

HECTOR (BaF_2) and HECTOR+ ($LaBr_3:Ce$) @PRESPEC

❖ HECTOR:

8 Large Volume BaF_2 detector

- H = 17 cm
- \emptyset = 14.5 cm



❖ HECTOR+:

2-8 Large Volume $LaBr_3:Ce$ detectors

- H = 20 cm
- \emptyset = 9.5 cm

≥ 1 medium Volume $LaBr_3:Ce$ detectors

- H = 7.5 cm
- \emptyset = 7.5 cm

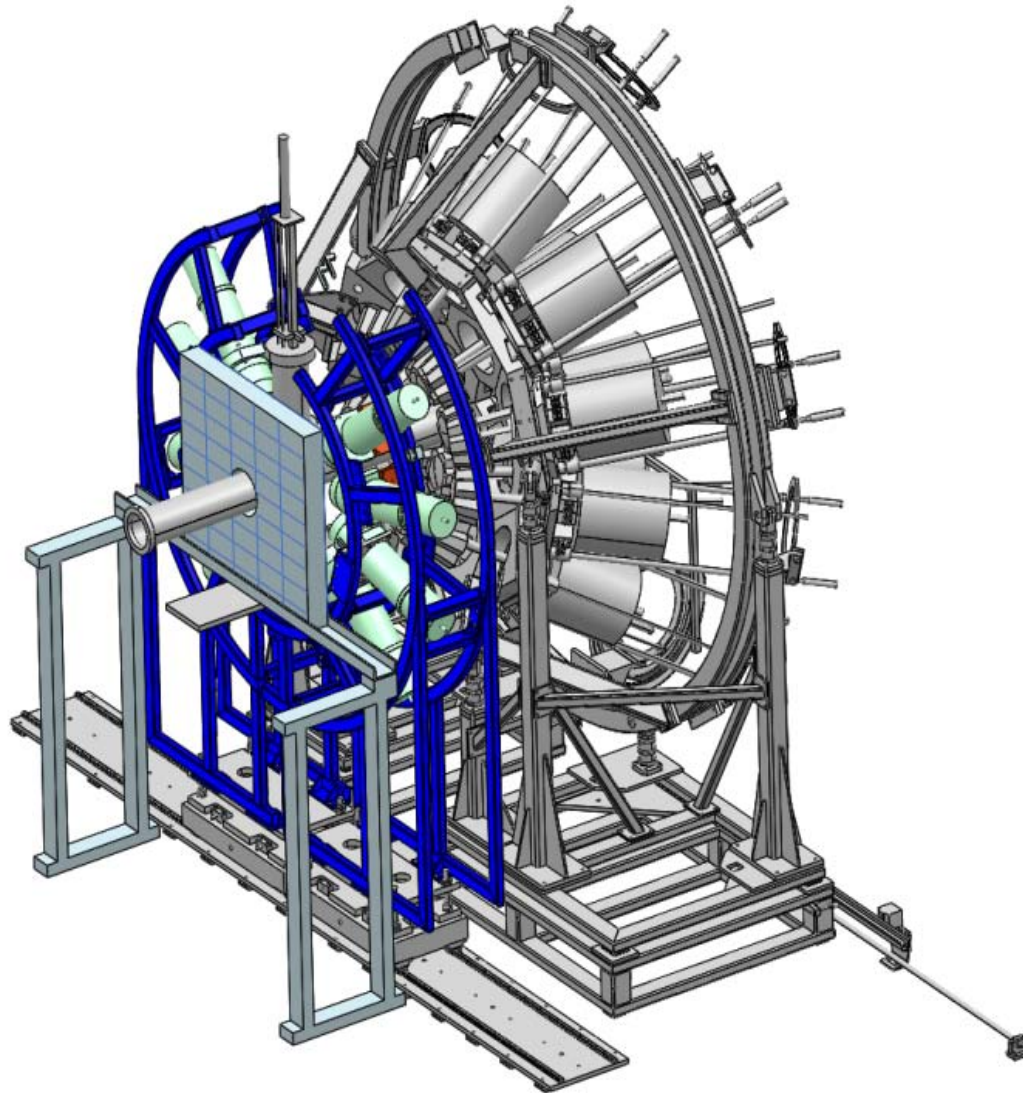


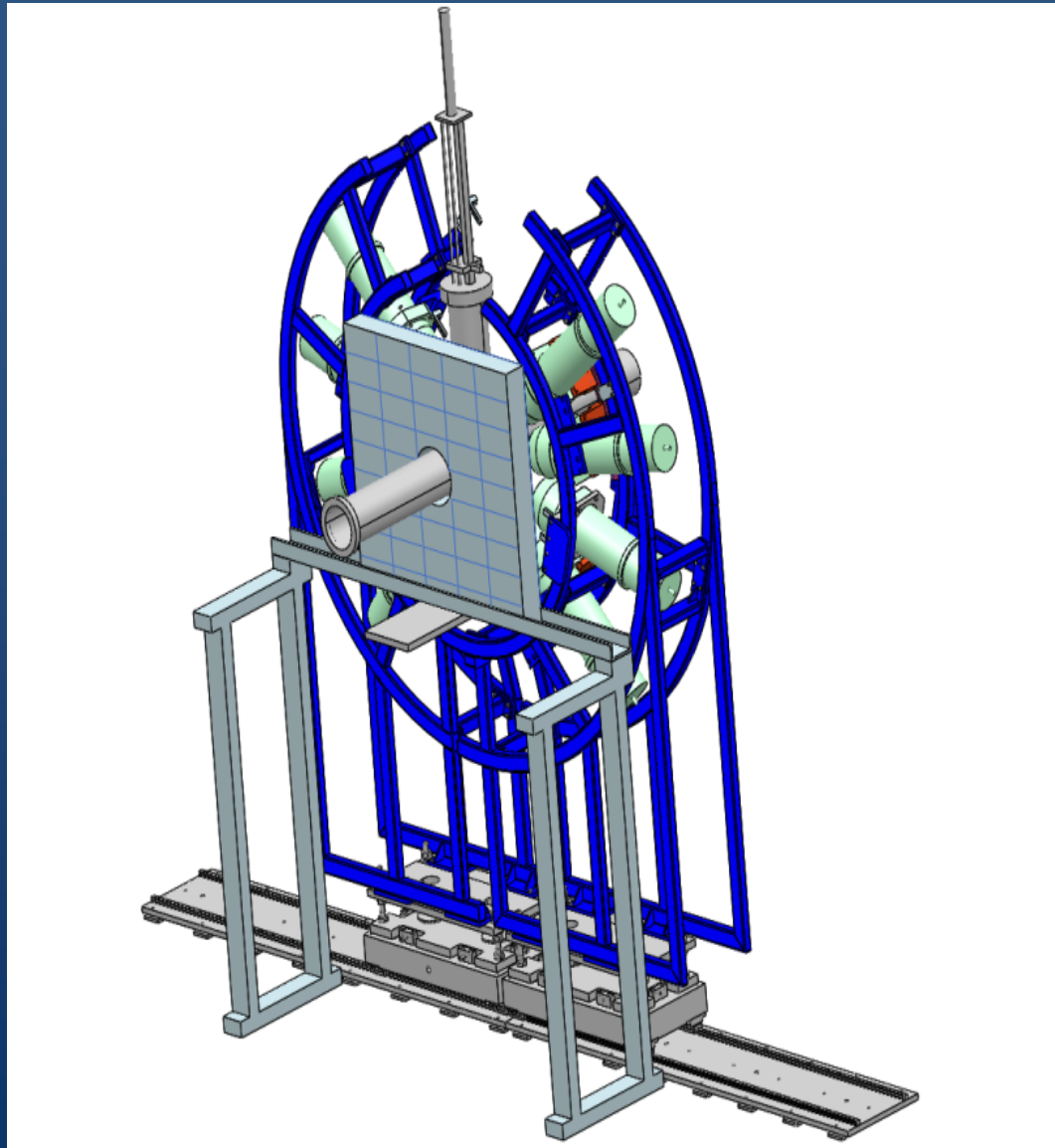
Characteristics of HECTOR array:

