ICT12-041 - PhoCluDi - Photonic Cluster States From Diamond

Zusammenfassung

The project “PhoCluDi” brings together an interdisciplinary team of young, ambitious and internationally recognized researchers. The aim of the proposed research is to build a scal-able architecture for quantum computers using photonic systems as quantum information carriers. The implementation will use highly-entangled cluster states that are efficiently generated by nitrogen-vacancy (NV) centres in diamond. By pushing quantum technology far beyond state-of-the-art we will achieve an entangled hybrid quantum system of the emitted photons and the electron or nucleus spin of the NV center. This will build the basis for the efficient generation of strings of photons that are entangled cluster states. With these we will implement one-way quantum computing.

Schlagworte:
quantum information, quantum computing, one-way quantum computing, NVcenters, solid-state photon sources

---

Principal Investigator:	Philipp Walther
Institution:	University of Vienna
Weitere Projektpartner:innen:	Michael Trupke (Vienna University of Technology) Terence Rudolph (Imperial College London)



Status: Abgeschlossen (01.10.2012 – 30.06.2016)
GrantID: 10.47379/ICT12041

Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter
https://www.wwtf.at/funding/programmes/ict/ICT12-041/