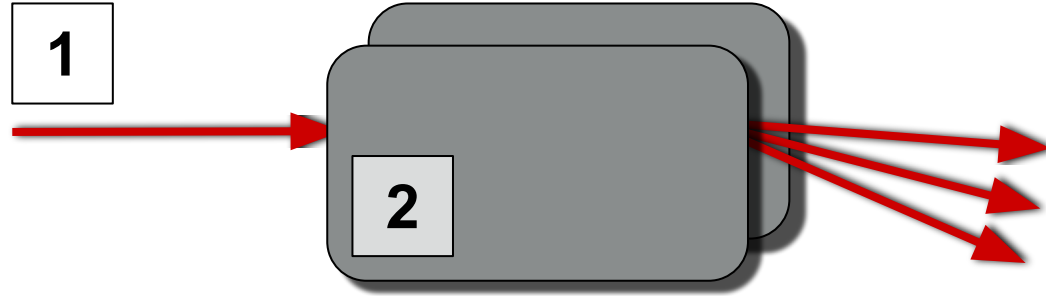


Status update: EDS@E320 Analysis

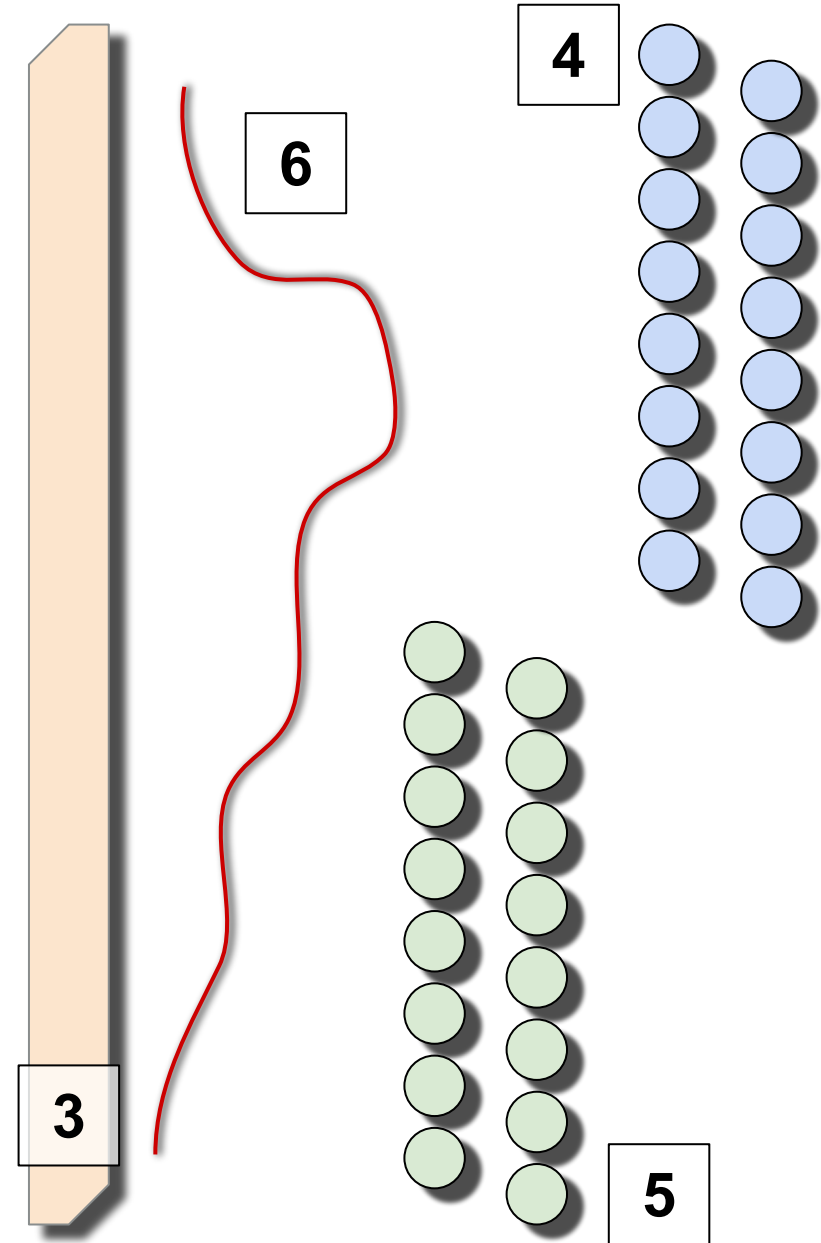
Antonios Athanassiadis on behalf of the EDS team

