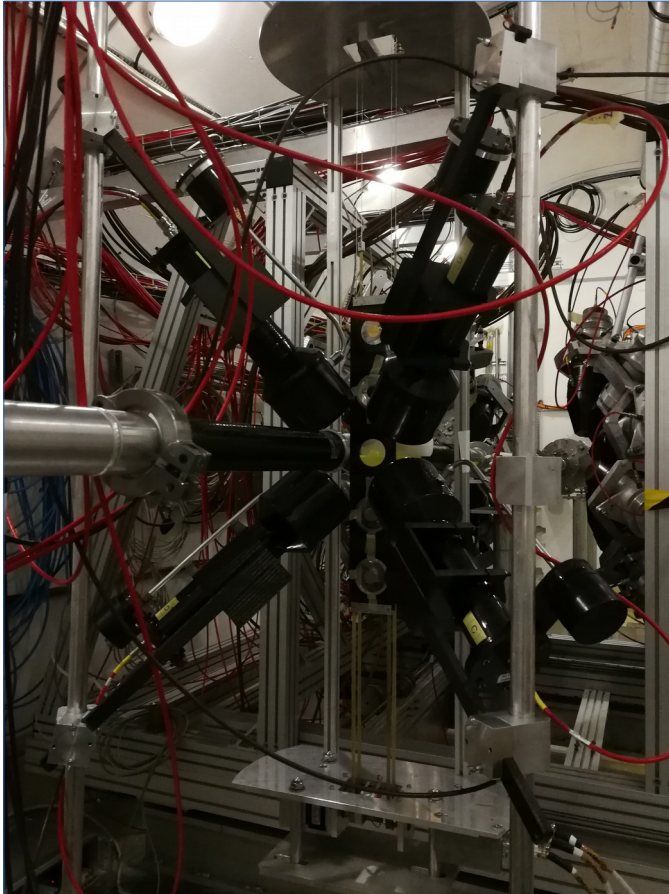




Status of $^{140}\text{Ce}(n,\gamma)$



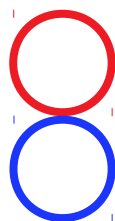
Setup and number of protons



Target	Protons
Ce140	1.92E+18
Dummy	2.04E+17
Pb	7.54E+16
Empty	7.57E+16
Gold	4.78E+16
Ce140 + filters	9.00E+16
Dummy + filters	9.80E+16
Pb + filters	1.40E+17
Total	2.65E+18

Calibration

4 giorni di calibrazione:

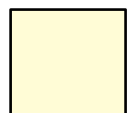


Spagnoli: Cs + Y + AmBe

Italiani: Cs + Y + AmBe + CmC

Maggio

L	M	M	G	V	S	D
30	1	2	3	4	5	6
7	8	Campagna Selenio		11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

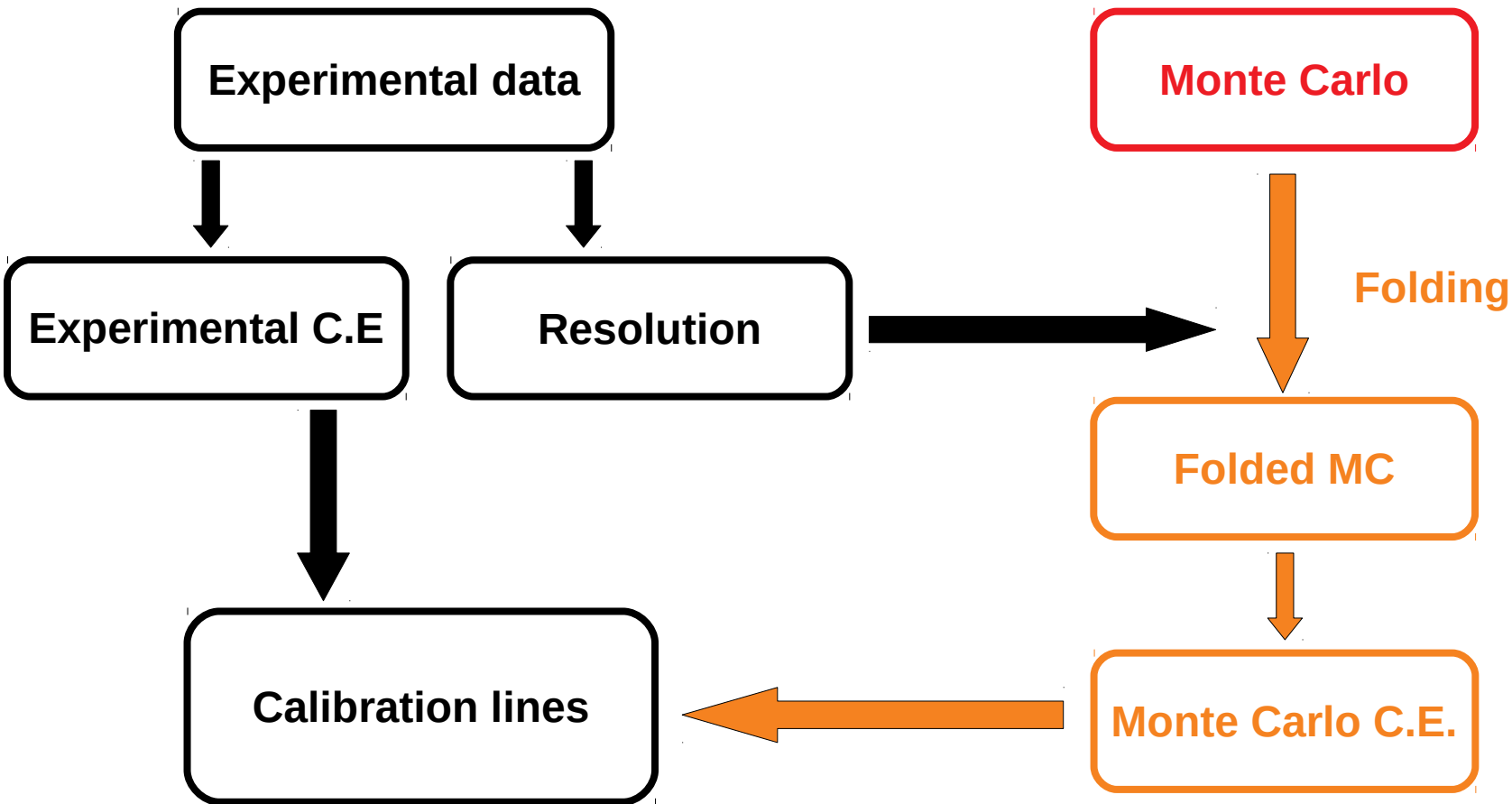


Campagna Cerio

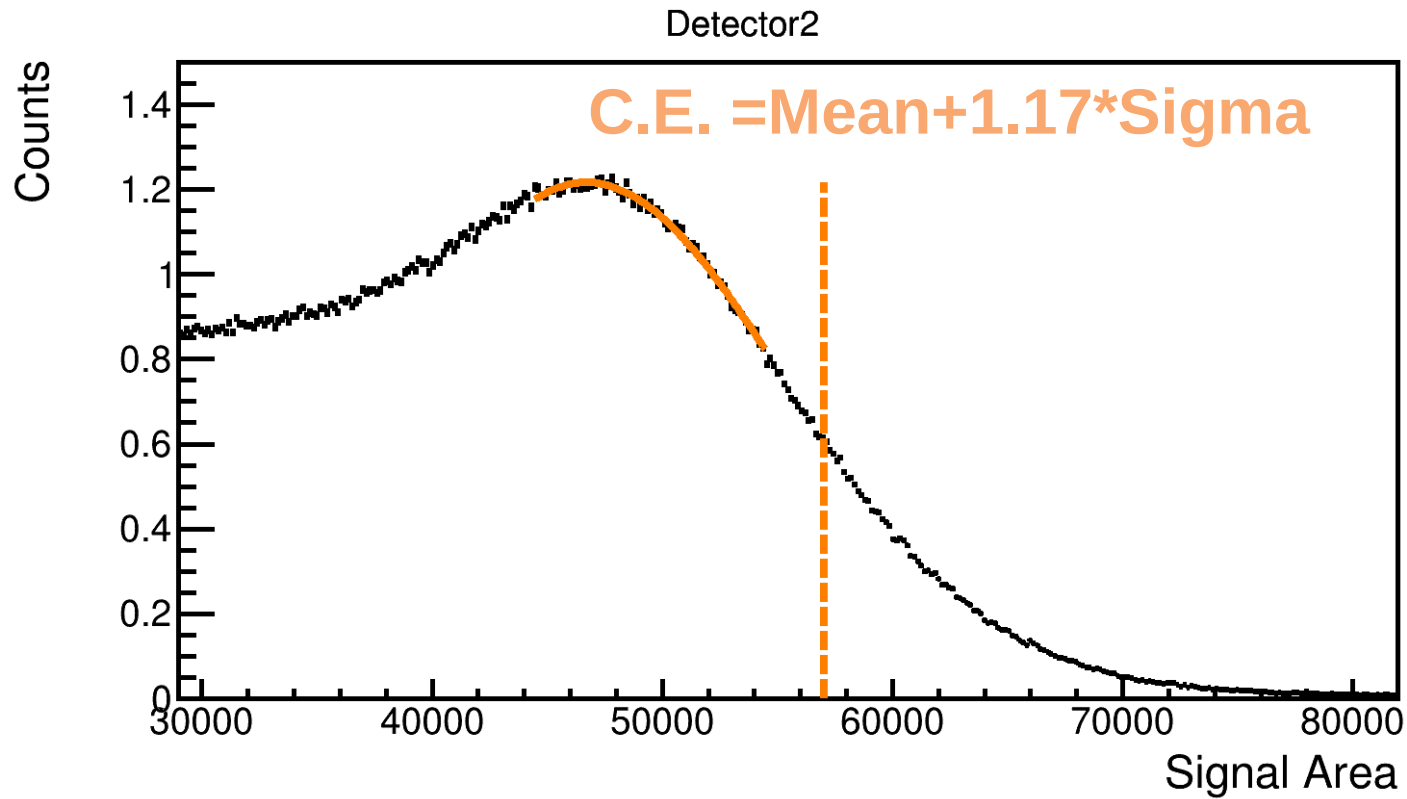
Giugno

L	M	M	G	V	S	D
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	Campagna Cloro			1
2	3	4	5	6	7	8

