DEEP UNDERGROUND NEUTRINO EXPERIMENT

Brookhaven National Laboratory

U.S. DEPARTMENT OF ENERGY

Quick Update on Electronics Response Calibration Analysis

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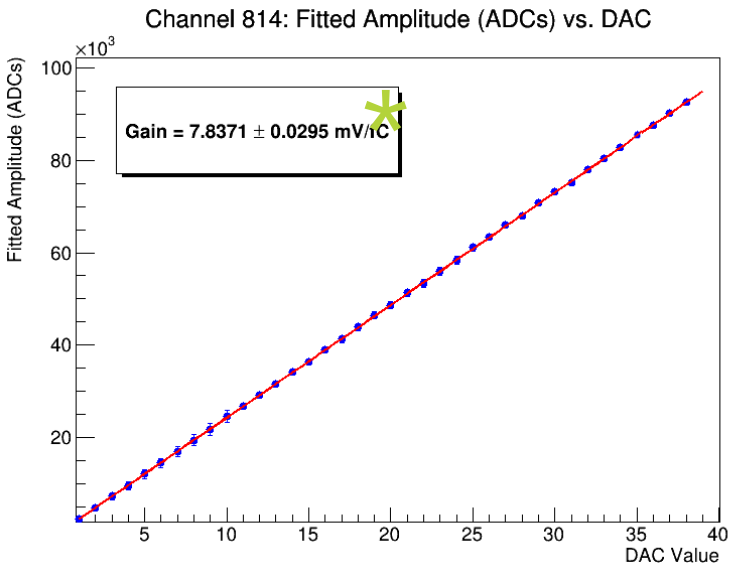
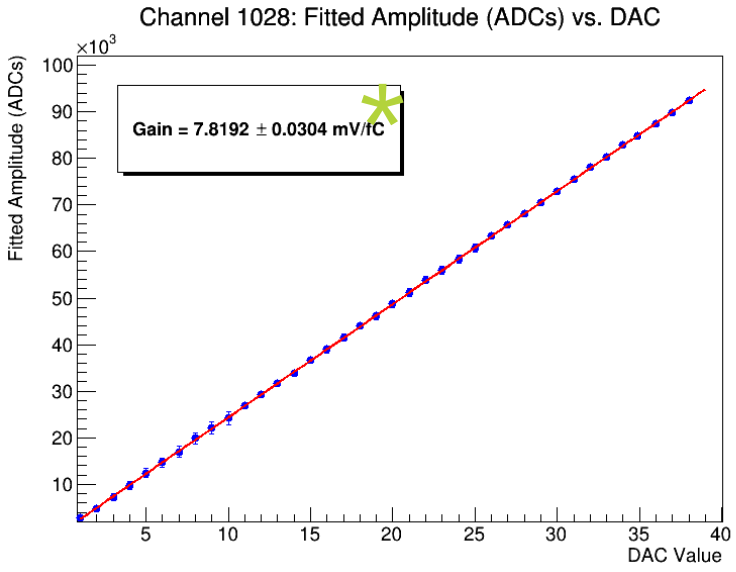
Local BNL ProtoDUNE Meeting

