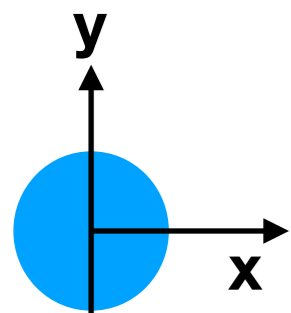
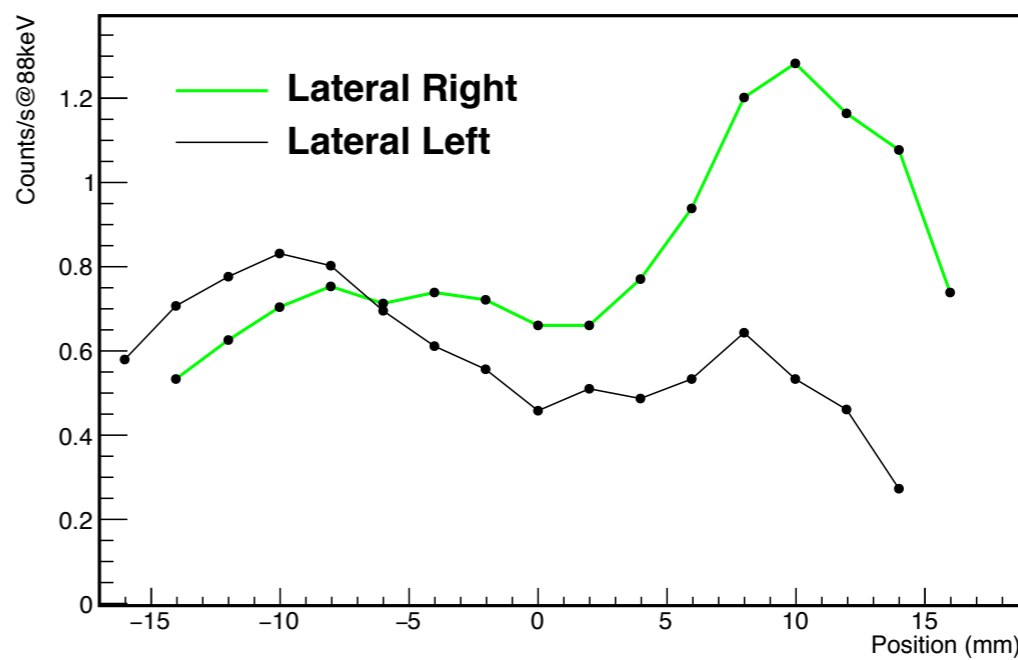
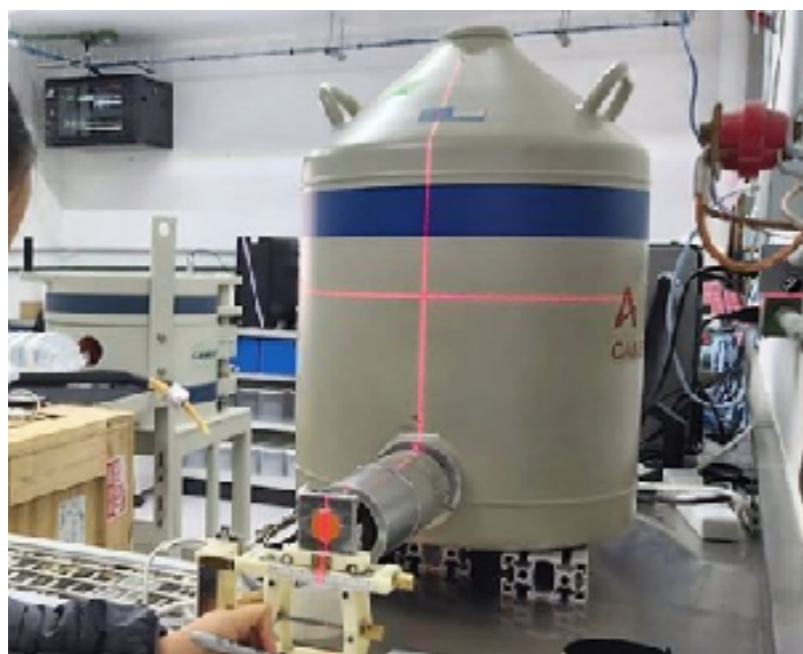
