

# Studies for the $\pi^0$ Calibration of the Crystal-Ball Detector

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# The Process

$$\gamma + p \rightarrow \pi^0 + p \rightarrow p + \gamma_1 \gamma_2 \quad (1)$$

$$m_{\pi^0} = \sqrt{2E_1 E_2 (1 - \cos(\alpha))} \quad (2)$$

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- Is there an energy dependency in the CB-Detector and how can it be checked?  $\rightarrow |E_1 - E_2| < 25 \text{ MeV}$
- What are the reasons for the dependency?

# Crystal-Ball-Function / Reduction of the Underground

# Eventgenerator