

Results of Geant 4 simulations

DEPFET Beam Test,

January 2006

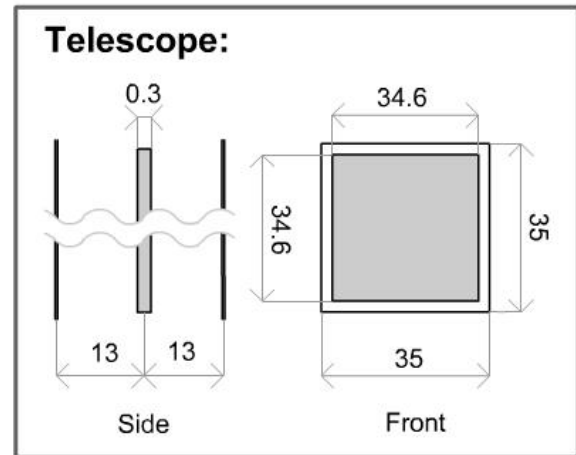
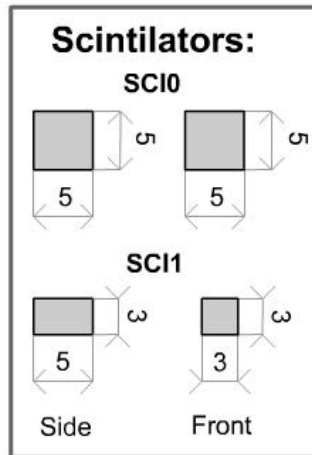
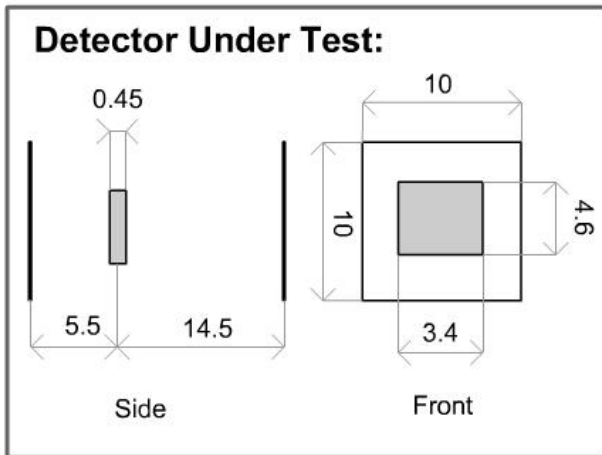
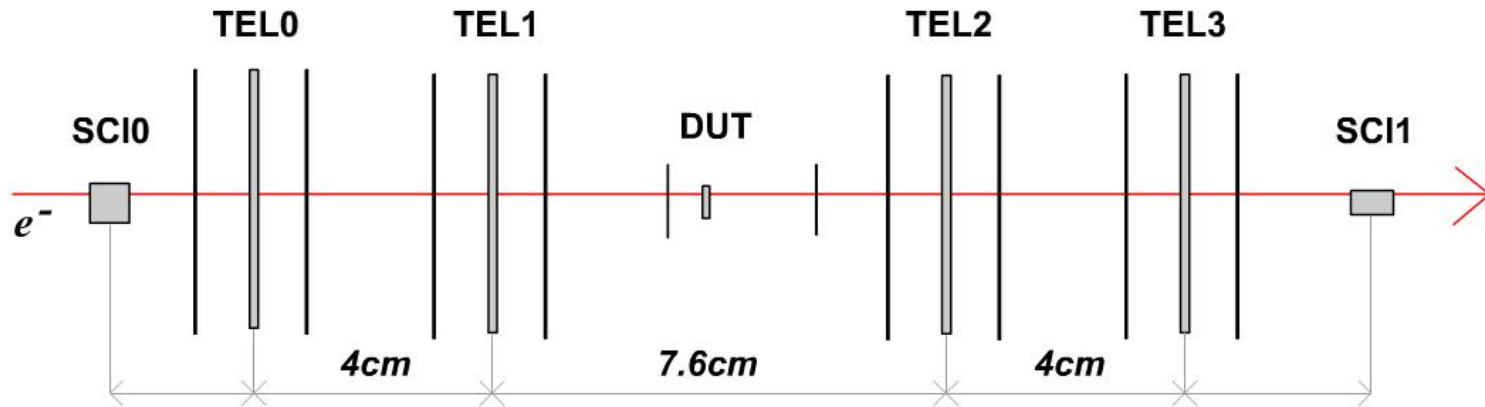
Daniel Scheirich