Calibration procedure

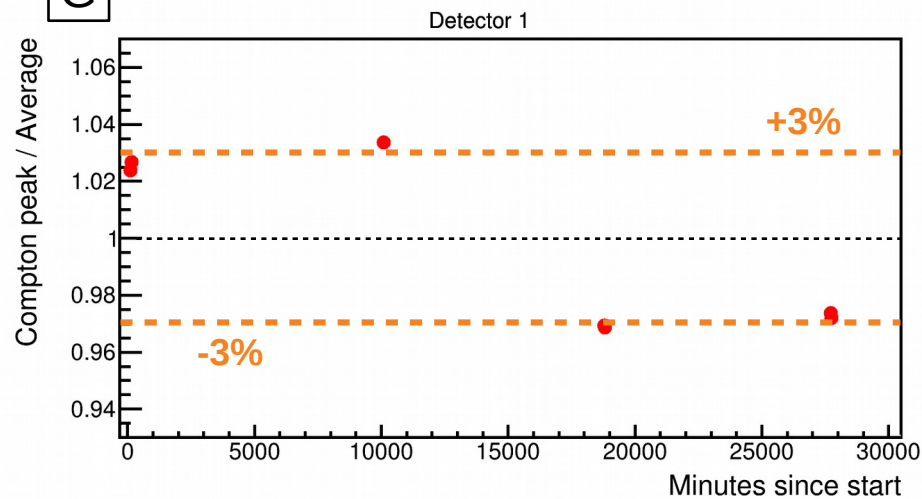


Calibration

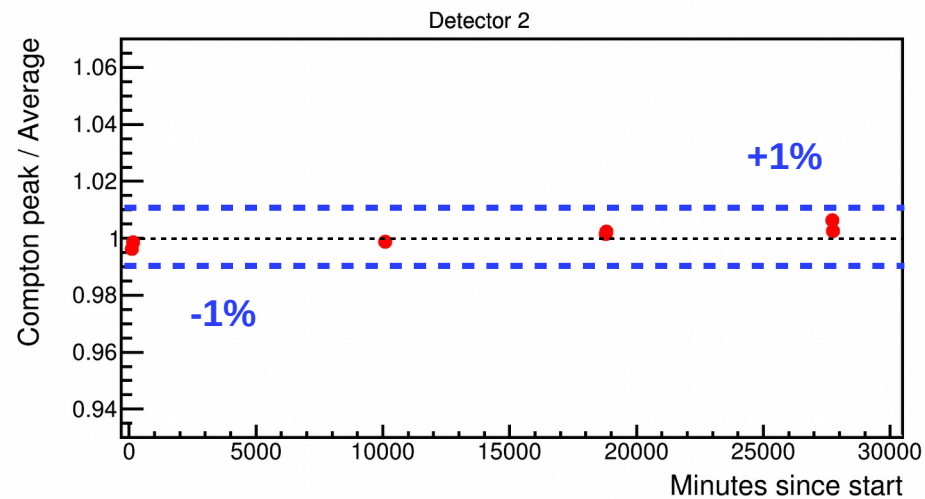


Stability – Cesium

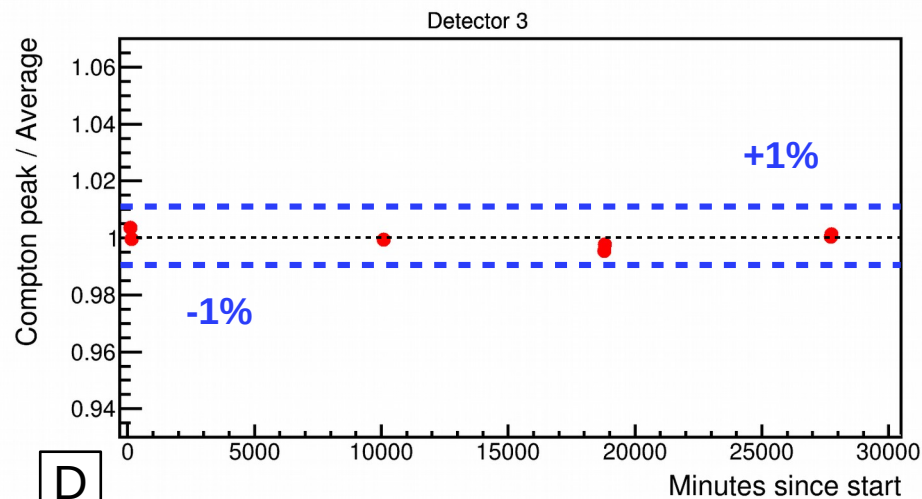
G



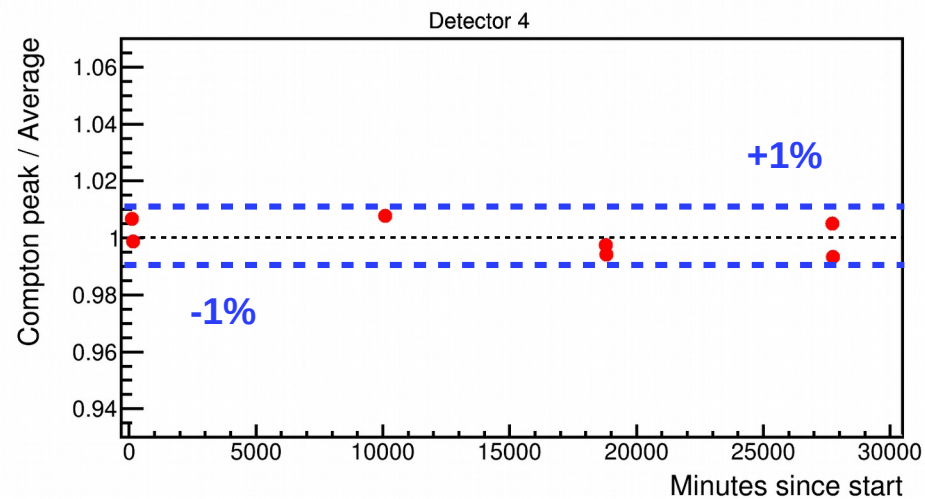
C



D



E

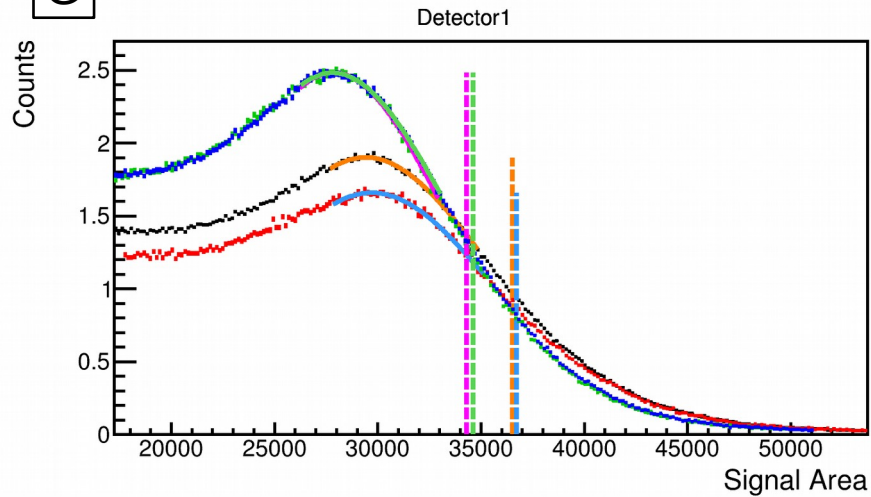


Stability – Cesium

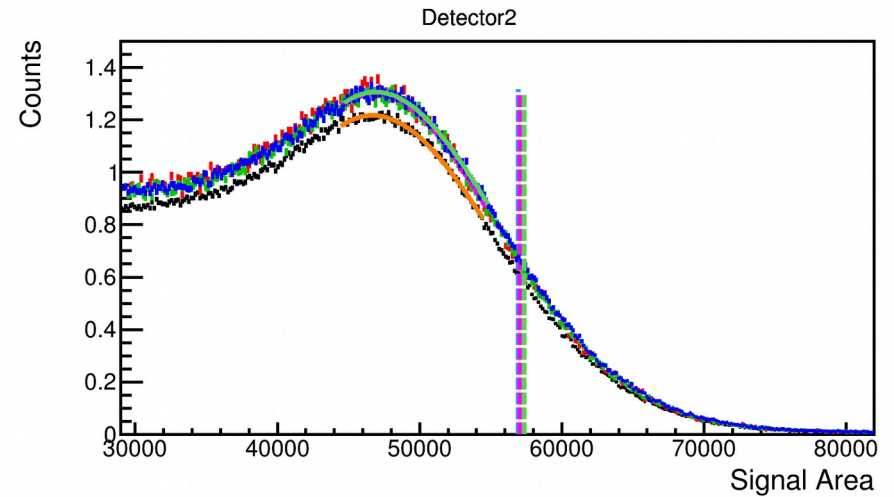
Campaign 0
Campaign 2

Campaign 1
Campaign 3

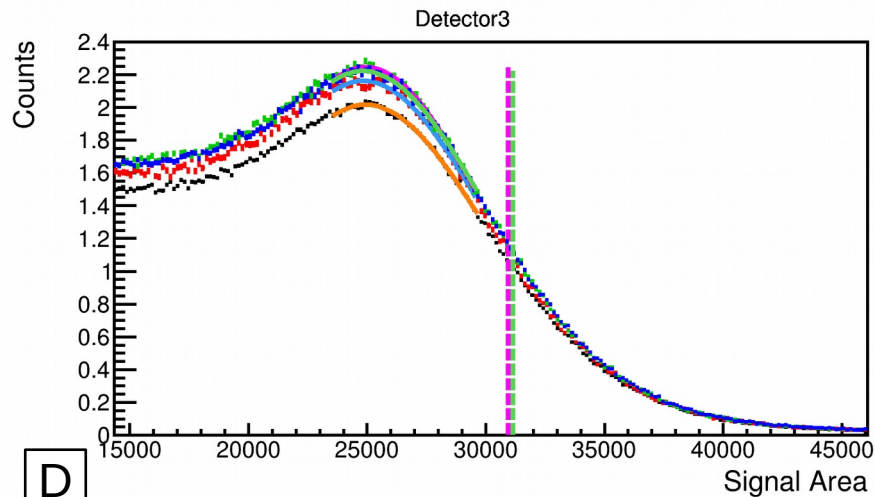
G



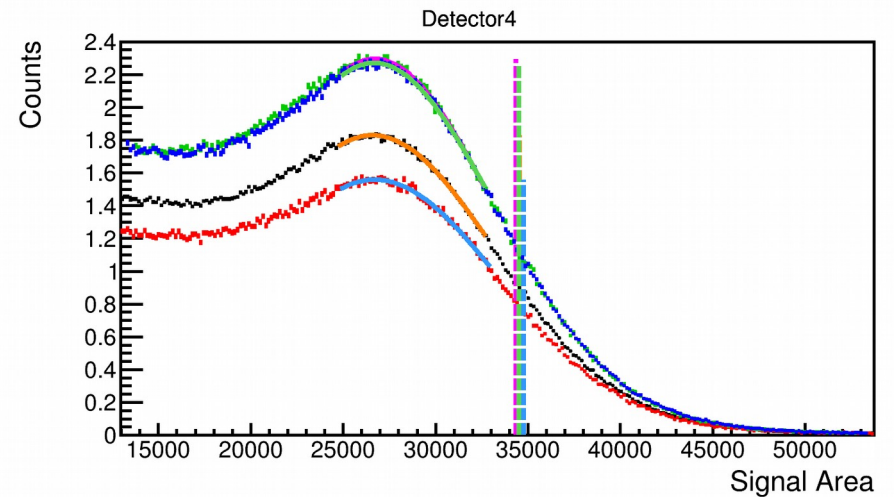
C



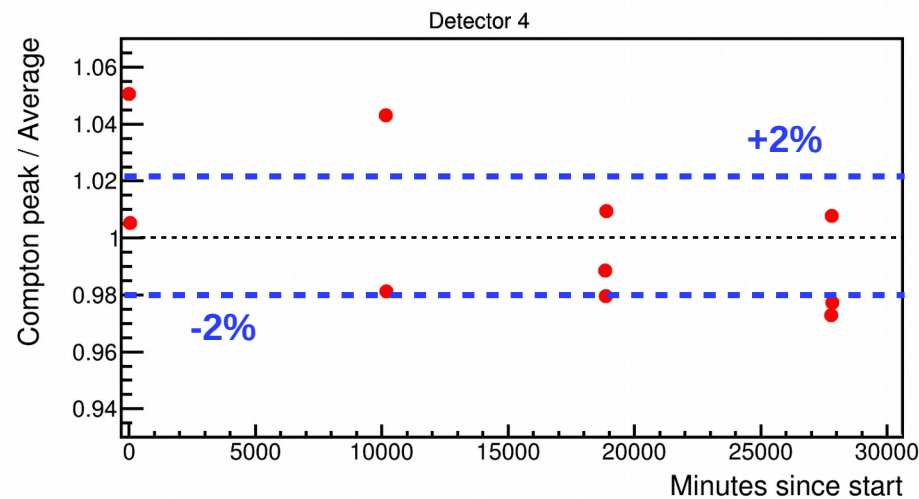
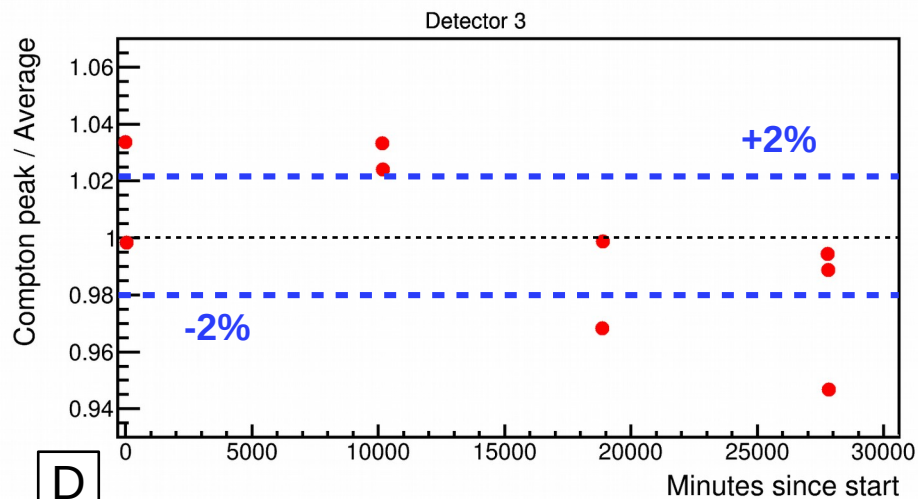
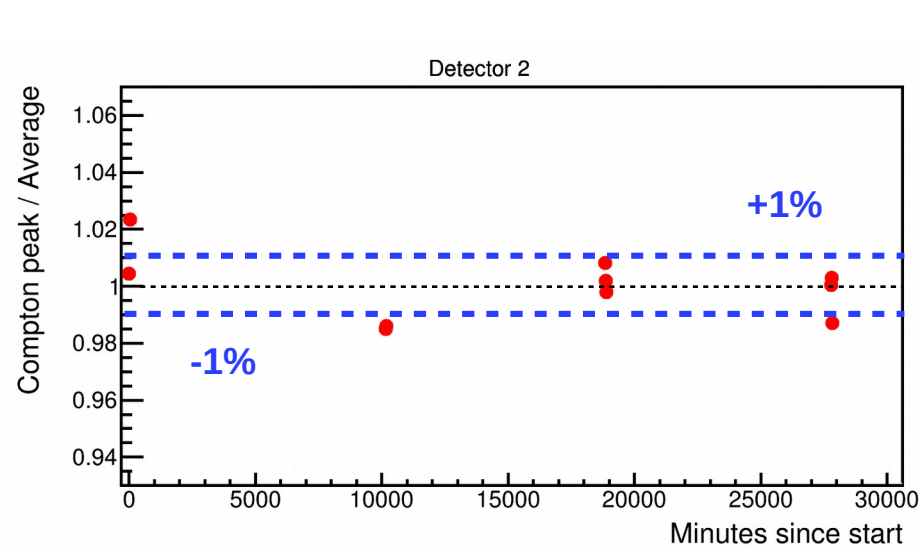
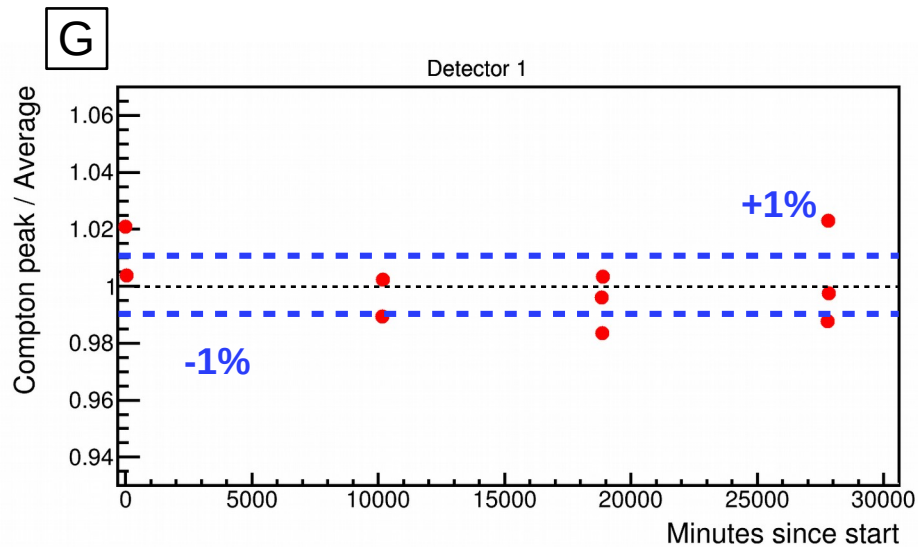
D



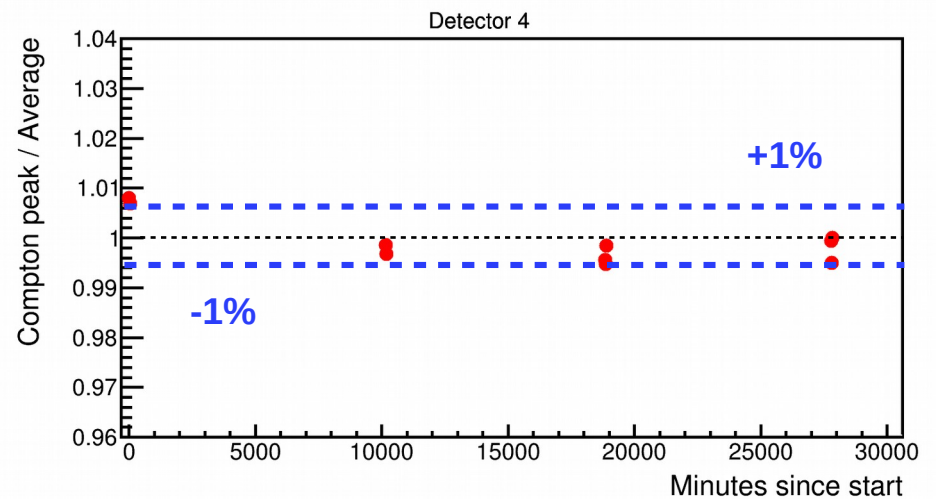
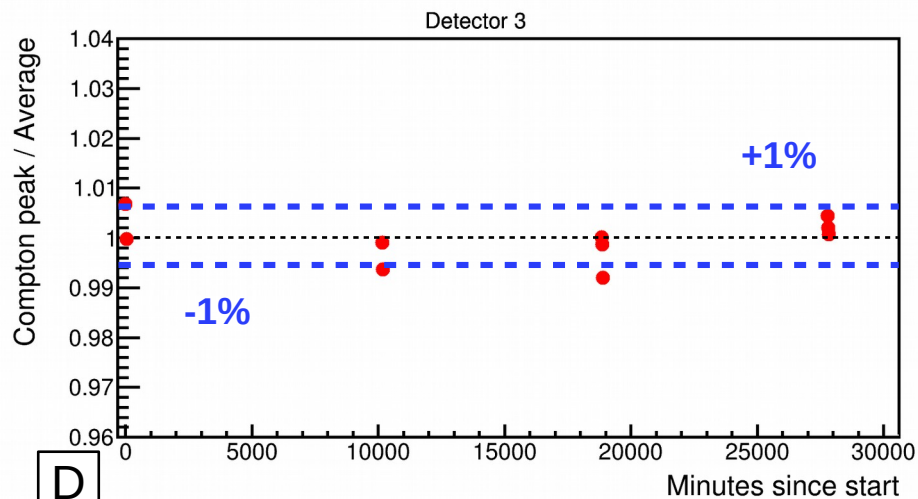
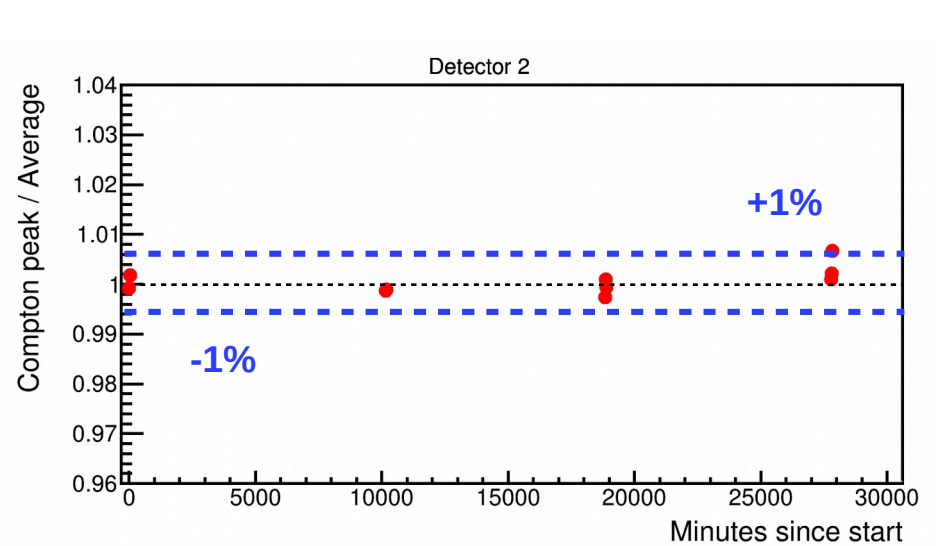
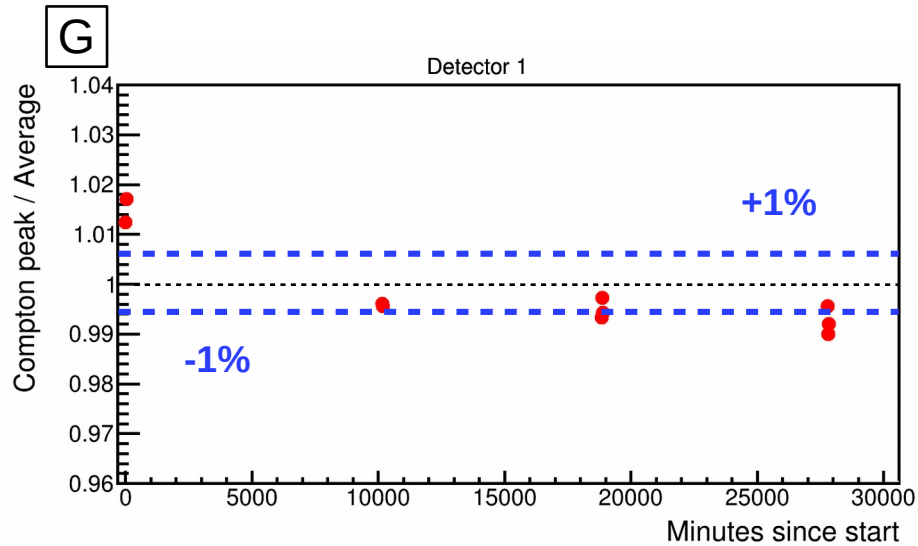
E



Stability – Yttrium (1)



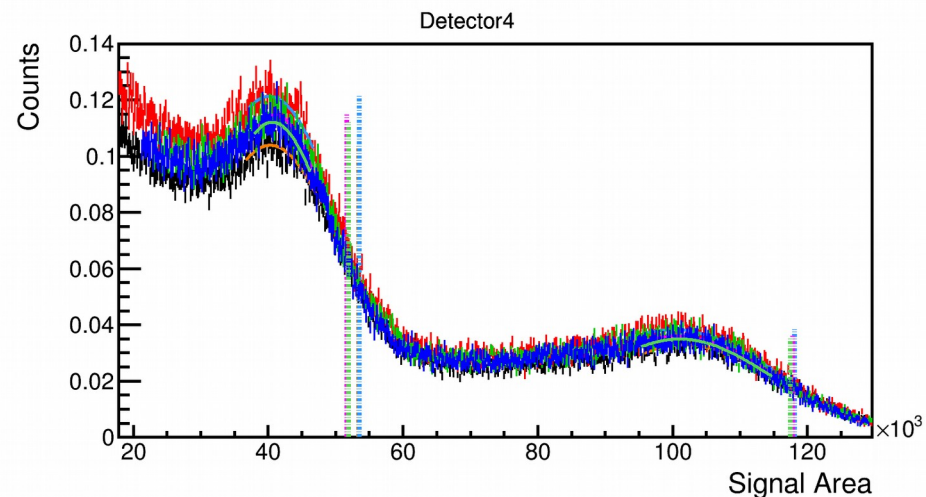
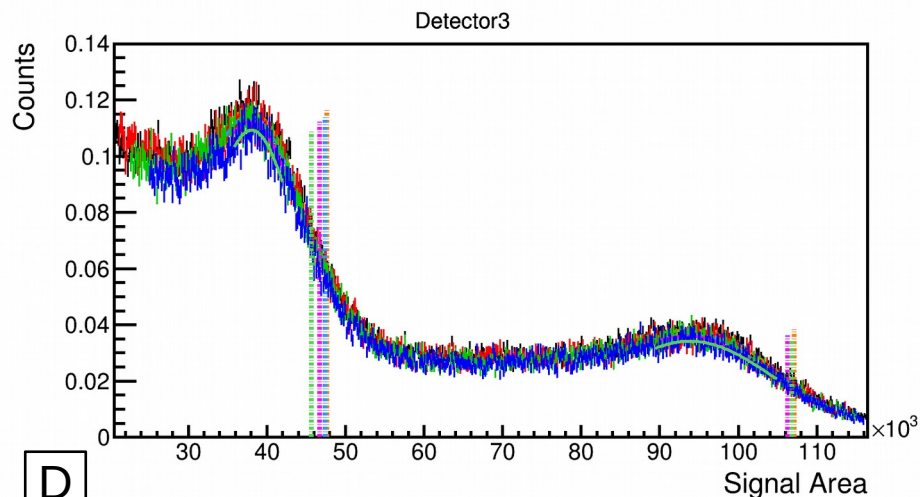
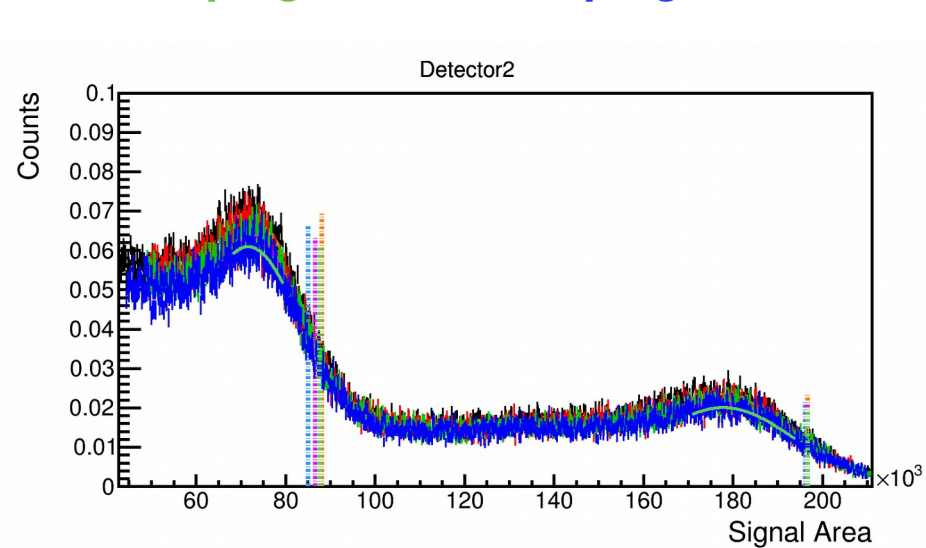
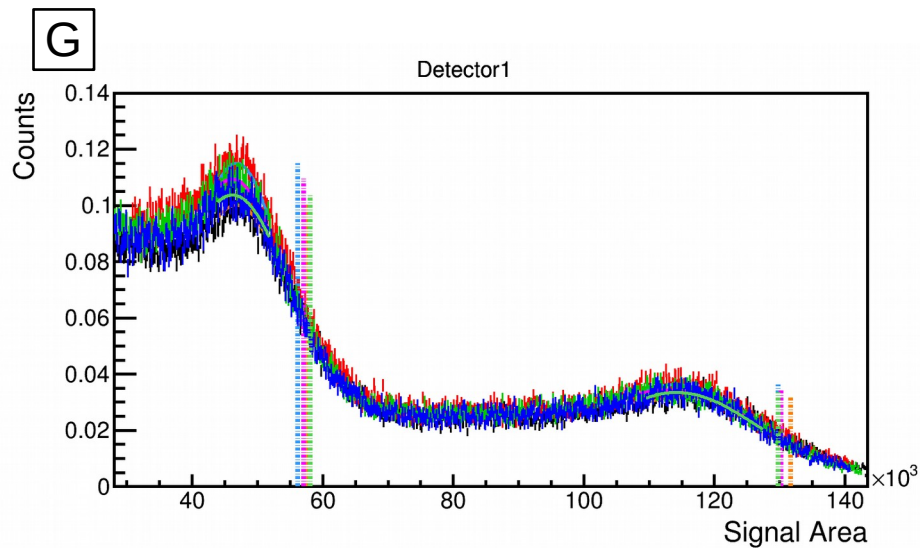
Stability – Yttrium (2)



