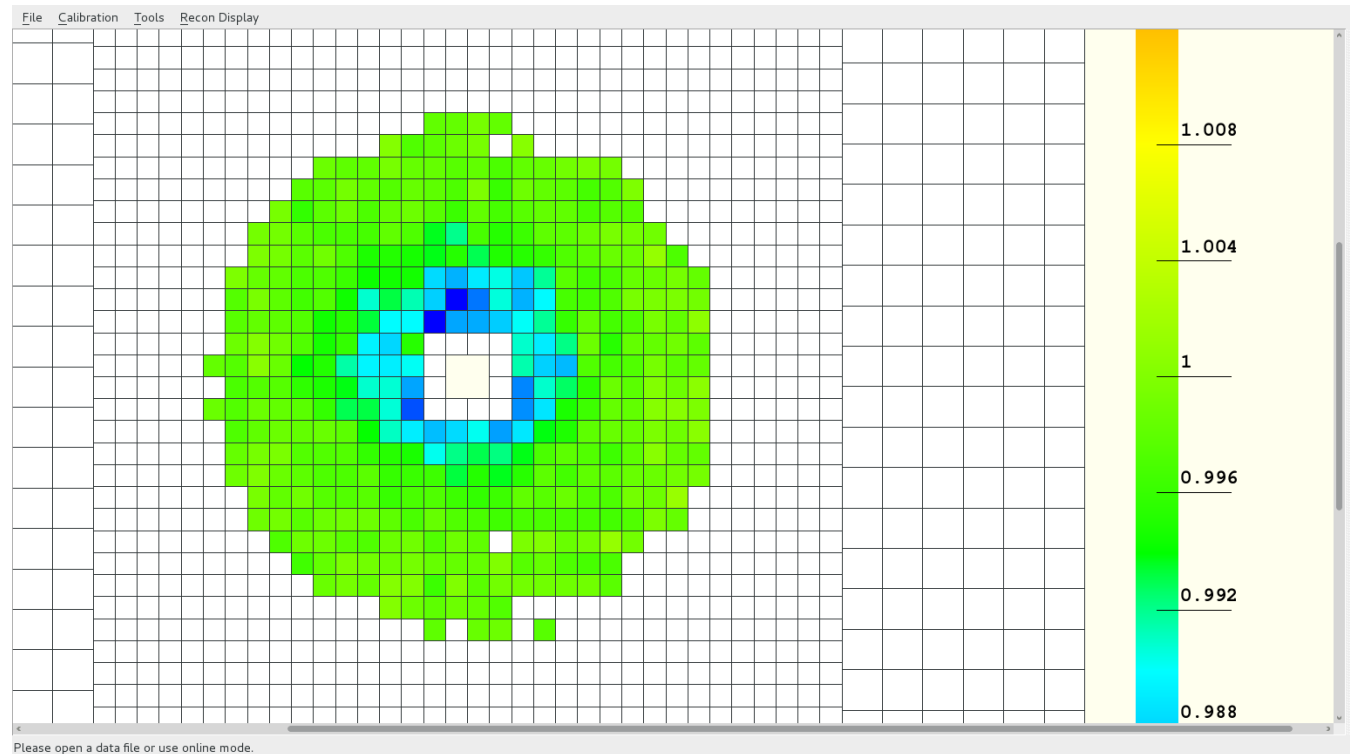


Progress Update

- Physics calibration for 70% of 1.1 GeV data is ready
 - Consist of 5 sub-period
 - 1238~1287
 - 1288~1301
 - 1302~1313
 - 1314~1328
 - 1331~1341
 - Modules with $r > 250\text{mm}$ will use the calibration constants over the entire period
 - Modules with $r \leq 250\text{ mm}$ will use constants from sub-period
 - This is for better calibration on radiation damaged modules