21.03.2025

Schematics of the Setup

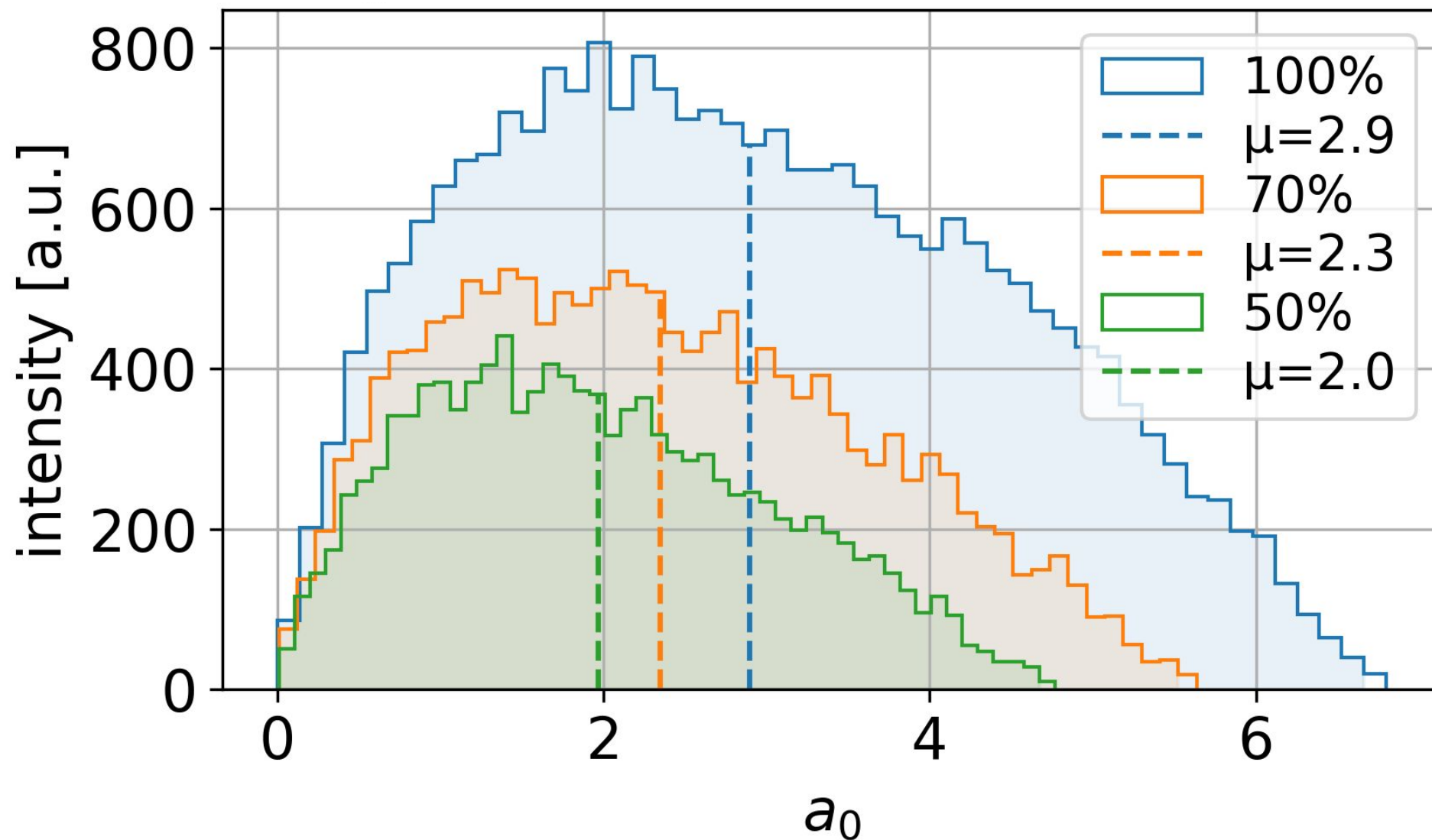


1. Electrons from electron-laser interactions
2. Spectrometer dipole
3. Scintillating screen
4. Stainless-steel straws
5. Glass rods
6. Expected Compton spectrum along the vertical axis



