

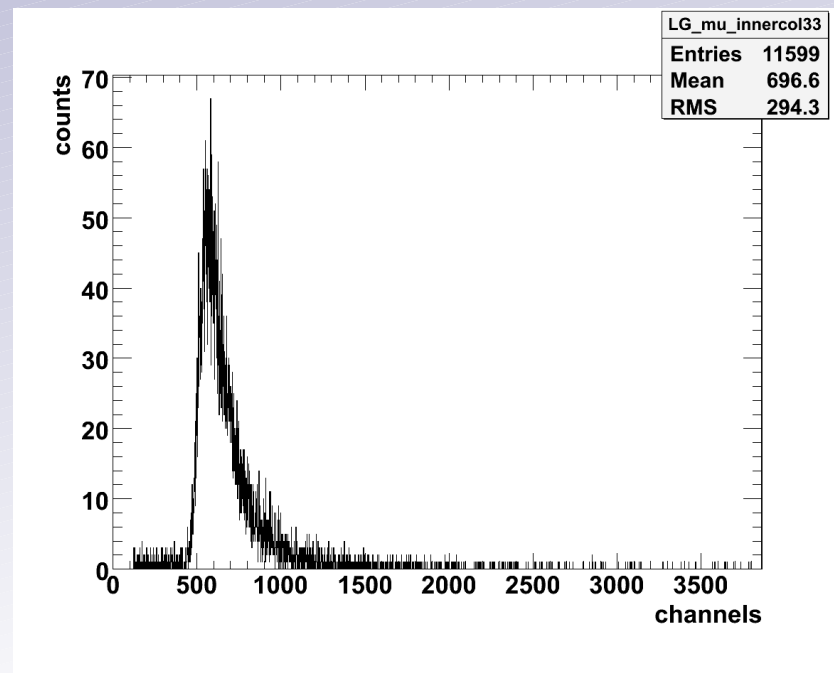
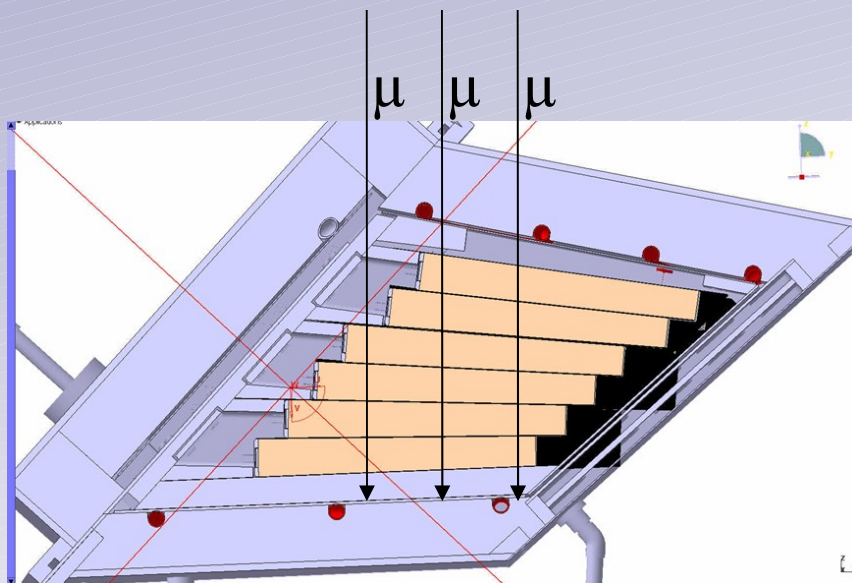
Calibration concept for the PROTO 60

