

# Differential Phase Shift Quantum Key Distribution

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Recent theoretical and experimental progress on differential phase shift quantum key distribution (DPS-QKD) systems, achieved by the international collaborative team consisting of Stanford, NTT, NIST, NICT and Hamamatsu groups will be reviewed. The specific topics covered in this talk are security proof of the protocol<sup>1)</sup> and experimental demonstration of long-distance (up to 200 km)<sup>2)</sup> and high-speed (up to 1.6Mbit/s)<sup>3)</sup> secure key generation.

## References

- 1) K. Wen et al., quant-ph/0806.2684
- 2) H. Takesue et al., Nature Photonics 1, 343 (2007)
- 3) Q. Zhang et al., submitted for publication in New J. Phys.