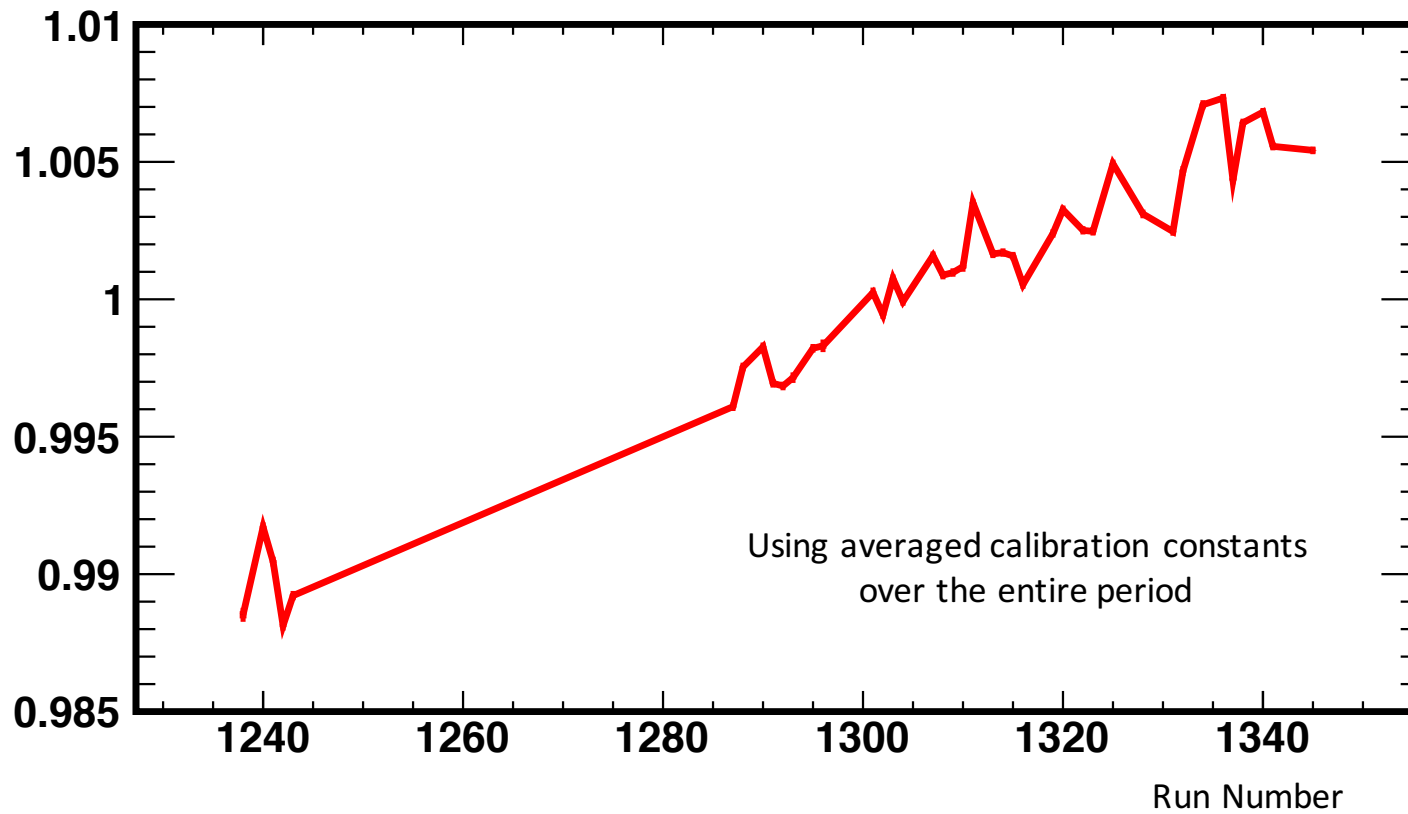
Radiation Damaged Modules

- Apply the calibration constants on the first few runs of the period (1238 ~ 1287)
- Apply LMS correction on each of the runs separately
- Look at the ratio between the reconstructed energy of a **ep** cluster over expected energy



