

# FCAL Update



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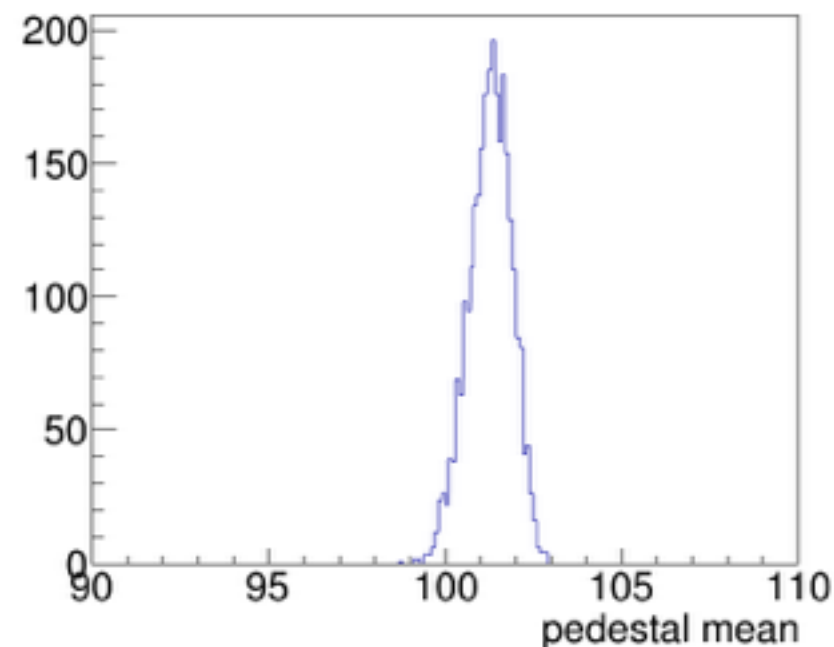
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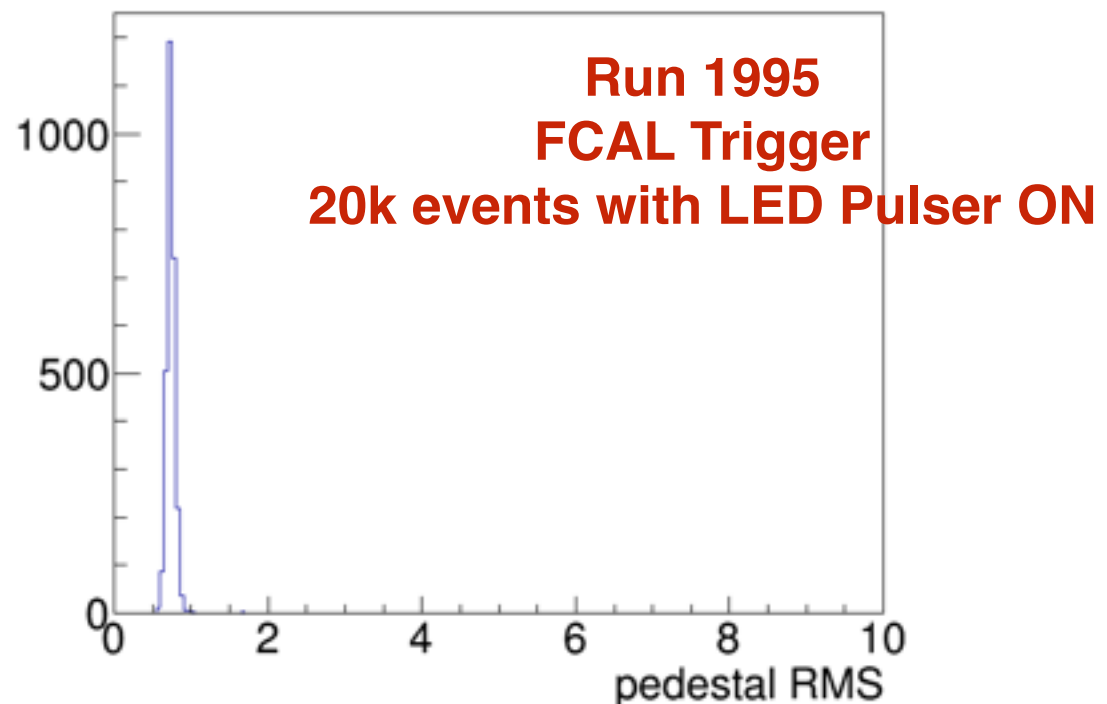
# fADC Pedestal Stability