P. Drexler, D. Bremer, W. Doering, M. Moritz, R.W. Novotny, P. Rosier

Cosmic calibration of the Proto 60

Calibration will be done with Cosmic Muons

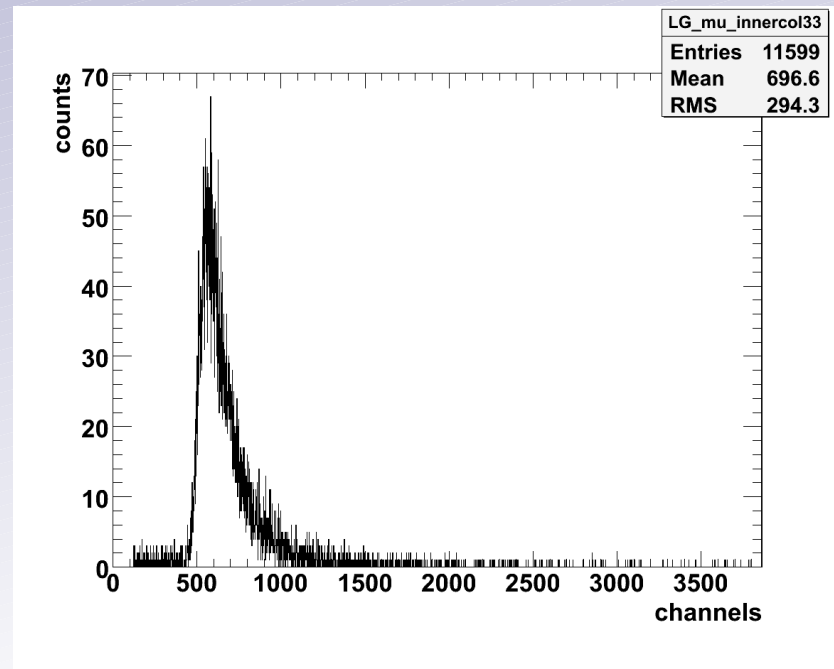
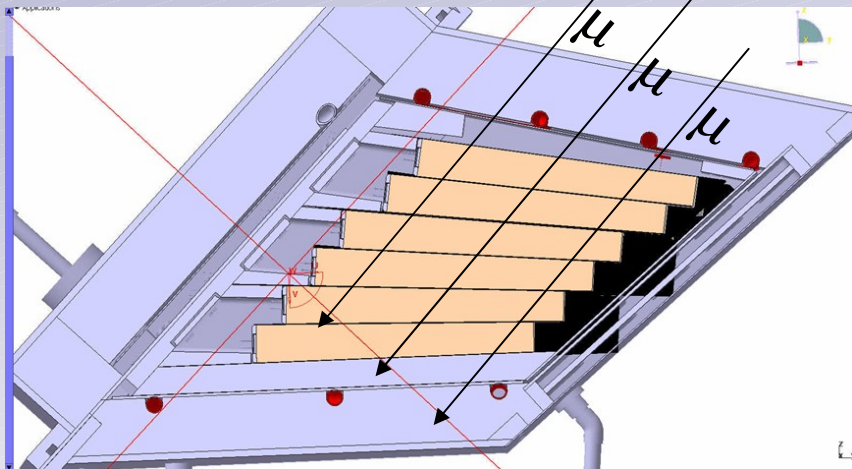
- Average stopping power in PWO [PDG]: 10.2MeV/cm
- Average passlength per crystal of the PROTO60: 2.4 cm
- This gives an average energy deposition of 24.5 MeV
- Deviation of calibration due to different angles of the crystals 0.27 %
- Deviation of deposited energy due to different height $\sim 21\%$