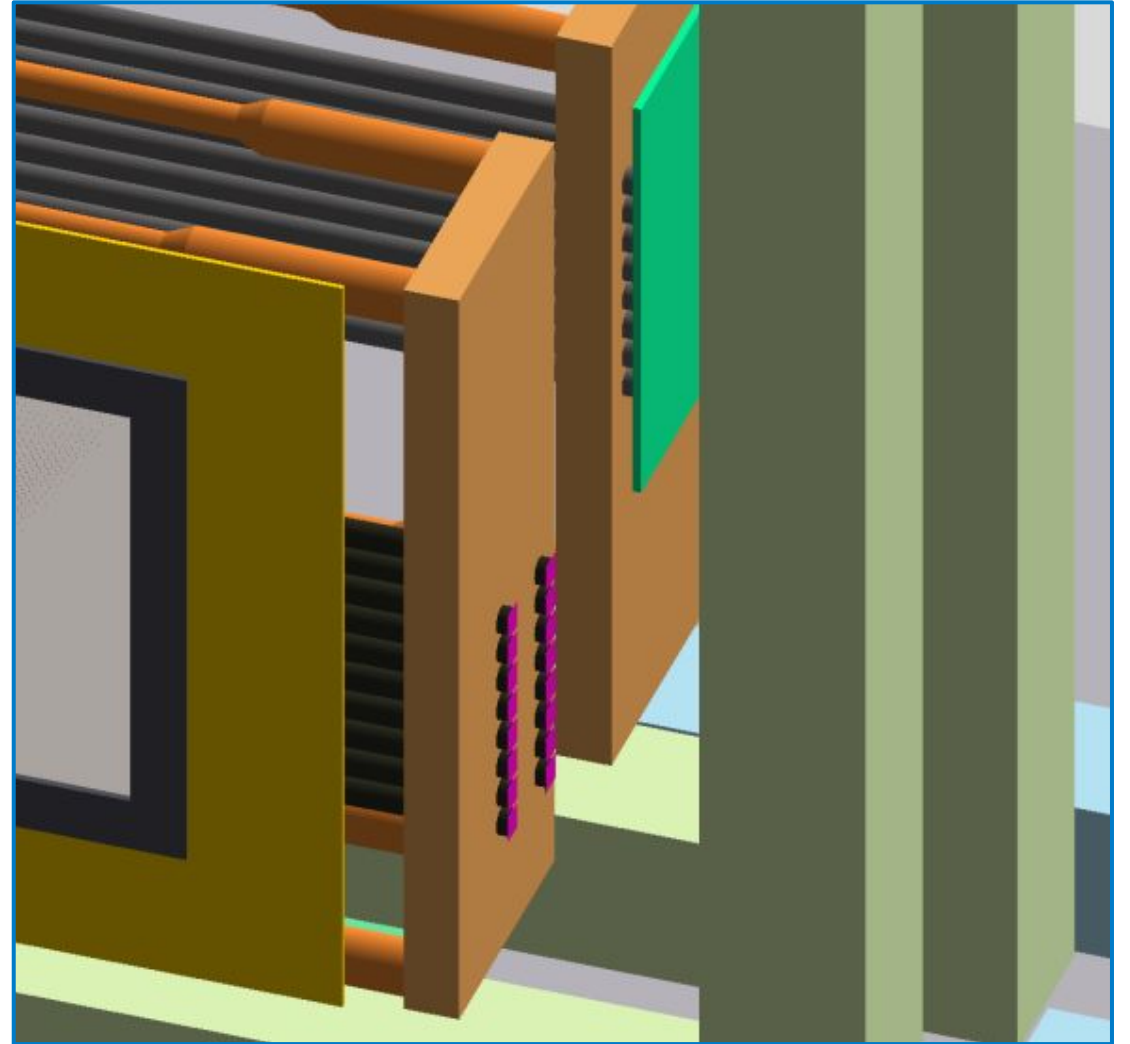
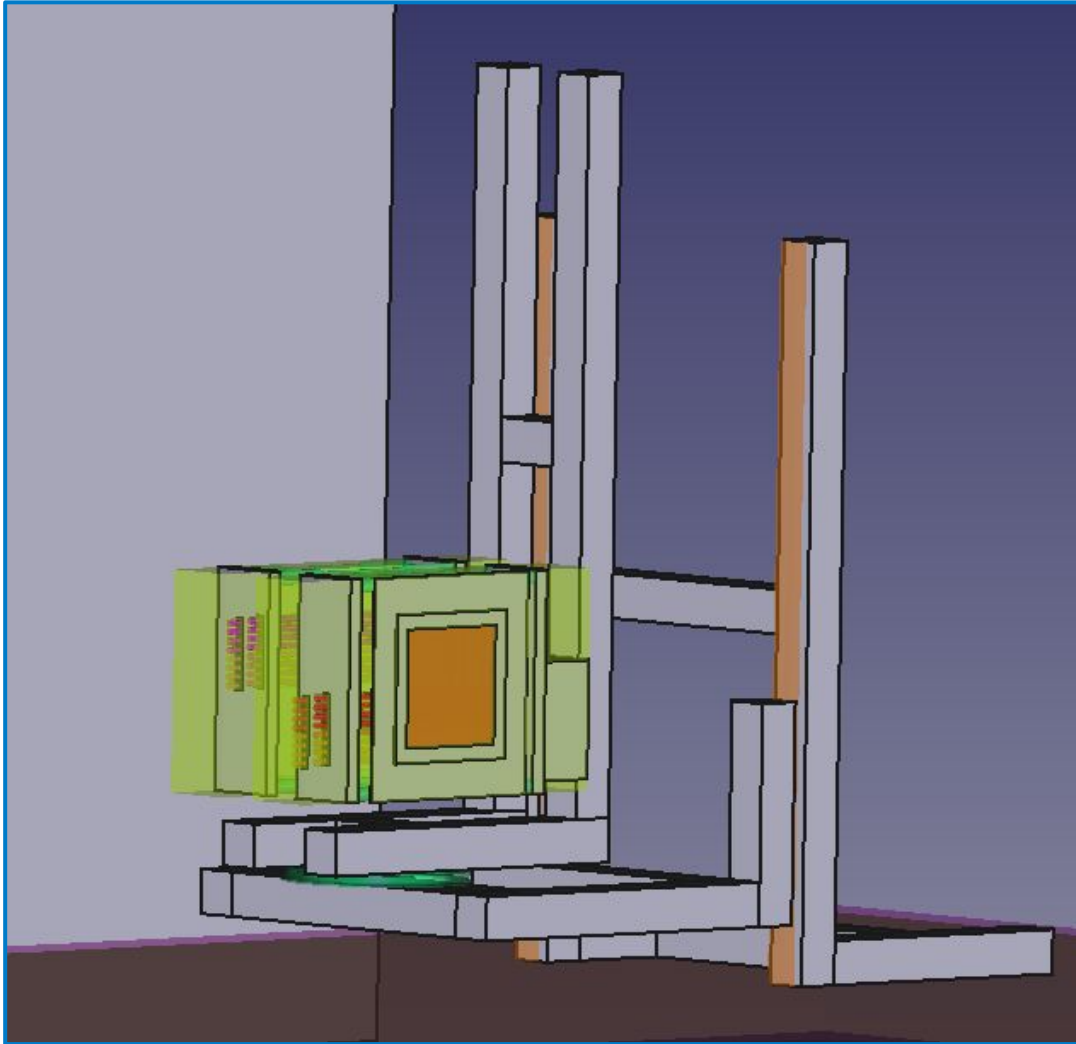
Simulations