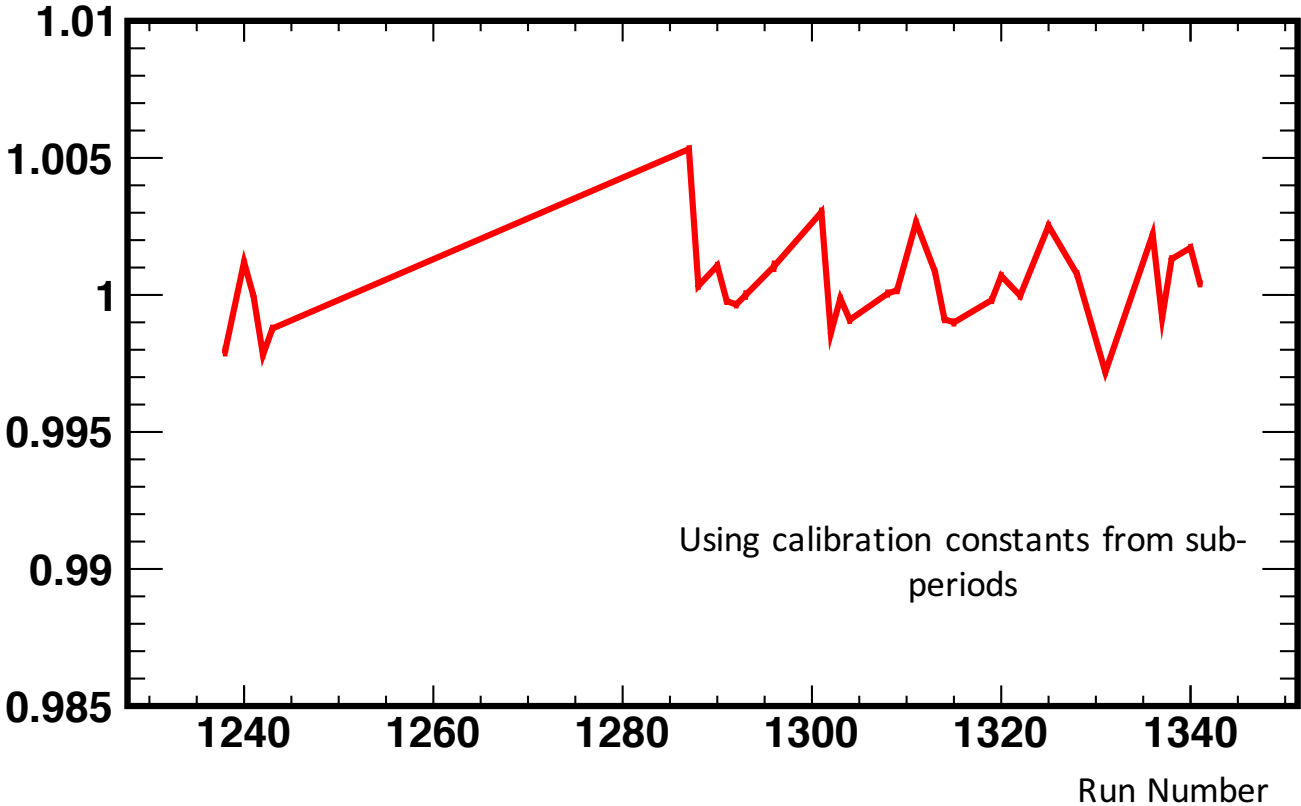
Ratio of E reconstructed / E expected of a cluster for PWO

