

Light Matter Quantum Interface Based on Single Colour Centres in Diamond

Fedor Jelezko

*Institute of quantum optics, Ulm University, Germany
fedor.jelezko@uni-ulm.de*

Efficient interfaces between photons and atoms are crucial for quantum networks and enable nonlinear optical devices operating at the single-photon level. In this talk I will highlight properties of single colour centres at low temperatures and show that single SiV and GeV colour centres in diamond are promising candidates for creating such interfaces. I will also show experiments aiming to create technologies allowing realization of fully integrated, scalable nanophotonic quantum devices.