Ptarmigan simulation of a_0 with E320 settings



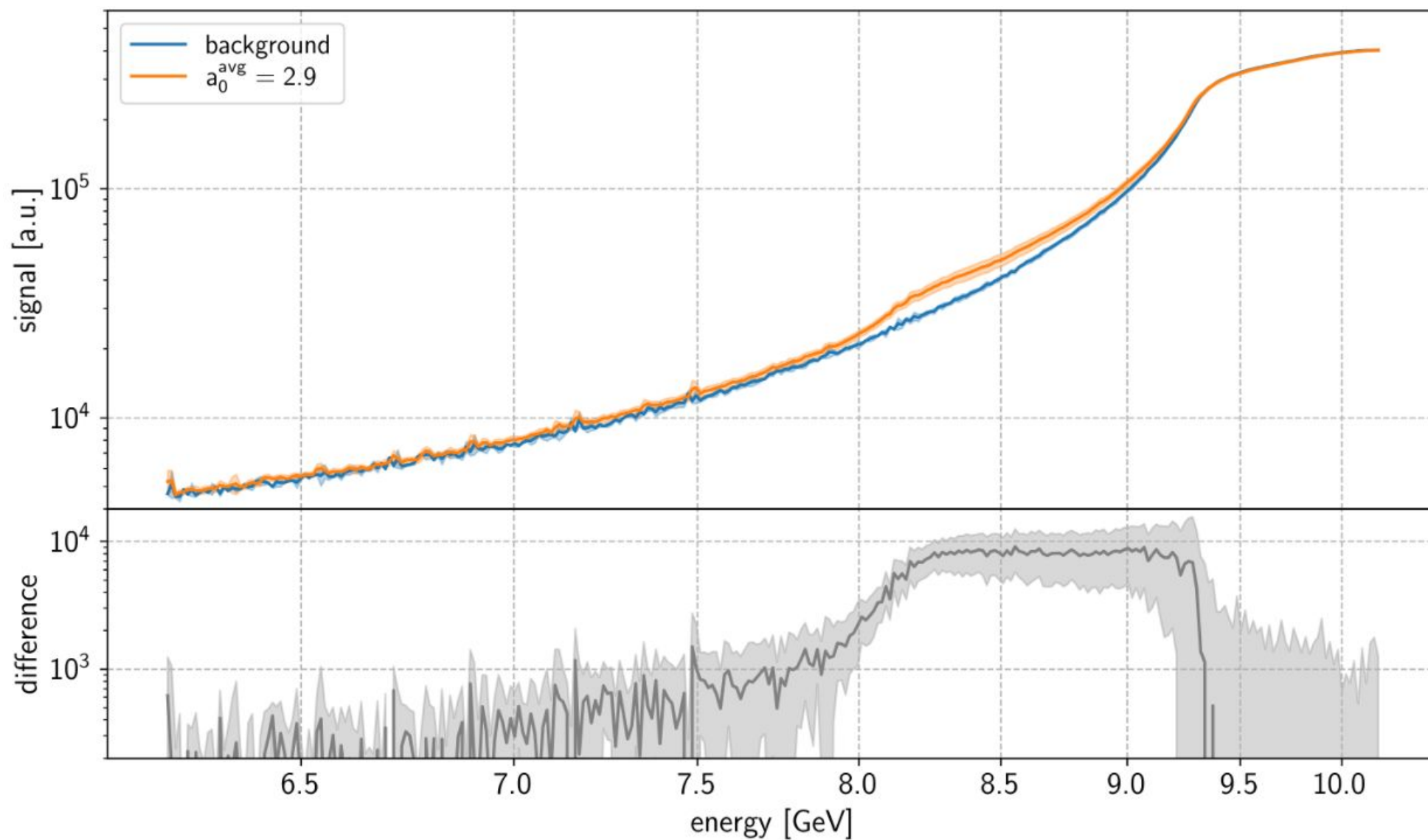
Simulations

EDS implementation in geant4 (by Sasha)



