

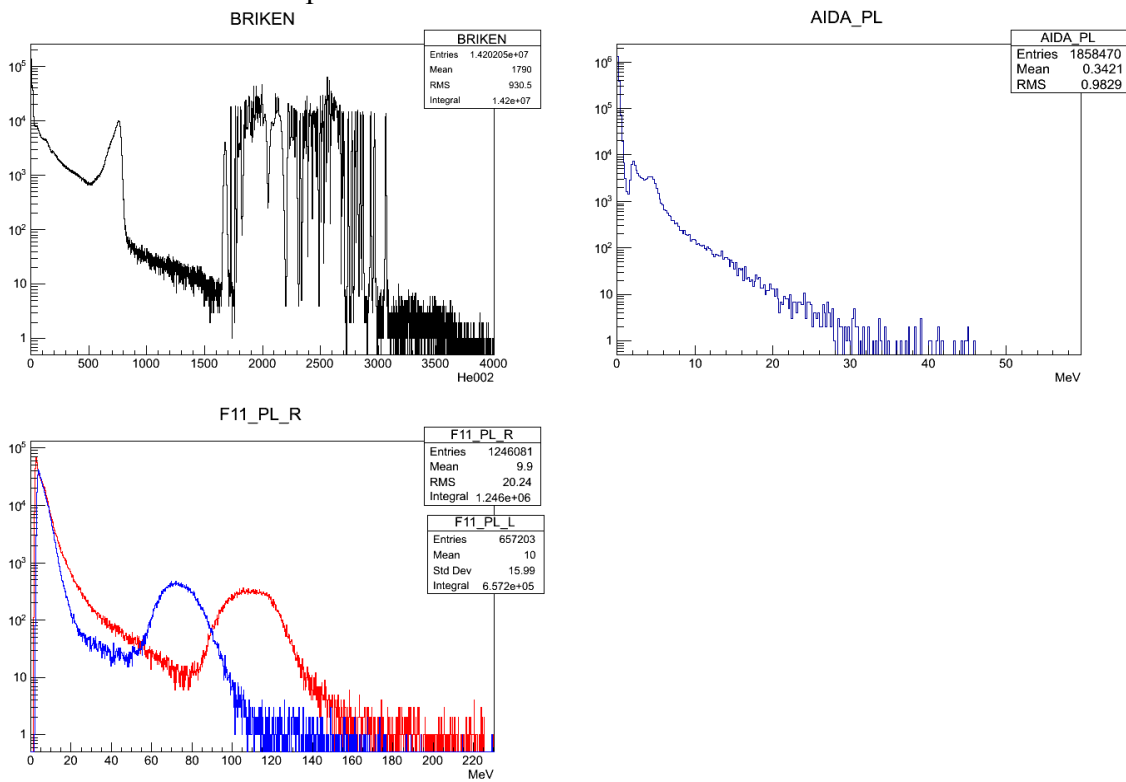
Fallon's parasitic measurement
Analysis of Online ROOT files

27-Nov-2016

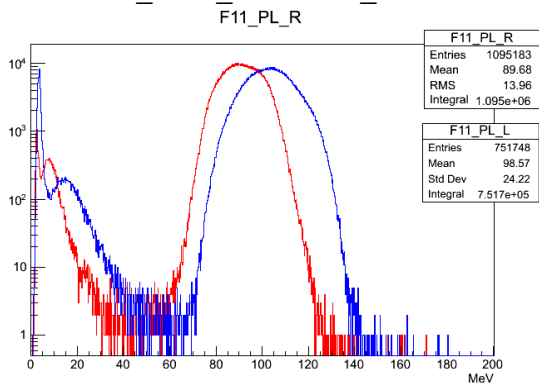
File: 161127_2234_039_0042.root

Tmeas(pulser)= 7651s
N(neut)=1400211, BRIKEN[175,850]; Rate=183 cps
N(F11R)=1246081; Rate=163cps
N(F11L)=825611; Rate=108cps
N(F11R:LightPart)=1200904; Rate=157cps (96.4% of total)
N(F11R:HeavyPart)=45177; Rate=6cps (3.6% of total)
N(AIDAPL)=82755; Rate=11cps

Neutron detector and veto plastics:



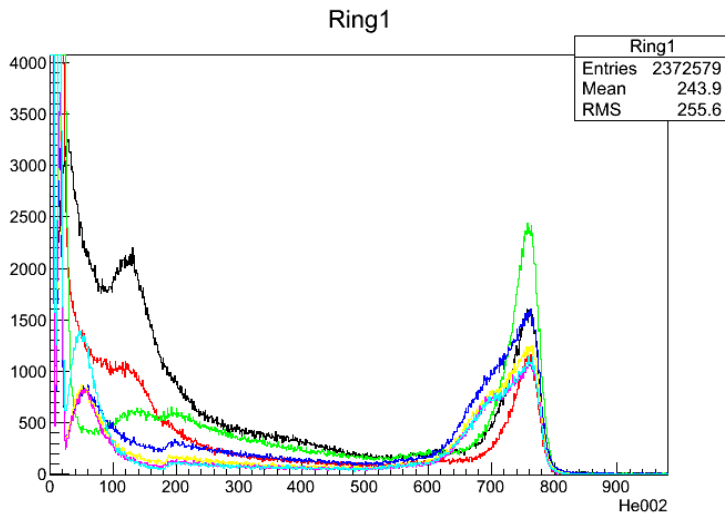
(File: 161110_1657_767778Ni_042.root from Takechi run)



