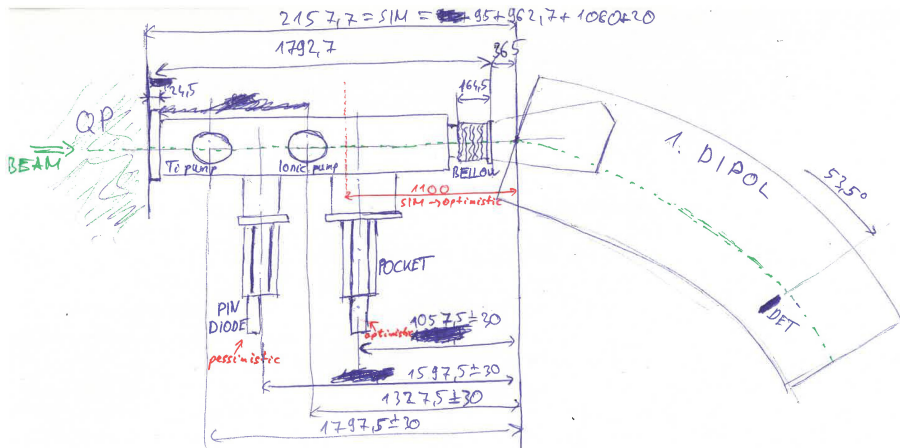


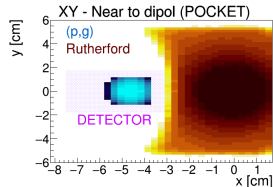
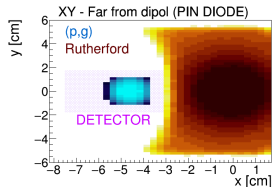
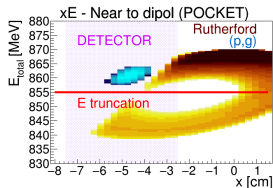
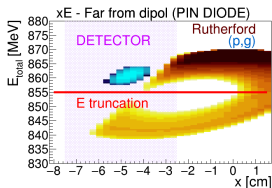
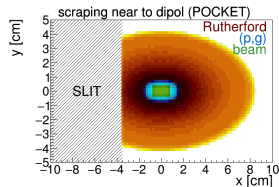
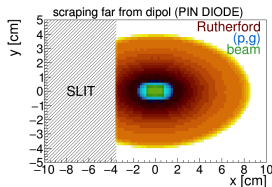
scraper placement before the 1. dipol after target



- 2 possible positions for placing a scraper device:
 - ⇒ PIN diode: more far from dipol ⇒ "pessimistic", but already prepared
 - ⇒ Pocket: near to dipol ⇒ slightly more optimistic, much more work to do

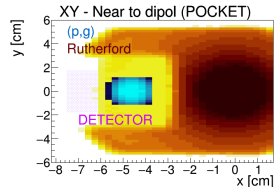
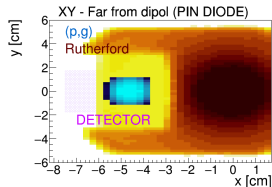
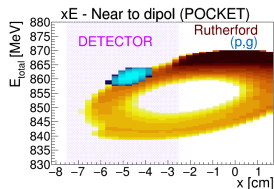
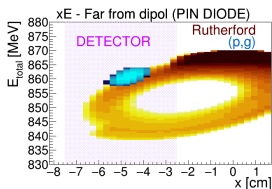
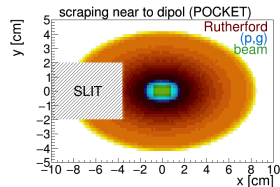
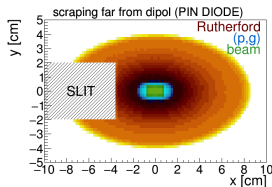
$^{124}\text{Xe}(p,\gamma)^{125}\text{Cs}$ reaction at 7A MeV, atomic mass