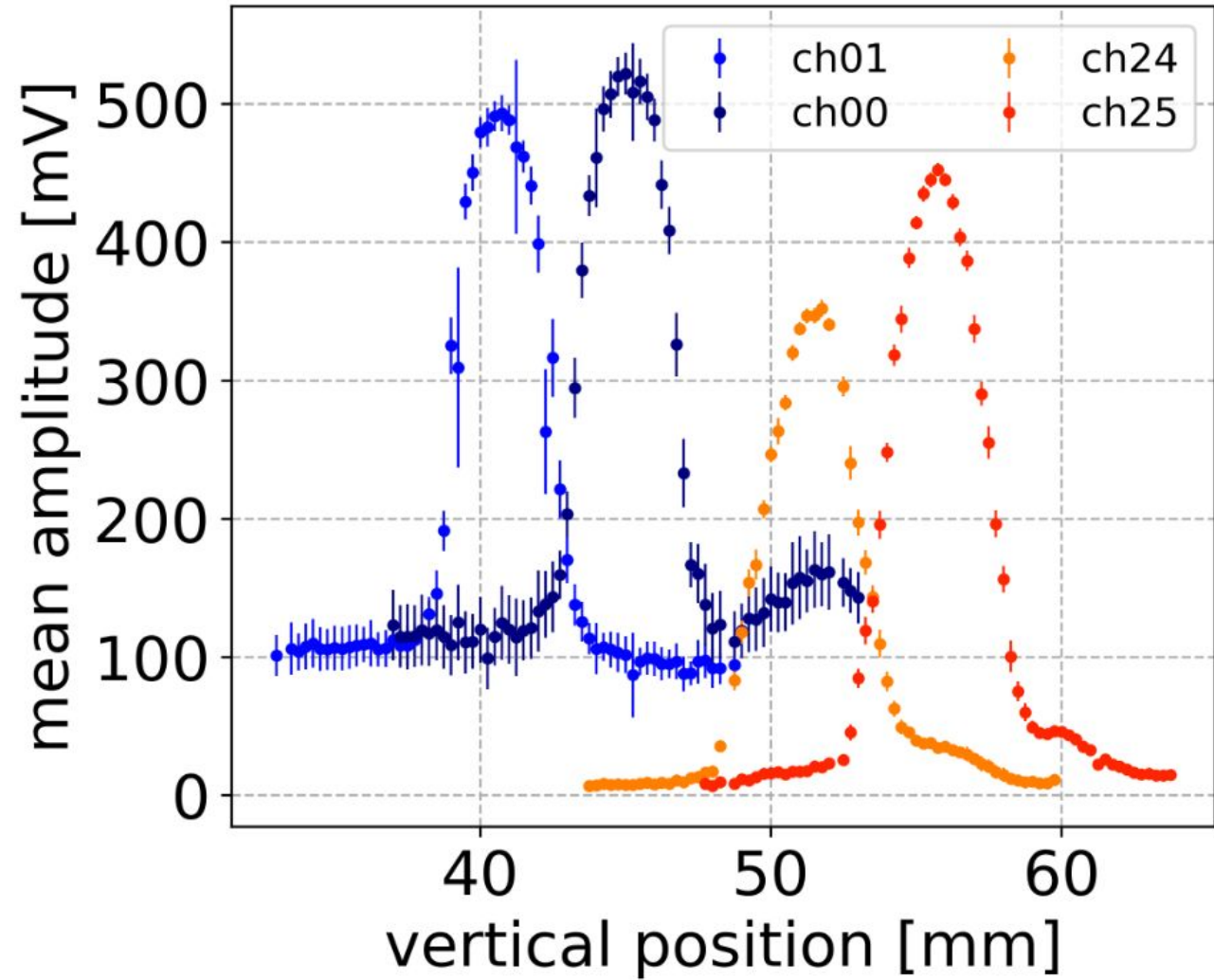
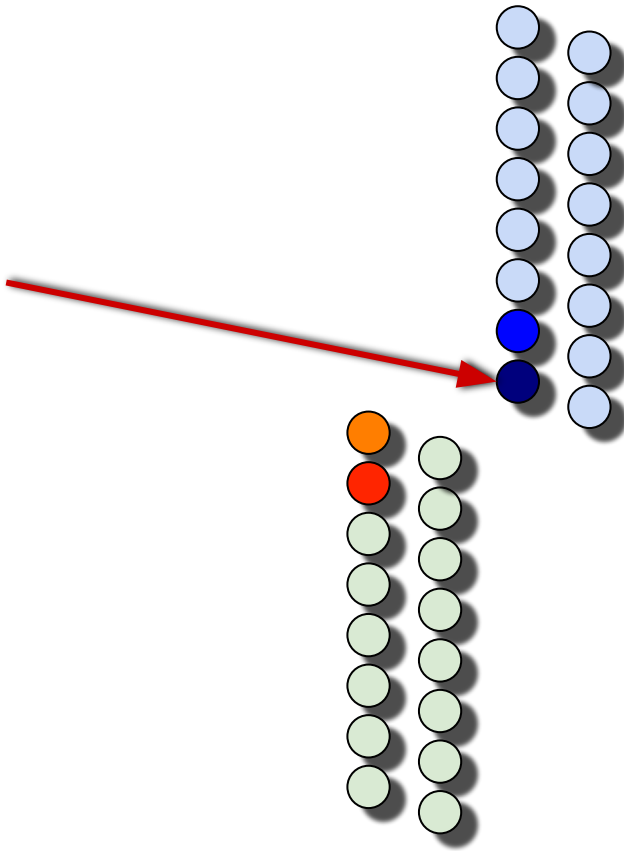
Screen Data

