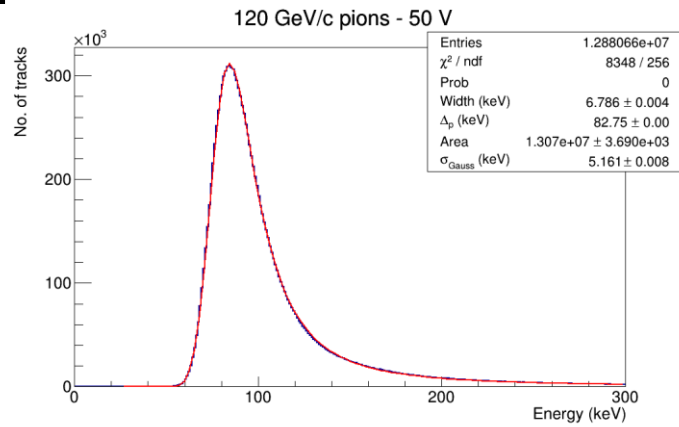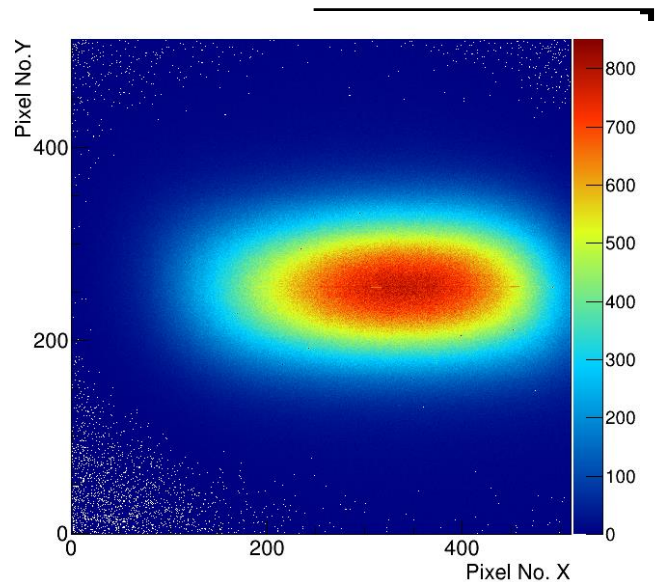# Medipix beam test

Benedikt Bergmann on behalf of the Medipix team at the Institute of Experimental and Applied Physics
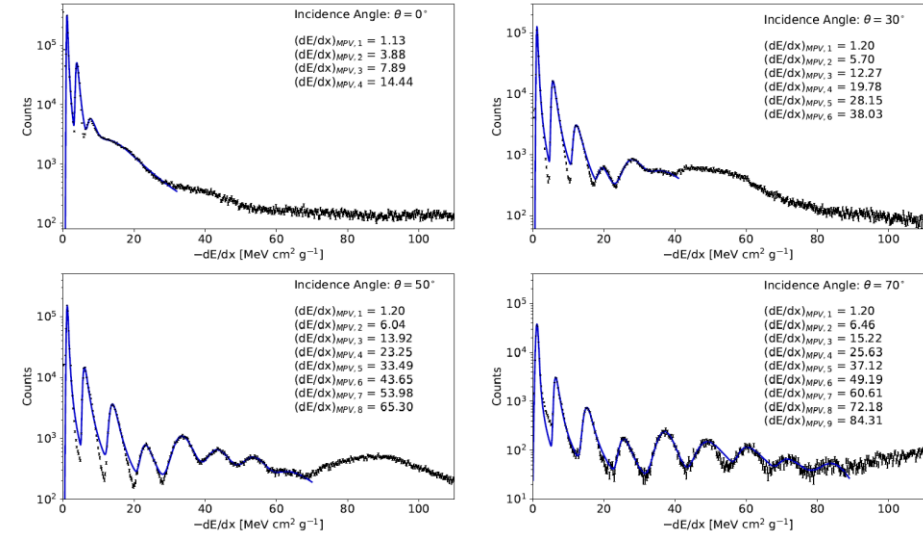
Motivation - Addressed detector development

- Characterization of different sensor materials

- Timepix4 R/O system
  - Test of slow and logrithmic gain

- Timepix2 – adaptive gain and Continuous Read Write

- Test of software for real-time analysis and data compression

Beam spot and stopping power measurement with Timepix3 Quad (September 2021)

Timepix3
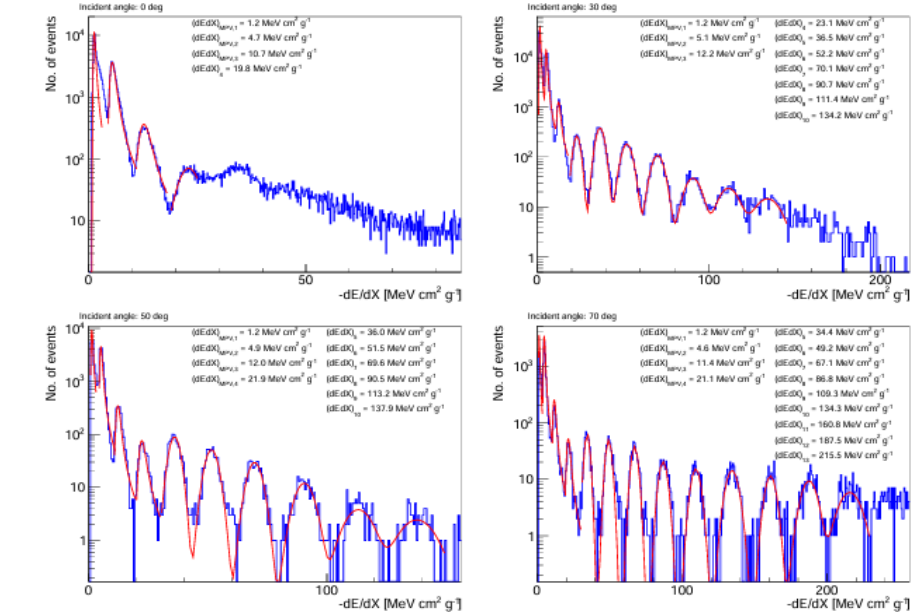
Timepix2 – adaptive gain

Figure 1: Comparison of the dE/dX measured in a mixed ion beam for the different impact angles investigated. Using spectrum stripping by iterative Landau- and Gaus-curve fitting different ion species are identified.

Beam and infrastructure requirements

Beam requirements:

- ~300 kParticles/spill
- Primary beam
- Fragmented beam

Frequent access

Infrastructure requirement:

- Moveable table (e.g., DESY)
- Standard table for PCs, readout, voltage source

SPS 2021 - Setup September

SPS 2021 - Setup August