Stability – Yttrium

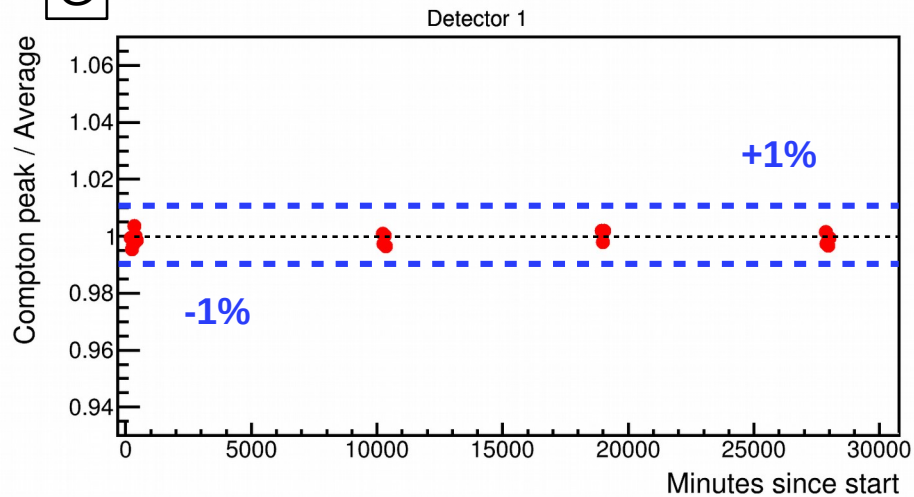
Campaign 0
Campaign 2

Campaign 1
Campaign 3

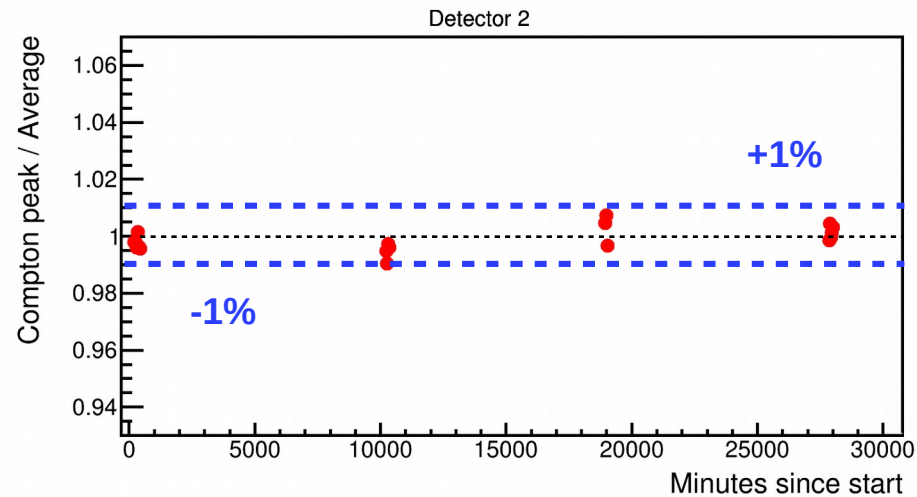


Stability – AmBe

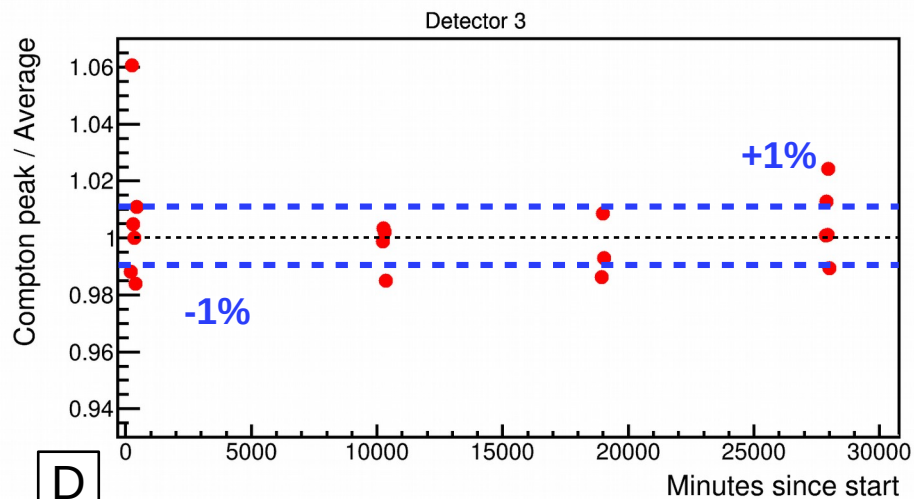
G



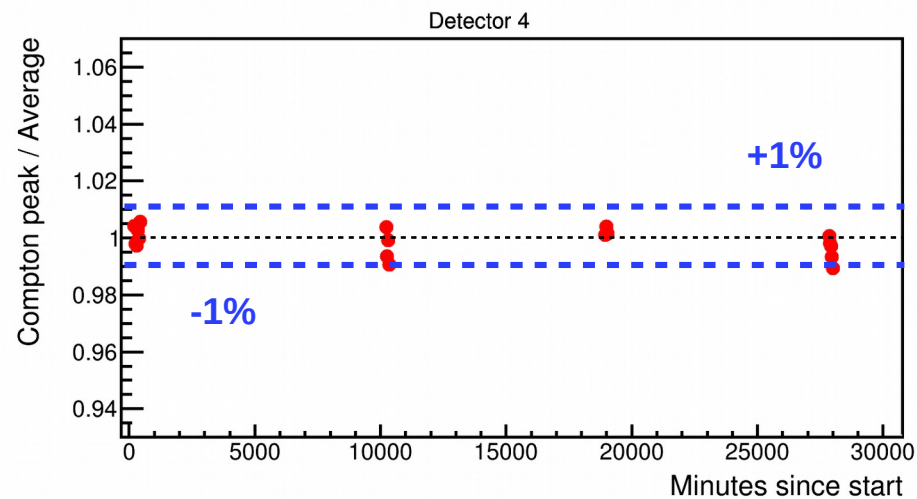
C



D



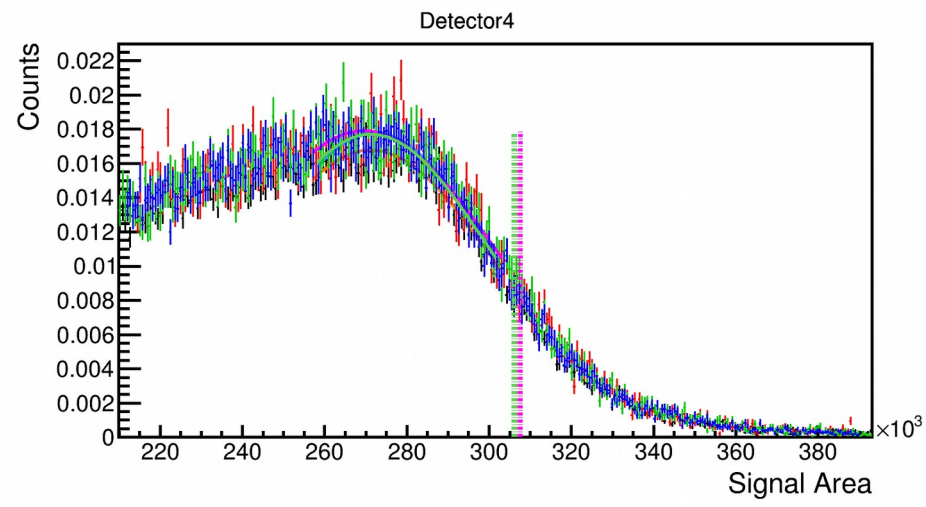
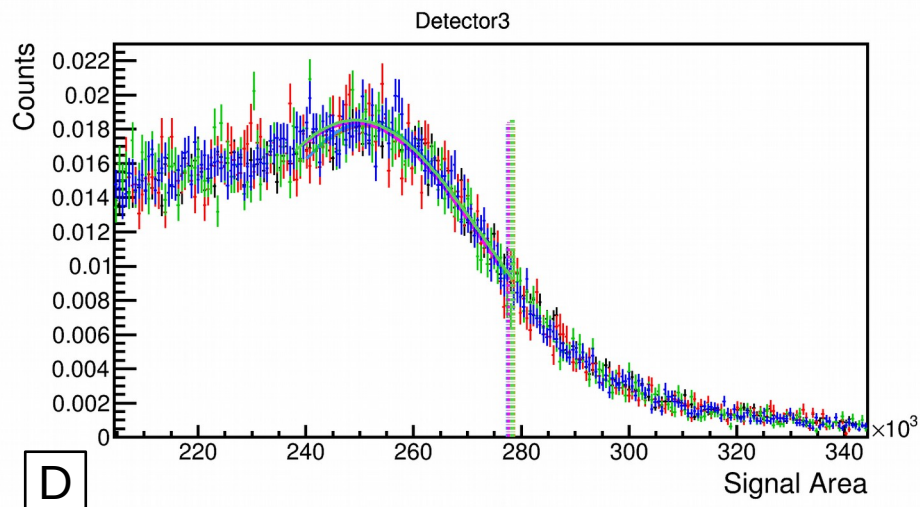
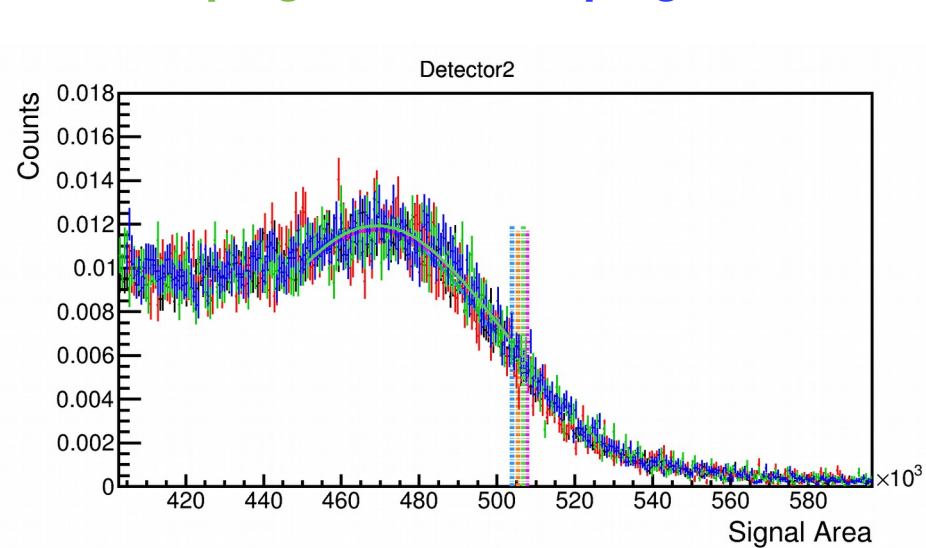
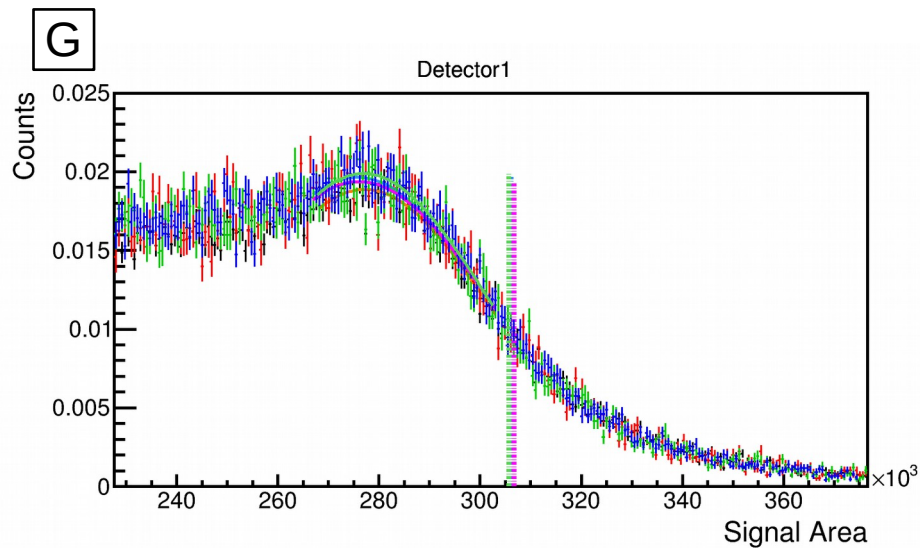
E



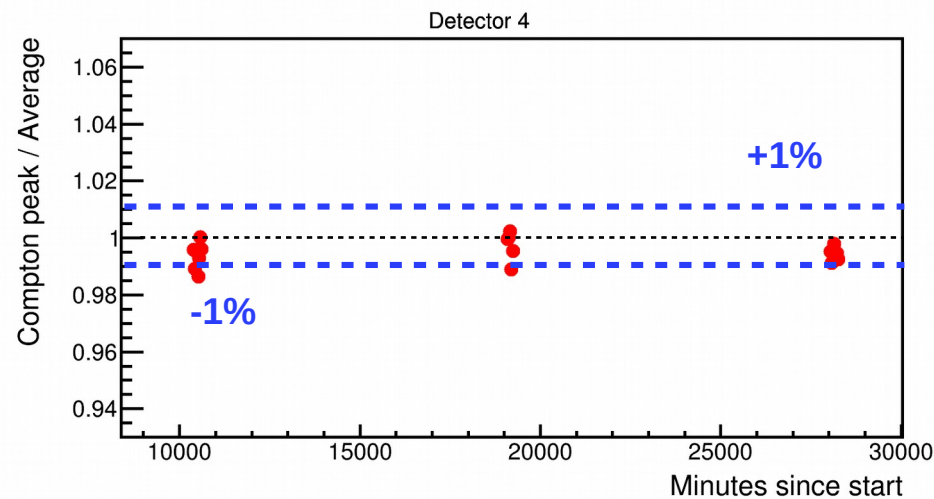
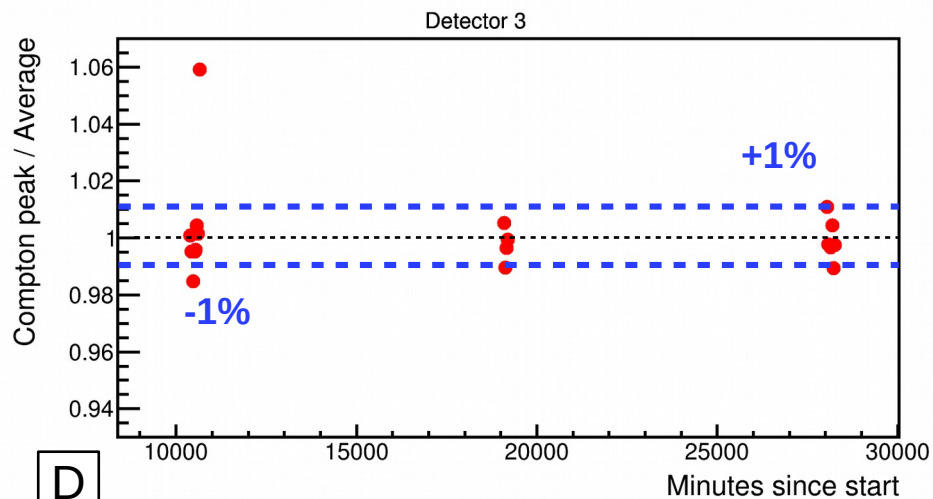
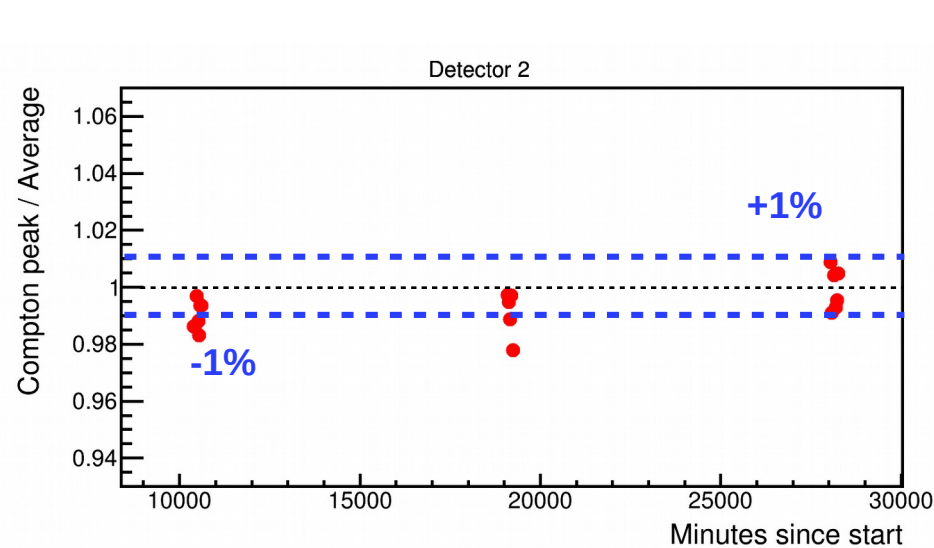
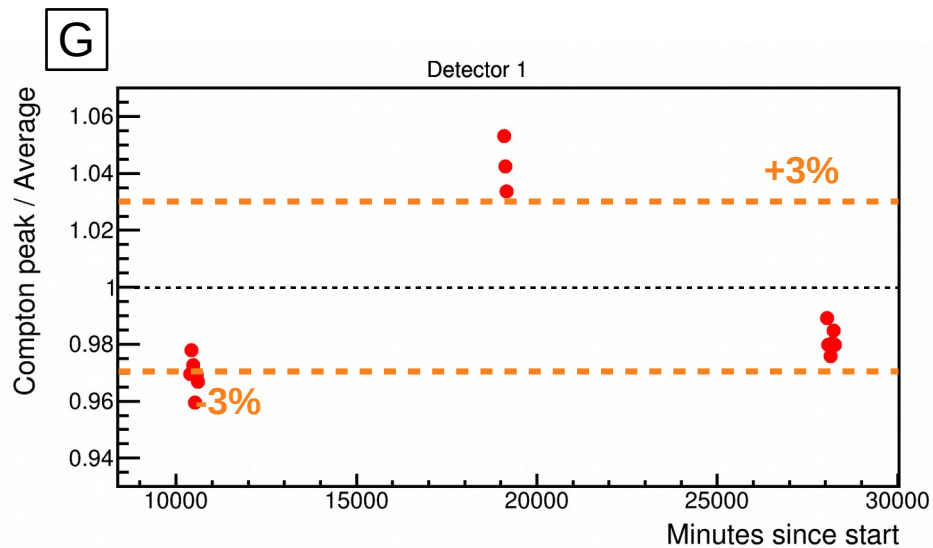
Stability – AmBe

