Contribution ID: **44** Type: **not specified**

Analysis of Strong-Field QED Data from FACET-II for the LUXE Experiment

The LUXE (Laser Und XFEL Experiment) collaboration aims to study quantum electrodynamics (QED) in strong electromagnetic fields, so called strong-field QED. These strong fields can make QED interactions non-perturbative. LUXE aims to reach this non-perturbative regime by colliding high energy electrons with a high intensity laser. In preparation for LUXE, a prototype of a high-rate electron detection system underwent testing at the FACET-II facility at SLAC National Accelerator Laboratory. During these tests the detector prototype also measured non-perturbative laser-electron interactions. This summer student project will focus on the analysis of FACET-II test beam data and the corresponding detector simulations, contributing to the technical preparation of the LUXE experiment at DESY.

Group

FH-FTX

Project Category

B1. Physics data analysis and performance (software-oriented)

Special Qualifications

Preferably some experience with Python and/or C++ or other programming languages, but the project could be adjusted for someone without programming experience, as long as they are willing to learn it.

DESY Site

Hamburg

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