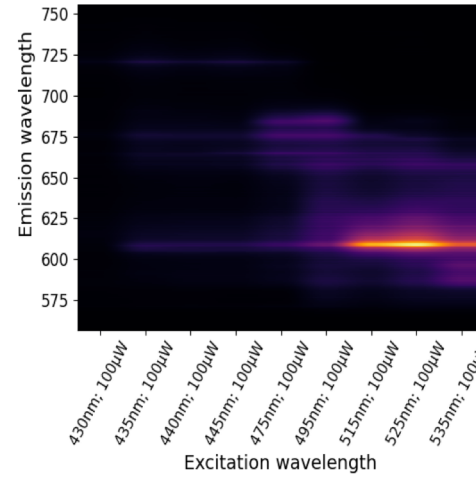
Leibniz Universität Hannover

PTB
Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

Quantum Technologies Group [qute]
Master / Bachelor Thesis
Exploring the atomic origin of Quantum Emitters in hBN

Defect centers in hexagonal boron nitride (hBN) have become prominent candidates as quantum emitters due to several desired properties.
So far the exact structure of these defects is not completely understood. By performing spectroscopic measurements on these emitters we hope to gain a better understanding of the nature and properties of these promising candidates for applications in quantum technologies.



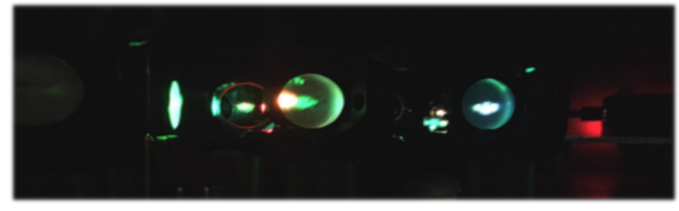
Fluorescence emission spectrum of a defect center for different excitation wavelengths.

Tasks include:

- Operating a home built confocal microscope setup
- Single photon experiments with a pulsed tunable laser source
- Spectroscopy and quantum correlation measurements on the single photon level

Requirements:

- Background in Physics or Nanotechnologies
- Knowledge of optics
- Basic programming experience



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