Campaign 0
Campaign 2

Campaign 1
Campaign 3



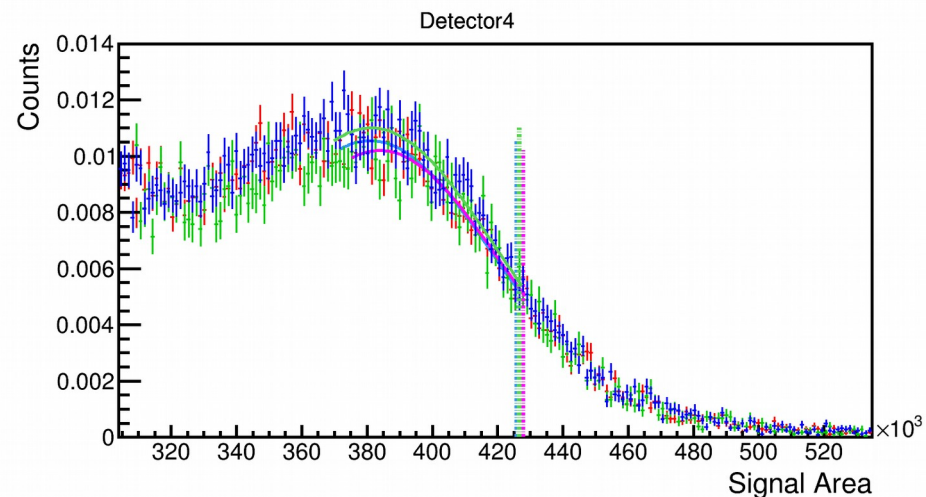
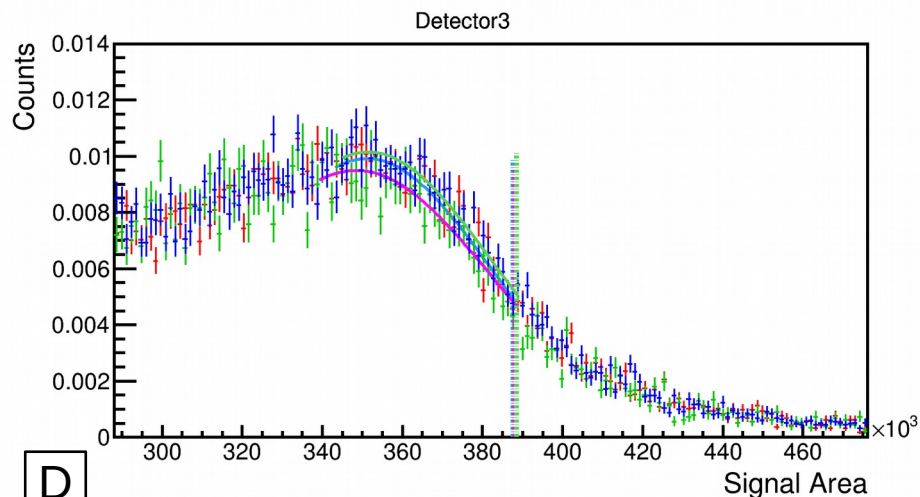
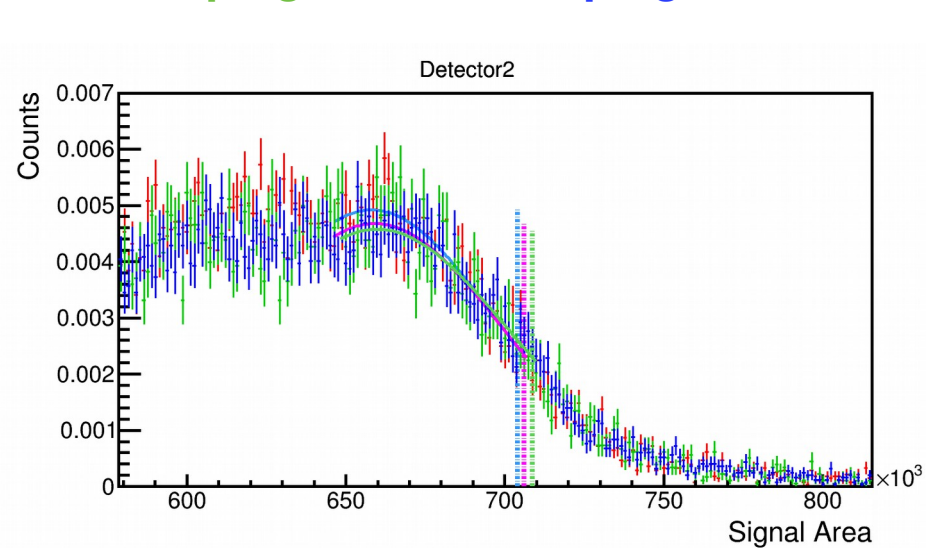
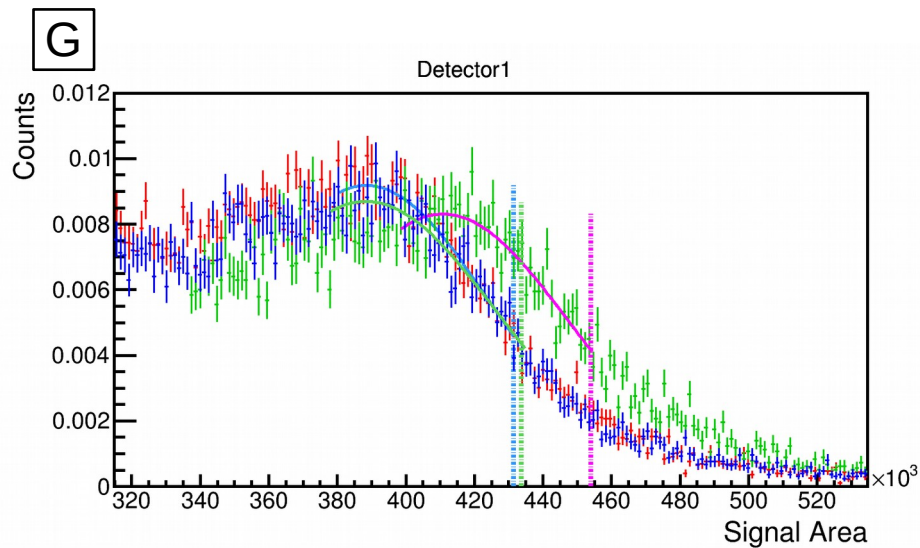
Stability – CmC



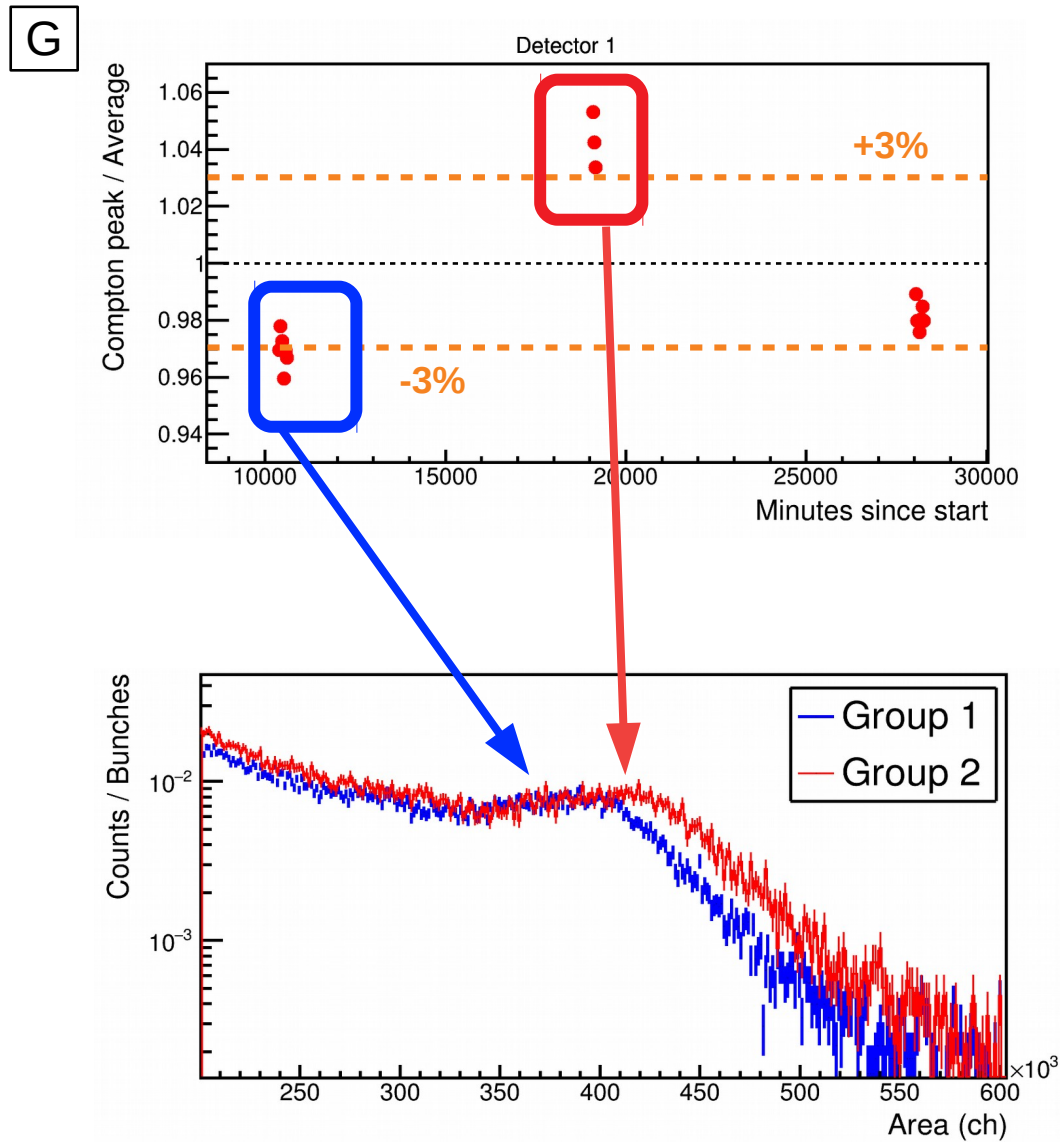
Stability – CmC

Campaign 0
Campaign 2

Campaign 1
Campaign 3



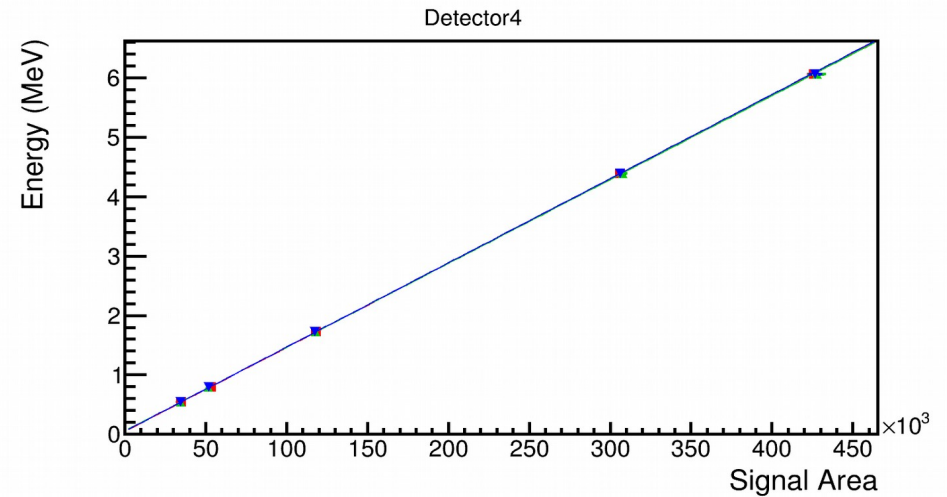
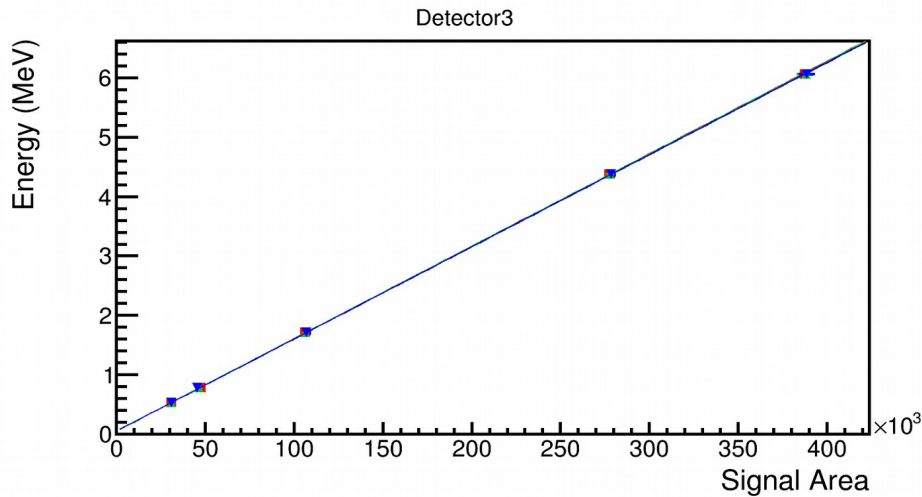
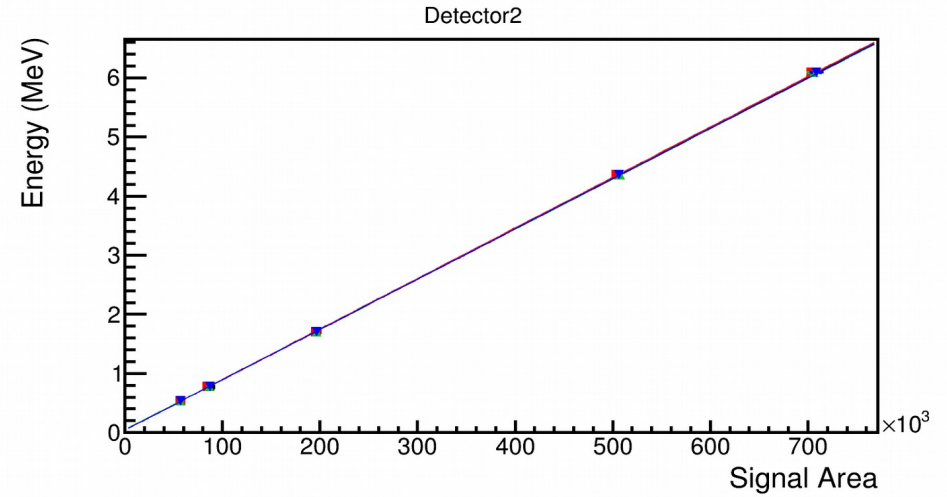
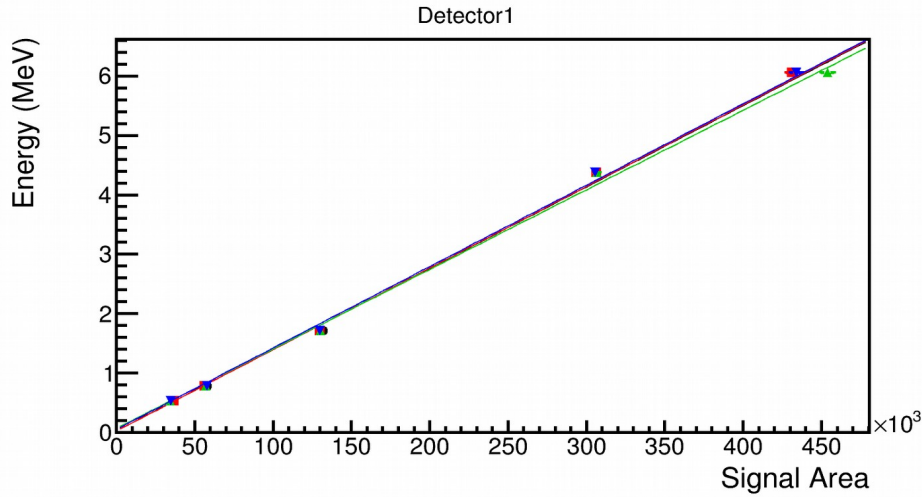
Stability - CmC



