CsI(Tl) Waveform Analysis
Energy Calibration

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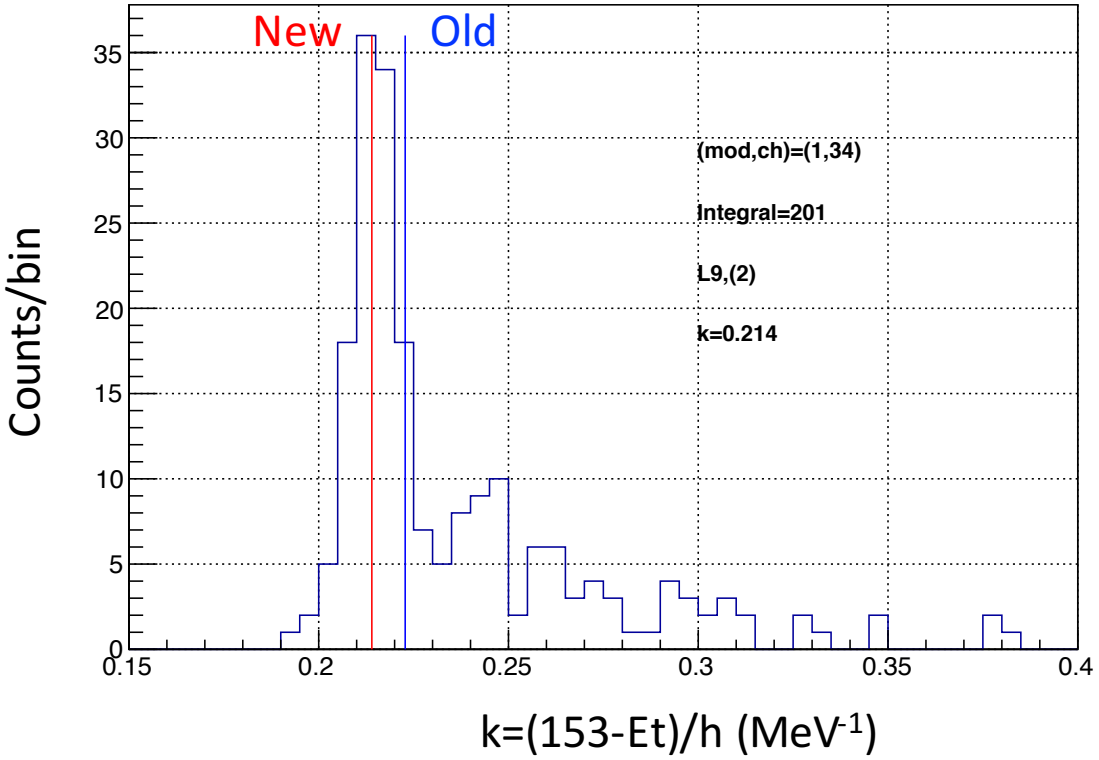
Energy Calibration using Kmu2 method