Cosmic calibration of the Proto 60

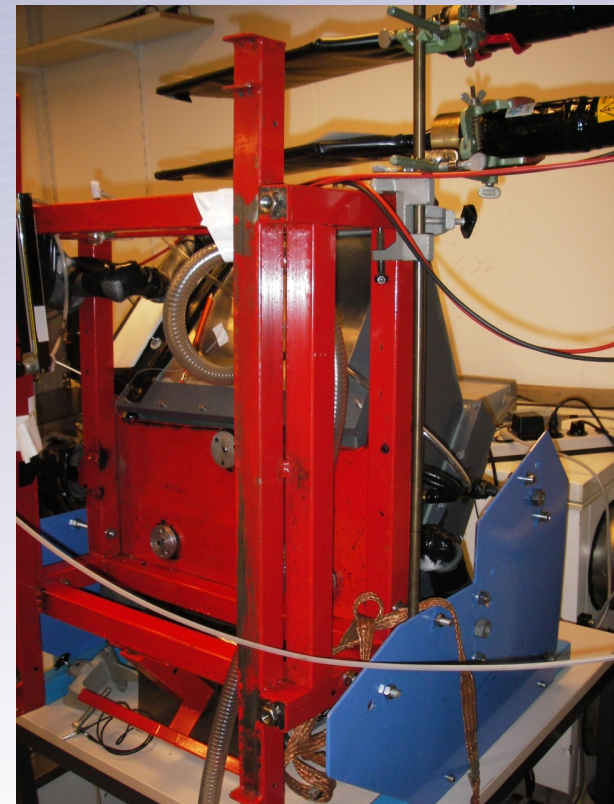
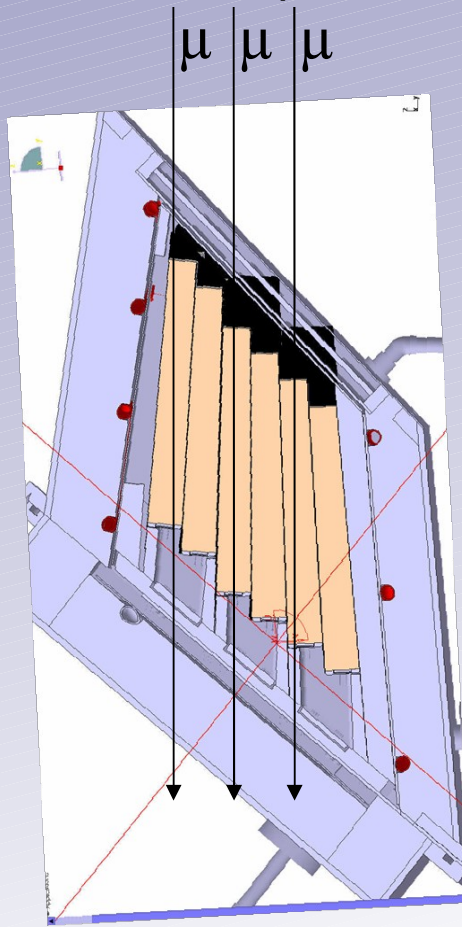
Calibration will be done with Cosmic Muons

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Cosmic calibration of the Proto 60

- Idea: Calibration with Cosmic Muons going through whole crystal**
- This gives an average energy deposition of 204 MeV
 - Max. deviation of deposited energy due to different pathlength: $\sim 1\%$