- complete scraping
 - ⇒ $x = -3.5$ cm
 - ⇒ $y_{width} = 10$ cm
- E threshold for xy map is above the backscattered events (panel 3 & 4)
- clear separation of (p,γ) peak
- the (p,γ) peak is slightly bigger in the simulation



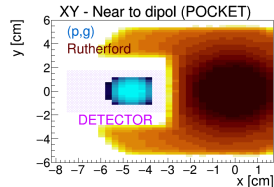
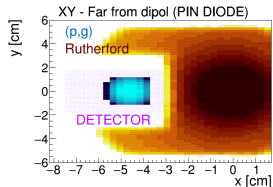
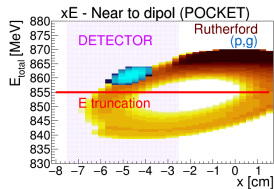
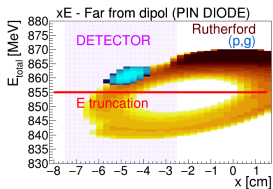
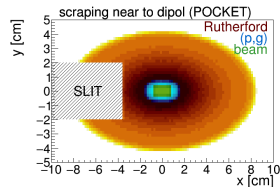
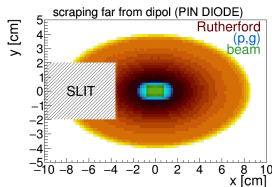
$^{124}\text{Xe}(p,\gamma)^{125}\text{Cs}$ reaction at 7A MeV, atomic mass

- scrape Ruth., but not pg
 - ⇒ $x = -3.5$ cm
 - ⇒ $y_{width} = 4$ cm
- no E truncation:
 - ⇒ backscattered events at (p,γ) !



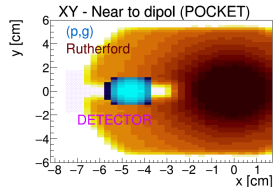
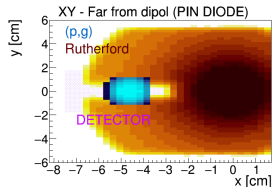
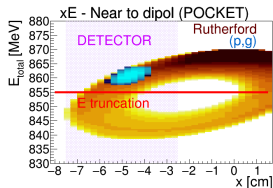
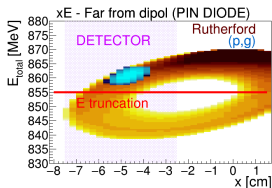
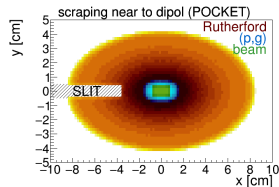
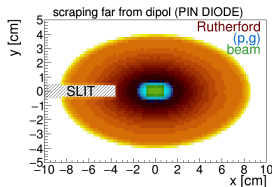
$^{124}\text{Xe}(p,\gamma)^{125}\text{Cs}$ reaction at 7AMeV, atomic mass

- scrape Ruth., but not pg
 - ⇒ $x = -3.5$ cm
 - ⇒ $y_{width} = 4$ cm
- E truncation:
 - ⇒ clear separation



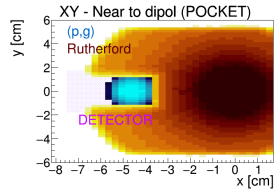
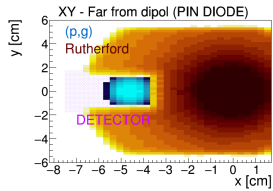
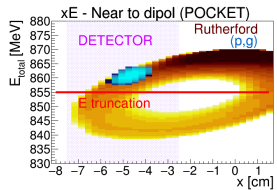
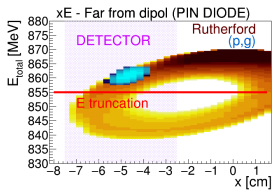
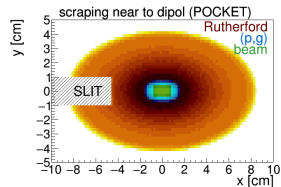
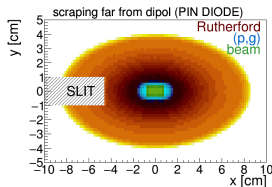
$^{124}\text{Xe}(p,\gamma)^{125}\text{Cs}$ reaction at 7AMeV, atomic mass