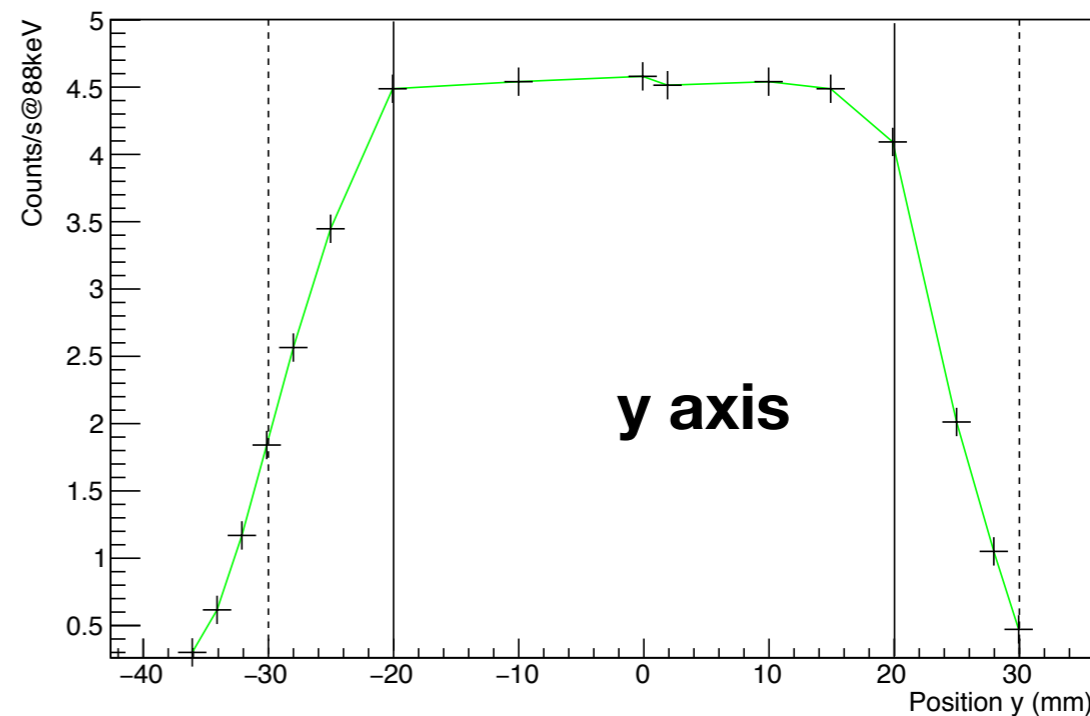
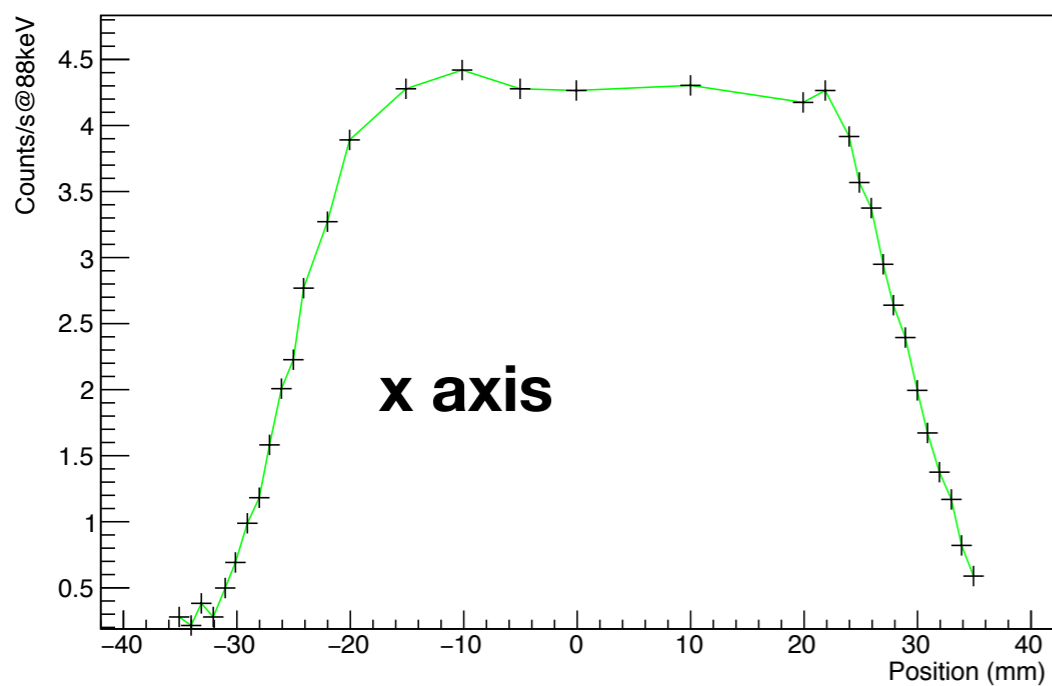


