Master or Bachelor Thesis

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Cryogenic microscopy for quantum emitters

Introduction:

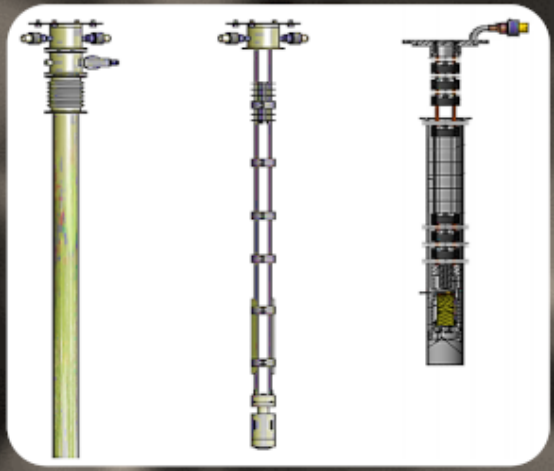
- Single-photon sources are an essential tool for quantum technologies. Organic dye molecules under cryogenic conditions are prominent candidates as single-photon sources.
- The implementation requires a confocal microscope for the effective collection of the fluorescence emission. The cryogenic conditions are applied to avoid photobleaching of molecules.

Required Skills:

- Background in physics or optical technology.
- High motivation and interest in experimental works and technical design using CAD tools

Project:

- Optical design and alignment of a scanning confocal microscope in cryogenic conditions.
- Construction of a carrier stick to operate the confocal microscope inside a continuous-flow liquid-helium.



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