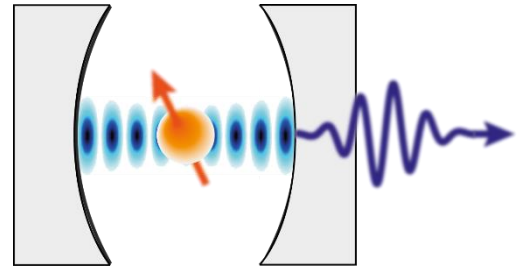


## Master Thesis

### Precision Spectroscopy of Rare Earth ions

We are offering a position for a Master Thesis in the group of Prof. David Hunger (PHI, KIT).

The project focuses on realizing an efficient optical interface for individual rare earth ions in solids with open-access optical microcavities. Rare earth ions provide exceptional optical and hyperfine coherence, which makes them promising candidates for quantum optical applications, ranging from quantum memories to quantum-nonlinear optics. We want to gain efficient access to individual ions and small ensembles by coupling them to a high finesse optical microcavity and enhancing their emission.



The goal of the master thesis is to establish a laser system for precision spectroscopy. It involves the setup of an ultra-stable reference cavity and implementation of laser frequency stabilization. The system will then be used for cavity-enhanced spectroscopy of single ions and ion ensembles.

We seek for a creative and motivated individual to advance this research project. Applications should include

- a curriculum vitae
- academic records (Bachelor, Master transcript of records)

For further inquiries and applications please contact Prof. David Hunger.