# **GCRF Meeting BEGe Detector @ IFUNAM**

March/2020

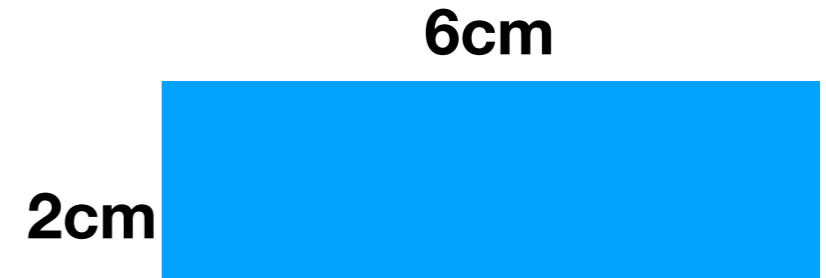


# Active volume scan

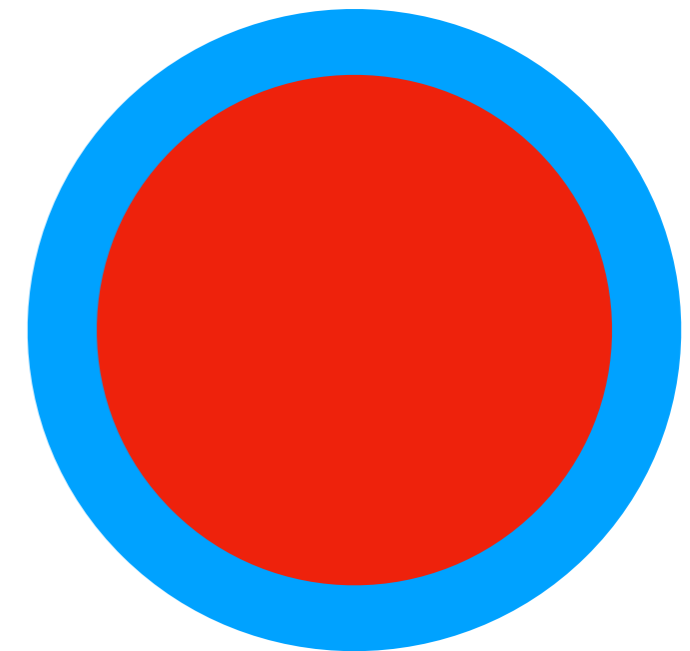


# Radial Volume reduction in MC simulation 1.33MeV@25cm

| Shaping time<br>us | Sigma (keV)    | FWHM<br>(keV) | $\pm$<br>FEP Efficiency<br>% | Difference to<br>the Canberra<br>value |
|--------------------|----------------|---------------|------------------------------|--|
| 4                  | 2.5 $\pm$ 0.02 | 5.91          | 20%<br>0.0116992             | 0.01556<br>24.8%                       |



| Volume | FEPE    | Diff.<br>To data |
|--------|---------|------------------|
| 70%    | 0.01077 | 7.9%             |
| 75%    | 0.0118  | 1.3%             |
| 80%    | 0.0126  | 7.8%             |



# Volume reduction in MC simulation 1.33MeV@25cm

| Volume reduction | FEPE    | Diff. To data |
|------------------|---------|---------------|
| 1.5mm/83.5%      | 0.01175 | -0.5%         |
| 1.7mm/81.34%     | 0.0113  | 4%            |