- FCAL pedestals are best determined by using LED pulser
- HVs changed to 600 a.u. gain and **readout threshold** to 104

Pedestal MEAN



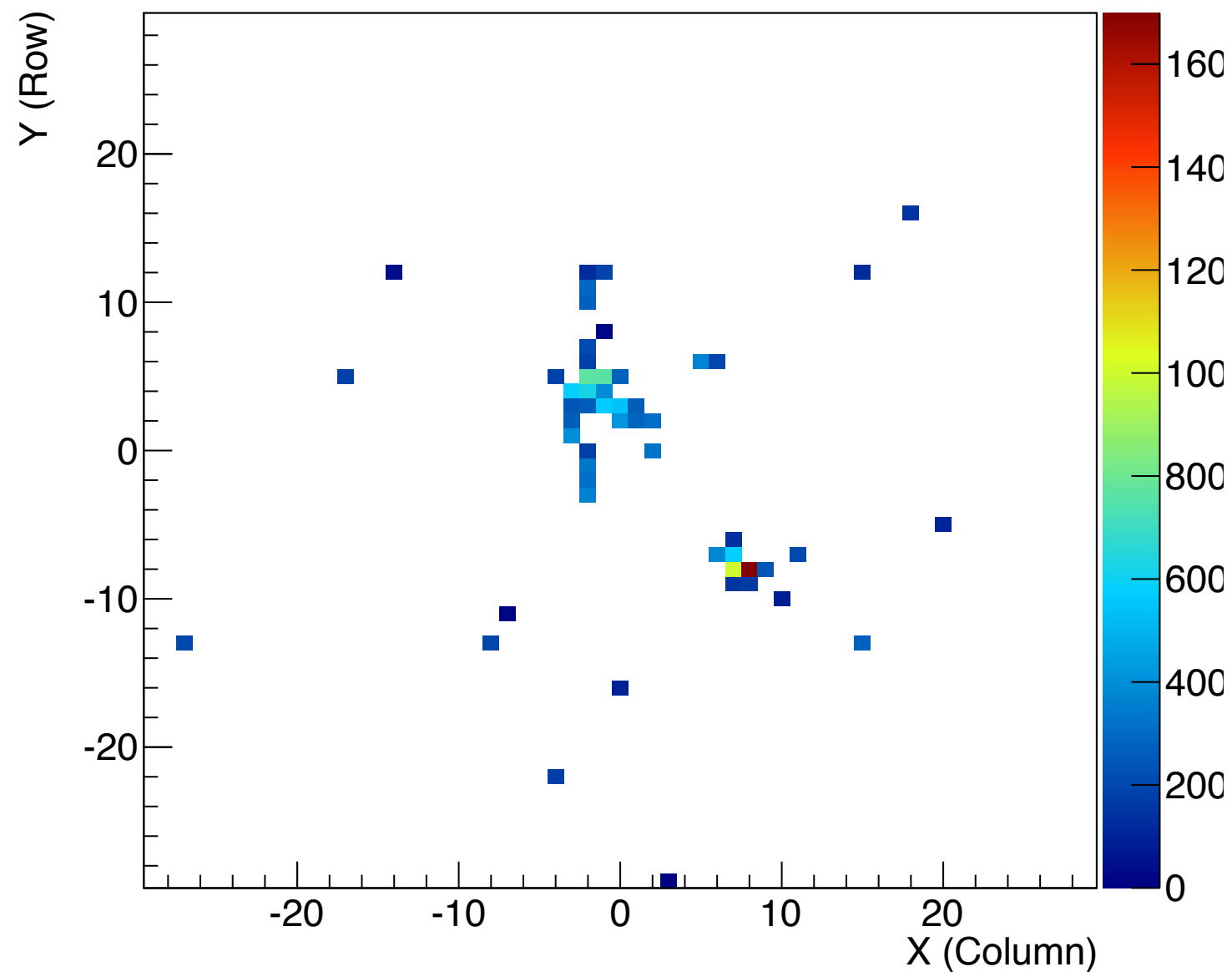
Pedestal RMS