Spectrum at 100% laser intensity



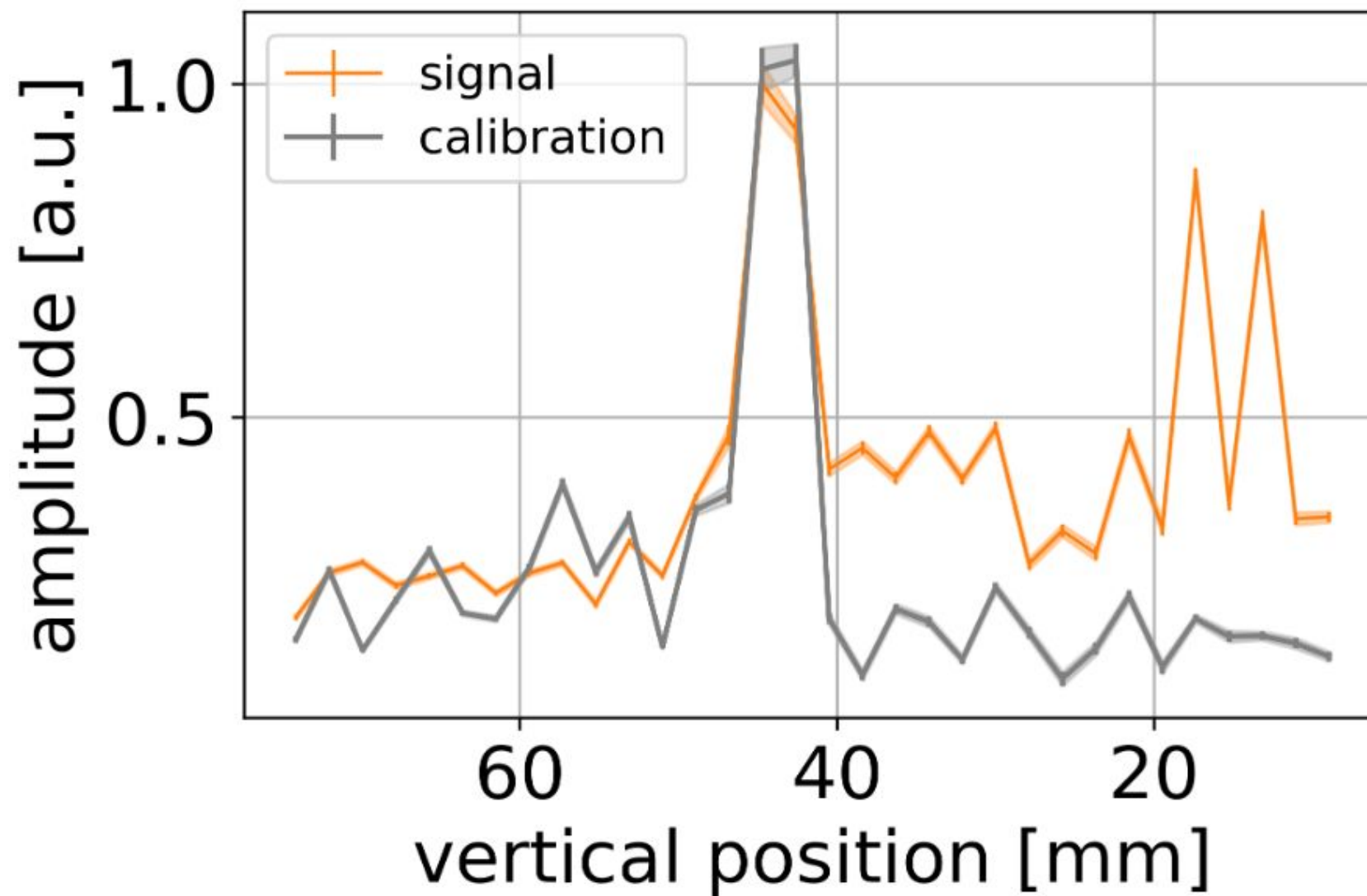
Straw Data

Vertical scan for calibration



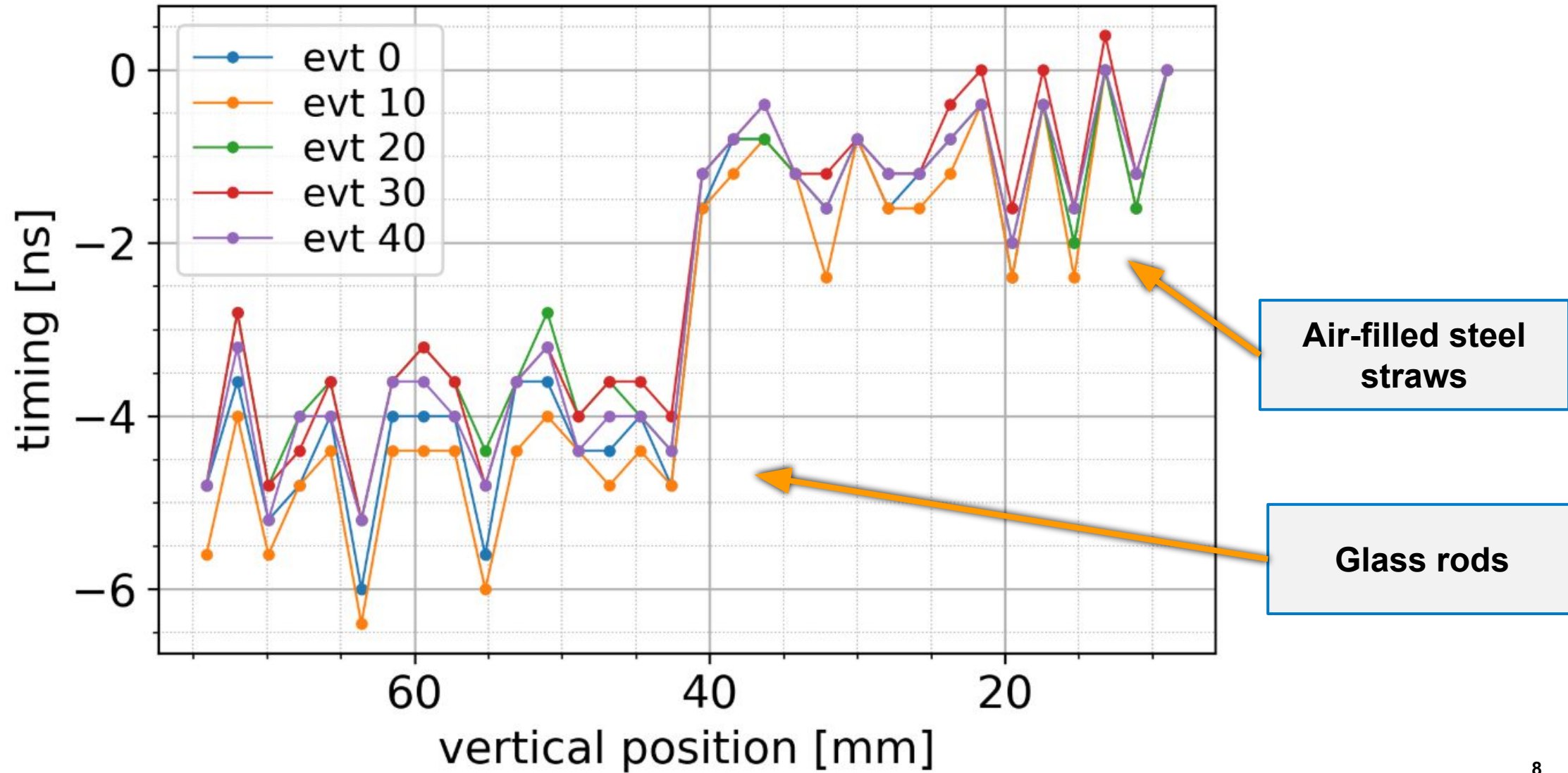
Straw Data

Calibration of straw spectrum