Run: 3059-3067, 4519-4557

Event Selections

- Hit Crystal = 1
- 63<peak<64 (tdc/40ns)
- Post Pileup event

Coefficient is k

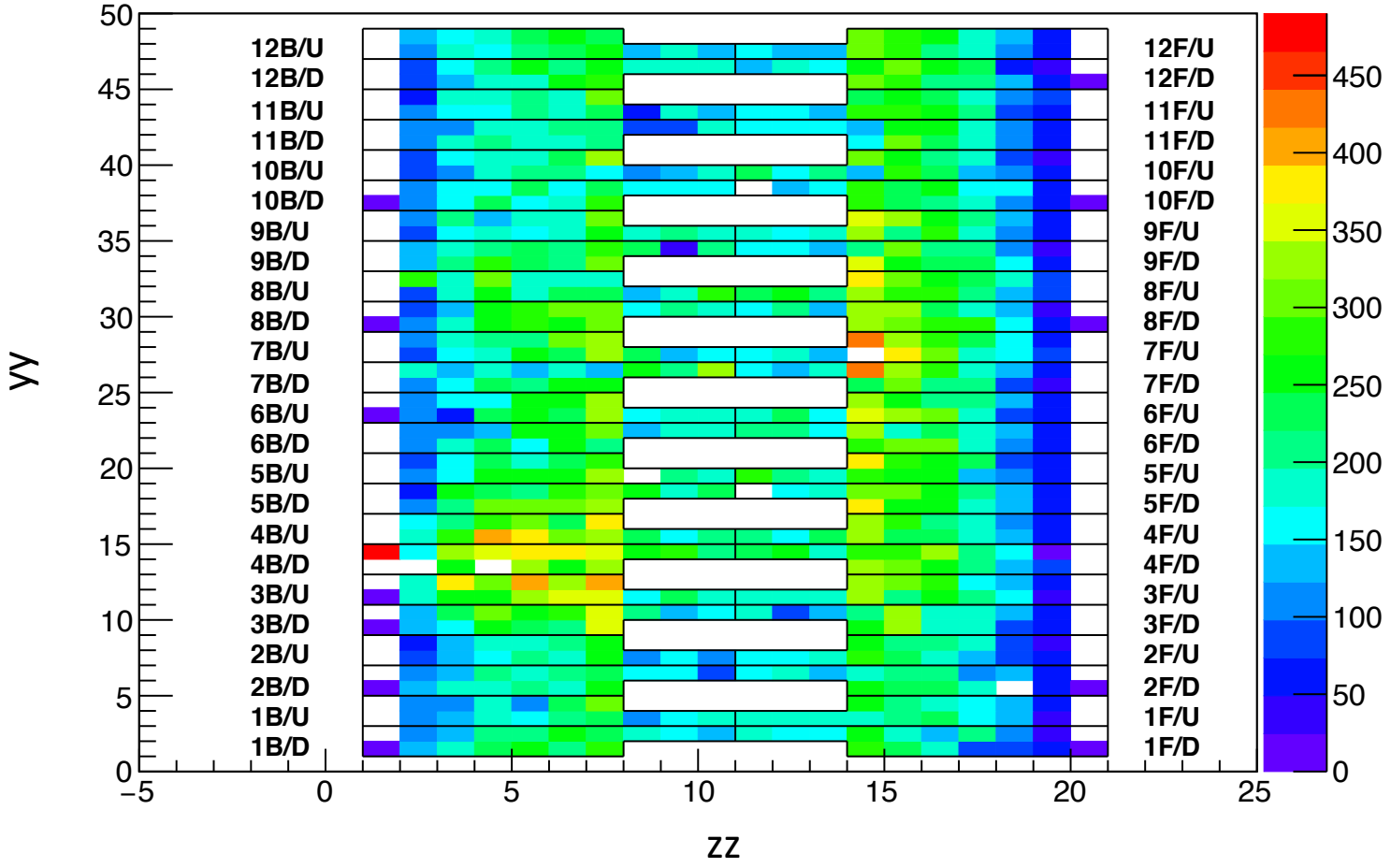
$$k = (153\ \mathrm{MeV} - E_t) / h$$

where

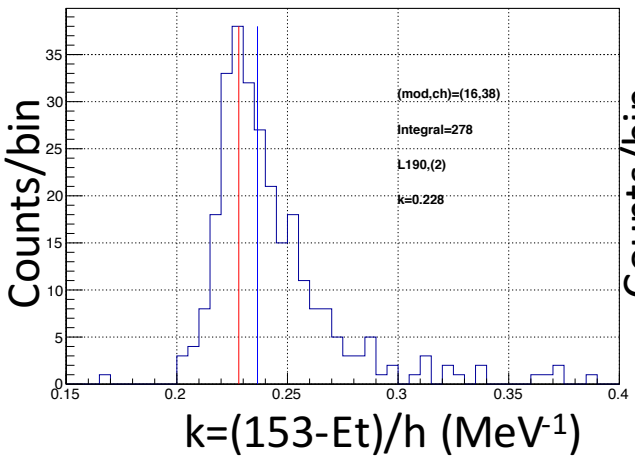
h is pulse height of 1st pulse

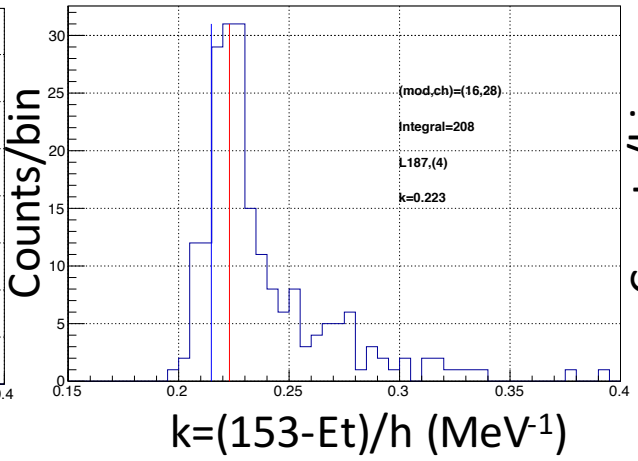
E_t is target energy loss.