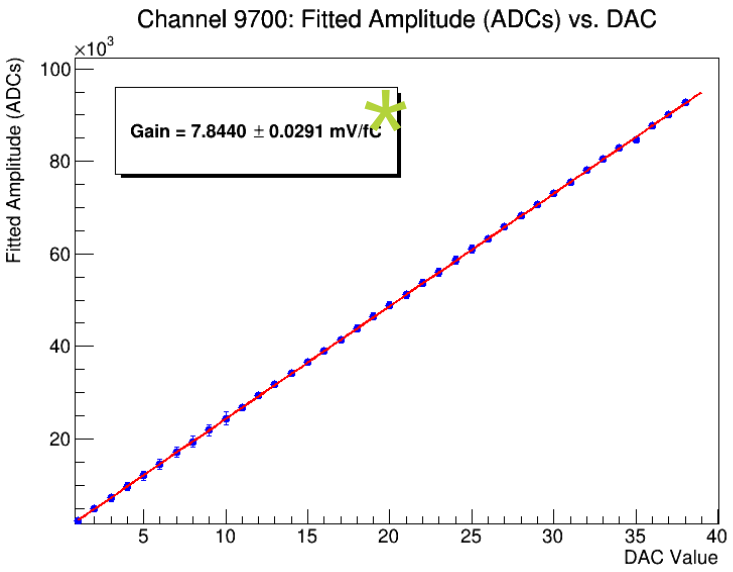
02/05/2025

@BrookhavenLab

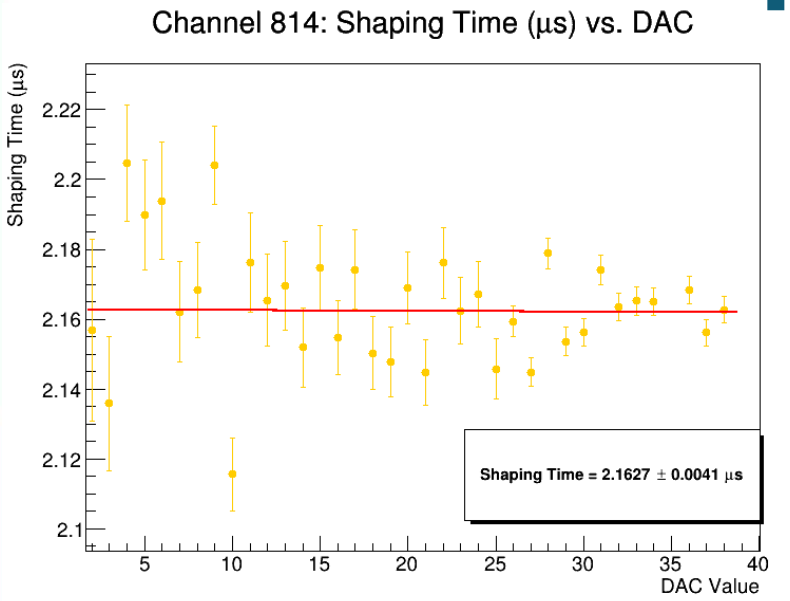
Results: Fitted Amplitude vs. DAC Value

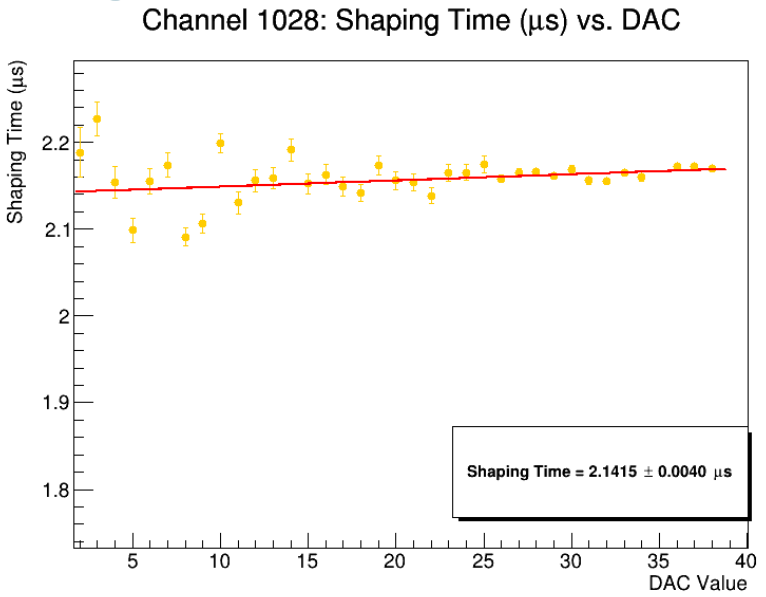


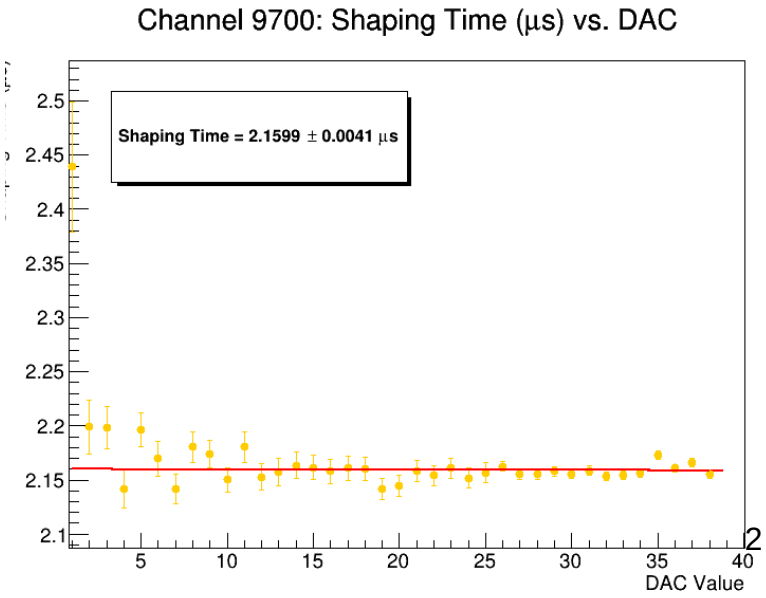




Shaping Time vs. DAC Value



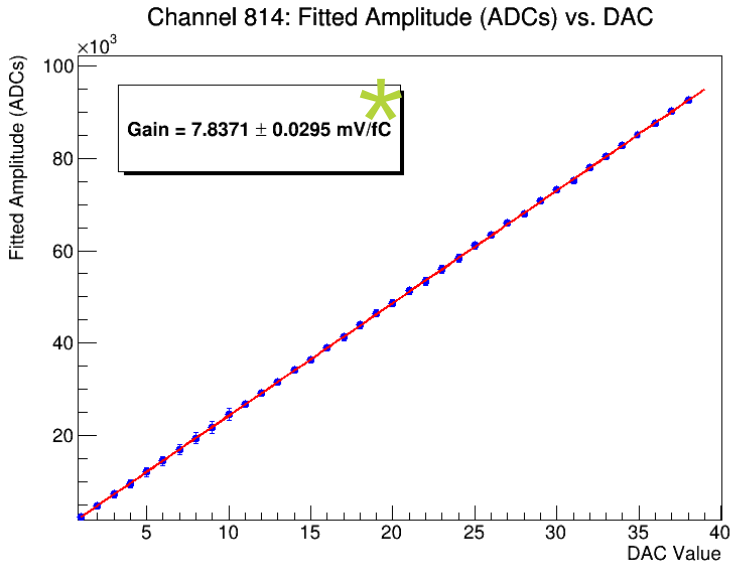




Some comments from Dave Christian (who is running some studies using ICEBERG data)

And speaking of how we calculate the gain…

- **Gain vs. channel # plots seem to show 16-channels grouping when using LArASIC pulser (ICEBERG data).**
- **Dave did not observe this when using an external pulser (is this expected?)**
- **Dave would like to know if we can see it in PDHD data (LArASIC pulser).**

