

Master Thesis/Diplomarbeit

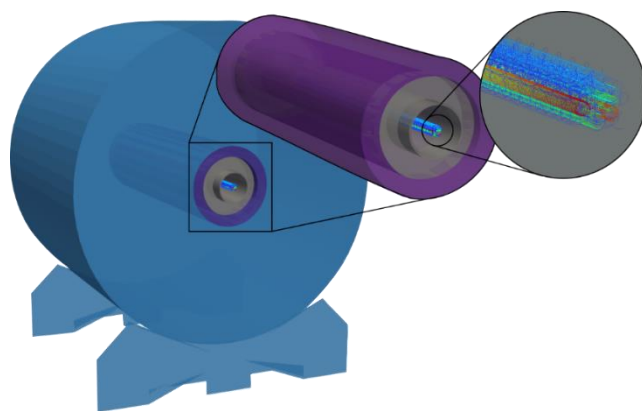
Development and Implementation of a Python Readout Routine for the CREScent Experiment

October 2021

The primary goal of the thesis will be to create a sophisticated readout and measurement routine to process the RF signal data produced by the CREScent experiment.

The CREScent experiment, a novel idea for a detector measuring electron energy. In this detector, the energy of electrons is not measured via absorption in a calorimeter, but via the cyclotron radiation emitted by electrons in a magnetic field.

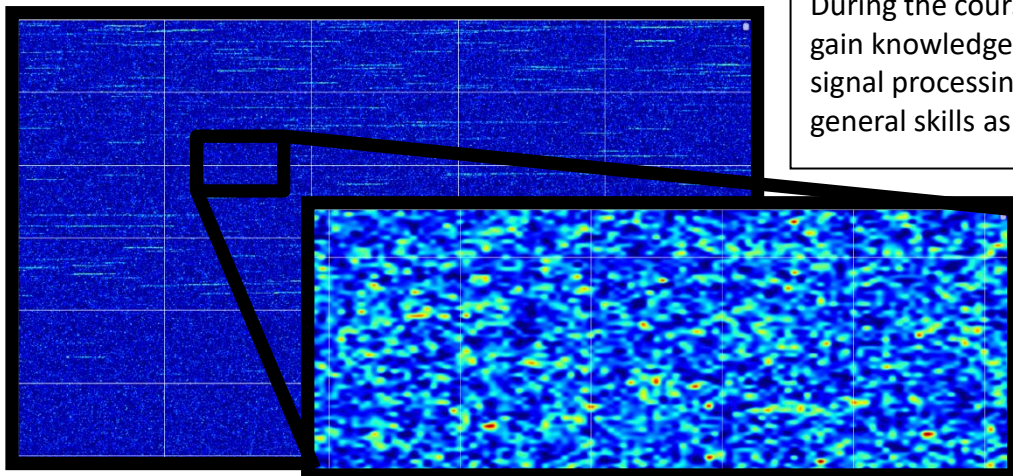
The CREScent experiment is developed within the framework of the PERC-project, a collaboration between the Neutron & Quantum Physics Group of the Atominstitut, the University of Heidelberg, the Technical University of Munich and the Institute Laue-Langevin in Grenoble.



The preferred language of this readout routine will be Python, so basic Python skills will be highly advantageous.

During the course of the thesis, you will gain knowledge in RF techniques and signal processing, as well as advance your general skills as an experimental physicist

by learning how to operate a superconducting magnet, handling cryogenics (liquid nitrogen and helium) etc.



Possible start date of the thesis:

Fall/Winter 2021/22

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