8 BaF₂ crystals:

- good efficiency for γ @ 1 MeV ~ 2 %
- good efficiency for γ @ 10 MeV ~ 1,1 %
- excellent time resolution -> background time structure
-> background rejection

8 Hector detectors in MiniBall frame





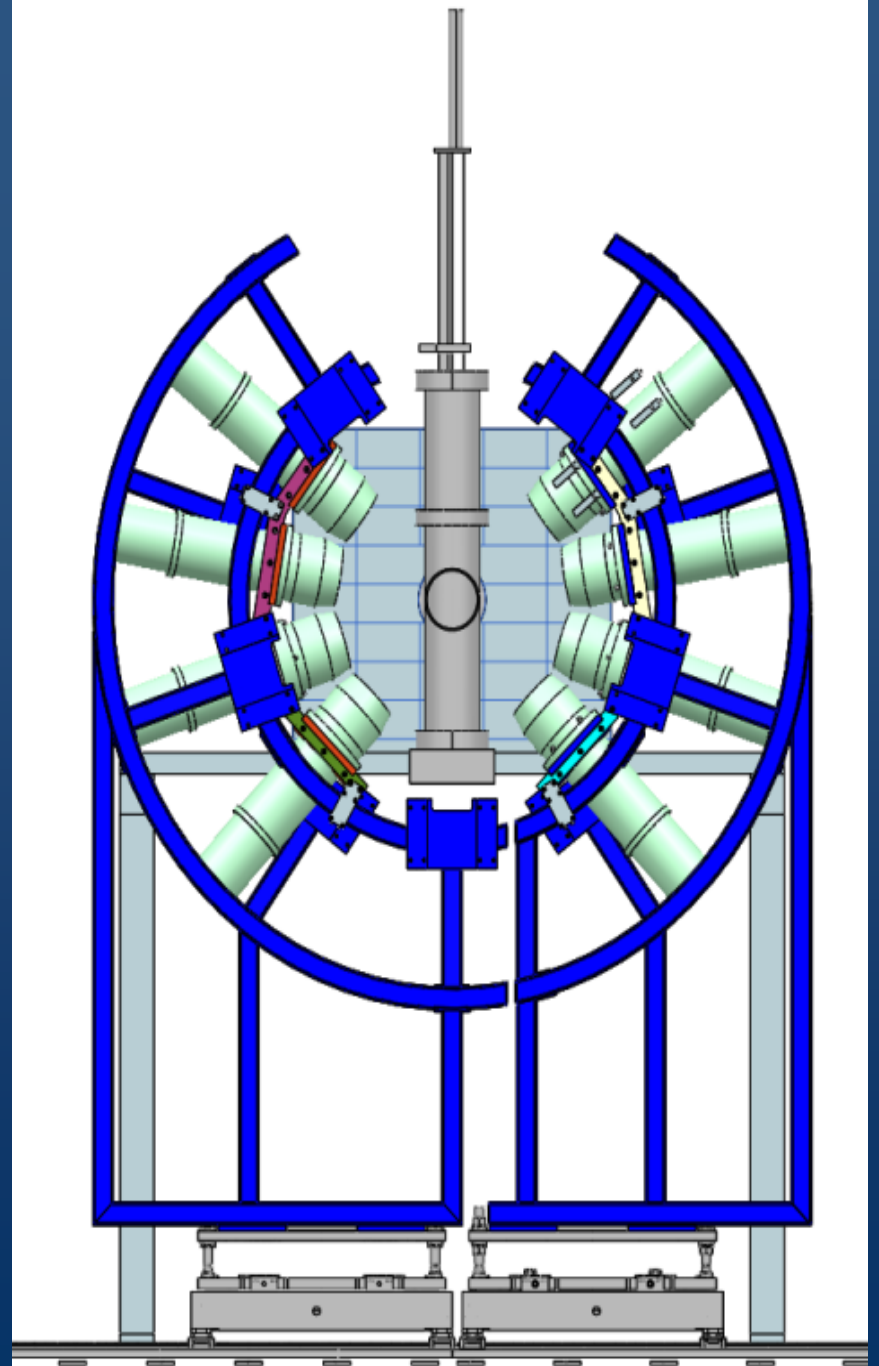
8 Hector detectors in MiniBall frame

Oct-2010

$$d_{\text{target}} = 350 \text{ mm}$$

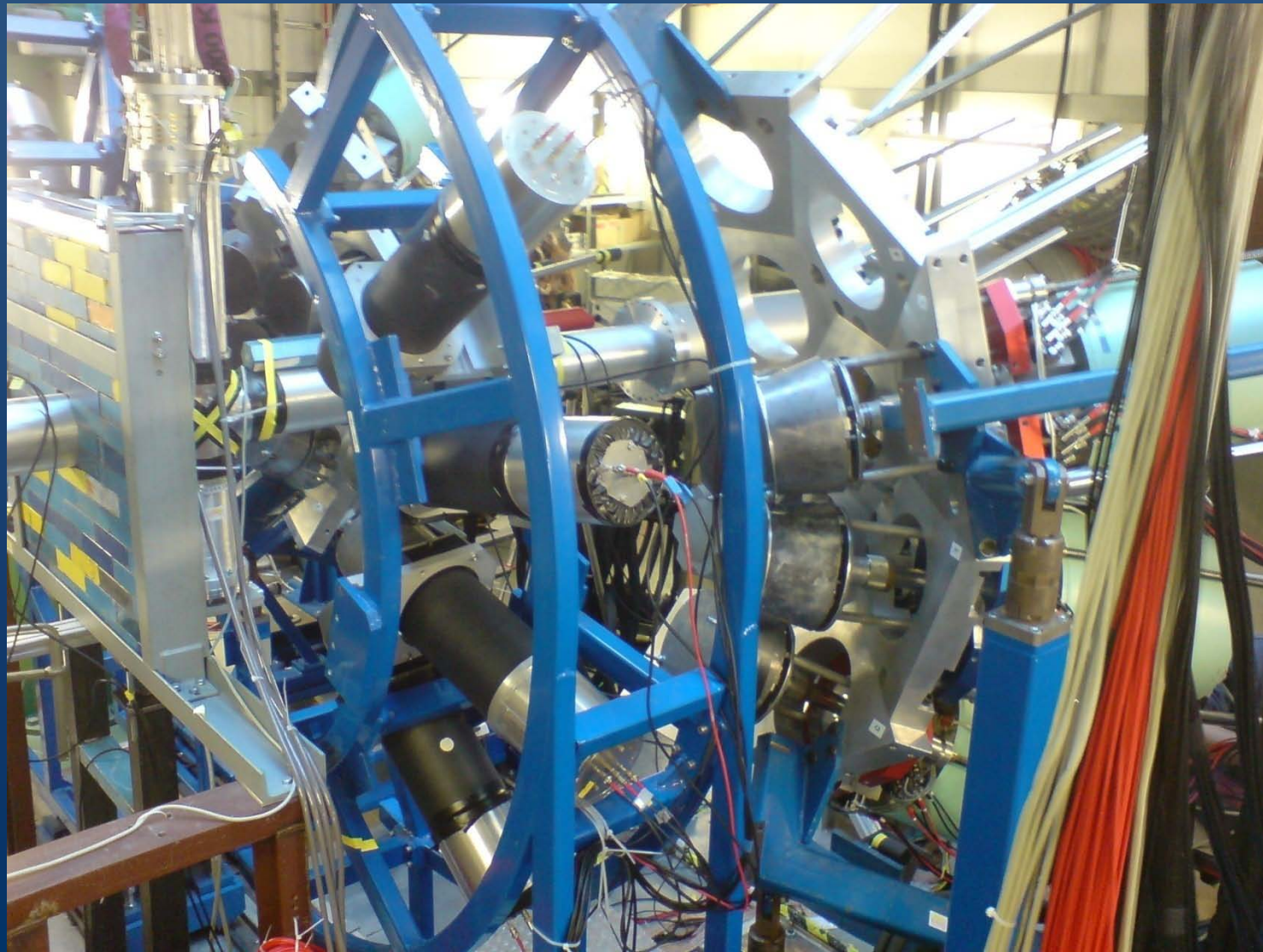