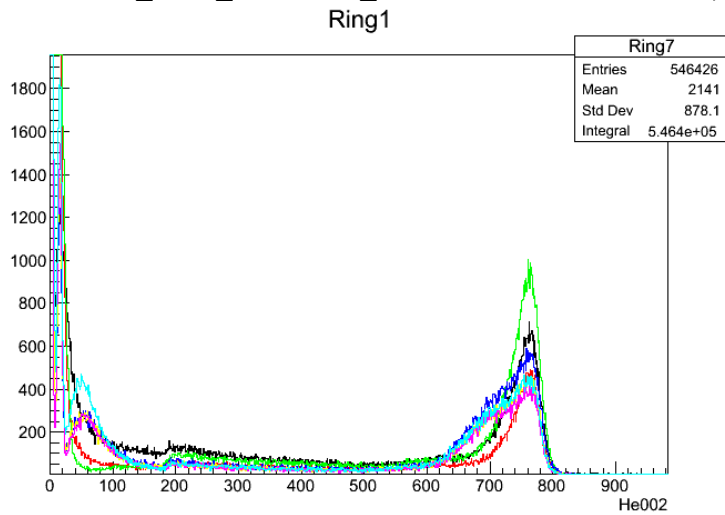
Observations:

- About one neutron per particle in F11
- Huge increase of light particles with respect to Takechi's run visible in F11R
- Threshold-gain in F11L not adequate: missing light-particles
- AIDA plastic see only few of the light particles above the threshold.

Neutron detector ring distribution:



(File: 161110_1657_767778Ni_042.root from Takechi run)

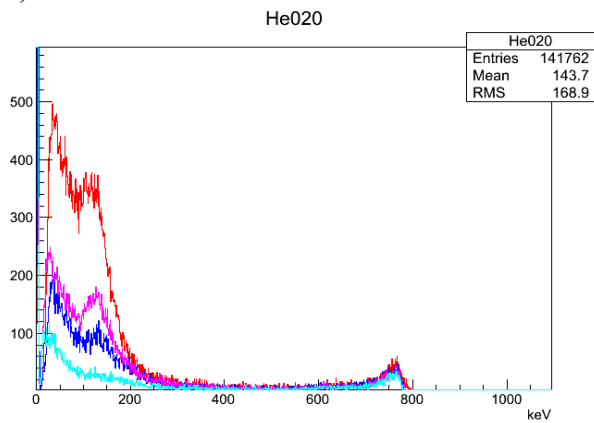


Observations:

- There is a large increase in “gamma-like” background with respect to Takechi's run
- There seems to be a new bump at ~140keV
- The “gamma-like” background has a strong angular dependence: most of it goes to 1st ring
- Consequence of using high-Z (Pb,W) degraders?

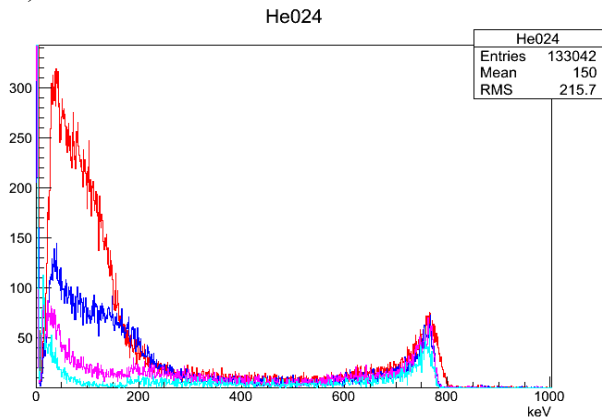
Left-right asymmetry: RIKEN tubes 1st ring

Front-right: He020(red), Front-left: He014(blue), Back-right: He002(pink), Back-left: He008 (light-blue)



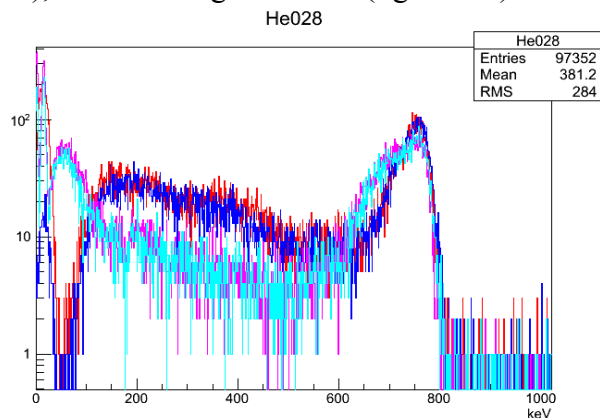
Left-right asymmetry: RIKEN tubes 3rd ring

Front-right: He024(red), Front-left: He018(blue), Back-right: He006(pink), Back-left: He012 (light-blue)



Top-bottom asymmetry:

Top-Ring1-UPC: He028 (red), Bottom-Ring1-UPC: He048 (blue), Top-Ring4-ORNL2: He083 (pink), Bottom-Ring4-ORNL2 (light-blue)



Observations:

- Large LR asymmetry: right side of the beam see more gamma-like background
- No BT asymmetry