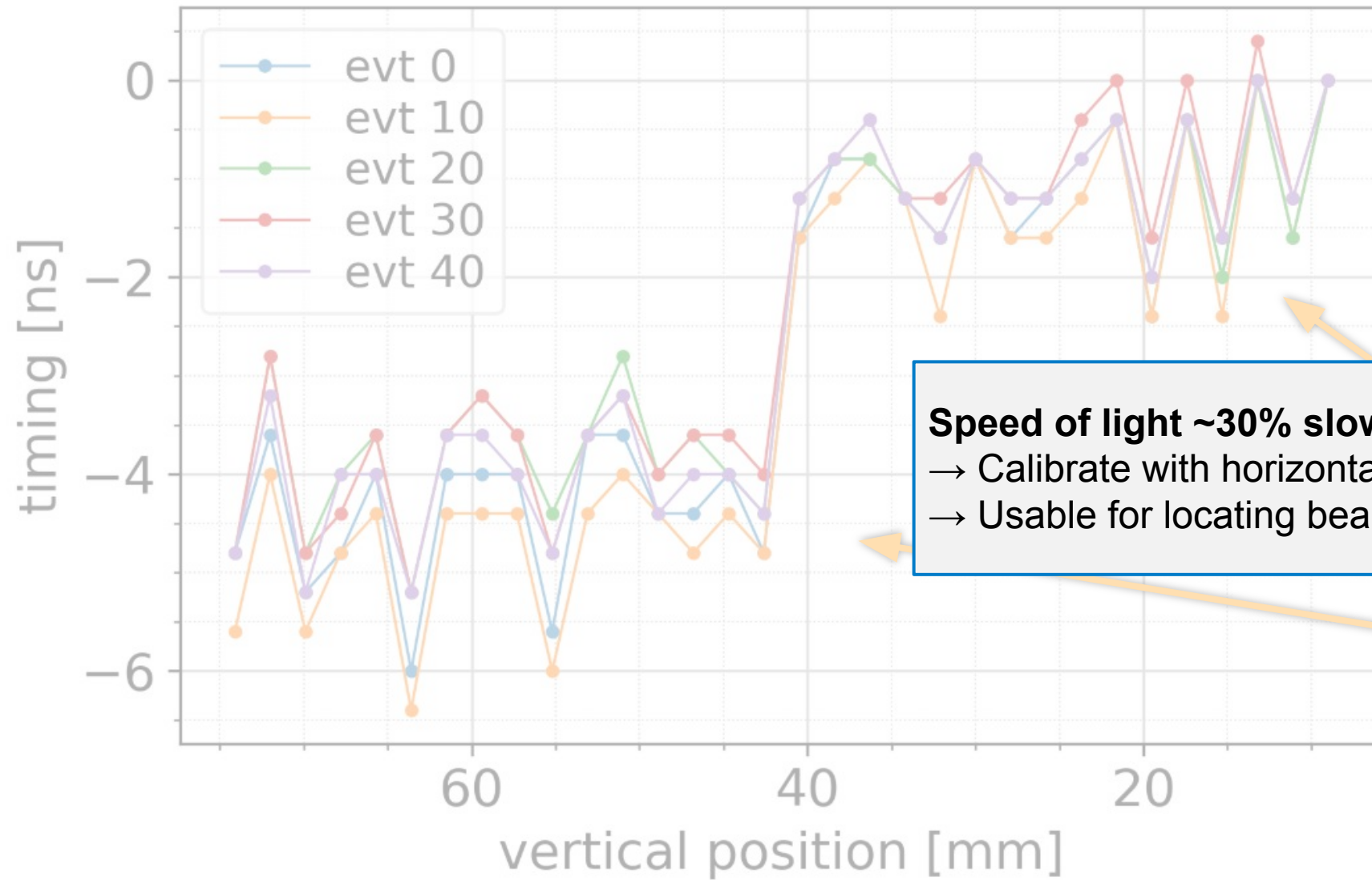
Straw Data

Straw signal timing for all channels



Straw Data

Straw signal timing for all channels



Speed of light ~30% slower in glass

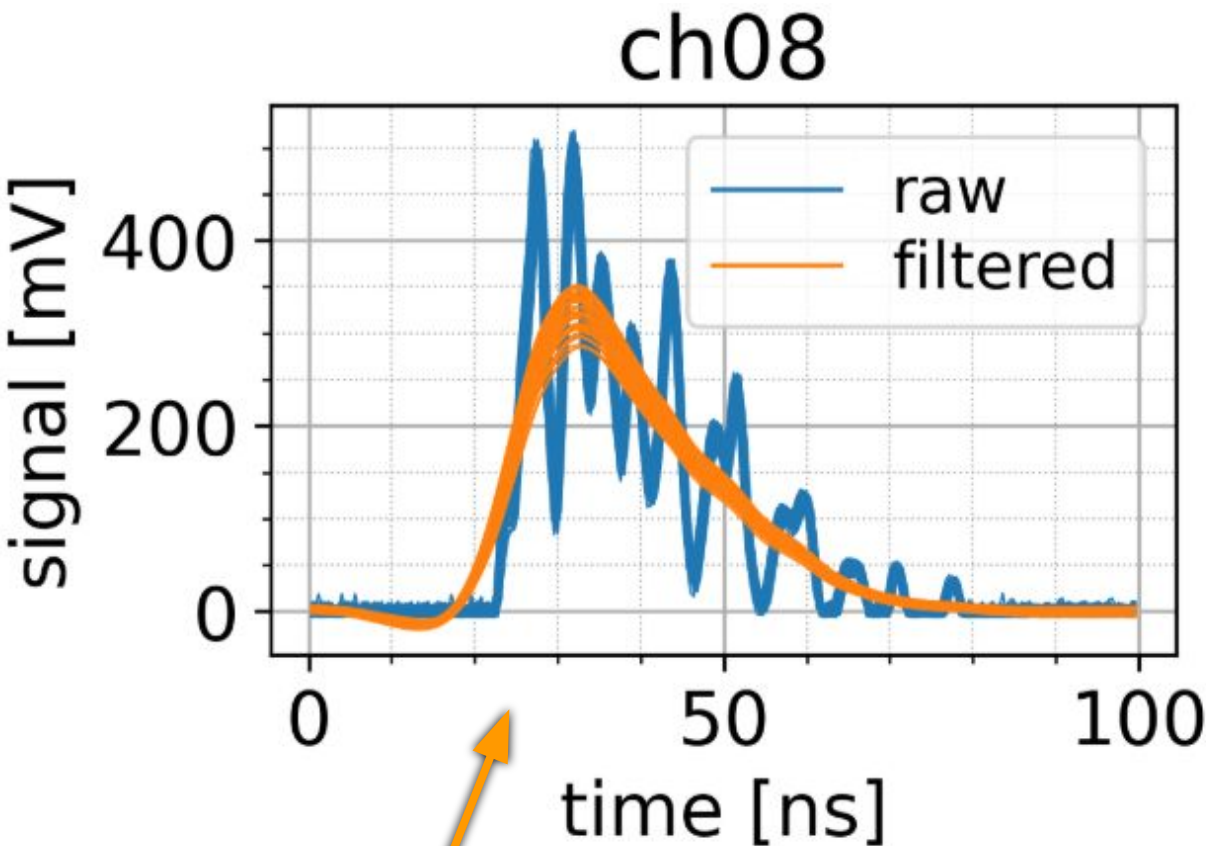
→ Calibrate with horizontal scans?

