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Superconducting nanowire single photon detectors for quantum information

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Quantum information technology has turned to be a bullet train supported by many countries (EU, USA, UK, JP and CN). The quantum information process (QIP) involves quantum sources, quantum manipulation tools as well as quantum detectors. Since the photon (of visible and near infrared wavelengths) is one of the most popular quanta to play, single photon detectors (SPDs) play an irreplaceable role in QIP. As a novel SPD, superconducting nanowire single photon detector (SNSPD) surpasses the semiconducting SPDs with many merits, such as high detection efficiency, low dark count rate, low timing jitter, higher counting rate etc. SNSPDs have advanced various QIP experiments in the past decade. Now you may buy the commercial SNSPD systems including the cryogenics from several start-up companies. In this talk, we will present the latest results of SNSPDs developed by SIMIT and the applications in QIP (quantum information, QKD, quantum computation etc.).

Less than 5 years of experience since completion of Ph.D

N

Student (Ph.D., M.Sc. or B.Sc.)

N

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