83.5% V  
@81keV

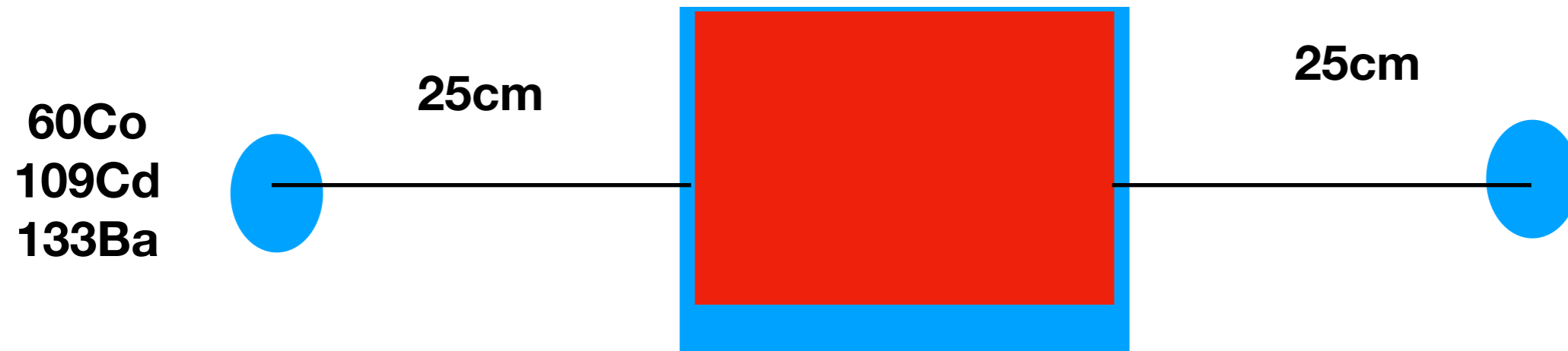
|                |          |     |
|----------------|----------|-----|
| Centered Vol.  | 0.072217 | 70% |
| 1.45mm forward | 0.308806 | 20% |

|         |      |
|---------|------|
| P1: 81  | 20%  |
| P2: 276 | 0.1% |
| P3: 302 | 0.4% |
| P4: 356 | 5%   |
| P5: 384 | 5.8% |