Peter Kodys

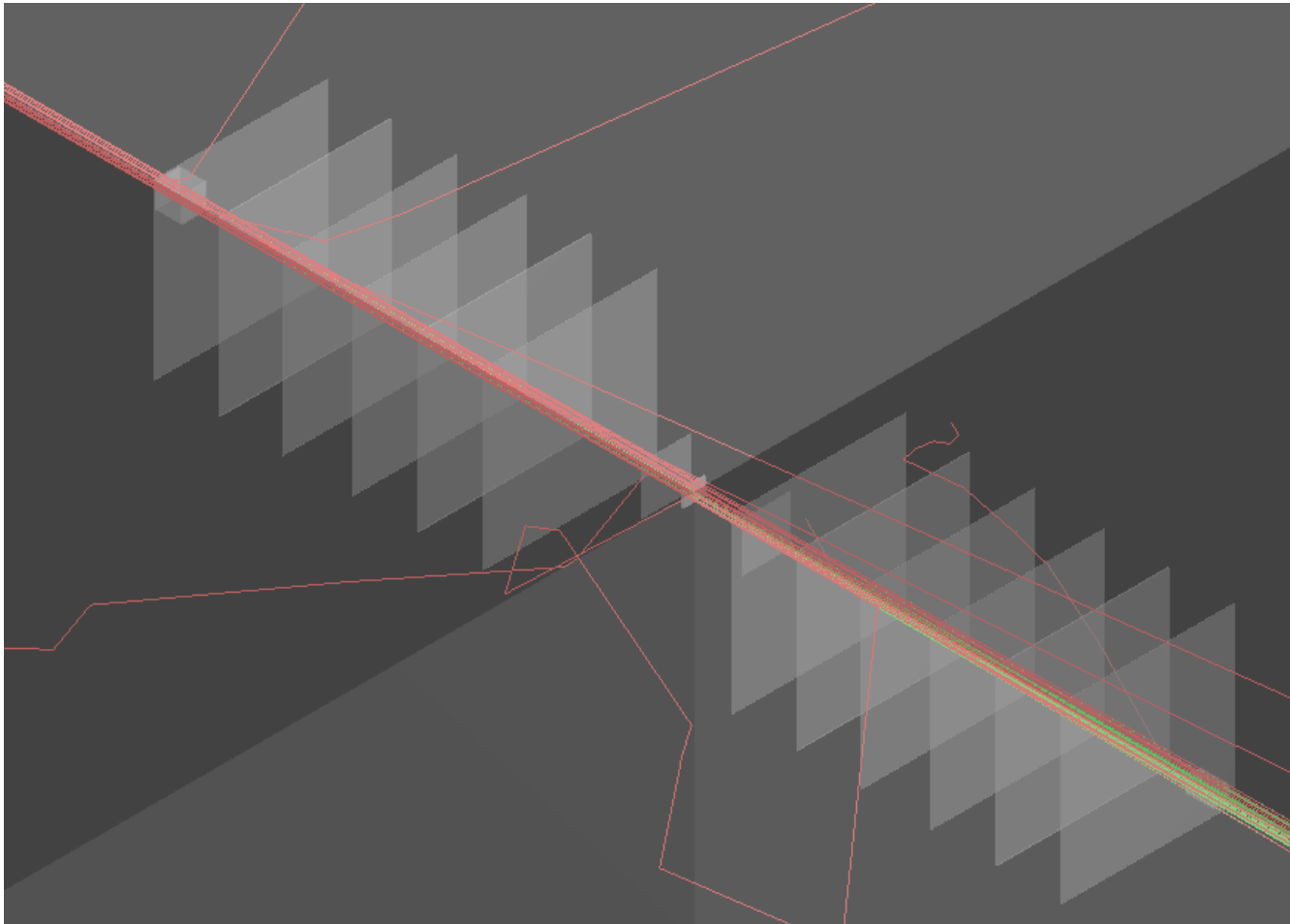
Zdenek Dolezal

Pavel Reznicek

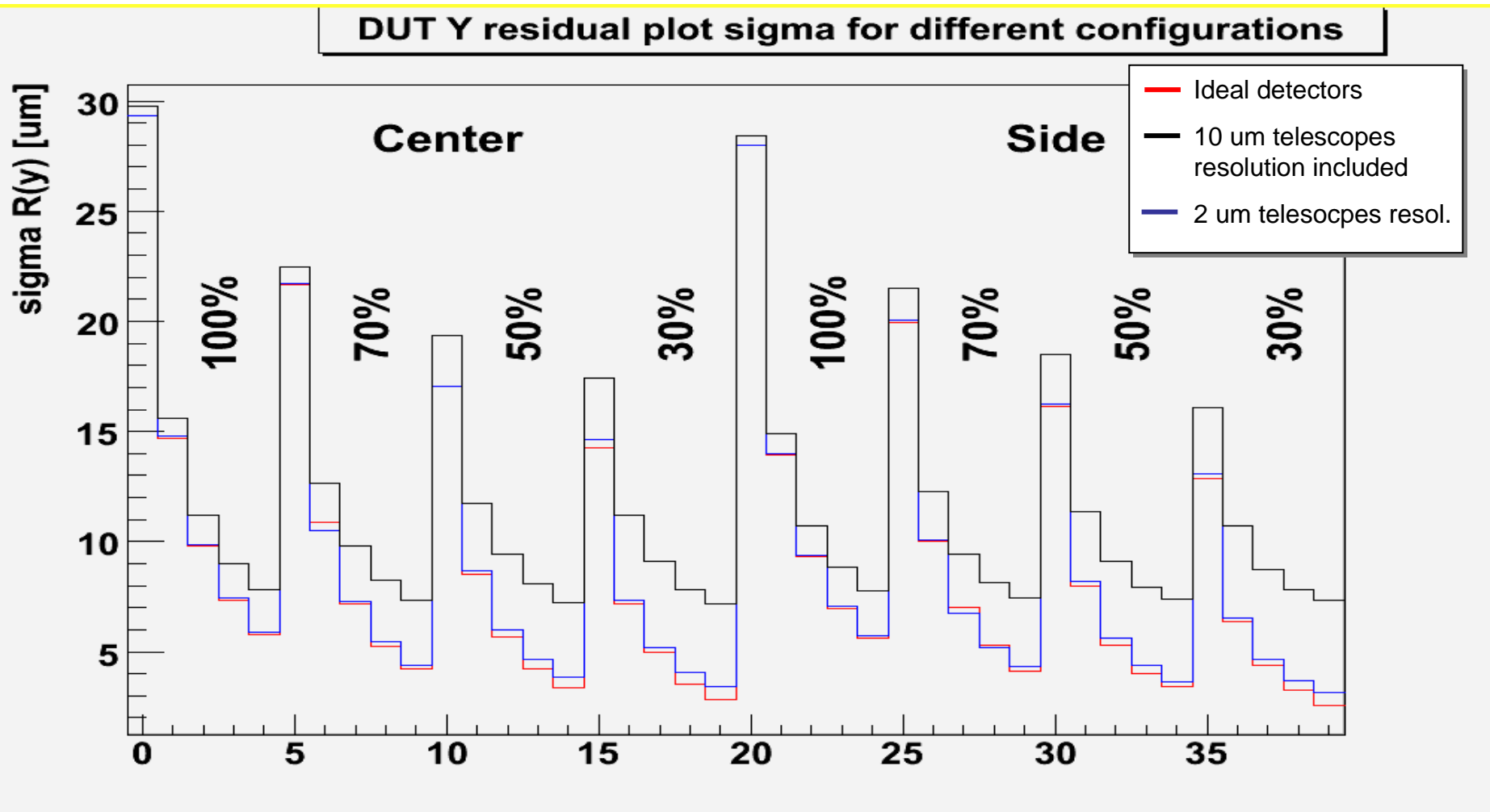
Geometry



Geometry

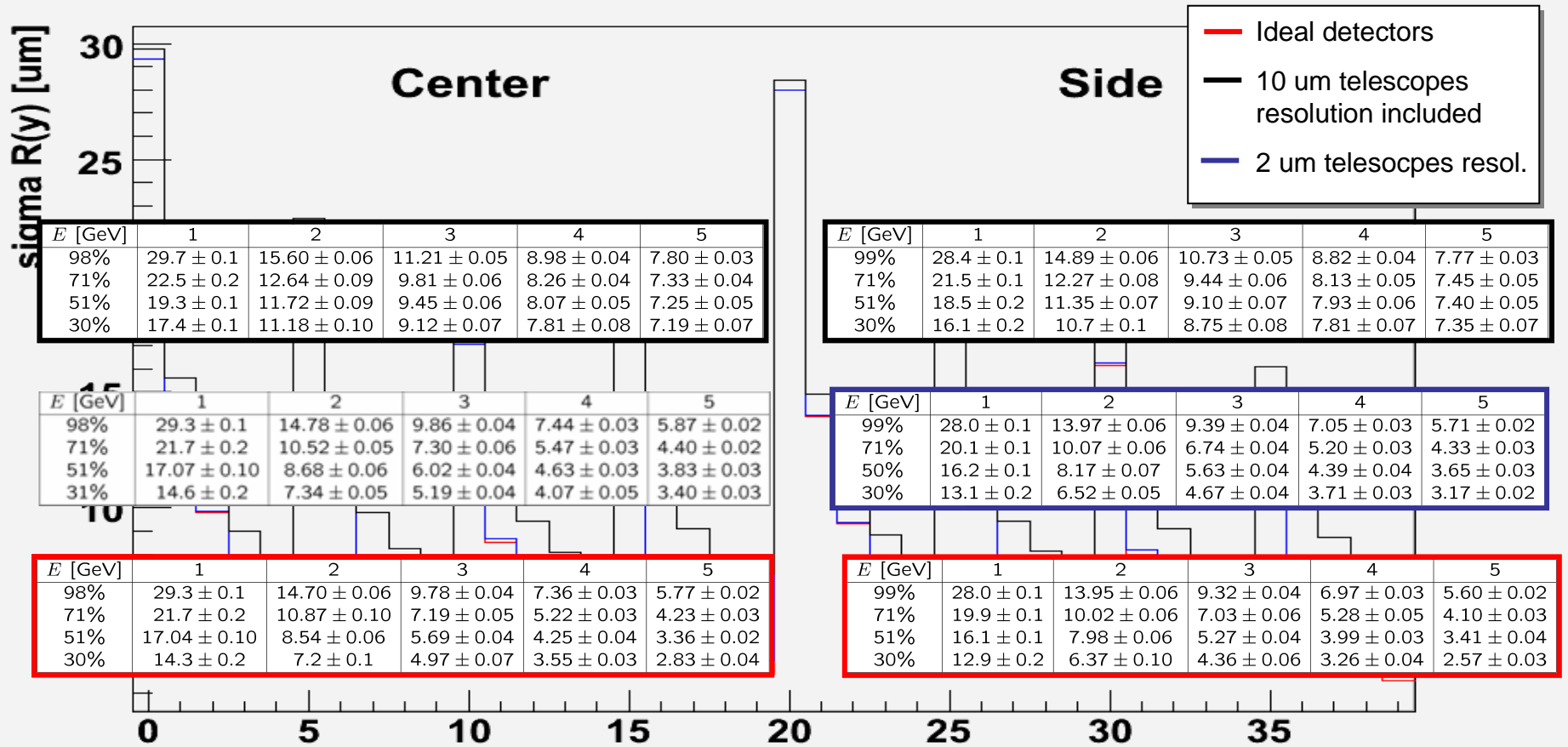