Graph



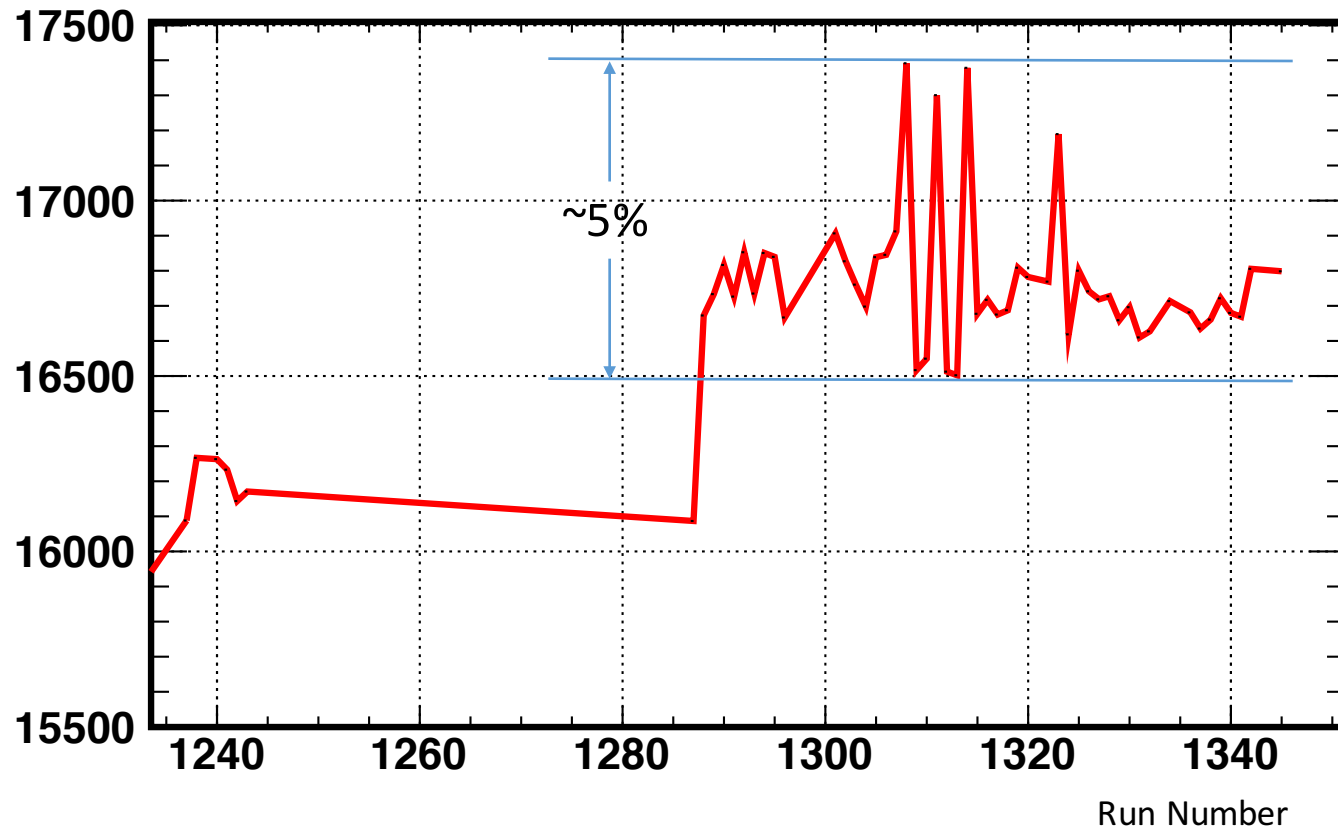
Ratio of E reconstructed / E expected of a cluster for PWO

