Contribution ID: **36** Type: **On-site planned, but remote also possible**

Exploring different data analysis approaches in EDM4hep

The FTX Software (SFT) group is very actively involved in the Key4hep project, which aims to develop common software for future collider projects. The group is currently involved in the development of a new and common event data model (EDM) at the core of the common software stack, EDM4hep. An important aspect of the Key4hep project, and EDM4hep in particular, is its ease of use for physicists.

EDM4hep offers several different ways of analysing physics data natively. The possibilities span from a c++ interface over python bindings, up to doing columnar data analysis with RDataFrame or uproot. The goal of this summerstudent project is to investigate a few of these approaches by doing an actual physics analysis on data in the EDM4hep format and comparing them. Existing examples serve as starting point and the choice of the considered approaches depends on the interests of the student. This is an ideal project for students who want to explore different ways of doing data analysis and potentially find ways to improve them.

Field

B2: Data processing (software-oriented)

DESY Place

Hamburg

DESY Division

FH

DESY Group

FTX

Special Qualifications:

Programming knowledge in either c++ or python (or both) is essential. Basic knowledge of particle physics and statistics is needed. First experiences with ROOT or the scipy stack and python data analysis libraries is useful but not strictly necessary.

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