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Implementation of an attack scheme on a practical QKD system ANTIA LAMAS-LINARES, Centre for Quantum Technologies, Nat. Univ. Singapore, QIN LIU, NTNU Trondheim, ILJA GERHARDT, Centre for Quantum Technologies, Nat. Univ. Singapore, VADIM MAKAROV, NTNU Trondheim, CHRIS-TIAN KURTSIEFER, Centre for Quantum Technologies/Physics Dept, Nat. Univ. Singapore — We report on an experimental implementation of an attack of a practical quantum key distribution system [1], based on a vulnerability of single photon detectors [2]. An intercept/resend-like attack has been carried out which revealed 100% of the raw key generated between the legitimate communication partners. No increase of the error ratio was observed, which is usually considered a reliable witness for any eavesdropping attempt. We also present an experiment which shows that this attack is not revealed by key distribution protocols probing for eavesdroppers by testing a Bell inequality [3], and discuss implications for practical quantum key distribution.

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