Calibration lines

Campaign 0
Campaign 2

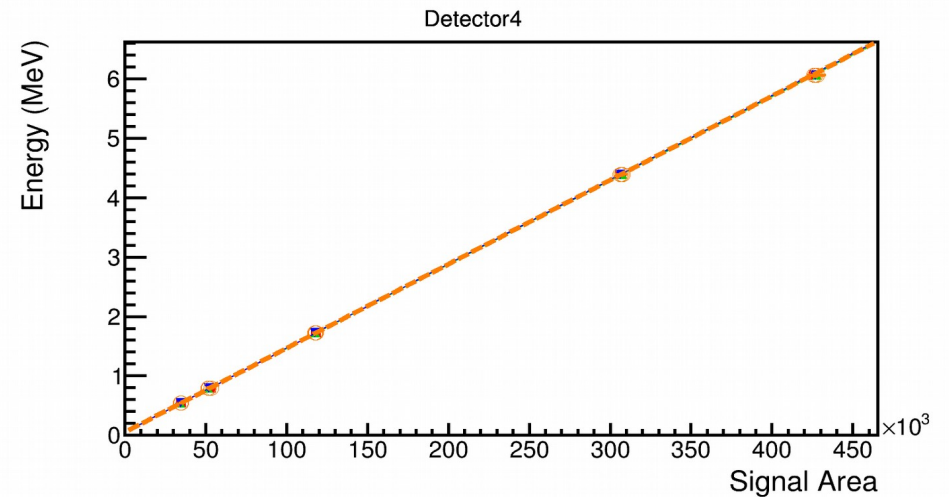
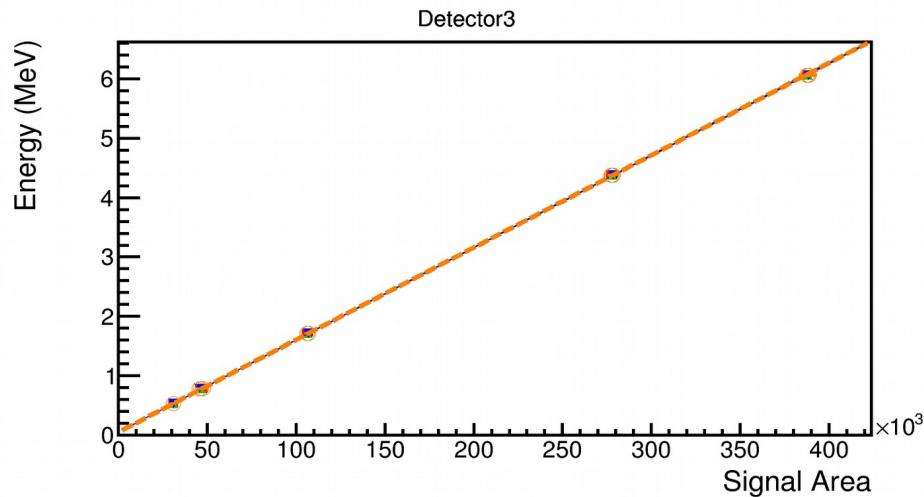
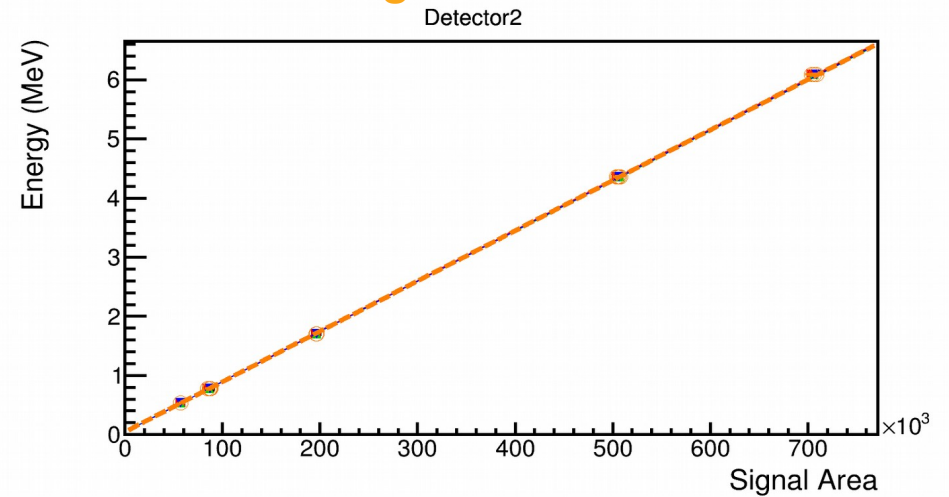
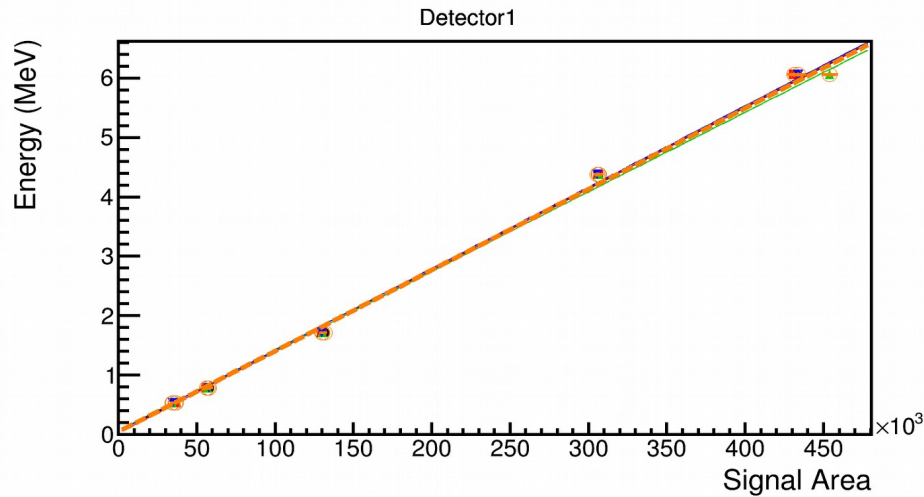
Campaign 1
Campaign 3



Calibration lines

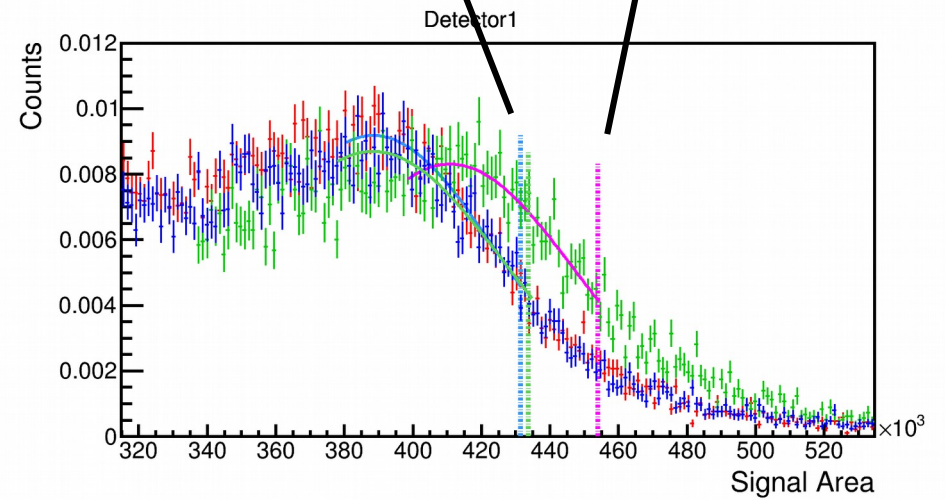
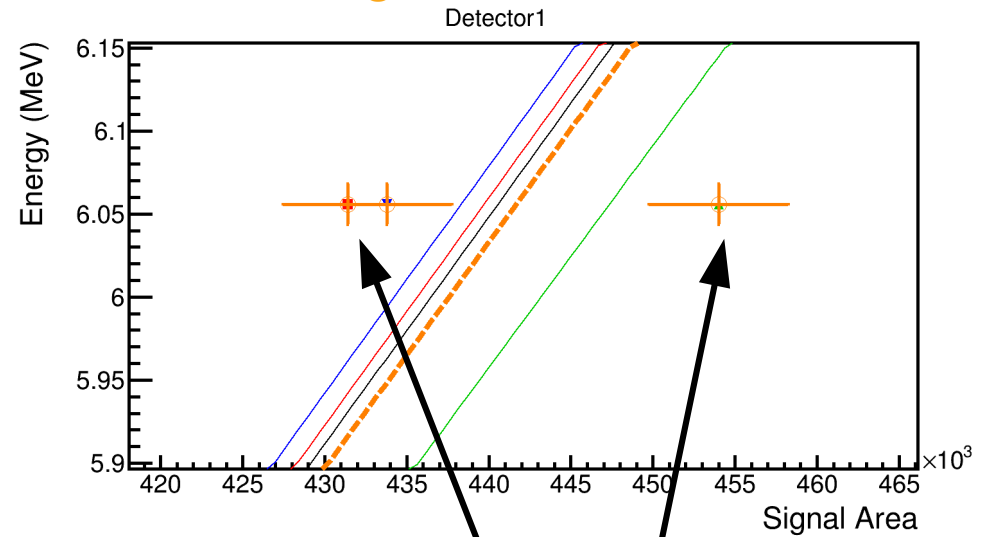
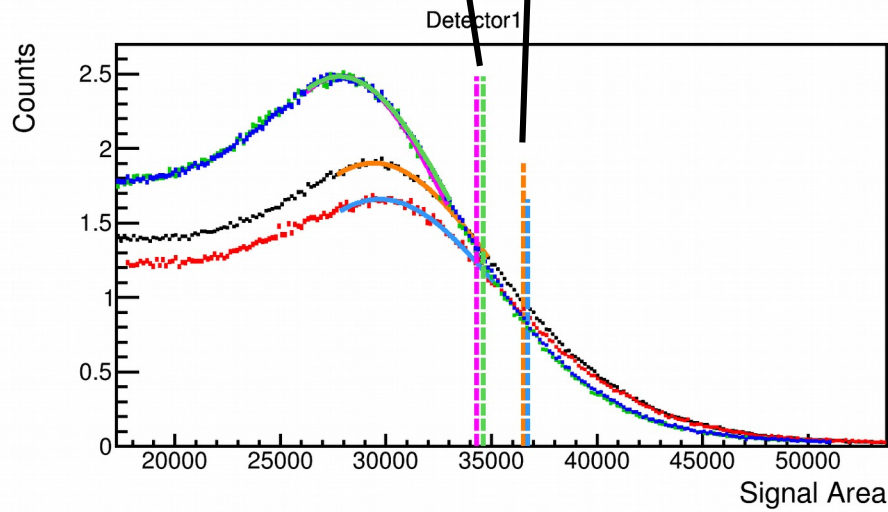
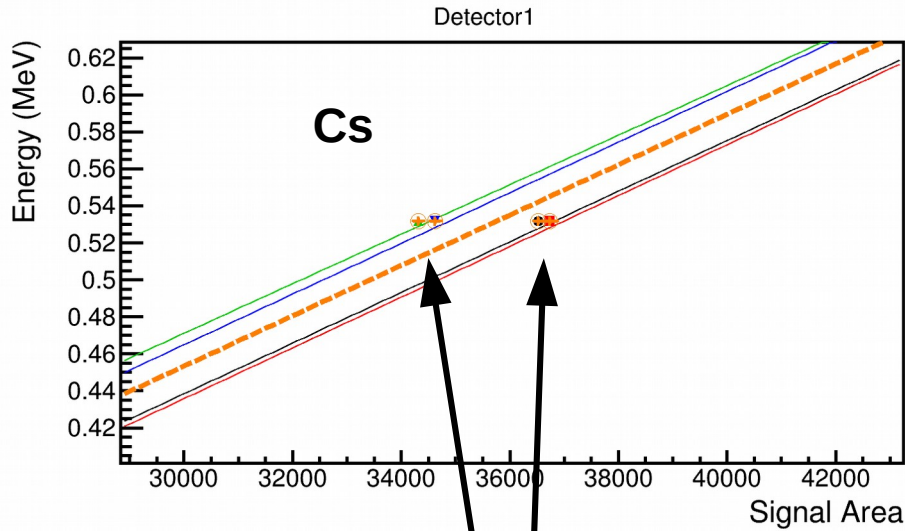
Campaign 0
Campaign 2
Average

Campaign 1
Campaign 3



Calibration - Detector1

Experimental data Campaign 1
 Monte Carlo Campaign 3
 MC Gaussian fit + refined CE

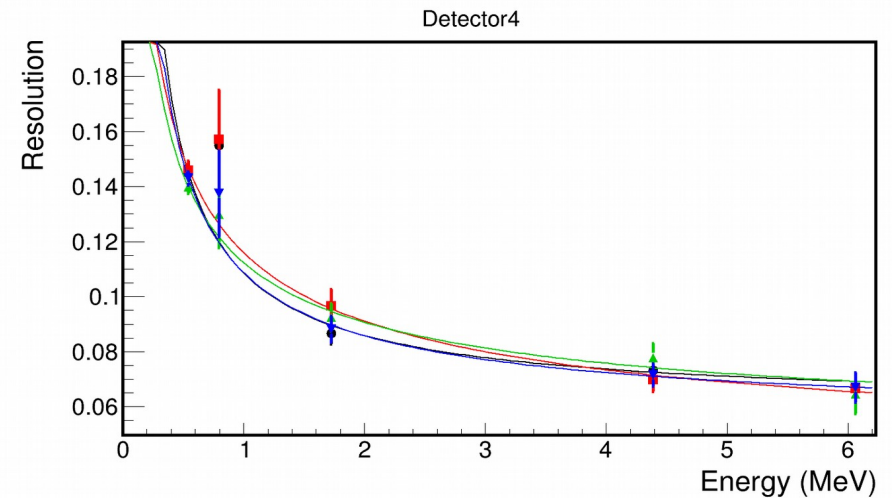
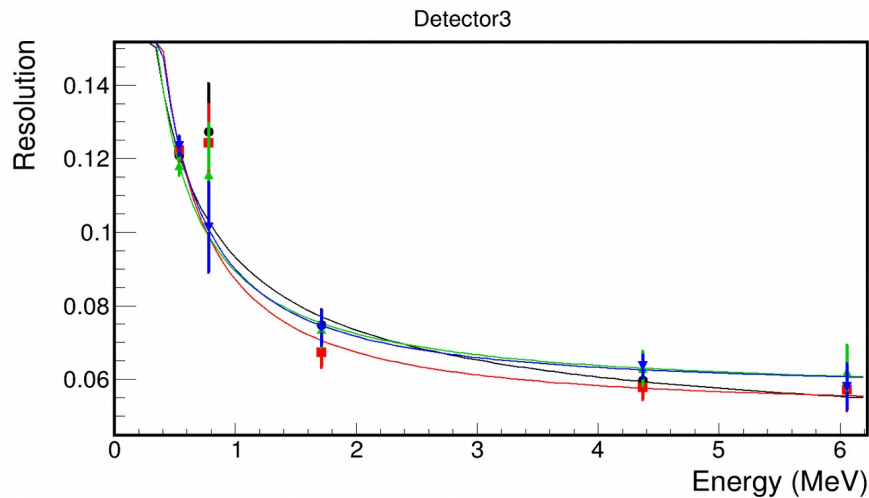
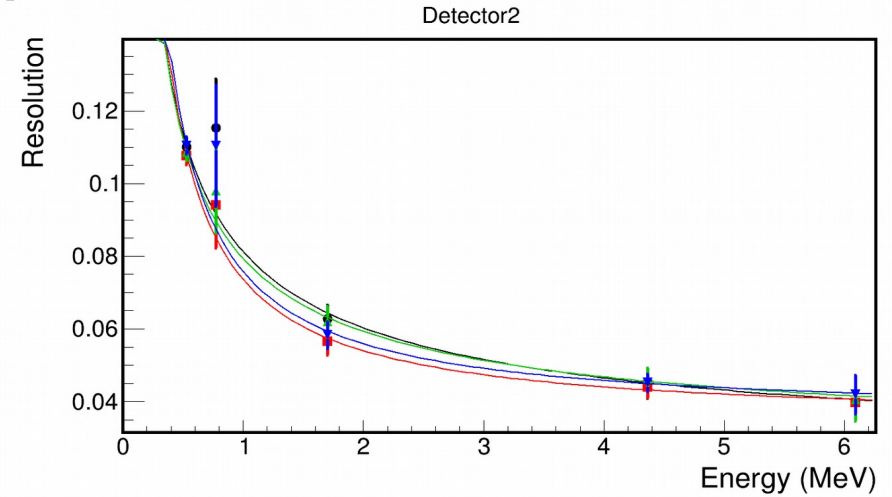
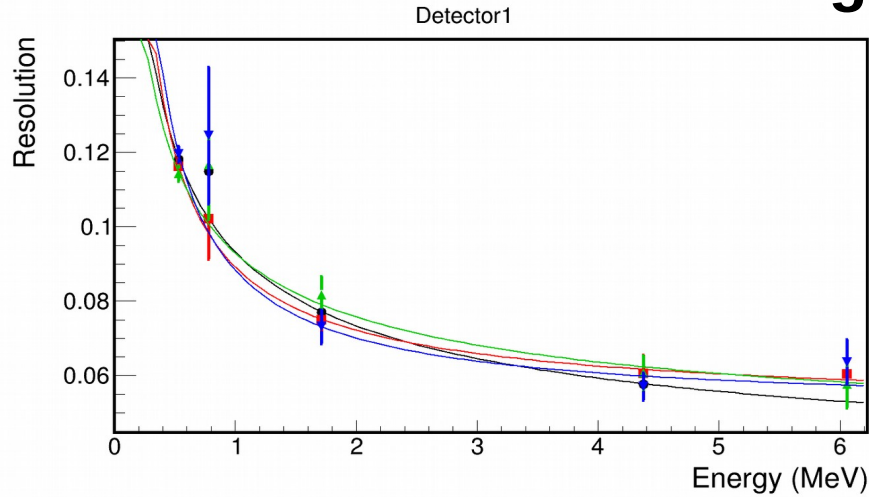


Resolution

Campaign 0
Campaign 2

Campaign 1
Campaign 3

$$\text{Res} = \text{Sigma} / \text{C.E.}$$



Resolution

$$\text{Res} = \text{Sigma} / \text{C.E.}$$

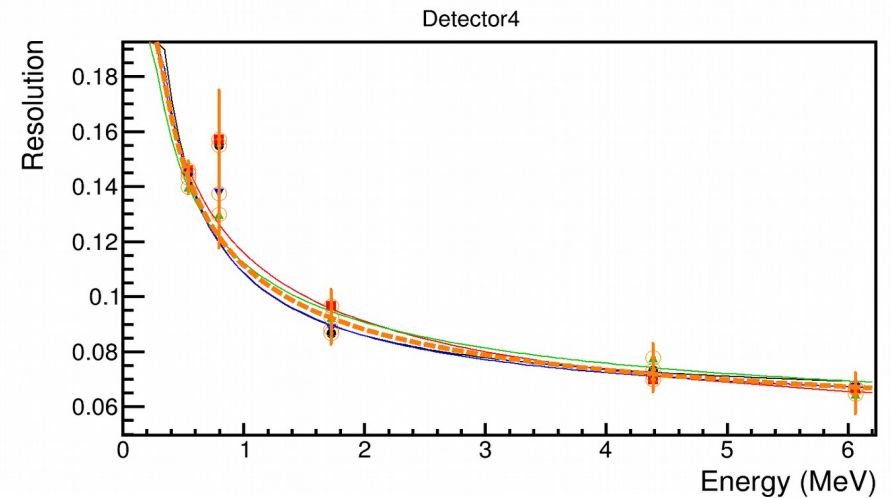
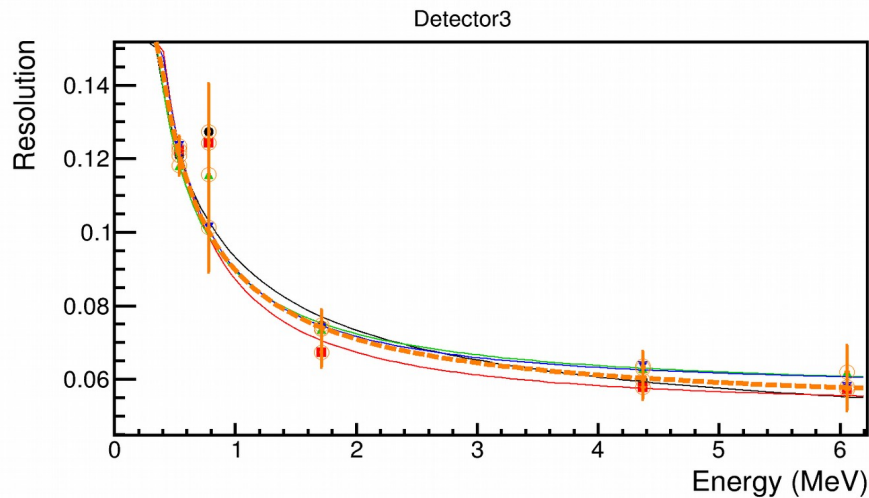
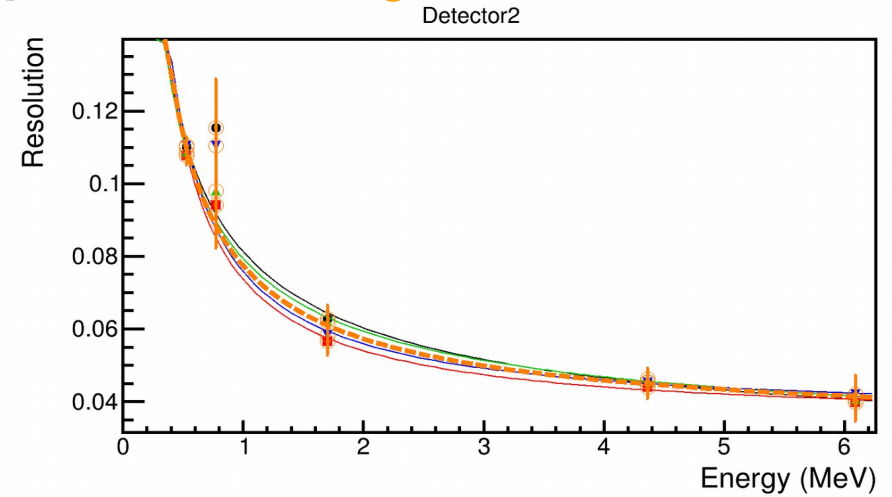
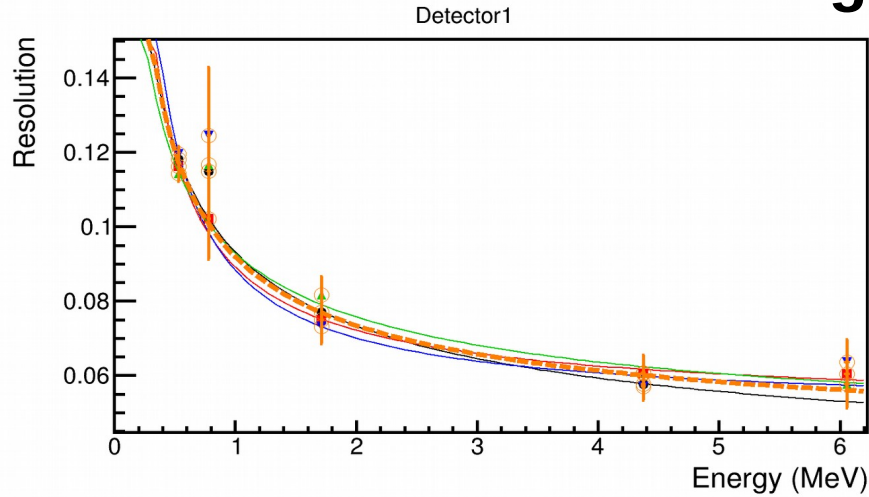
Campaign 0