- scrape Ruth. and pg partly
 - ⇒ $x = -3.5$ cm
 - ⇒ $y_{width} = 1$ cm
- E truncation: overlap in xy plane
 - ⇒ no separation



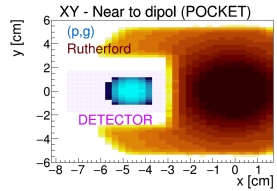
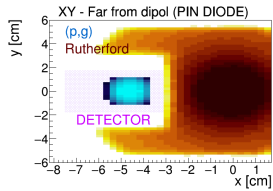
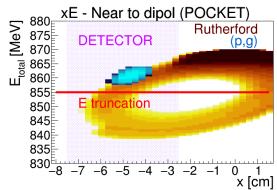
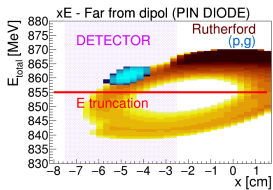
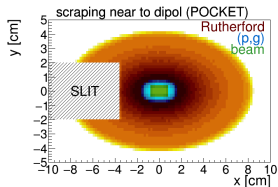
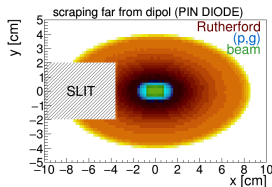
$^{124}\text{Xe}(p,\gamma)^{125}\text{Cs}$ reaction at 7AMeV, atomic mass

- minimal scraping pos.
 - ⇒ $x \approx -4$ cm
 - ⇒ $y_{width} = 2$ cm



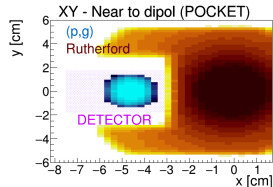
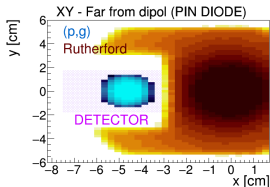
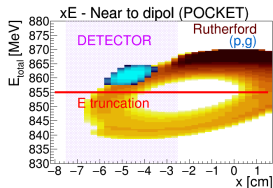
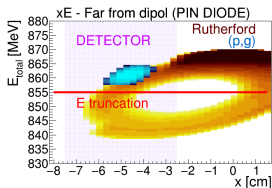
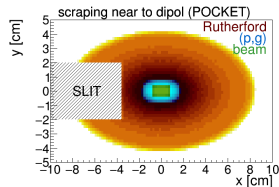
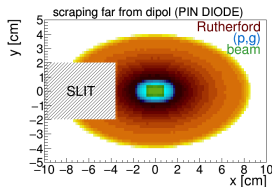
$^{124}\text{Xe}(p,\gamma)^{125}\text{Cs}$ reaction at 7AMeV, atomic mass

- AME16, MASS16:
124Xe = 123.9059 u
- AME16, NUBASE16:
124Xe = 124.0540 u
- scrape Ruth., but not pg
 - ⇒ $x = -3.5$ cm
 - ⇒ $y_{width} = 4$ cm



