sup>3</sup>National Institute of Information and Communications Technology

We demonstrate that linear dispersion-compensation preprocessing enables computationally efficient fiber nonlinearity mitigation using a nonlinear equalizer based on complex-valued reservoir computing. The equalization performance was validated through numerical simulations and experiments.

**P2-65** **16:30-18:00**

**A Physics-Informed Fourier Neural Operator for Fiber Nonlinearity Compensation in WDM Coherent Optical Systems**

Haoqian Yu, Xinyu Zhu, Haiqiang Wei, Chao Lu, Alan Pak Tao Lau, Kangping Zhong  
The Hong Kong Polytechnic University

We propose a physics-embedded FNO that explicitly integrates symmetric inverse SSFM layers as a surrogate for DBP. This method achieves comparable performance with DBP while reducing computational complexity and enhancing physics consistency.

**P2-66** **16:30-18:00**

**Quaternion-Valued Reservoir Computing-Based Nonlinear Equalizer for Fiber Nonlinearity Mitigation**

Yuto Ishigami<sup>1</sup>, Kizuku Ochri<sup>1</sup>, Shunya Uchide<sup>1</sup>, Soya Shimomura<sup>1</sup>, Takumi Yamamoto<sup>1</sup>, Tsuyoshi Yamada<sup>1</sup>, Yuki Arisawa<sup>1</sup>, Takahide Sakamoto<sup>2</sup>, Naokatsu Yamamoto<sup>3</sup>, Moriya Nakamura<sup>1</sup>

<sup>1</sup>Meiji University, <sup>2</sup>Tokyo Metropolitan University, <sup>3</sup>National Institute of Information and Communications Technology

We propose a fiber nonlinearity mitigation scheme based on quaternion-valued reservoir computing. Its computational efficiency is investigated and compared with real-valued and complex-valued schemes through numerical simulations and experiments of optical 16QAM transmission.

**P2-67** **16:30-18:00**

**FPGA-Based Quantum Random Number Generation and Photon-Number-Resolving Analysis Using Time-Multiplexed SPAD**

Lien-Chun Hsu, Yi-Shan Lee  
National Tsing Hua University

PNR measurements and quantum random number generation using a gated SPAD with a time-multiplexing architecture are investigated. Experimental results under different detection efficiencies show clear trends in photon statistics and acceptable random number characteristics.

**P2-68** **16:30-18:00**

**Robust Generation of Topological Biphoton Mode via Adiabatic Passage**

Jaesung Lim, Jihwan Kim, Dong-Gil Im, Kyungdeuk Park, Dongkyu Kim, Yonggi Jo, Yong Sup Ihn  
Agency for Defense Development

We suppress fabrication-induced unintended nonlinear coupling in conventional topological biphoton generation by employing an adiabatic passage that preserves the biphoton Schmidt number and state fidelity under waveguide gap disorder.

**P2-69** **16:30-18:00**

**Integrated Reconfigurable Time-Frequency Mode Encoded Quantum State Generator**

Bangmin Gong<sup>1</sup>, Liao Ye<sup>1</sup>, Qishen Liang<sup>1</sup>, Baojie Hou<sup>1</sup>, Yongdi Zhang<sup>1</sup>, Haoran Ma<sup>1</sup>, Huihui Zhu<sup>1</sup>, Yuehai Wang<sup>1</sup>, Jianyi Yang<sup>1,2</sup>

<sup>1</sup>Zhejiang University, <sup>2</sup>Jinhua Institute of Zhejiang University

We present an integrated reconfigurable time-frequencymode (TFM) encoded quantum state generator. Leveraging an FIR pulse shaper and a coupled-ring resonator, the architecture controls joint spectral amplitudes, supporting on-chip high-dimensional entangled TFM state generation without post-manipulation.

**P2-70** **16:30-18:00**

**CMOS Camera-Based Ultra-Precise Real-Time Beam Tracking System for Free-Space Quantum Key Distribution**

Jongcheol Won<sup>1</sup>, Hye Lyn Kwak<sup>2</sup>, Minchul Kim<sup>1</sup>, Jin-Woo Kim<sup>1</sup>, Byung-Seok Choi<sup>1</sup>, Chun Ju Youn<sup>1</sup>  
<sup>1</sup>Electronics and Telecommunications Research Institute, <sup>2</sup>Korea University

This paper presents a CMOS camera-based beam tracking system that integrates sub-pixel centroid estimation with fast steering mirror (FSM) based closed-loop control. Over a 2.5 m link, the system achieved coarse tracking errors of 3.002  $\mu$ rad (X-axis) and 5.319  $\mu$ rad (Y-axis).