Campaign 2

Average

Campaign 1

Campaign 3

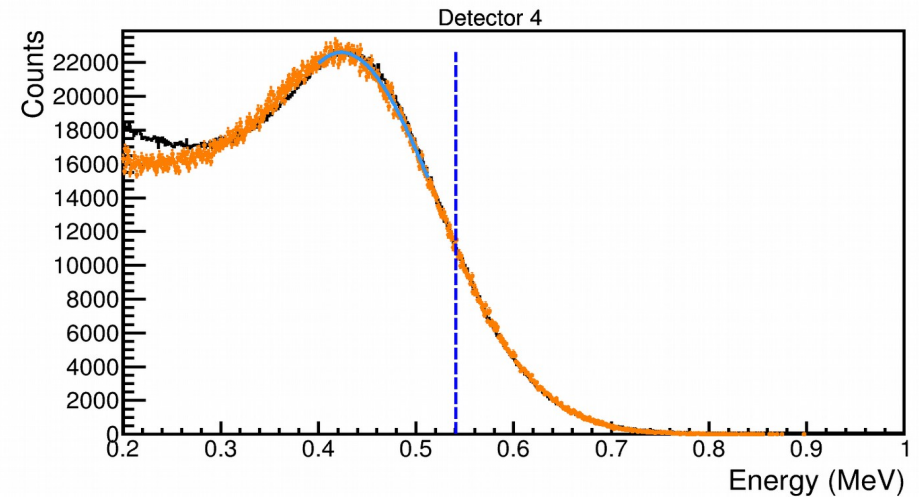
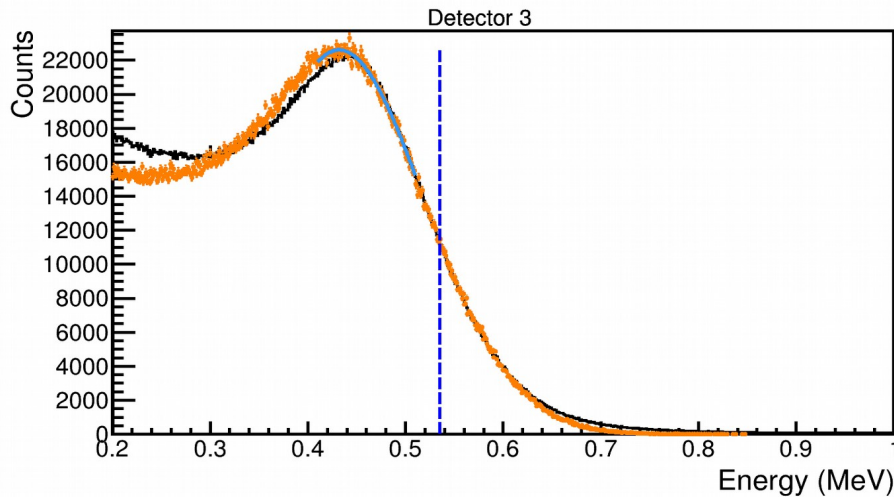
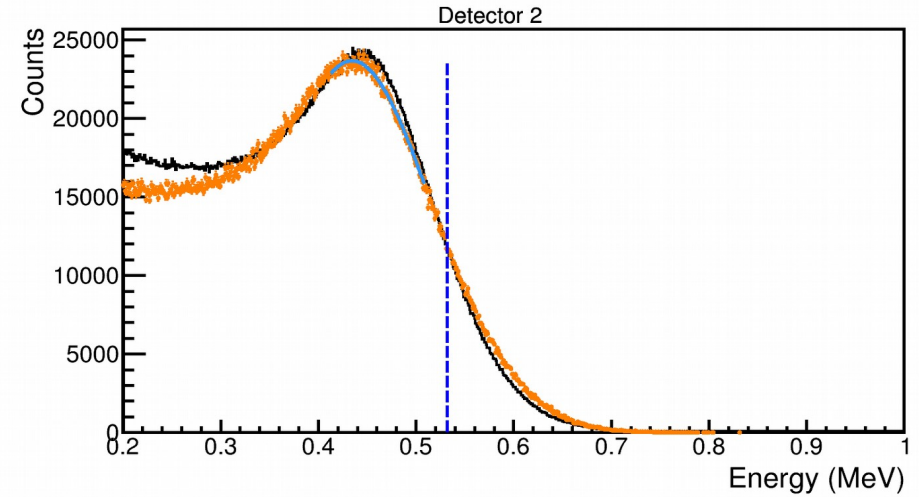
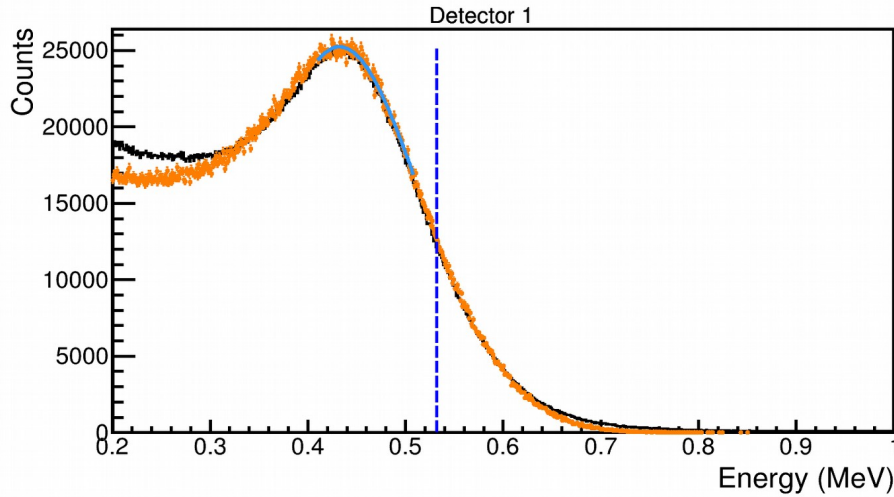


MC vs Exp - Cesium

Experimental data

Monte Carlo

MC Gaussian fit + refined CE

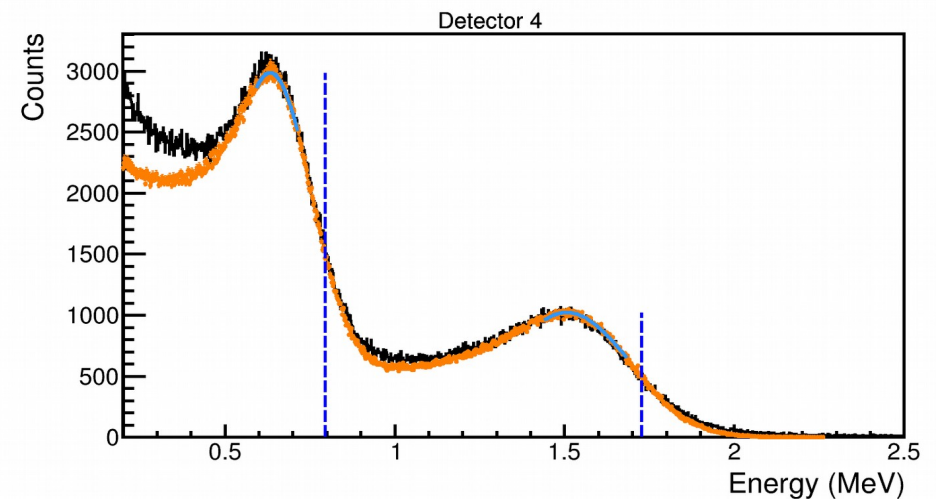
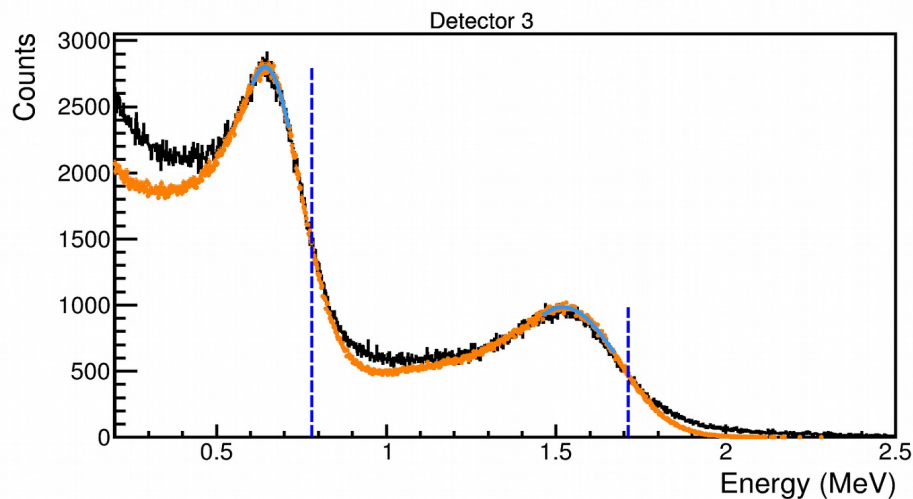
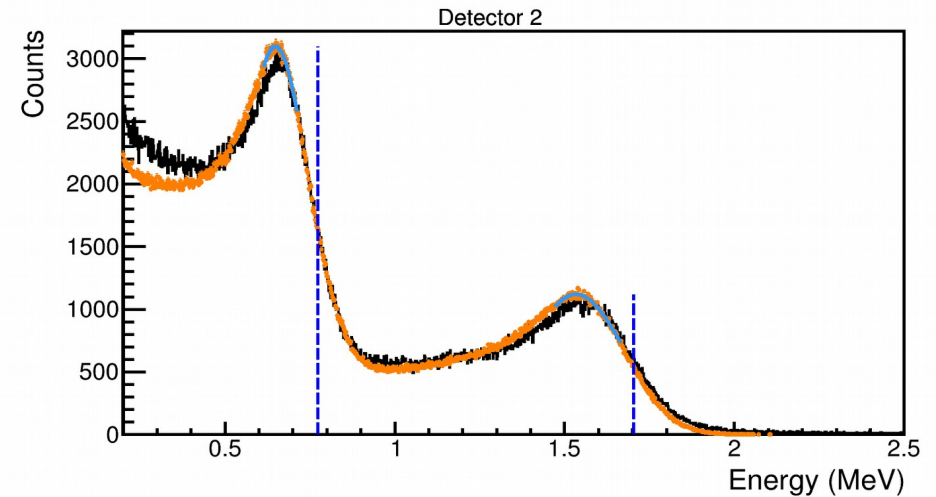
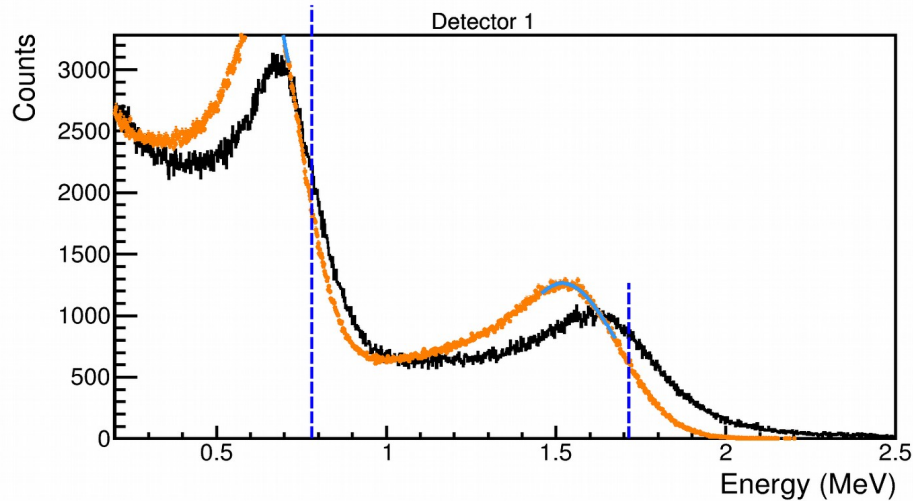


MC vs Exp - Yttrium

Experimental data

Monte Carlo

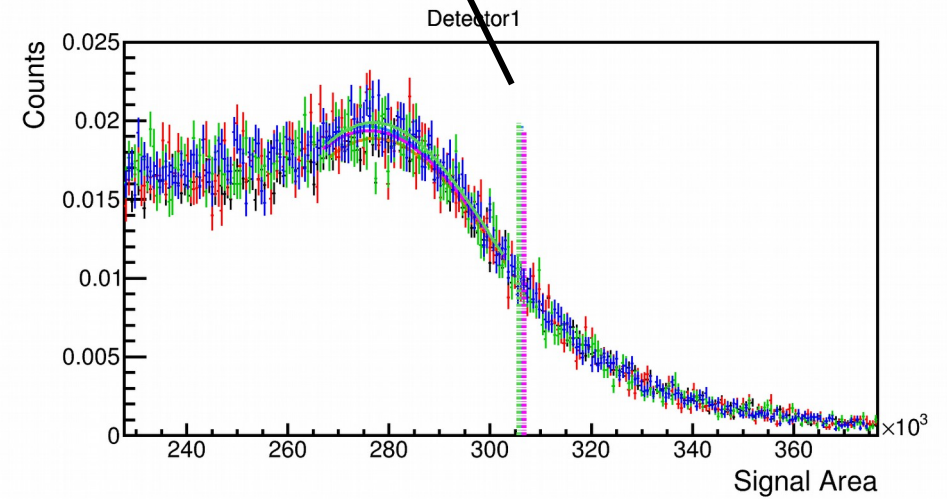
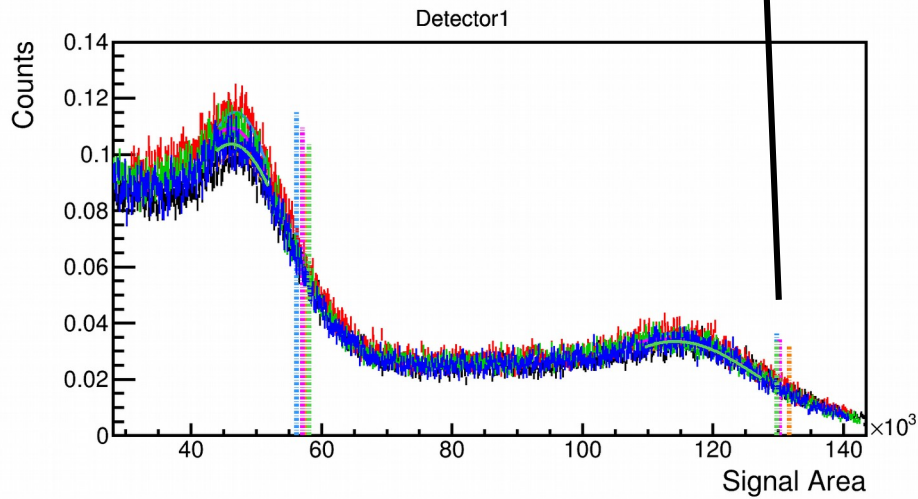
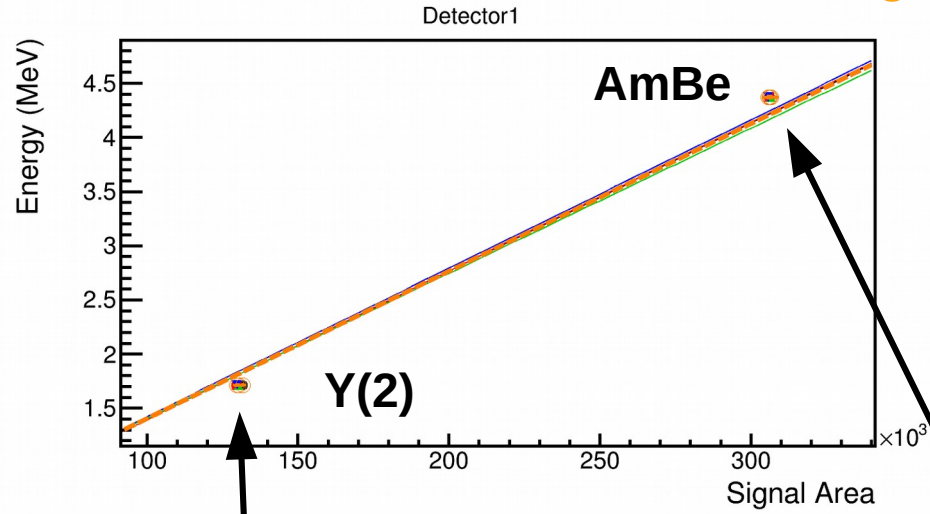
MC Gaussian fit + refined CE