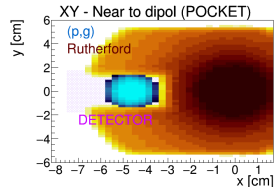
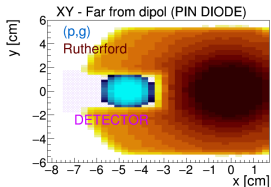
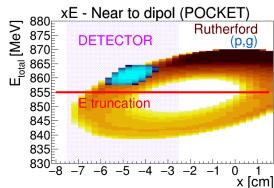
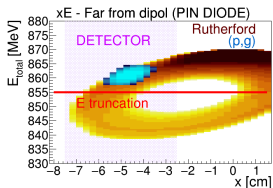
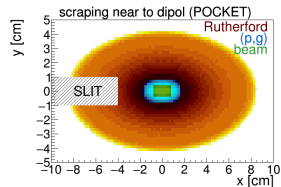
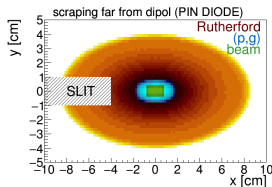
$^{124}\text{Xe}(p,\gamma)^{125}\text{Cs}$ reaction at 7AMeV, nuclear mass

- AME16, MASS16:
 $^{124}\text{Xe} = 123.9059 \text{ u}$
- AME16, NUBASE16:
 $^{124}\text{Xe} = 124.0540 \text{ u}$
- scrape Ruth., but not pg
 - ⇒ $x = -3.5 \text{ cm}$
 - ⇒ $y_{\text{width}} = 4 \text{ cm}$
- positions remain the same
- (p,γ) peak increases, but in the exp. data it is smaller:
 $x \approx \varnothing 1.6 \text{ cm}, y \approx \varnothing 2 \text{ cm}$



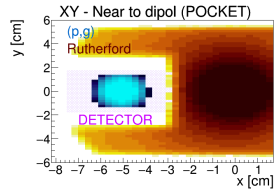
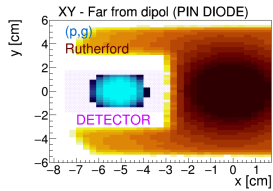
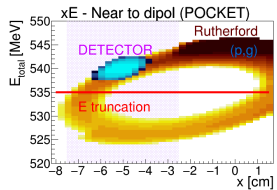
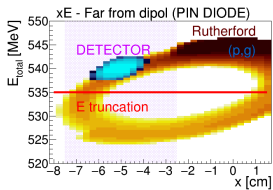
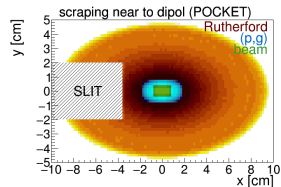
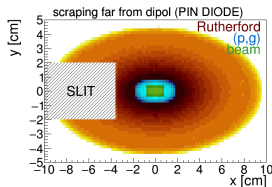
$^{124}\text{Xe}(p,\gamma)^{125}\text{Cs}$ reaction at 7A MeV, nuclear mass

- minimal scraping pos.
 - ⇒ $x \approx -4$ cm
 - ⇒ $y_{width} = 2$ cm



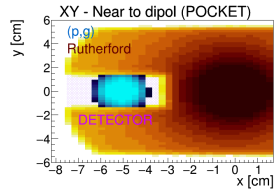
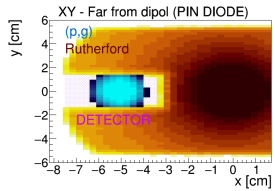
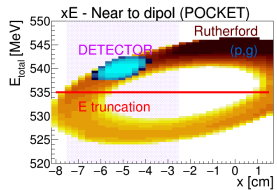
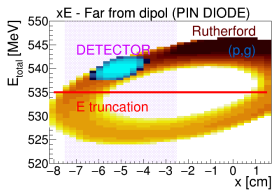
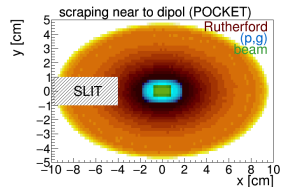
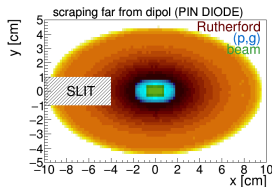
$^{109}\text{In}(p,\gamma)^{110}\text{Sn}$ reaction at 5AMeV, nuclear mass