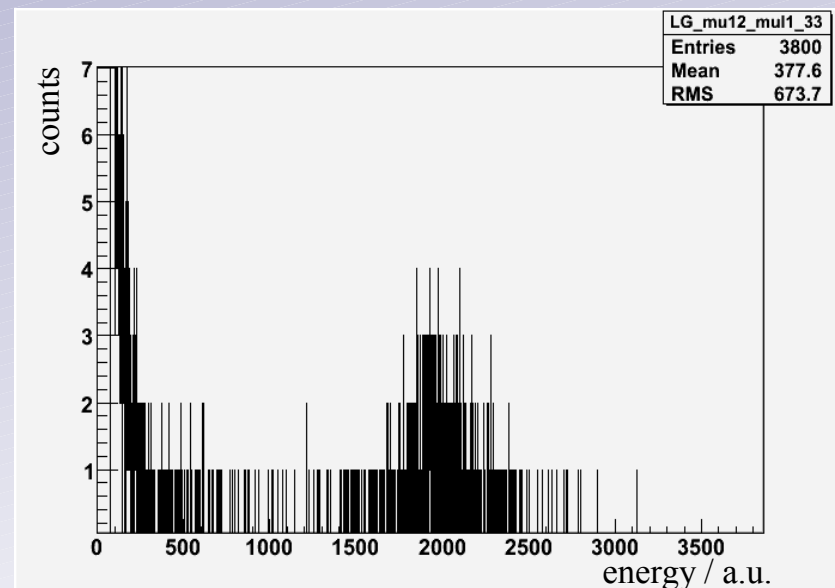
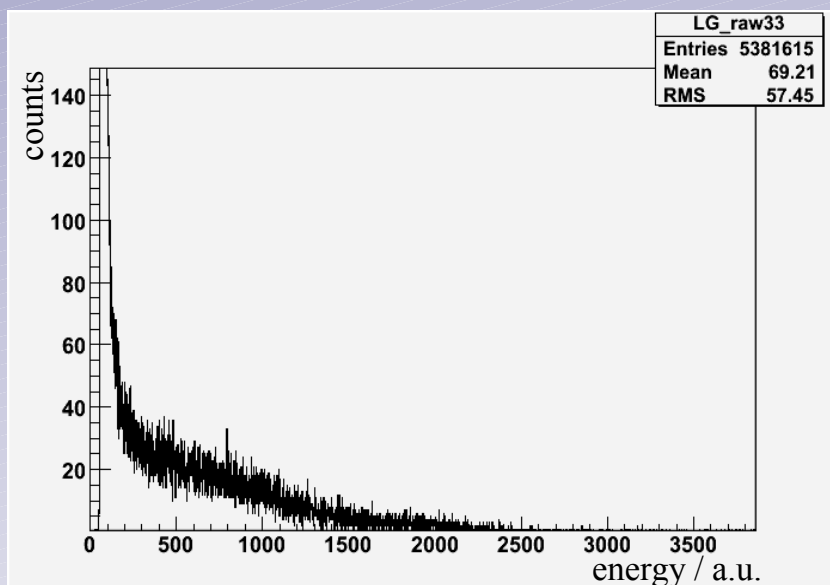
Cosmic calibration of the Proto 60

2 weeks of measurement with cosmics

Trigger: Coincidence between 2 plastic scintillators

No cut applied

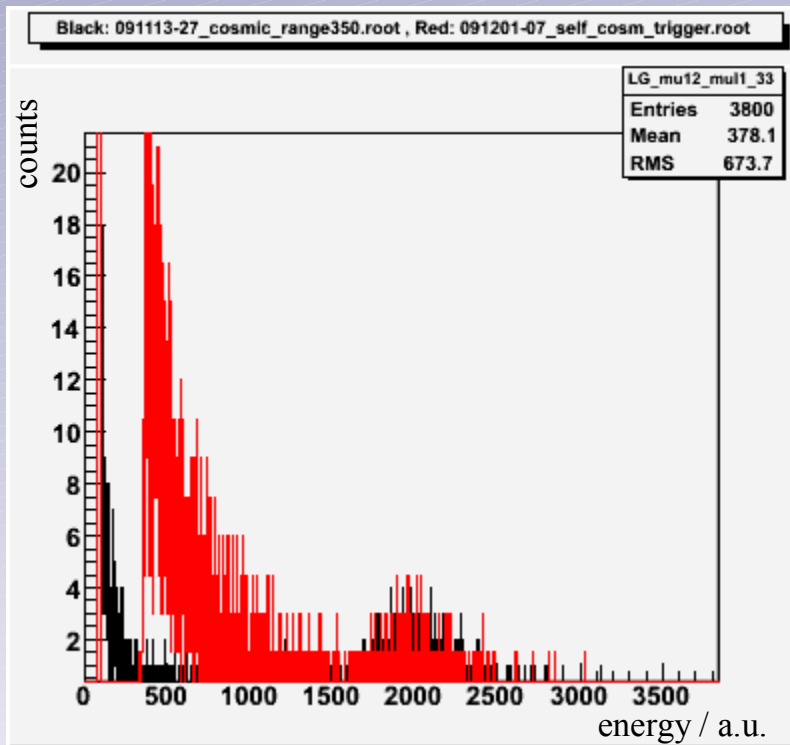
Energy deposited in exact 1 crystal
(threshold: $12 \cdot \sigma$ of pedestral)



Readout rate about 5Hz → plastic-detectors are not working properly

Cosmic calibration of the Proto 60

In comparison: 5.5 days of measurement with cosmics
Trigger: Self trigger
Cut: Only one crystal has fired



Not as clean as with the coincidence trigger, but more statistics