**P2-71** **16:30-18:00**

**Cascaded Squeezing of Coherent States with Phase Diffusion and Loss**

Yunseo Jeong, Seongjin Hong  
Yonsei University

We theoretically investigate the improvement of squeezing level through cascaded squeezing process. We further analyze the effects of optical loss and phase diffusion on the achievable squeezing in realistic experimental conditions.

**P2-72** **16:30-18:00**

**High-Resolution Optical Spectrum Analysis Using a Compact VCSEL-Swept Architecture**

Sanghoon Chin, Séverine Denis, Ewelina Obrzud  
Centre Suisse d'Électronique et de Microtechnique

We demonstrate a compact and cost-efficient VCSELbased optical spectrum analyzer delivering high spectral resolution and kHz-rate sweeping for accurate characterization of unknown light sources with reduced power consumption, simplified optics and scalable integration potential.

**P2-73** **16:30-18:00**

**Classification of Microplastic Mixtures in Raman Spectroscopy Using 1D-CNN**

Yuki Taguchi, Hideki Yokoi  
Shibaura Institute of Technology

This paper presents a classification method for microplastic mixtures using a one-dimensional convolutional neural network. The model achieved 100% accuracy in identifying polystyrene, polyethylene, and polymethyl methacrylate within mixed solutions from Raman spectra.

**P2-74** **16:30-18:00**

**High-Precision Fiber-Optic Vibration Recognition Using MulDasDSConvMamba**

Haoyi Sun<sup>1</sup>, Zhiguo Zhang<sup>1</sup>, Ziyang Xiao<sup>2</sup>, Hua Wang<sup>2</sup>, Luming Li<sup>2</sup>  
<sup>1</sup>Beijing University of Posts and Telecommunications, <sup>2</sup>State Grid JiangXi Information&Telecommunication Branch

To reduce false alarms in DAS perimeter security, we propose MulDasDSConvMamba, integrating multi-scale convolution, Mamba, and attention. It achieves 98.04% accuracy on four intrusion types, outperforming STL by 10.58%, validating data-driven approaches for reliable sensing.

**P2-75** **16:30-18:00**

**Non-Contact Cardiac Monitoring Using mmWave Radar and Diffusion-Based ECG Reconstruction**

Tzu-Chi Tsai, Jyehong Chen  
National Yang Ming Chiao Tung University

This work extends the AirECG diffusion framework for ECG reconstruction from continuous-wave mmWave radar. The proposed approach improves waveform similarity and reconstruction stability during overnight continuous monitoring, supporting reliable non-contact cardiac monitoring during long-duration overnight conditions.

**P2-76** **16:30-18:00**

**Advances in Resonant Micro-Optic Gyroscopes**

Yaqi Yong, Binjie Li, Bo Wang, Shuang Liu, Huilian Ma  
Zhejiang University

Recent advances in resonant micro-optic gyroscopes are reviewed. Multi-mode detection scheme with a whispering-gallery-mode microcavity achieves 0.095°/h angular random walk and 0.17°/h bias instability, meeting tactical-grade requirements with superior stability.

**P2-77**

**16:30-18:00**

**Method for Measurement Range Extension in the Time Domain of the Self-Coupling Laser Velocimeter and Operational Considerations**

Daiki Sato, Norio Tsuda  
Aichi Institute of Technology

This paper reports a method for improving the measurement range of a self-coupling laser velocimeter through time-domain signal processing, including evaluation results. In addition, we consider optimization for time-domain signal processing methods, which haven't yet been discussed.

**P2-78**

**16:30-18:00**

**Two-Dimensional Motor Vibration Sensor based on Fiber Bragg Gratings**

Yuan-Hong Lin, Kuan-Chen Yeh, Wen-Fung Liu, Shih-Hsien Hsu, Shian-Ming Liu  
Feng Chia University

We propose a two-dimensional contact-type fiber Bragg grating (FBG) vibration sensor for detecting motor fault characteristics by monitoring the grating wavelength shift induced by the strain from motor vibrations.

**P2-79**

**16:30-18:00**

**Improvement of Recognition Rate of Optoelectronic Convolution Computing based on Pixel Filling Method**

Ruo-xing Guo, Yu-lu Zhou, Zhi-guo Nie, Yan-feng Bi, Yong-pan Gao, Chuan Wang  
Beijing University of Posts and Telecommunications

This paper proposes a pixel filling method for an optical convolutional neural network to improve image classification accuracy. Experimental results on the MNIST dataset show that the classification accuracy improves from 91.12% to 92.03%.