- optimal scraping
 - ⇒ $x = -3.5$ cm
 - ⇒ $y_{width} = 4$ cm



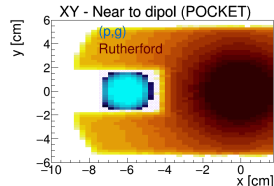
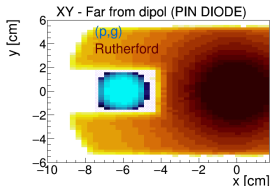
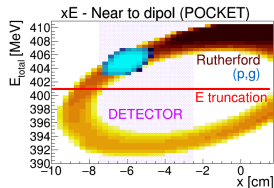
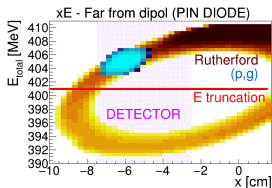
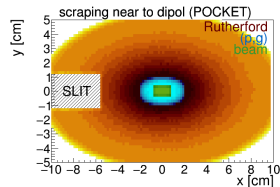
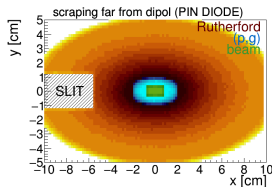
$^{109}\text{In}(p,\gamma)^{110}\text{Sn}$ reaction at 5AMeV, nuclear mass

- minimal scraping pos.
 - $\Rightarrow x = -4 \text{ cm}$
 - $\Rightarrow y_{\text{width}} \approx 2 \text{ cm}$



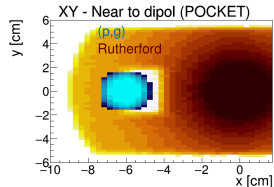
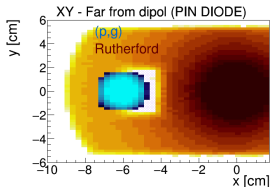
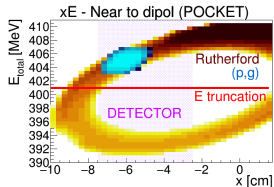
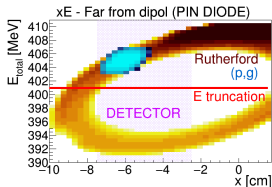
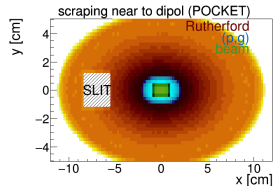
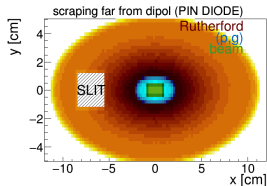
$^{91}\text{Nb}(p,\gamma)^{92}\text{Mo}$ reaction at 4.5 A MeV, nuclear mass

- minimal scraping pos.
 - ⇒ $x \approx -5.5$ cm
 - ⇒ $y_{\text{width}} \approx 2.6$ cm



$^{91}\text{Nb}(p,\gamma)^{92}\text{Mo}$ reaction at 4.5 A MeV, nuclear mass

- scrape until $x = -\infty!$
 - ⇒ size in $x > 6\text{cm}$ for ^{91}Nb at 4.5 A MeV



$^{73}\text{As}(p,\gamma)^{74}\text{Se}$ reaction at 4 MeV, nuclear mass

- minimal scraping pos.
 - ⇒ $x \approx -7.5$ cm
 - ⇒ $y_{width} \approx 3$ cm
 - ⇒ $x_{width} > 7$ cm
- DANGER: (p,g) peak size increases!

