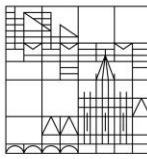


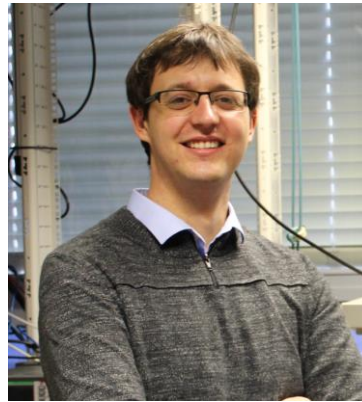
Kolloquium

Theoretische Physik

Universität
Konstanz

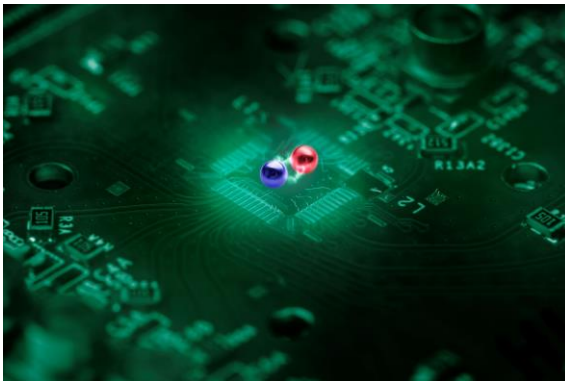


Mo, 20.06.2022
13:30 Uhr
P603



Dr. Maximilian Russ
TU Delft, The Netherlands

High-fidelity spin qubits: theory meets experiment



As small-scale quantum processor become commercially available, spin qubits demonstrated in recent years two major milestones for a scalable architecture: a multi-qubit device architecture and high-fidelity quantum operations. In my talk, I will present our latest results on achieving high-fidelity quantum gates. Specifically, I will pair the experimental results with either numerical simulations or analytical models and how dedicated pulse shaping helped in achieving these results. During my talk I will switch between two platforms, silicon electron qubits and germanium hole qubits. The latter shows great promises in efficient manipulation but suffers from strong charge noise dephasing. I will show you our most recent efforts in understanding Ge hole qubits and minimizing their susceptibility to charge noise.