Graph



Problem with the LG LMS Measurement

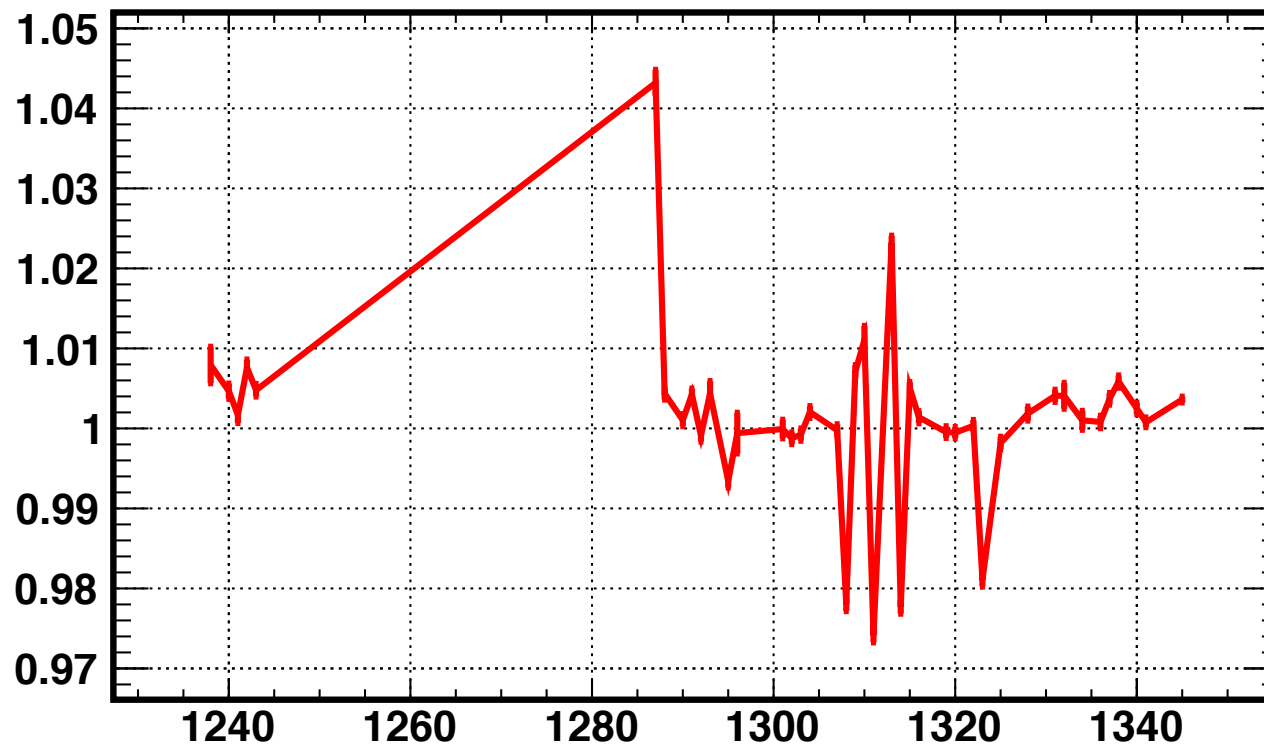
AvgG_Gain3



Problem with the LG LMS Measurement

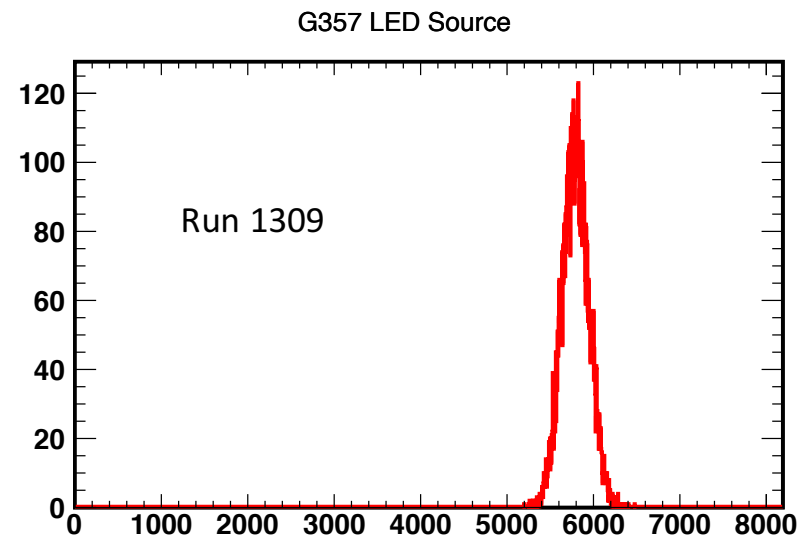
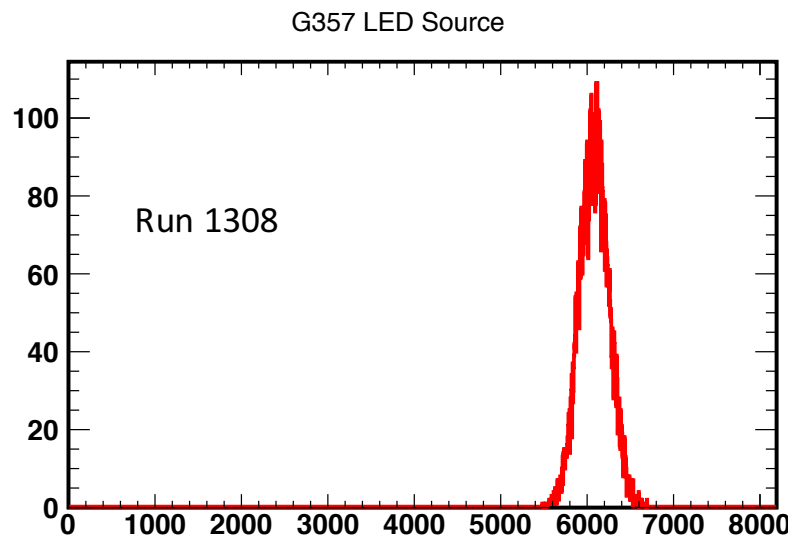
Ratio of E reconstructed / E expected of a cluster for **PWO**