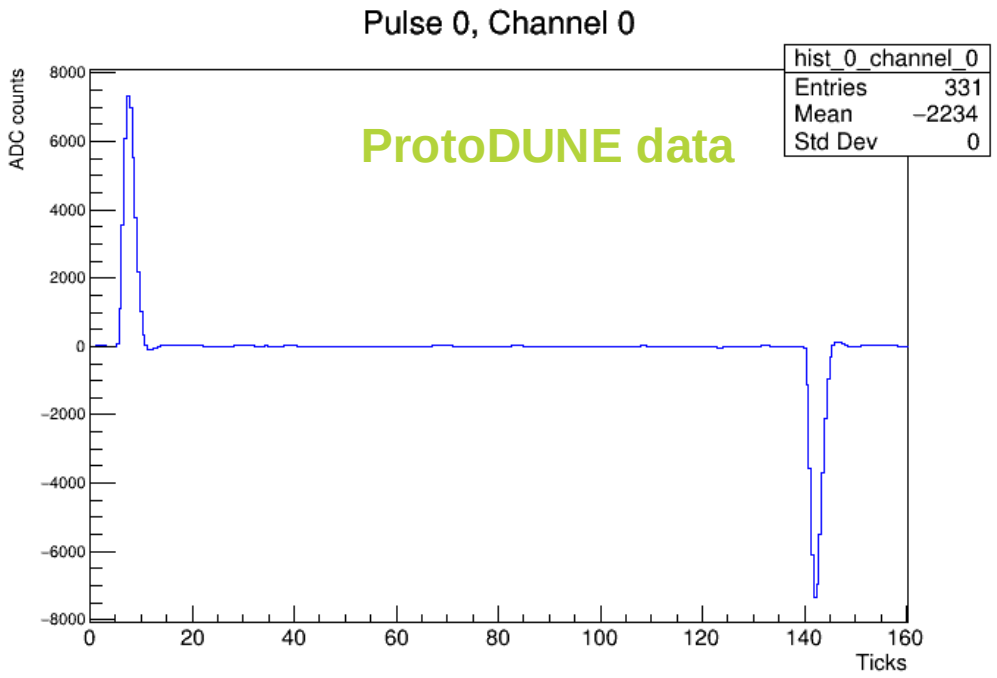


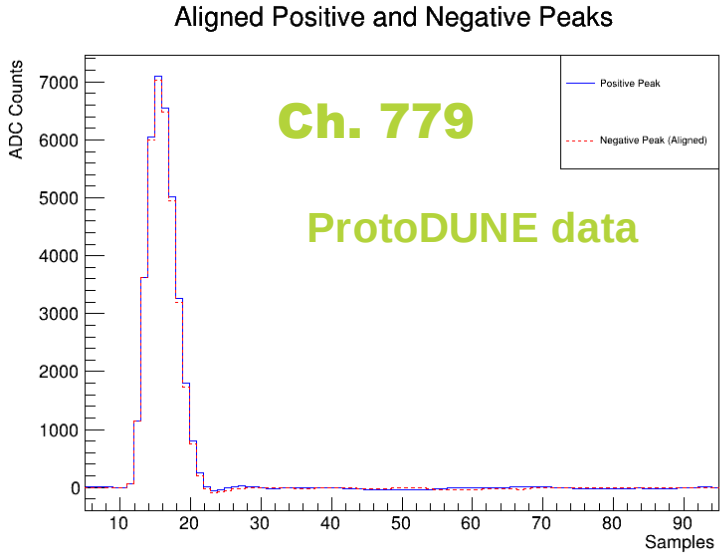
Pending….

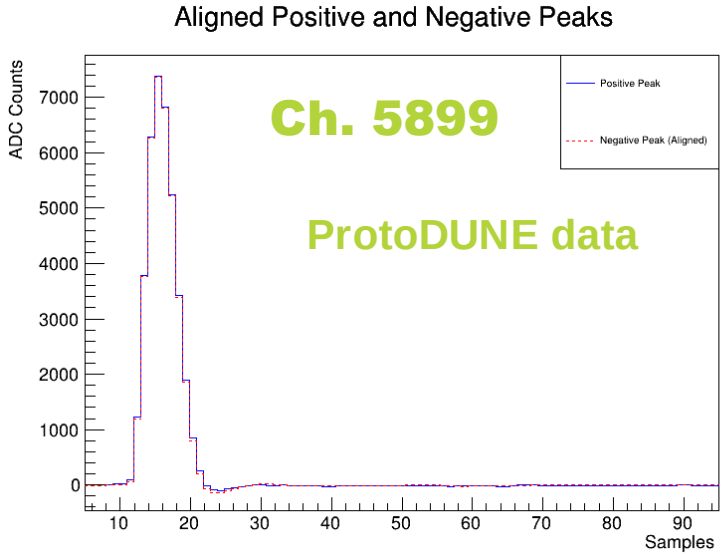
Positive and Negative Pulse Tails in Induction Channels are very different

