

## Contribution submission to the conference Göttingen 2025

**Reconstruction Techniques for electron CT Measurements using Multiple Scattering** — •AENNE ABEL<sup>1,2</sup>, LETICIA BRAGA DA ROSA<sup>1,2</sup>, PAUL SCHÜTZE<sup>1</sup>, MALINDA DE SILVA<sup>1</sup>, and SIMON SPANNAGEL<sup>1</sup> — <sup>1</sup>Deutsches Elektronen-Synchrotron DESY, Hamburg — <sup>2</sup>University of Hamburg, Hamburg, Germany

Electron CT (eCT) is a new imaging method, which uses multiple scattering of electrons to determine the material budget of objects. This method could be used as the imaging method for flash radiotherapy with Very High Energy Electrons (VHEE, 50-250 MeV). A pencil beam of MeV range electrons passes through the sample under test. The beam widening caused by Coulomb scattering in the sample is dependent on the sample's material budget and is measured using a single planar silicon pixel sensor (Timepix3) placed downstream of the sample. First studies have been performed at DESY Hamburg to test this method. The results and the current status are presented in this poster with a focus on reconstruction algorithms.

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