Graph



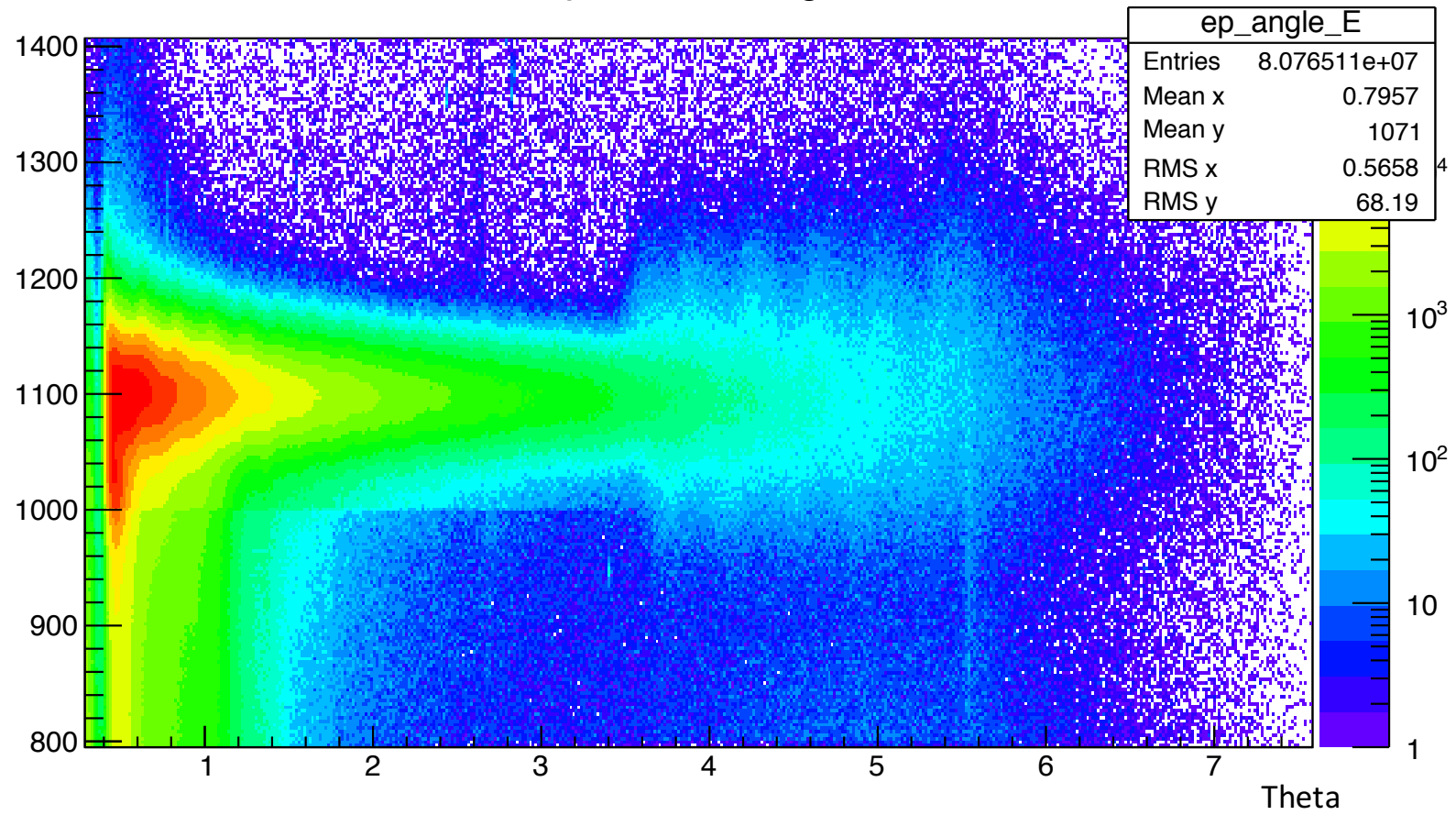
Problem with the LG LMS Measurement

- Most of the modules have similar fluctuation over those runs
- No obvious fluctuation observed from the reference PMT 3 and pedestal, it is the LMS peak shifted