→ Usable for locating beam position along straws?

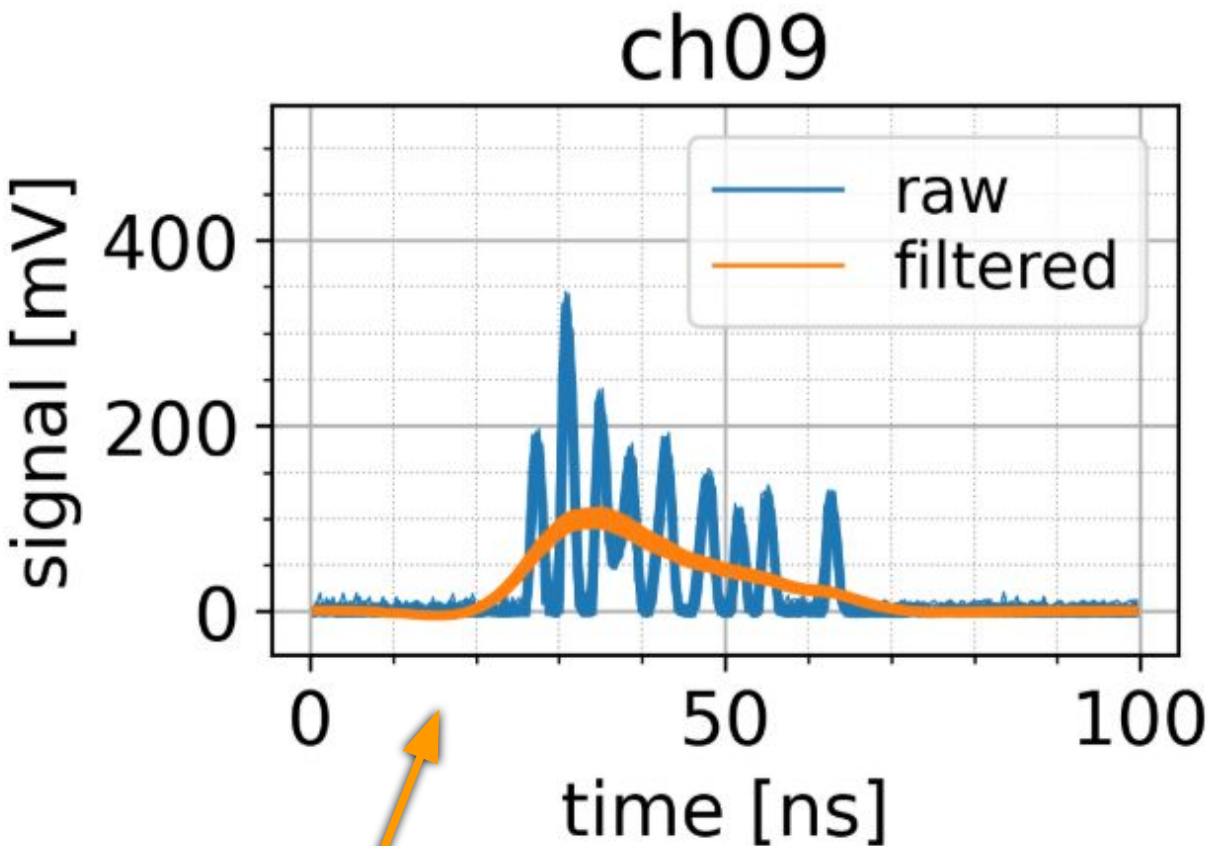
Glass rods

Straw Data

Comparison of straw signal shapes with and without filter



Main beam



Neighbouring
straw