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# Performance of the track reconstruction framework Corryvreckan with regard to the usage in proton therapy

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The Inner Tracker of the ATLAS experiment requires optimal performance of its pixel sensors. To test their efficiency, a precise track reconstruction and analysis for testbeam data is necessary to ensure the precise detection of particles. In the last years, track reconstruction was mostly done with the EU Telescope software, a generic and versatile framework.

In 2017, the new track reconstruction software Corryvreckan was published with the intention to reduce external dependencies without reducing the quality and versatility of track reconstruction in complex environments. The Corryvreckan framework was inspired by the modular concept of the simulation software Allpix<sup>2</sup> making it possible to implement modules for many different applications, including the analysis to investigate sensor features.

Efforts are made in TU Dortmund to use pixel sensors and track reconstruction software for proton computed tomography.

This talk presents the comparison of track reconstructions of testbeam data with the Corryvreckan and EU Telescope frameworks as well as performance tests of Corryvreckan with simulated data. The simulated data is generated with Allpix<sup>2</sup> and serves to test the usability of Corryvreckan with beam properties used in proton therapy.

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