Calibration - Detector1

Campaign 0
Campaign 2
Averenge

Campaign 1
Campaign 3

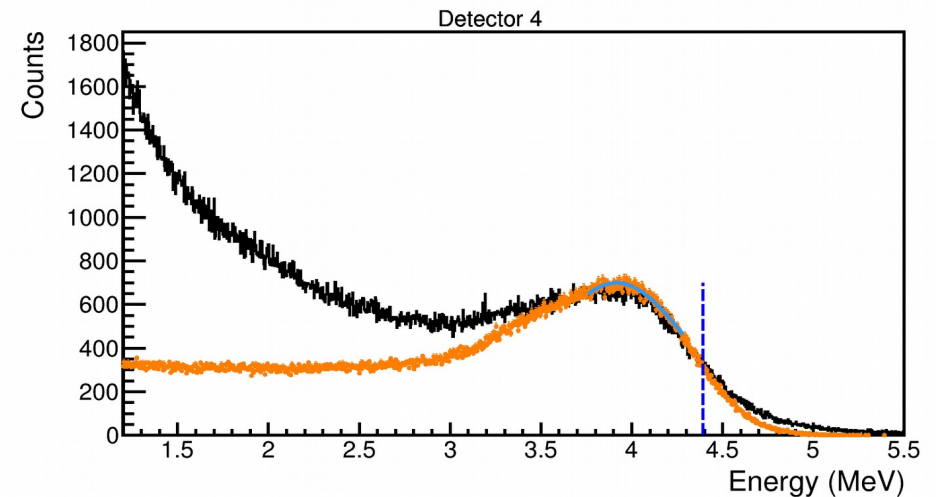
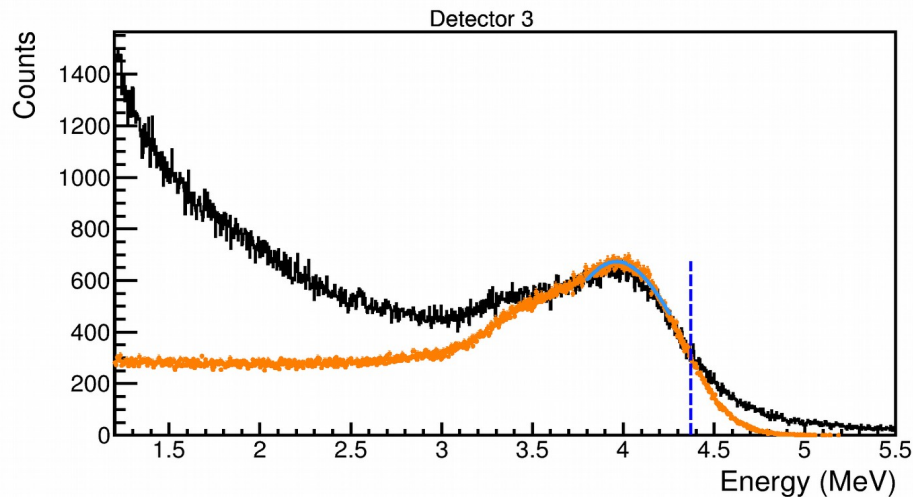
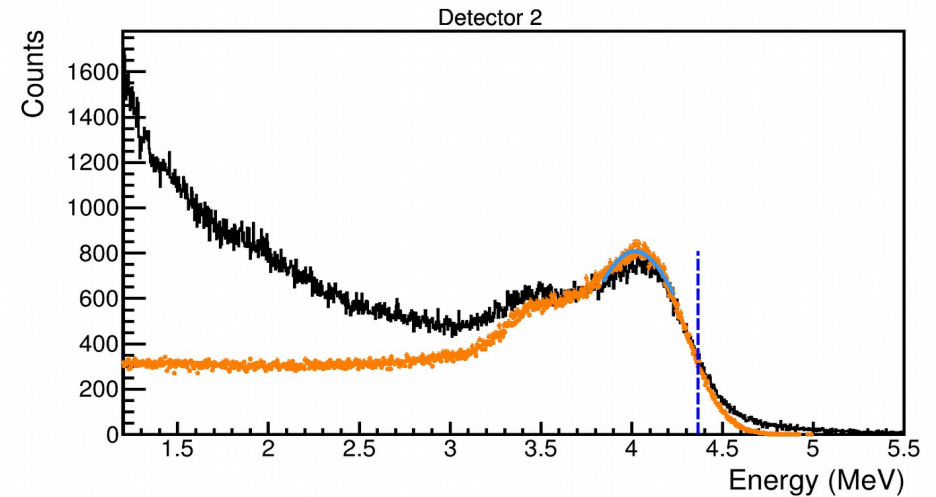
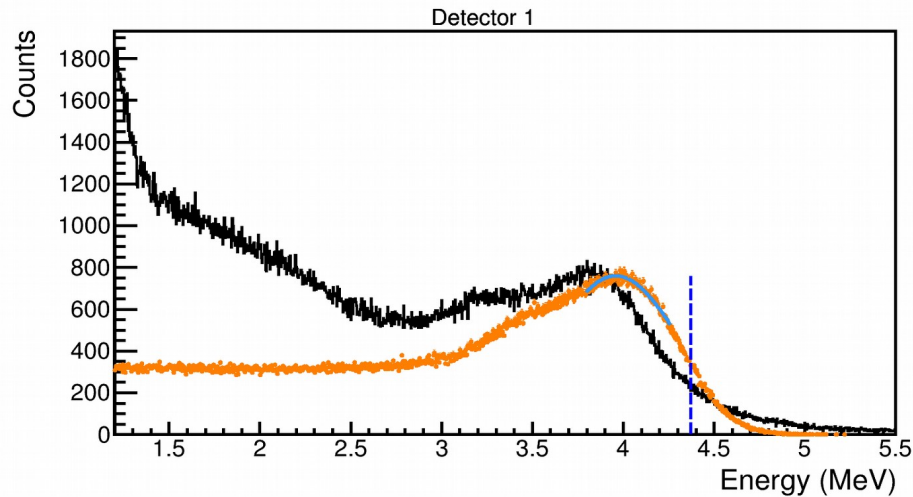


MC vs Exp - AmBe

Experimental data

Monte Carlo

MC Gaussian fit + refined CE

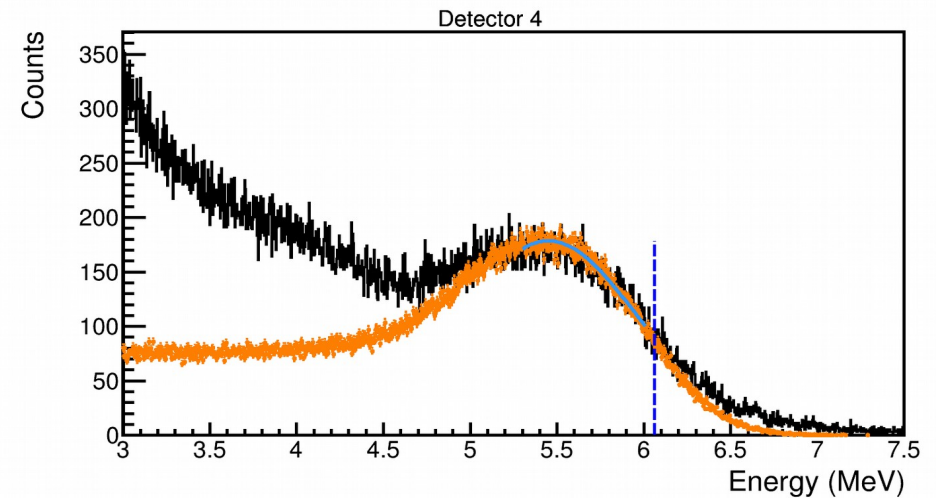
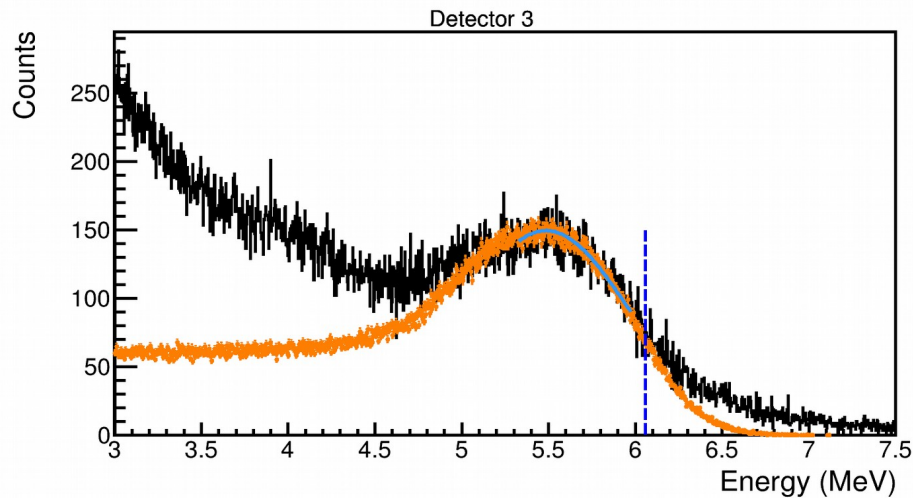
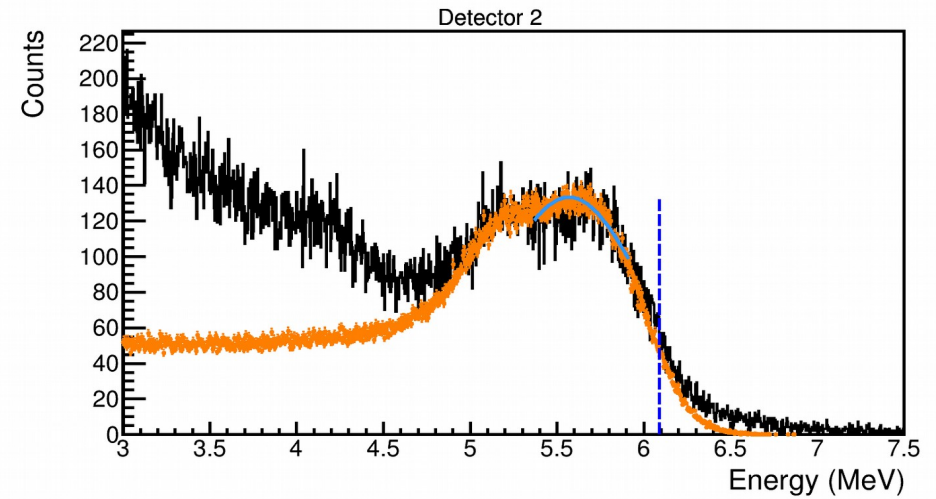
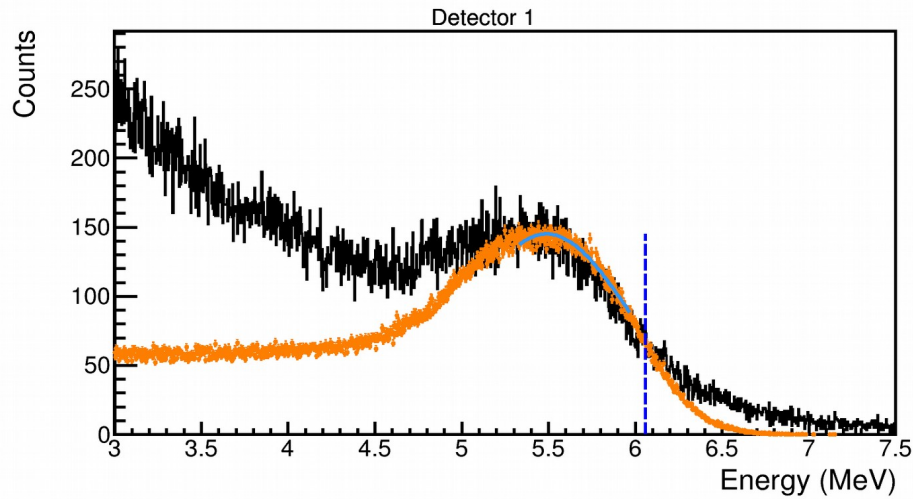


MC vs Exp - CmC

Experimental data

Monte Carlo

MC Gaussian fit + refined CE



Summary

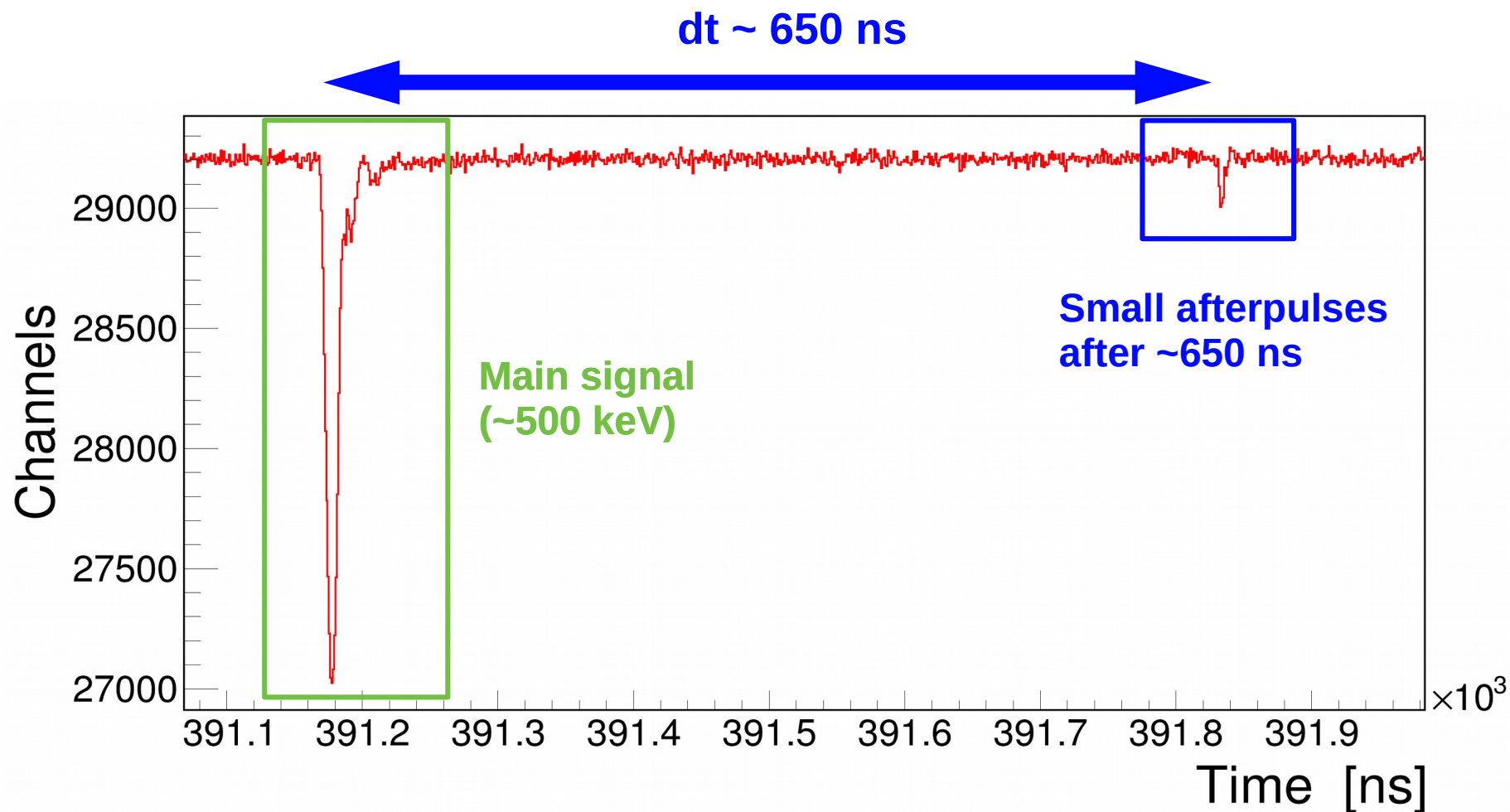
- ◆ Estratta la risoluzione sperimentale e le rette di calibrazione per i 4 rivelatori.
- ◆ Ottimo accordo per i rivelatori 2-3-4.
- ◆ Difficoltà nella calibrazione del rivelatore 1 (Shift? Risposta non lineare?).
- ◆ Inoltrato il materiale per le simulazioni ad Annamaria.

Backup

Afterpulses

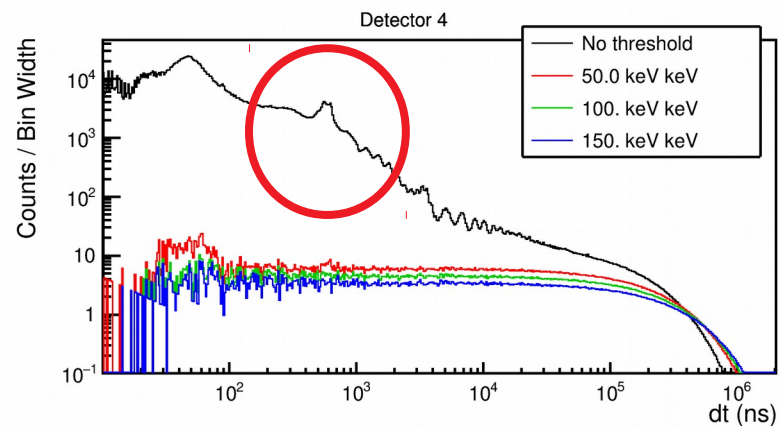
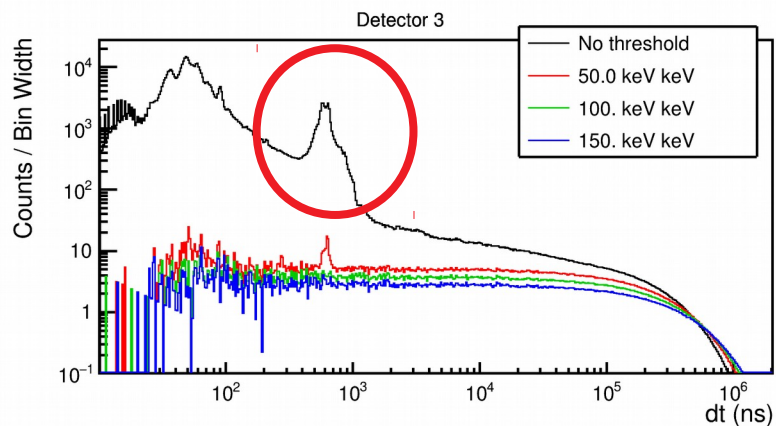
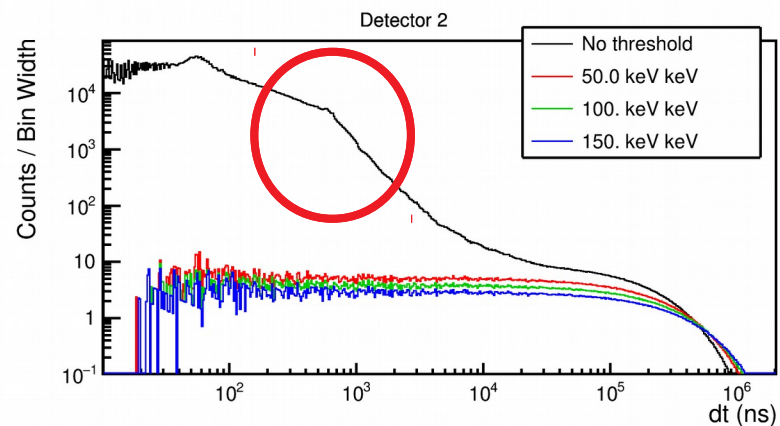
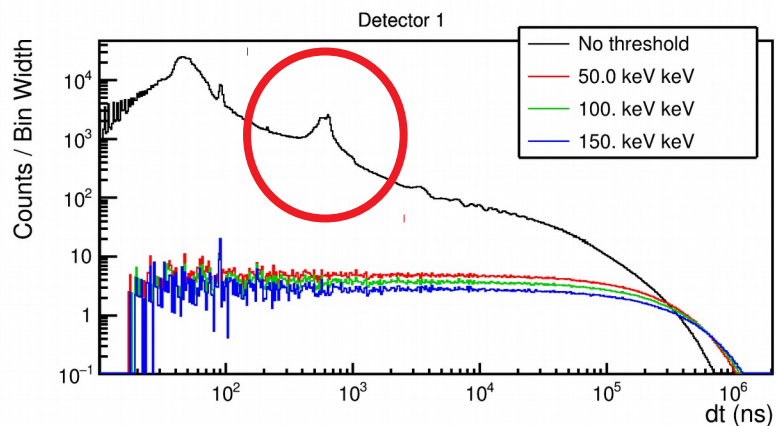
137Cs run

Small signals appearing with a characteristic delay of 600-700 ns.