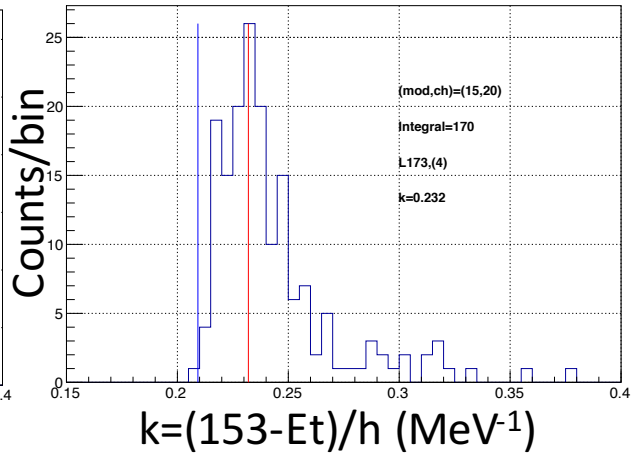
Energy Calibration using Kmu2 statistic amounts

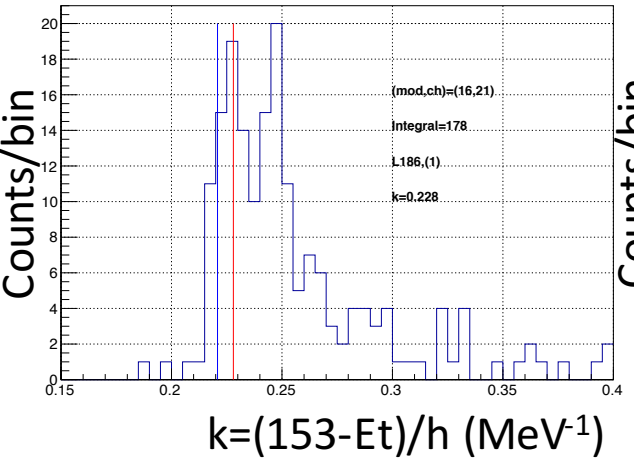


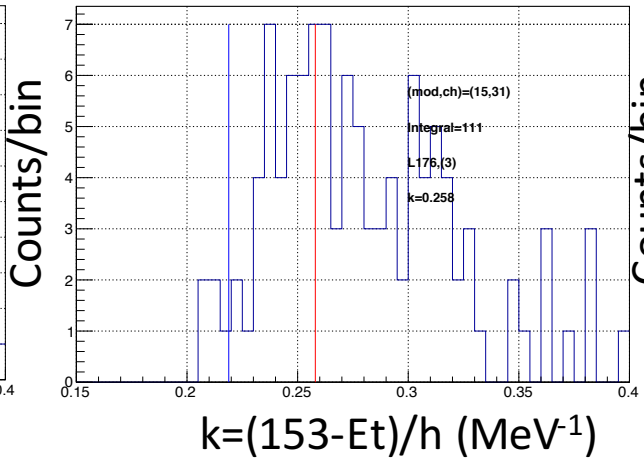
Energy Calibration using Kmu2 samples

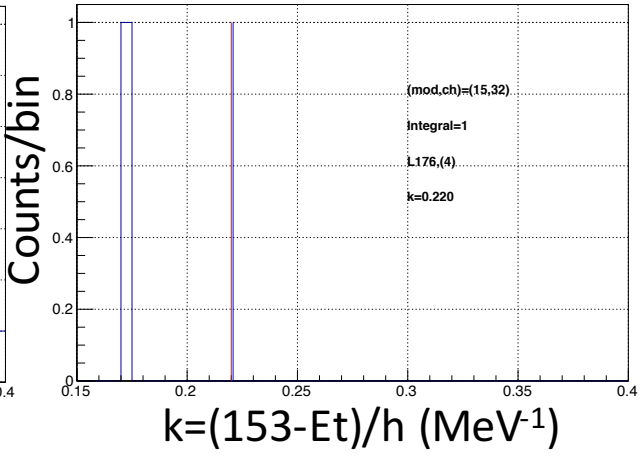




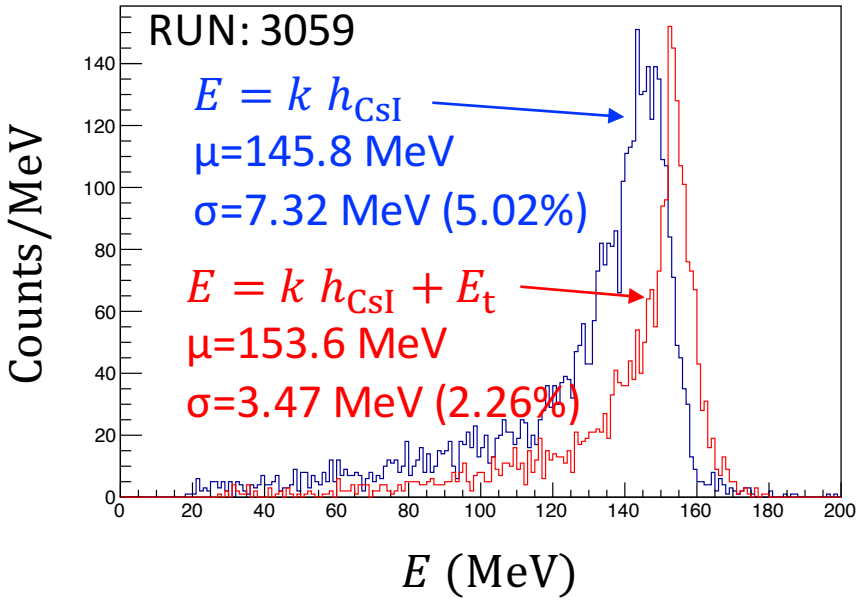


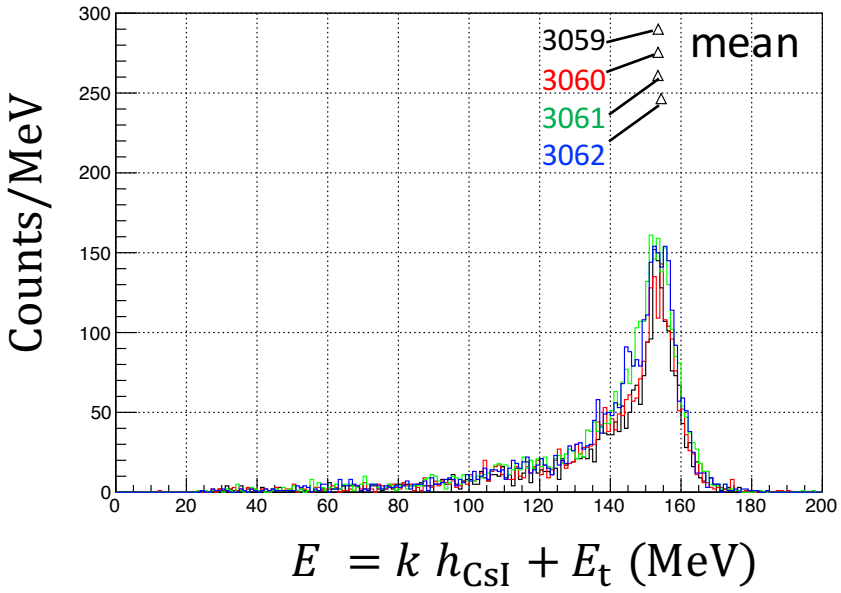




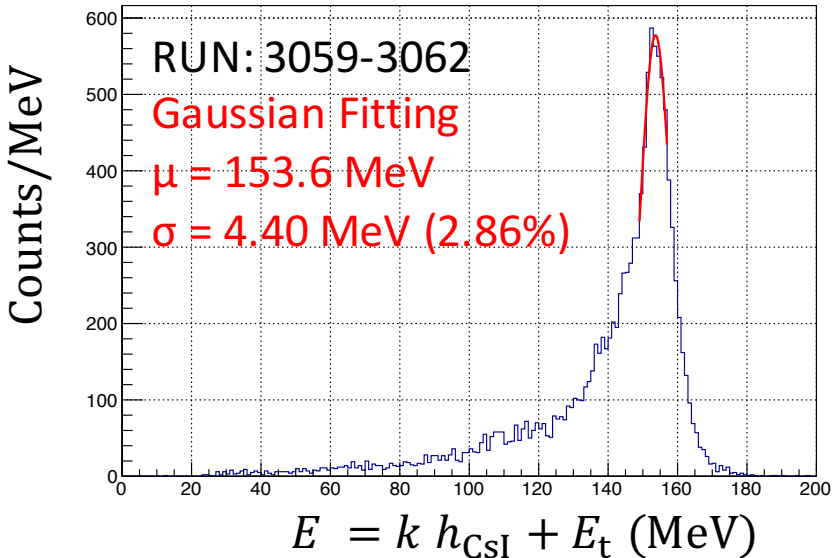


Energy Calibration using Kmu2
Energy distribution by new "csicoef" parameters





- CsI(Tl) energy resolution was estimated to be less than 3%.
- This resolution contains σ_{CsI} and σ_{t}.
- In 3059-3067 run, energy was 0.4% higher than Km2 peak (153 MeV).
- The coefficients at Oct. and Dec. may be different.



Summary

- Energy calibration was performed for CsI(Tl) 768 ch in addition of target energy loss correction.
- The coefficient k is given as k=(153 - Et)/h.
- The Km2 peaks in k-distribution were determined by my eyes.
- CsI(Tl) energy resolution was estimated to be less than 3% using new coefficient parameters.
- This resolution contains σ_{CsI} and σ_t.
- In 3059-3067 run, energy was 0.4% higher than Km2 peak (153 MeV).
- The coefficients at Oct. and Dec. may be different.