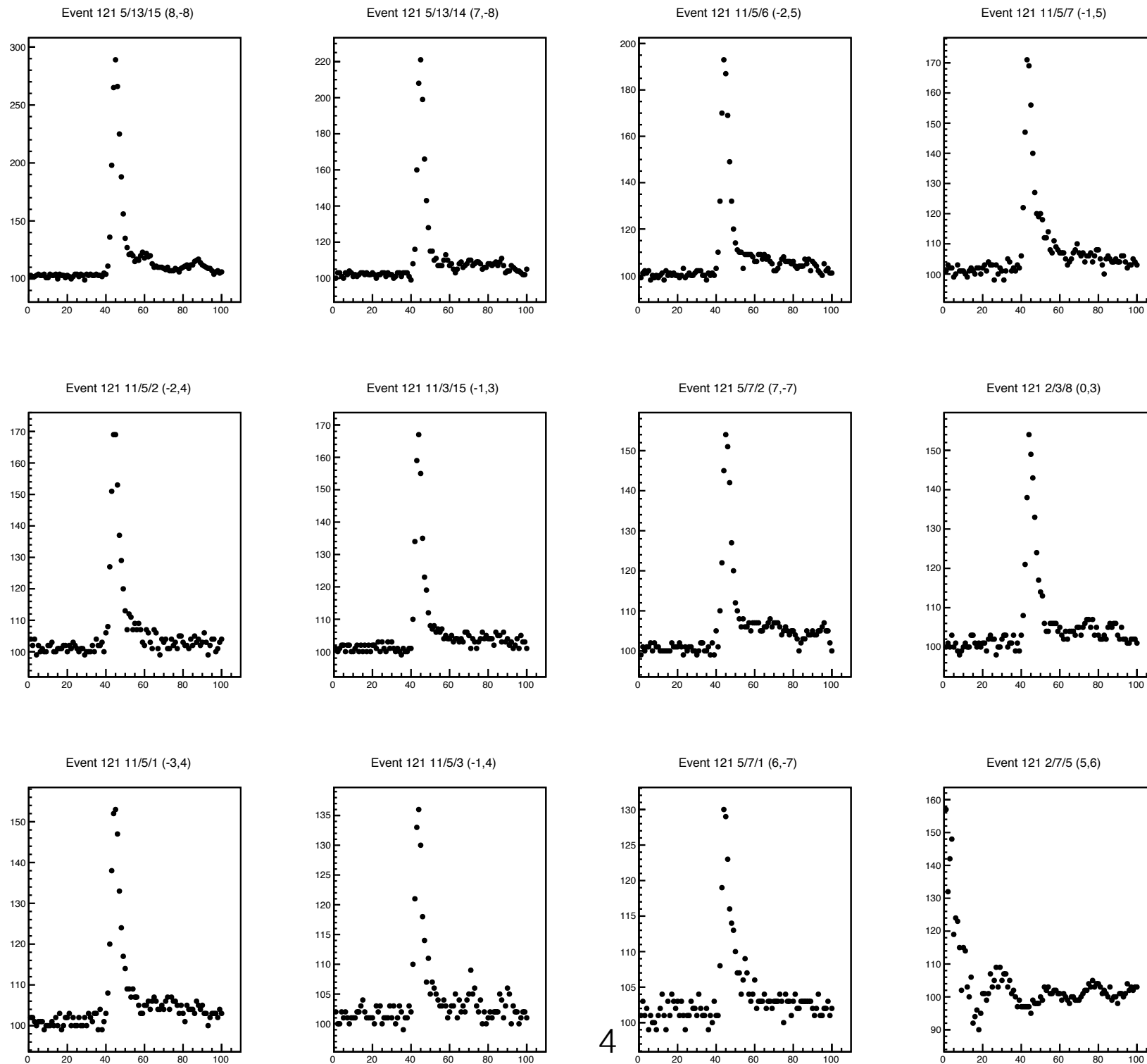
- Pedestals for all channels are stable within 1 ADC count
- Monitor pedestals daily as we adjust gain settings. Thereafter, update pedestals weekly