Residual distributions

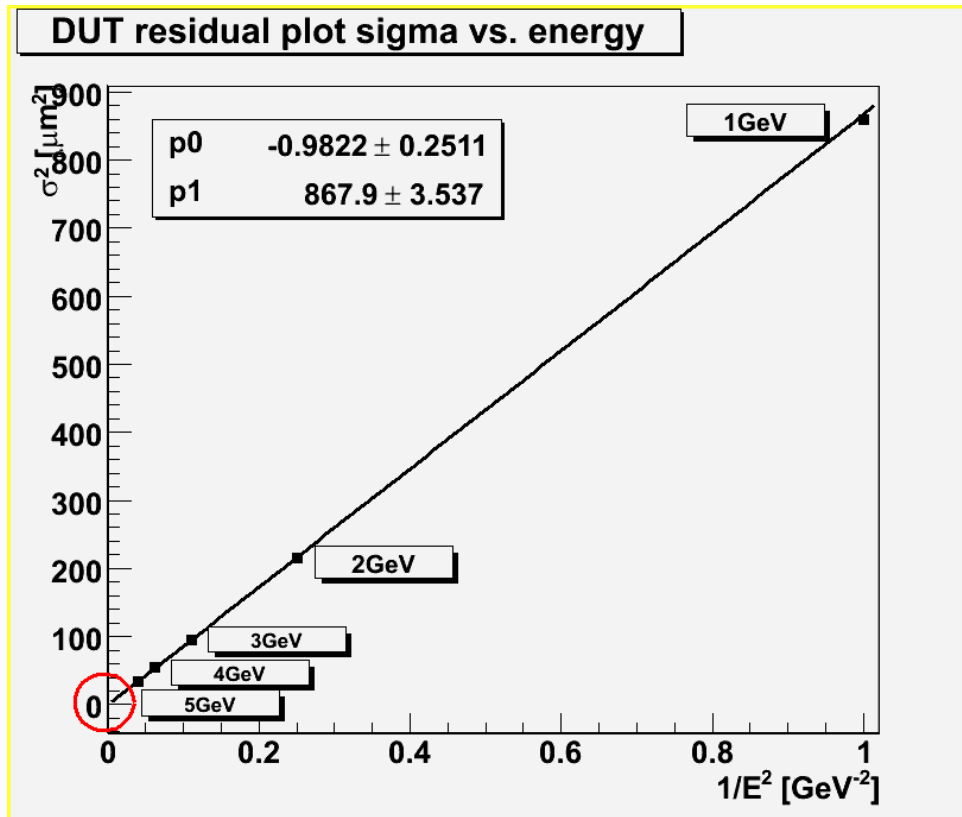


Residual distributions

DUT Y residual plot sigma for different configurations



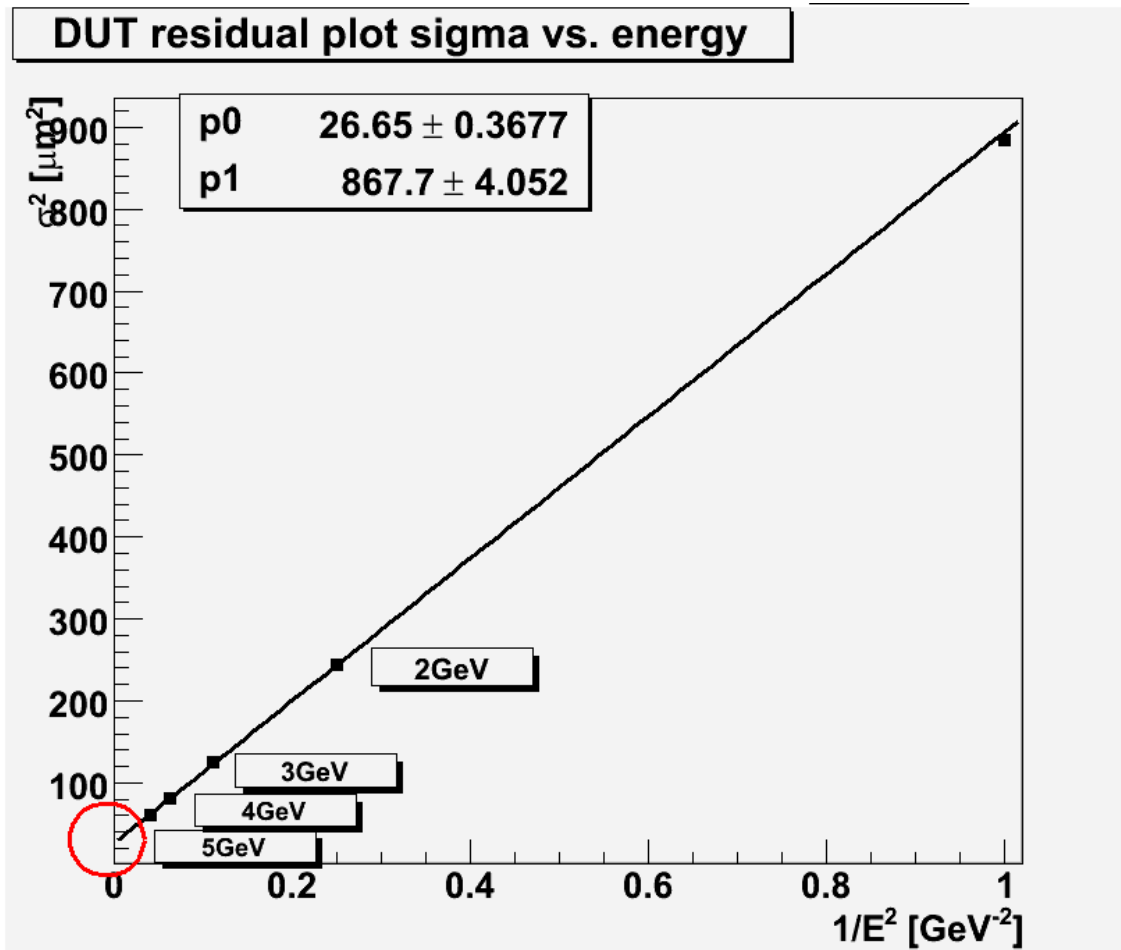
Infinite energy extrapolation



- Ideal detectors
- Fitted line should go to 0

$$\theta_0 = 13.6 \text{ MeV} \approx \sqrt{\frac{x}{X_0}} \left(1 + 0.038 \ln \left(\frac{x}{X_0} \right) \right) \beta^{-1} c^{-1} p^{-1}$$

Infinite energy extrapolation



- The resolution of telescopes is $10\mu\text{m}$
- The residual distribution for an unscattered particle is ca. $5\mu\text{m}$

Sigma vs. χ^2 cut for 5 GeV el.