$$\theta = 85$$

$$\phi = -46 \text{ to } +38$$



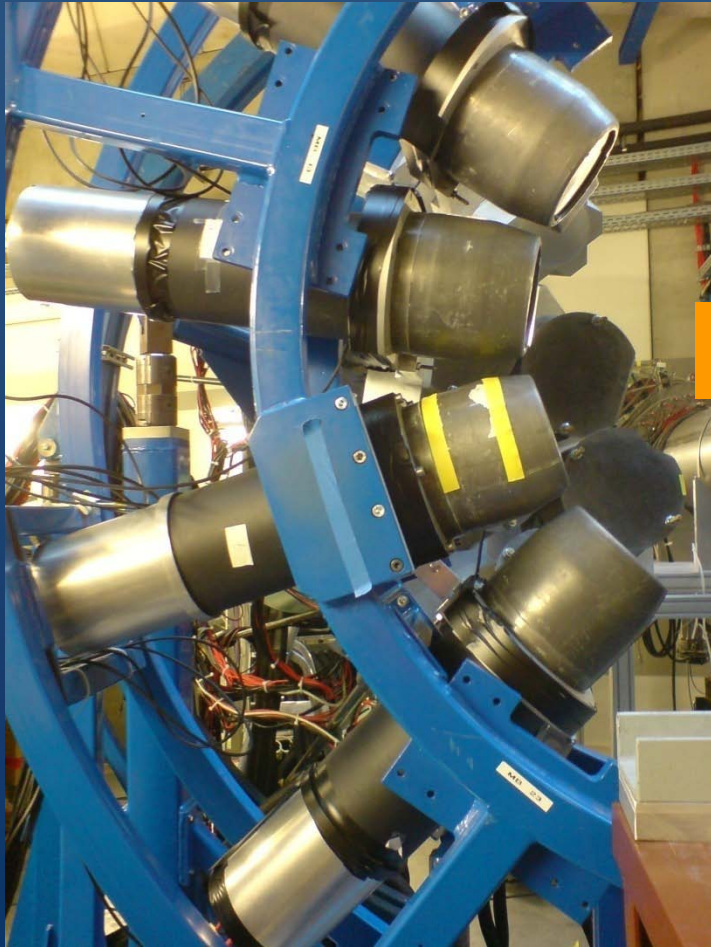
8 Hector detectors in MiniBall frame

October 12th, 2010



8 Hector detectors in MiniBall frame

October 12th, 2010



target

Seen from Pb wall side

8 Hector detectors in MiniBall frame

October 12th, 2010

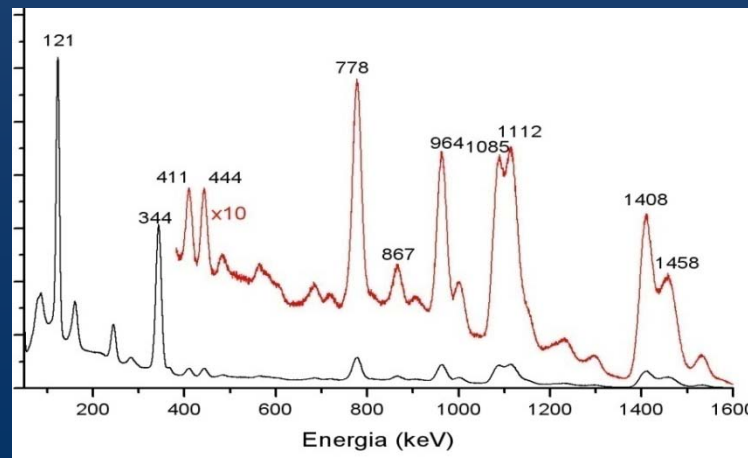
target

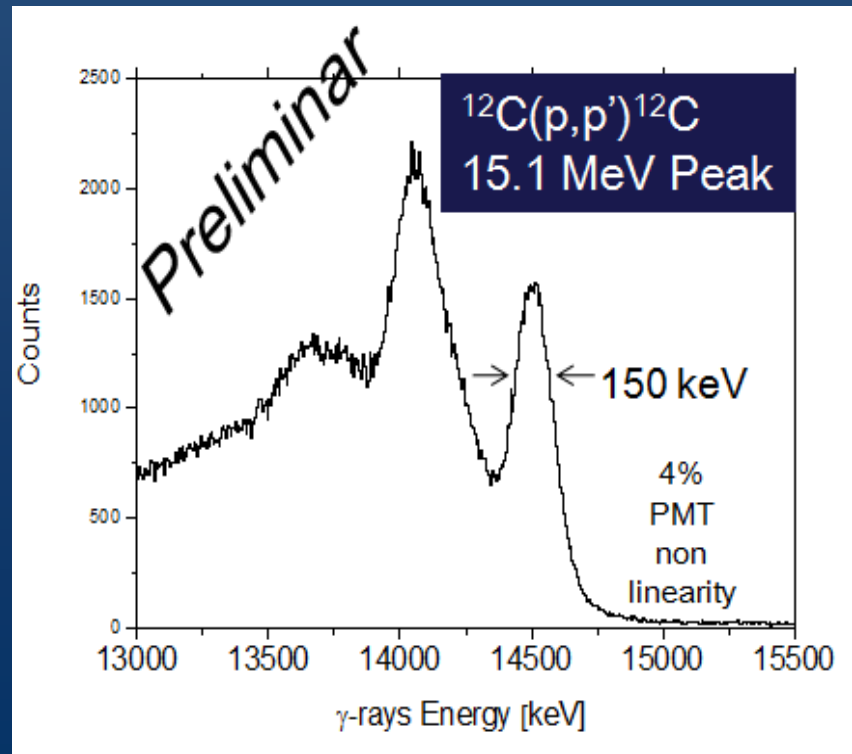