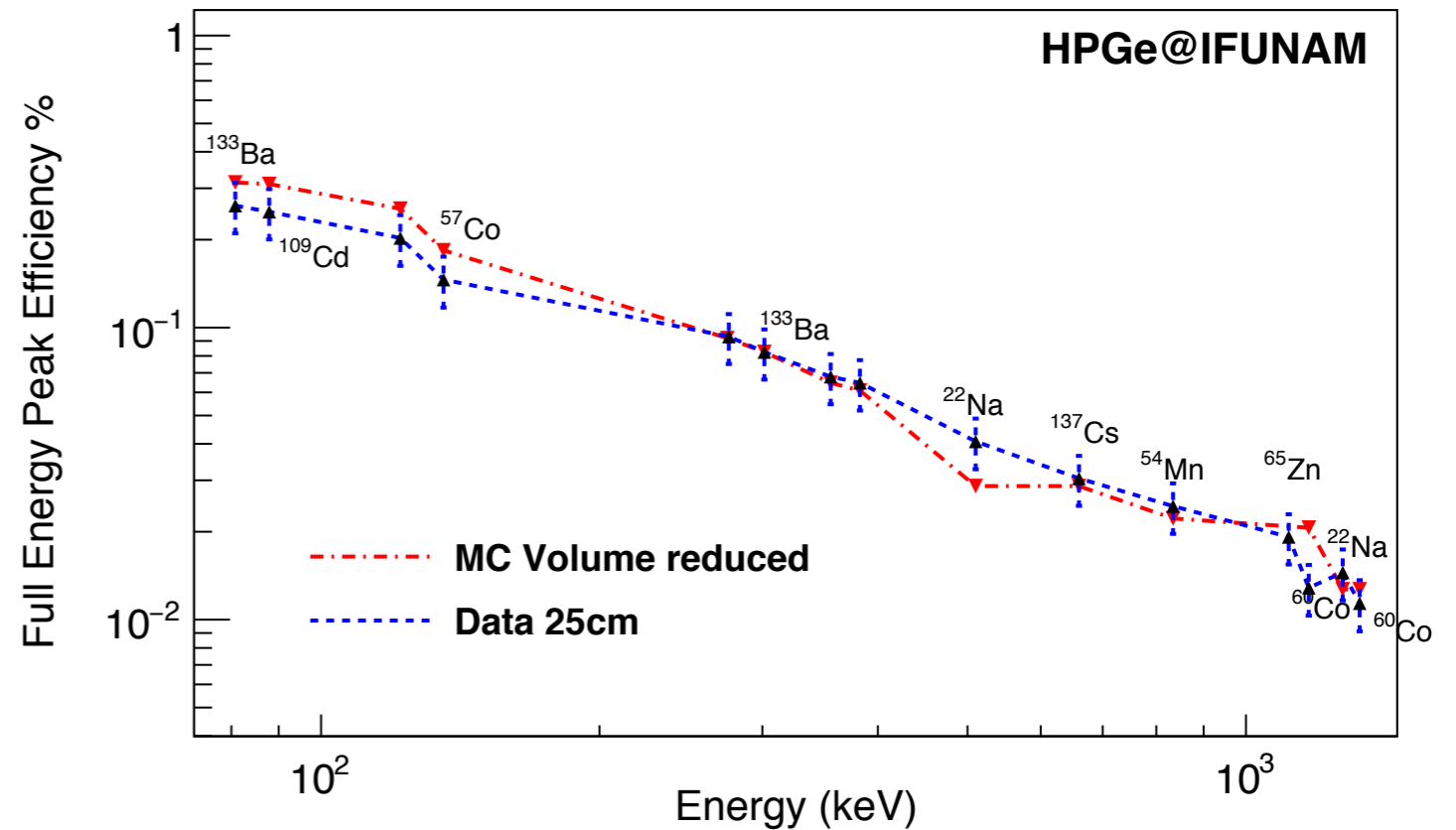
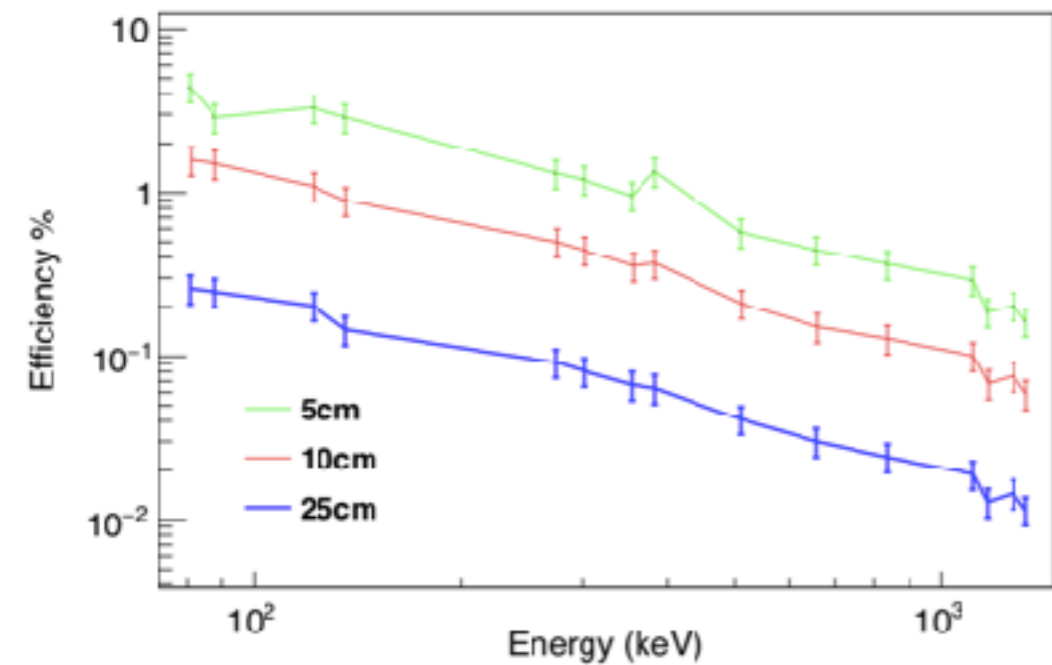
**This config. gives a less than 5% agreement for all other Ba133 energies**

