Mehr Licht!
More Photonics for Intelligence

#D02

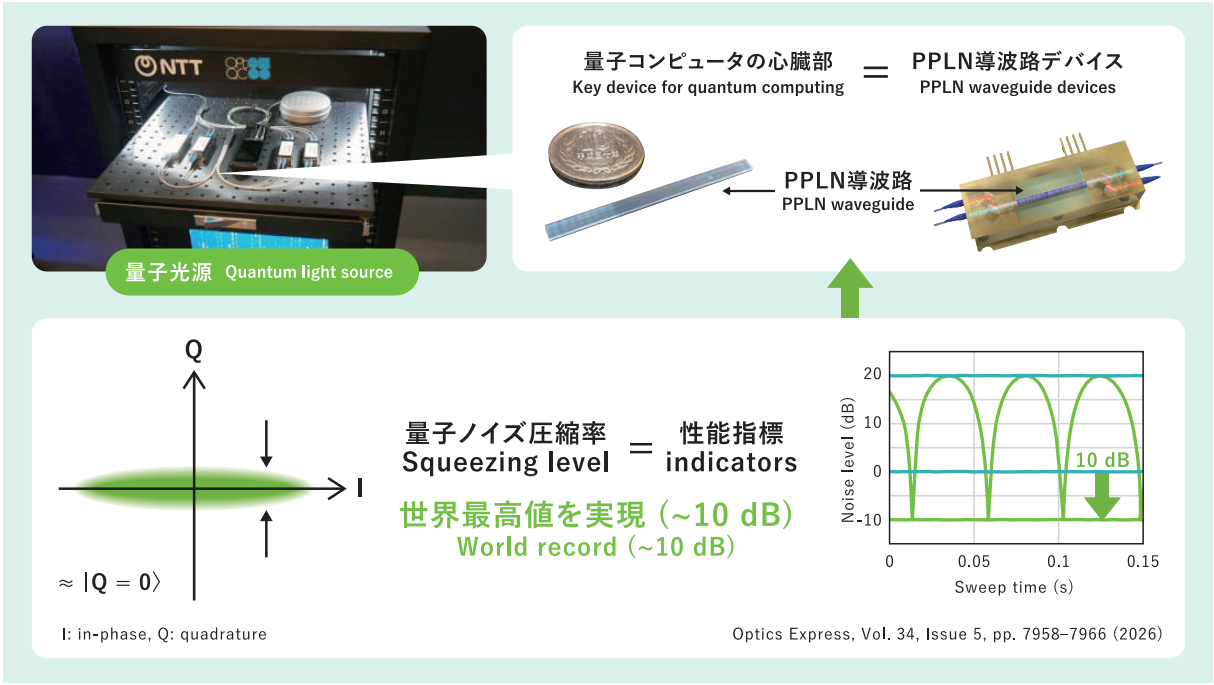
#Carbon Neutral#AI & Quantum Infrastructurel#Open Innovation

ADevices for Optical Quantum Computers

Enabling ultrafast large-scale optical quantum computing

Technical Challenges & Goals

Practical implementation of optical quantum computers requires broadband quantum light sources. Using PPLN waveguide devices based on NTT's long-standing, high-precision optical device fabrication technologies, we enable the generation of broadband quantum light.



I: in-phase, Q: quadrature

Optics Express, Vol. 34, Issue 5, pp. 7958–7966 (2026)

Key Technologies

Core Technologies

- High-efficiency, low-loss broadband optical devices made using NTT's unique fabrication methods
- High-speed optical quantum detection technology powered by NTT's optical communications expertise

Key Differentiators

- NTT's device achieves over 90% quantum noise reduction and sets the global benchmark
- Demonstrated 63-GHz quantum entanglement using integration with optical communications technique

Use Cases

Financial Services

By accelerating and scaling optical quantum computers, we aim to enable fast processing of complex financial risk calculations and portfolio optimization, supporting rapid responses to more sophisticated investment.

Exhibitors

NTT Device Technology Laboratories

External Partners

OptQC Corp.
RIKEN
The University of Tokyo
Company participating in the national Moonshot research program

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