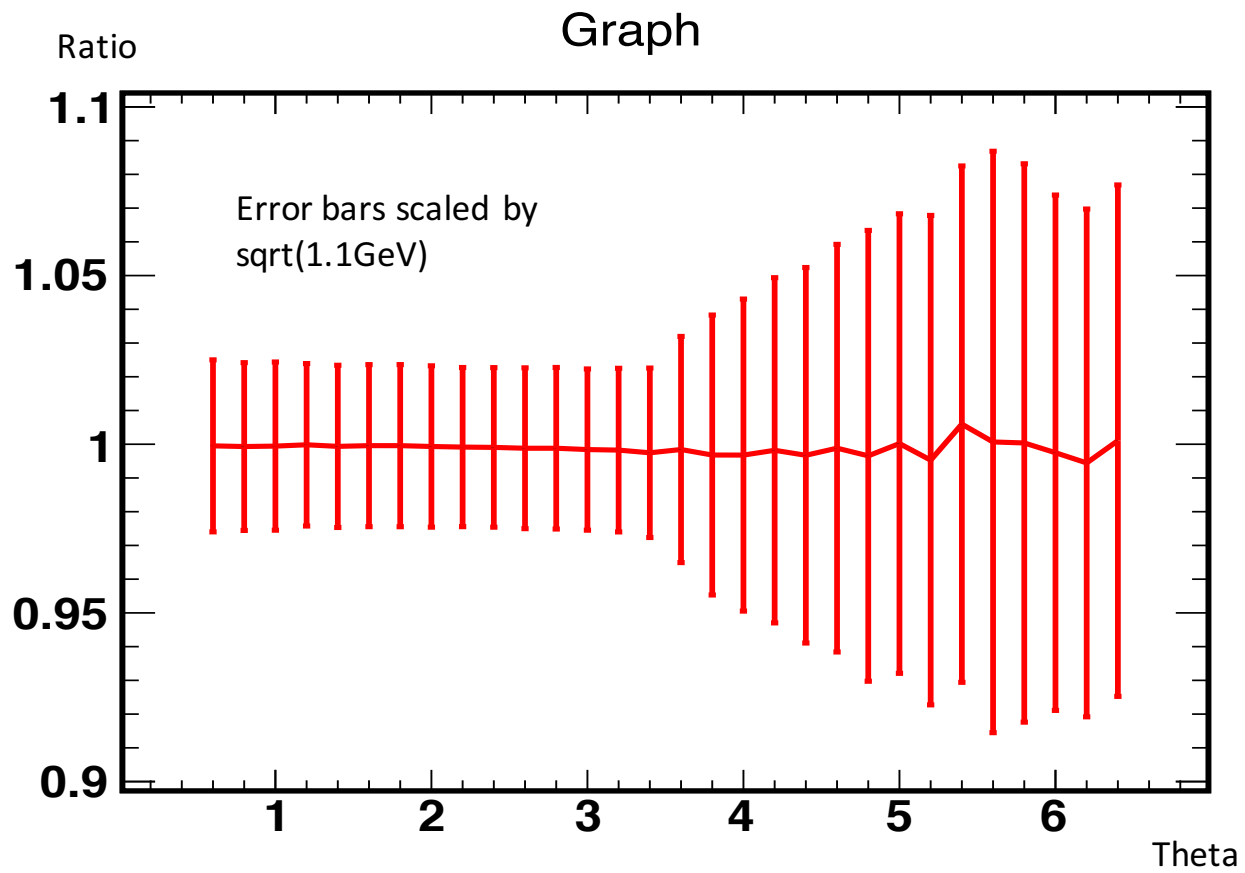


MeV

ep recE vs angle



Mean value of the ratio E reconstructed over E expected for ep clusters, as a function of scattering angle. Error bars indicate the width of the Gaussian fit



Things for further improvement

- Identify the best way to take care the LMS issue with LG and redo the LG calibration
- Ep and Moller start merging at the second inner most layer of PWO, may need to separate the peak and do a better fit
 - This also introduce certain error in the calibration due to misidentification of reaction channel (another shortcoming of physics calibration)
- Using GEM to calibration Hycal