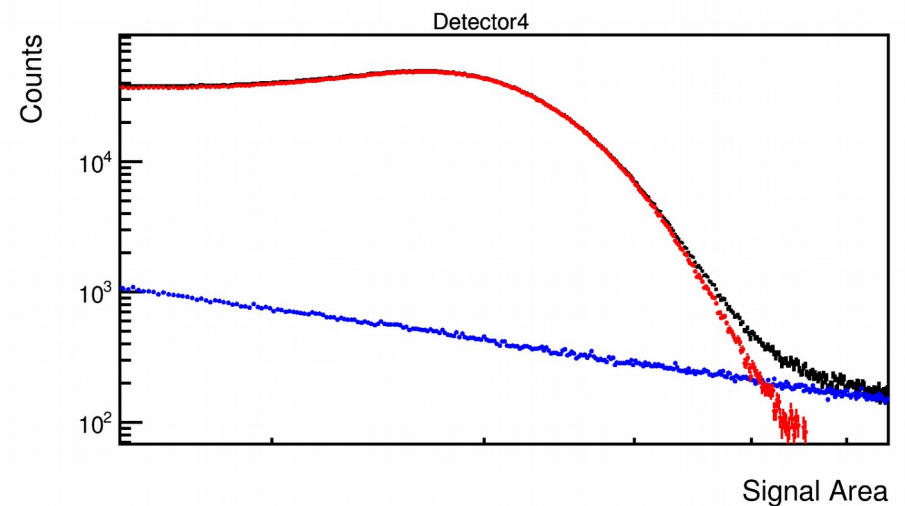
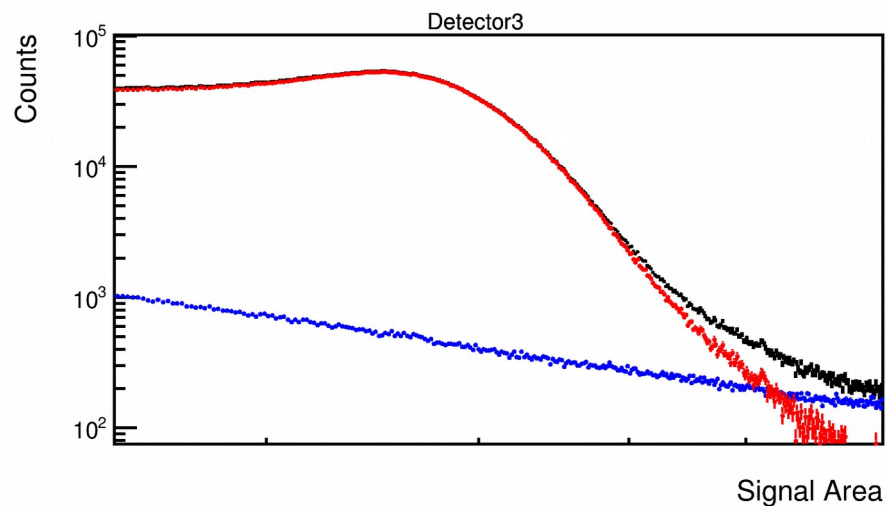
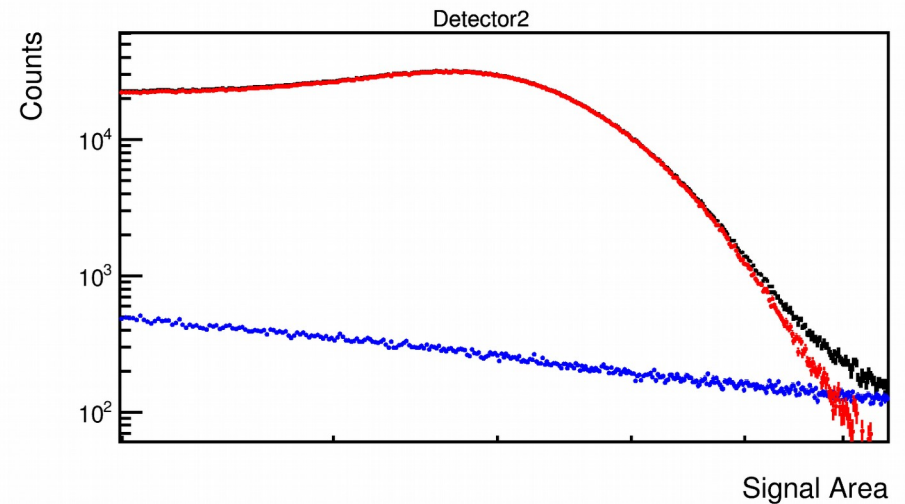
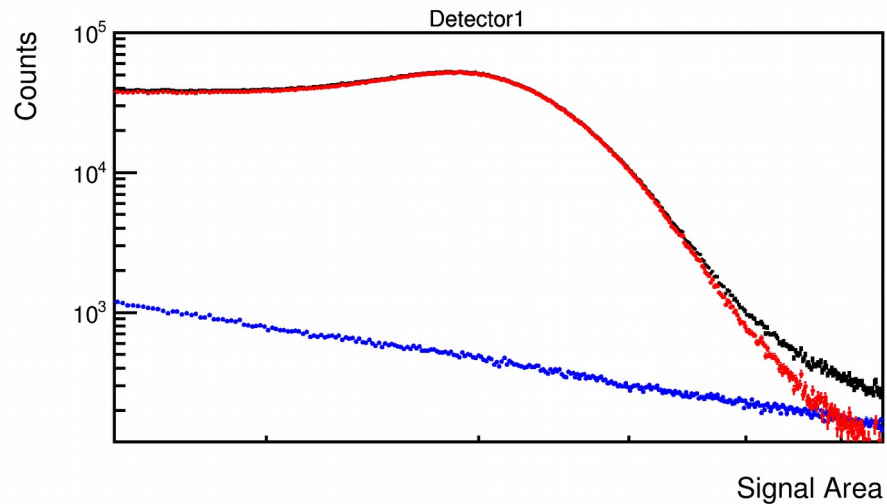
Afterpulses

137Cs run



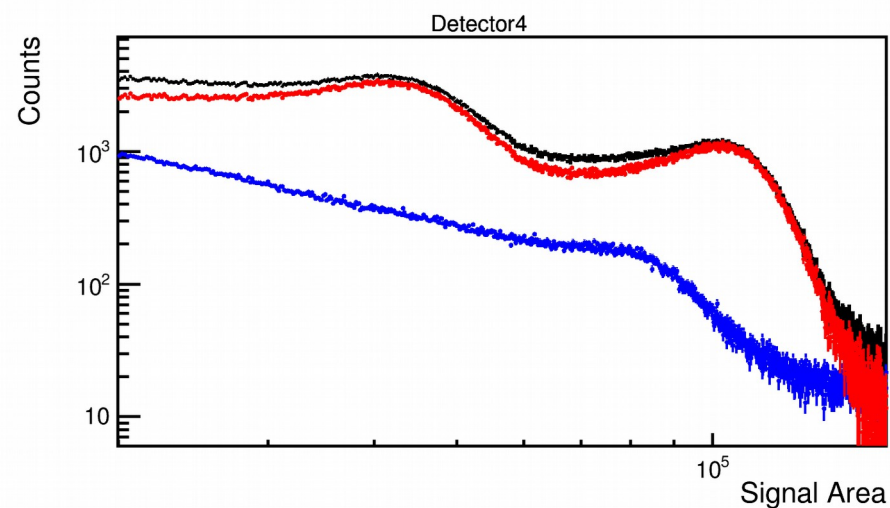
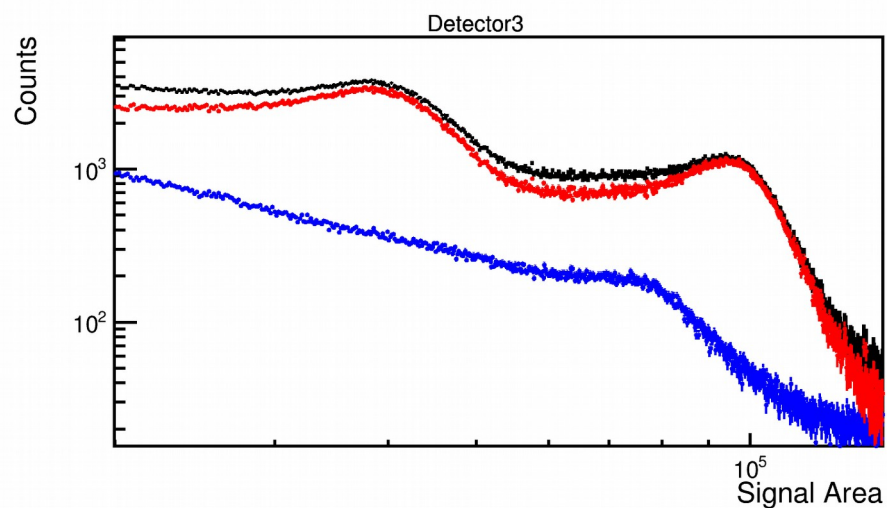
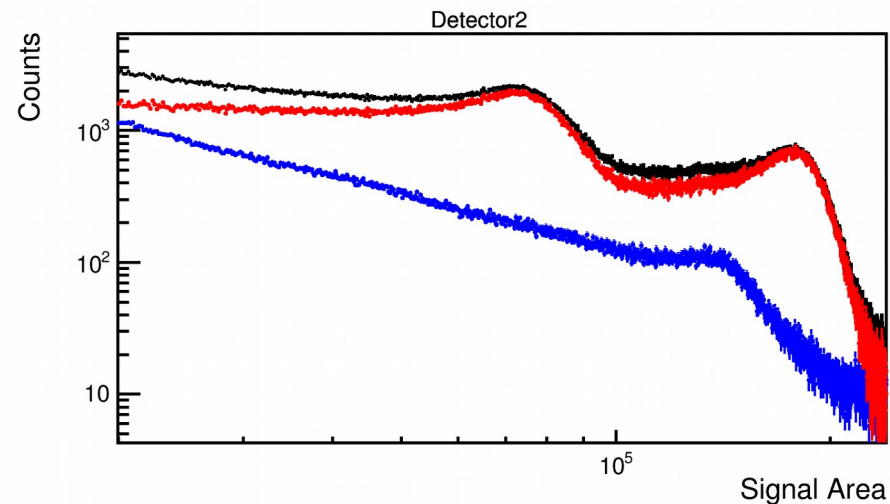
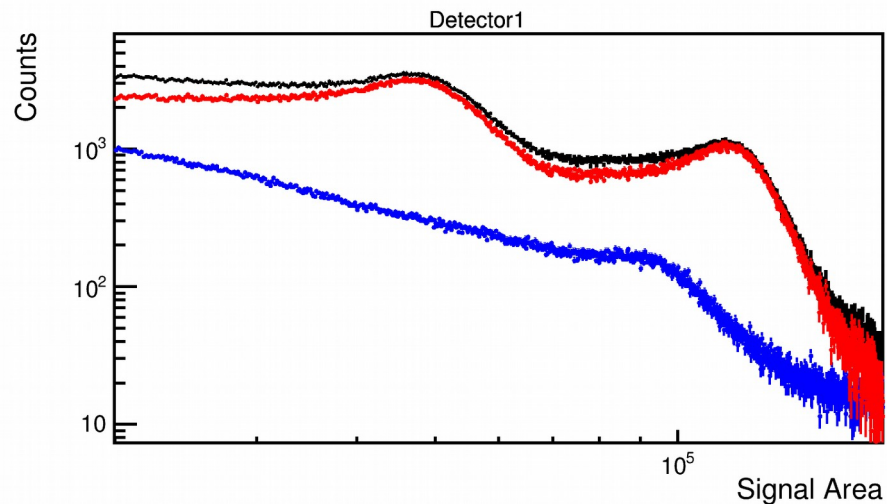
Signal/BKG Cesium

Source
Beamoff
Source - Beamoff



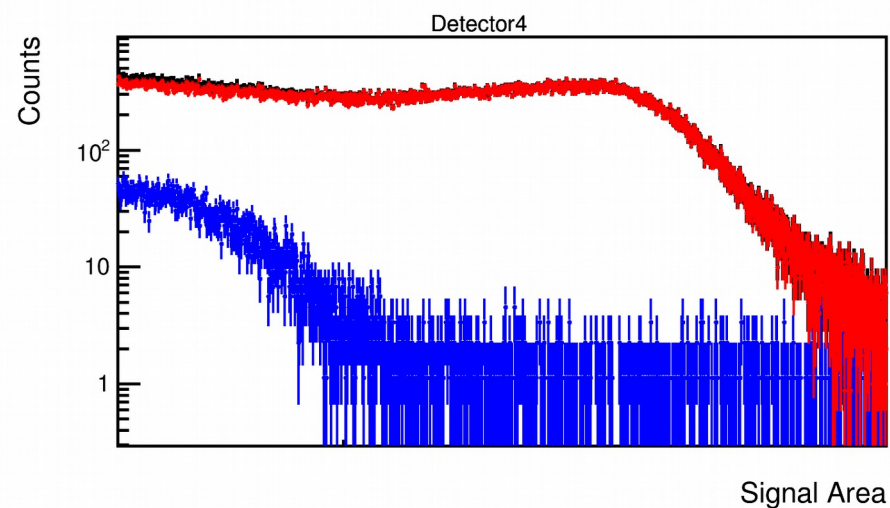
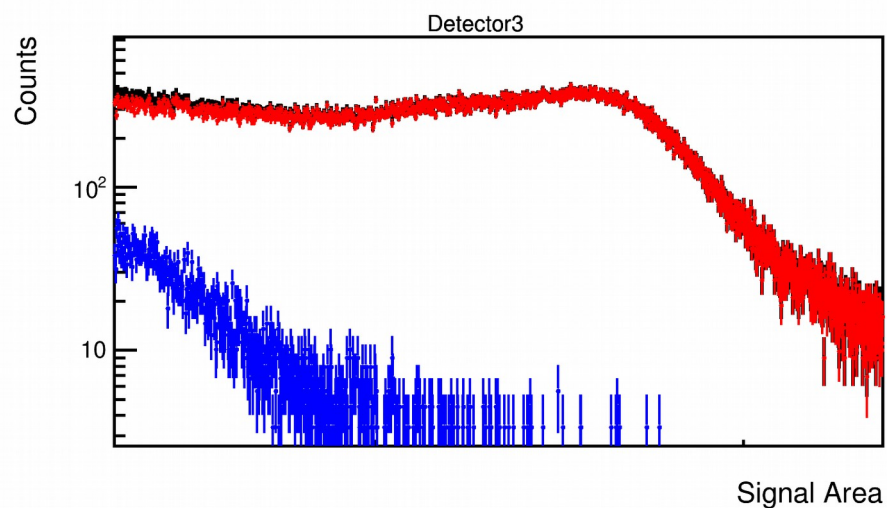
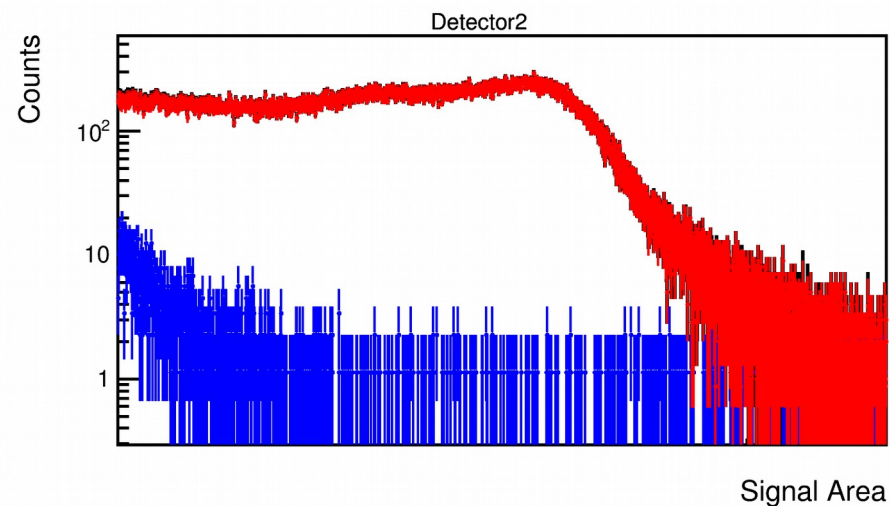
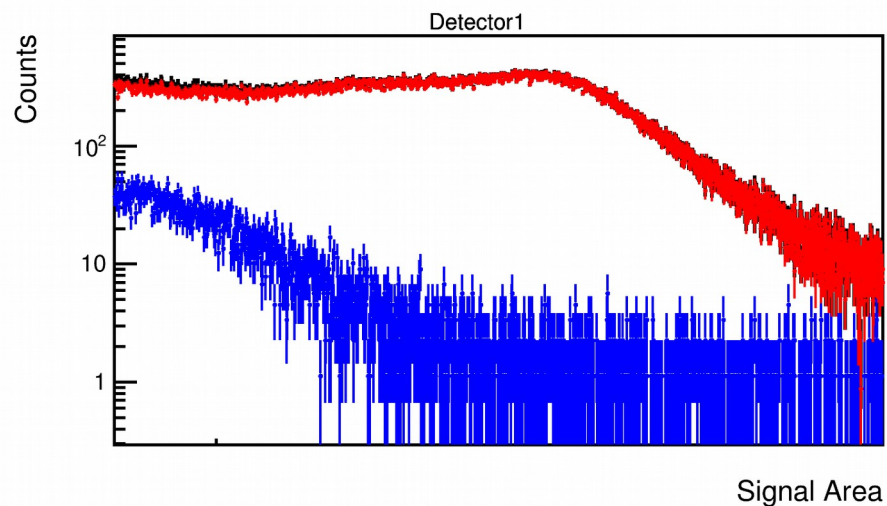
Signal/BKG Yttrium

Source
Beamoff
Source - Beamoff



Signal/BKG AmBe

Source
Beamoff
Source - Beamoff



Signal/BKG CmC

Source
Beamoff
Source - Beamoff

