

Speaker: Jakob Budde
Title: Generation and Preparation of Entangled States for Phase Estimation
Date: Tuesday, February 18th, 10:00 am (s.t.).
Place: Seminar room 915

Title: Generation and Preparation of Entangled States for Phase Estimation

Abstract:

In order to experimentally test theoretical concepts for quantum phase estimation, it is necessary to generate suitable quantum states and to apply phases in a controlled manner. I present my master's thesis, in which I built a setup for the generation of entangled photon states, such as 4-qubit GHZ-like states. Using a scheme to suppress higher order emissions, single photon pairs are generated by SPDC sources. Non-classical interference is then utilized to generate a 4-photon entangled state.

As a starting point for future quantum metrology experiments, a setup implementing an arbitrary unitary on each qubit is characterized.