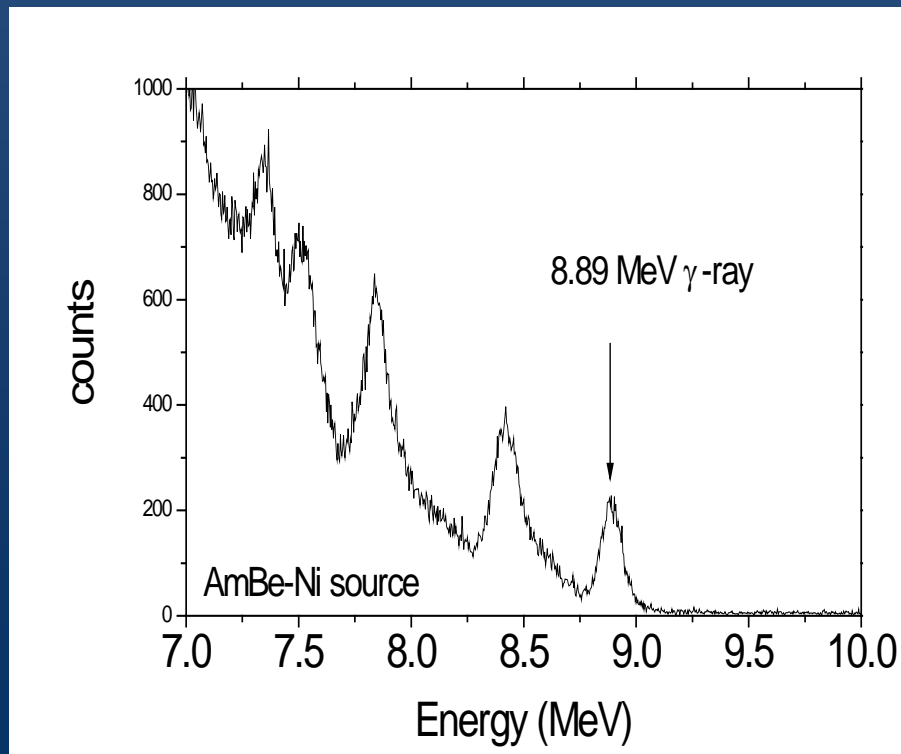
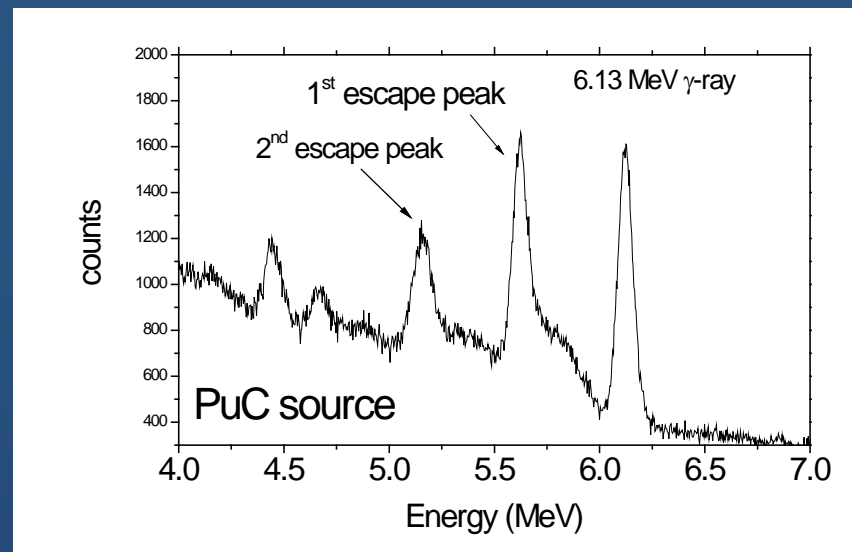
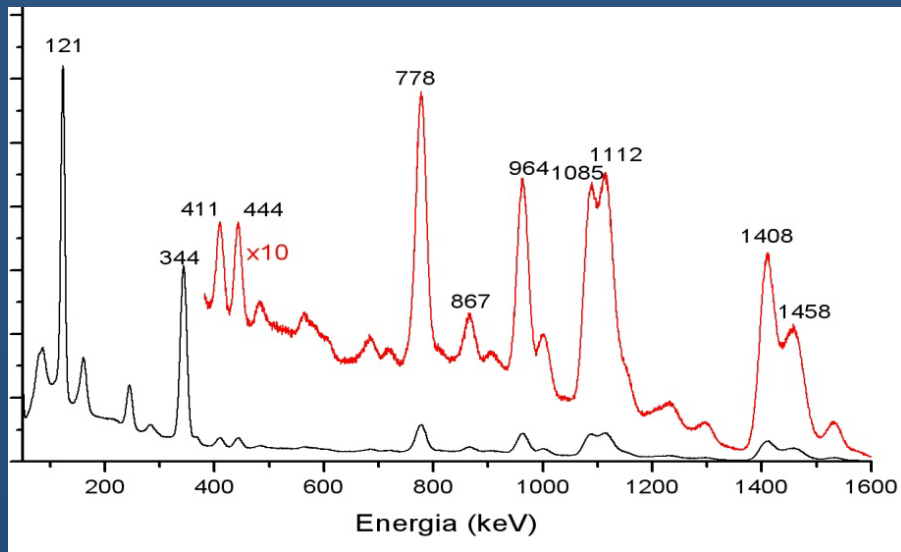


Seen from target position

HECTOR + : The new Milano array of large volume $\text{LaBr}_3:\text{Ce}$

- In Milano
 - 3 cylindrical crystals $H = 20 \text{ cm } \varnothing = 9.5 \text{ cm}$
 - 1 cylindrical crystal $H = 7.5 \text{ cm } \varnothing = 7.5 \text{ cm}$
- Ordered
 - 3 cylindrical crystals $H = 20 \text{ cm } \varnothing = 9.5 \text{ cm}$
- Requested
 - 2 cylindrical crystals $H = 20 \text{ cm } \varnothing = 9.5 \text{ cm}$





Further possibilities for AGATA setup :

Detectors:

- 8 BaF₂ crystals
- 6-8 LaBr₃:Ce array : mounted for Pygmy experiments
and, if available, for the experiments which would
request it.

Angles:

- up to 10 detectors in MiniBall frame
- some detectors in external AGATA flanges ?
- possible backward angles ?

Depending on Pb wall position.

For Pygmy : 8 BaF₂ detectors

6-8 large LaBr₃:Ce

mainly at 90°

some at ~ 120°-140° ?

some in AGATA flanges ?

... ..

HECTOR (BaF_2) and HECTOR+ ($LaBr_3:Ce$)

MILANO

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