# Side tuning at low and high energies

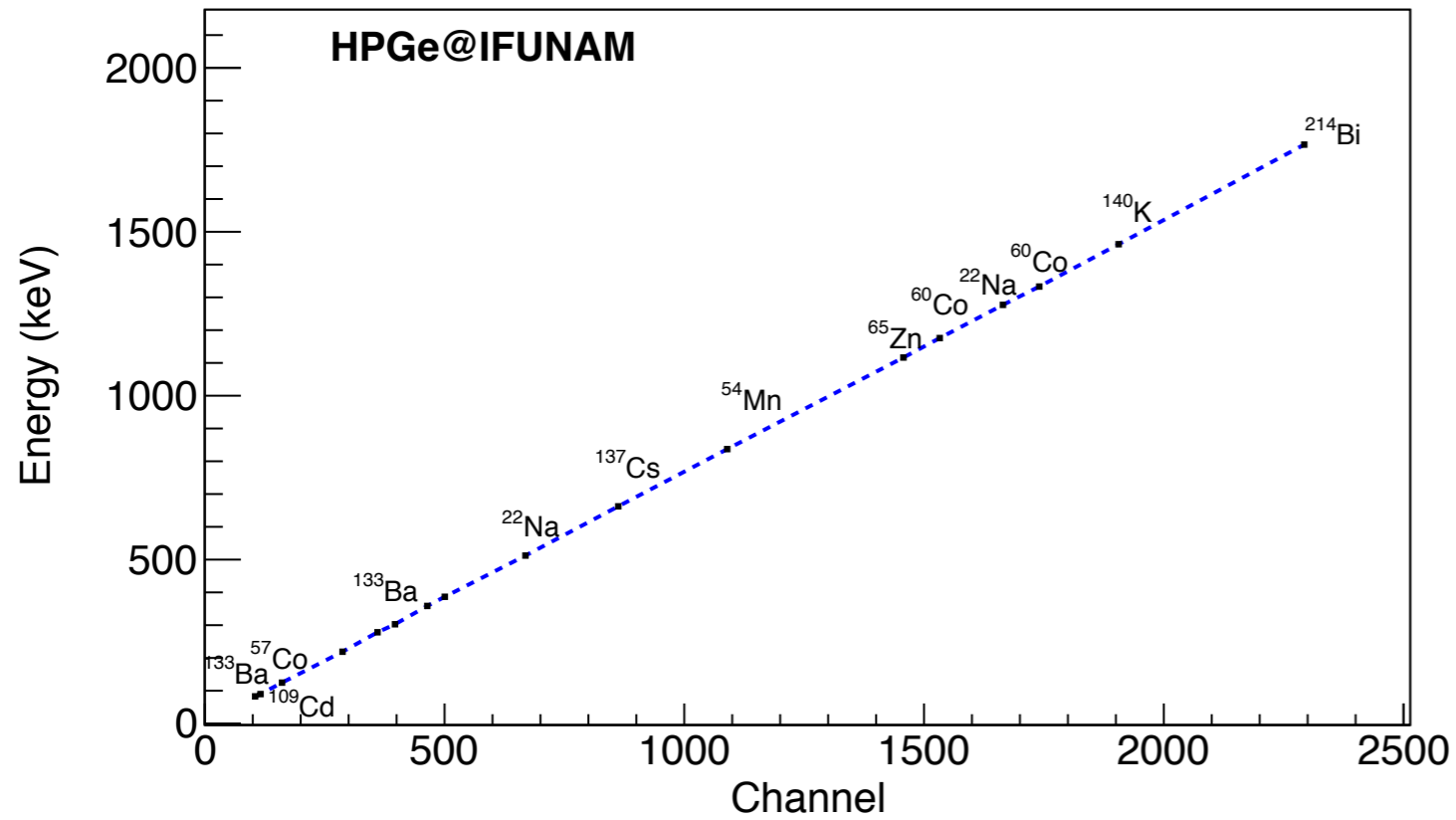


**Uncollimated low and high energy point sources give results compatible within 10% with data. So no lateral adjustment was needed.**

# Full energy peak efficiency for all point sources simulation with a 25% volume reduction.



**We simulate all Point Sources @ 25 cm  
with a volume reduction (83.5%) that gives FEPE in data @1.33MeV**



**We are updating the Detectors paper draft, a version to circulate to everyone should be ready by march 11.**

