Tu1G-1 **08:30-08:45**

Quantum Teleportation over a Metropolitan Fiber Network in Berlin

Matheus Sena[1], Zofia A. Borowska[1], Shane Andrewski[2], Olivia Brasher[2], Giorgio de Pascalis[3], Mael Flament[2], Marc Geitz[1], Mehdi Namazi[2], Oliver Holschke[1]
[1]Deutsche Telekom AG, [2]Qunnect Inc., [3]Paderborn University

We demonstrate quantum teleportation using off-the-shelf components over a 13.7-km metropolitan fiber link in Berlin carrying co-propagating classical traffic. An average fidelity of 88.9 ± 4.0% is achieved under carriergrade real-world conditions, demonstrating compatibility with telecom infrastructure.

Tu1G-2 **08:45-09:00**

All-Optical Routing and Storage for Photonic Quantum Bits

Pengfei Wang[1], Soyoung Baek[1], Fumihiro Kaneda[1,2]
[1]Tohoku University, [2]Japan Science and Technology Agency

We demonstrate an electro-optic router and fiber-loop storage preserving photonic polarization qubits. The router achieves 1.3% insertion loss and entanglement-preserving routing. The storage exhibits > 99% polarization process fidelity, advancing time-multiplexed photonic quantum applications.

Tu1G-3 **Invited** **09:00-09:30**

Programmable Continuous-Variable Photonic Quantum Computing in the Time Domain

Shuntaro Takeda
The University of Tokyo

We present our recent advances in time-domain continuous-variable photonic quantum computing, including a programmable quantum processor for nonGaussian states and a versatile quantum light source that programmably generates non-Gaussian states with arbitrary temporal waveforms.

Tu1G-4 **09:30-09:45**

Mitigating and Suppressing Noise in Bosonic Systems with Linear Optical Methods

Y. S. Teo[1,2], S. U. Shringarpure[2], S. Cho[2], H. Jeong[2]
[1]Sejong University, [2]Seoul National University

We propose linear-optical protocols for mitigating thermal and displacement noise with photon-subtraction gadgets and probabilistic error cancellation, and suppressing dephasing noise using vacuum-based Mach–Zehnder interferometry.

Tu1G-5 **09:45-10:00**

Programmable High-Dimensional Quantum Gates over a 20-m Multimode Fiber Using Long-Coherence Atomic Single Photons

Changhoon Baek[1], Danbi Kim[1], Juntaek Oh[2], Minsu Kim[1], Seokchan Yoon[1], Wonshik Choi[2], Han Seb Moon[1]
[1]Pusan National University, [2]Korea University

We demonstrate programmable high-dimensional quantum gates over a 20-m multimode fiber using longcoherence atomic single photons. This platform enables scalable, high-fidelity unitary operations in complex media, advancing robust fiber-based high-dimensional quantum communication networks.