# Typical fADC spectra for "hits"

Pulse Integral: Event 121

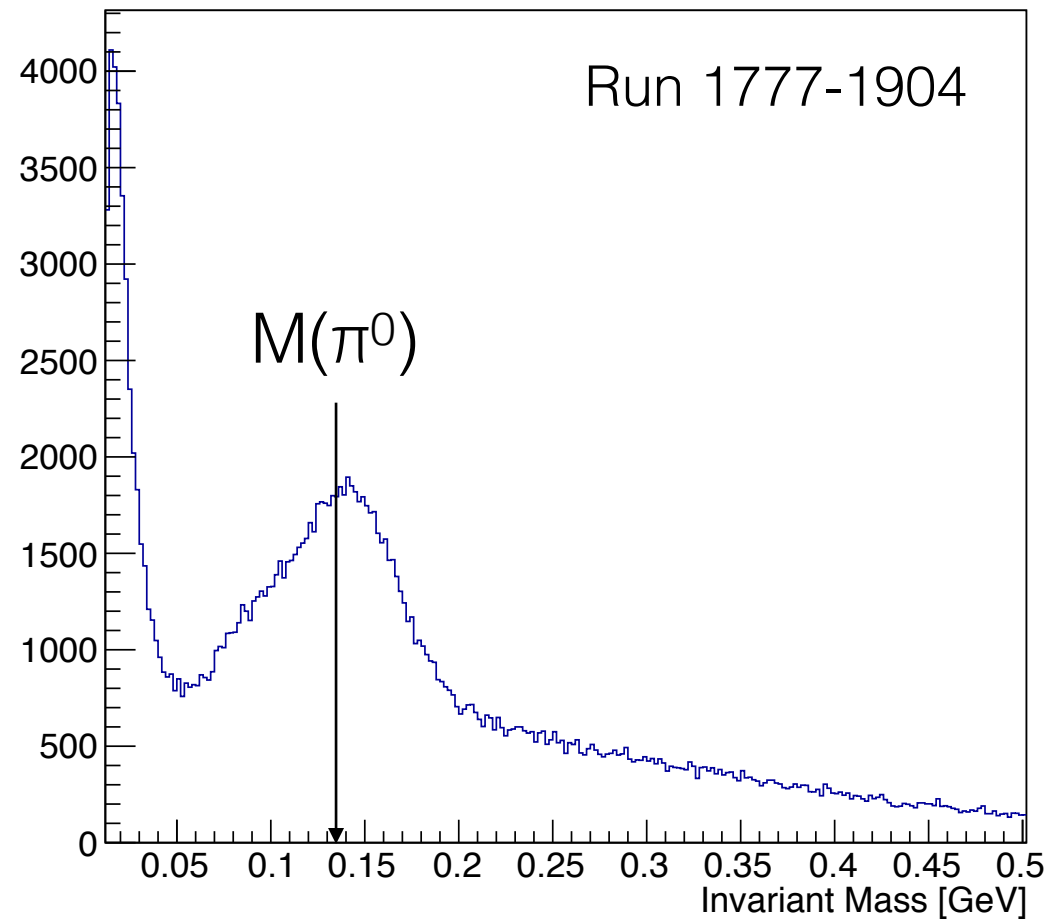


# Typical FADC spectra for "hits"



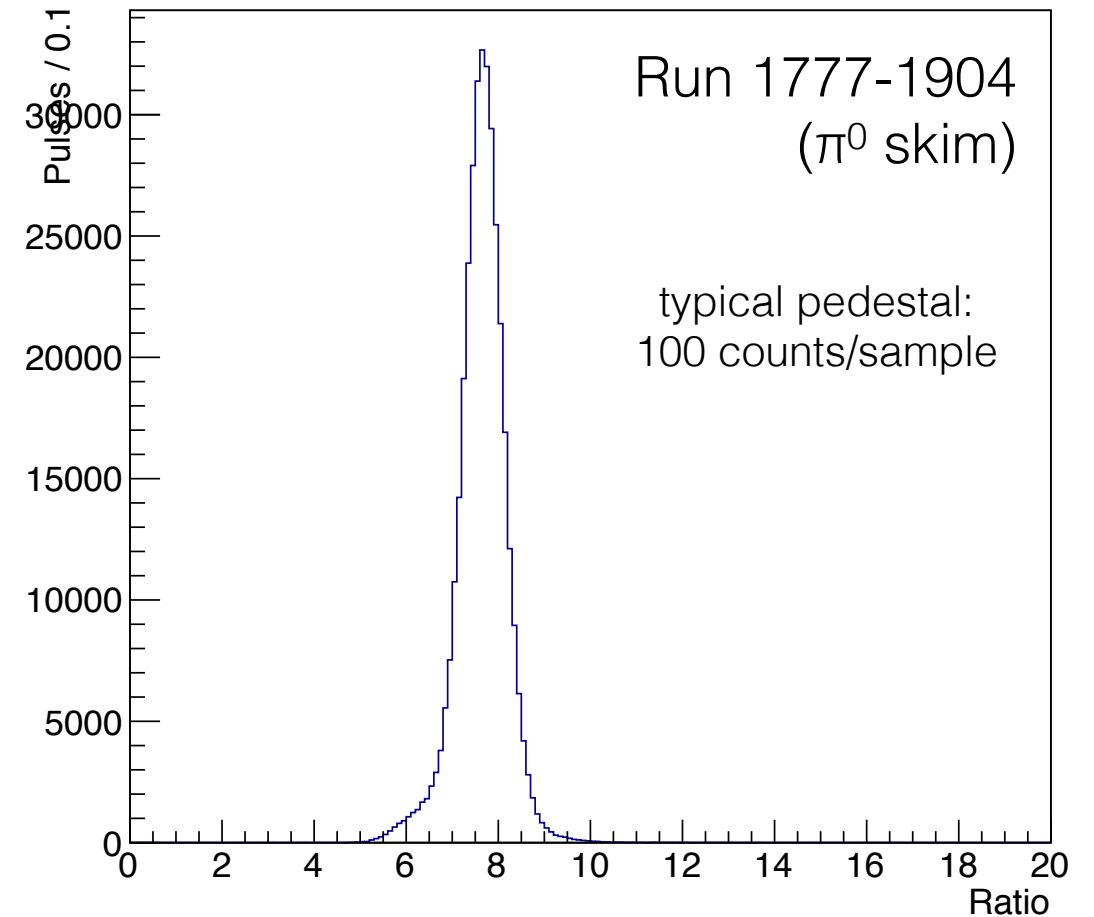
# FCAL Block Level Thresholds

FCAL 2 Cluster Invariant Mass  $E > 1$  GeV



Scale: **0.27 MeV / FADC integral unit**  
(600 unit HV gain setting after run 1770)

Pedestal Subtracted Integral to Peak Ratio (Peak > 200)



when both pulse peak and integral  
are pedestal subtracted,  
**integral = 7.6 x peak**

- **DAQ Threshold 110:** 10 count peak x 7.6 integral / peak x 0.27 MeV / integral = **21 MeV / block**
- as of Run 1917 change to **DAQ Threshold of 104**  $\Rightarrow$  **8 MeV / block** threshold
- 8 MeV about the same as the threshold simulated in HDGeant (5 MeV of “attenuated energy”)  
 $\Rightarrow$  performance should be sufficient, but per-channel tuning may enhance resolution further