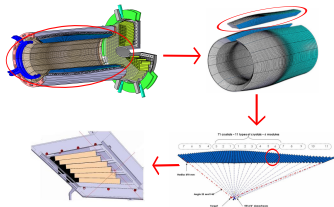


Response of a Close to Final Prototype for the \bar{P} ANDA Electromagnetic Calorimeter to Photons at Energies below 1 GeV

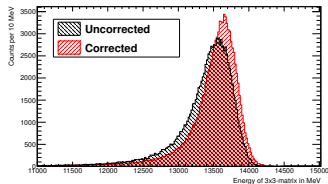
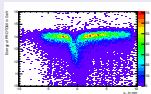
PROTO60: First step to the final design of the barrel EMC

- 60 tapered lead tungstate (PWO) crystals
- readout: single LAAPD (1 cm² quadratic)
- low-noise low-power preamplifier
- operating at -25 °C



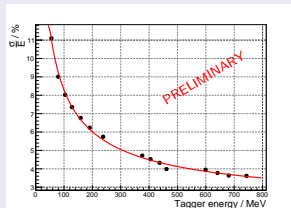
Higher order energy correction

- significant loss and leakage inbetween crystals
- correcting deposited energy with $\ln(E_1/E_2)$ -method



PROTO120

- 120 PWO crystals of the 3 most tapered types
- close to final mechanics and cooling
- readout: 2 LAAPDs per crystals (1cm² rectangular)
- custom designed APFEL ASIC



ASIC

- Two channels with different gain for each LAAPD
- Dynamic range of 10000 (1 MeV to 12 GeV)
- Programmable amplification of 16/32
- High rate capability (up to 500 kHz)
- Low power consumption: 55 mW/ch

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