Dave took (ICEBERG) waveforms with the strongest undershoot/overshoot effects and realized that + and – pulses are very different.

- What implications can this have in the reconstruction/analysis?
- Do we see it in PD data?

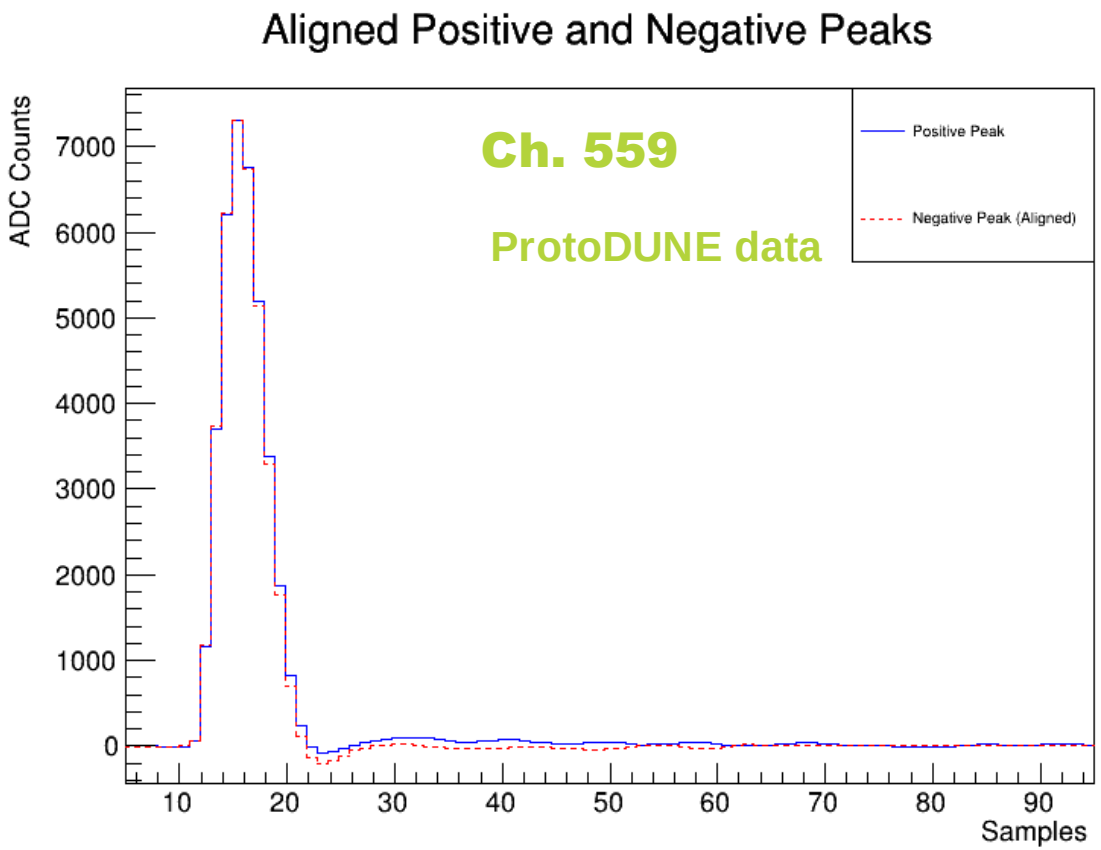


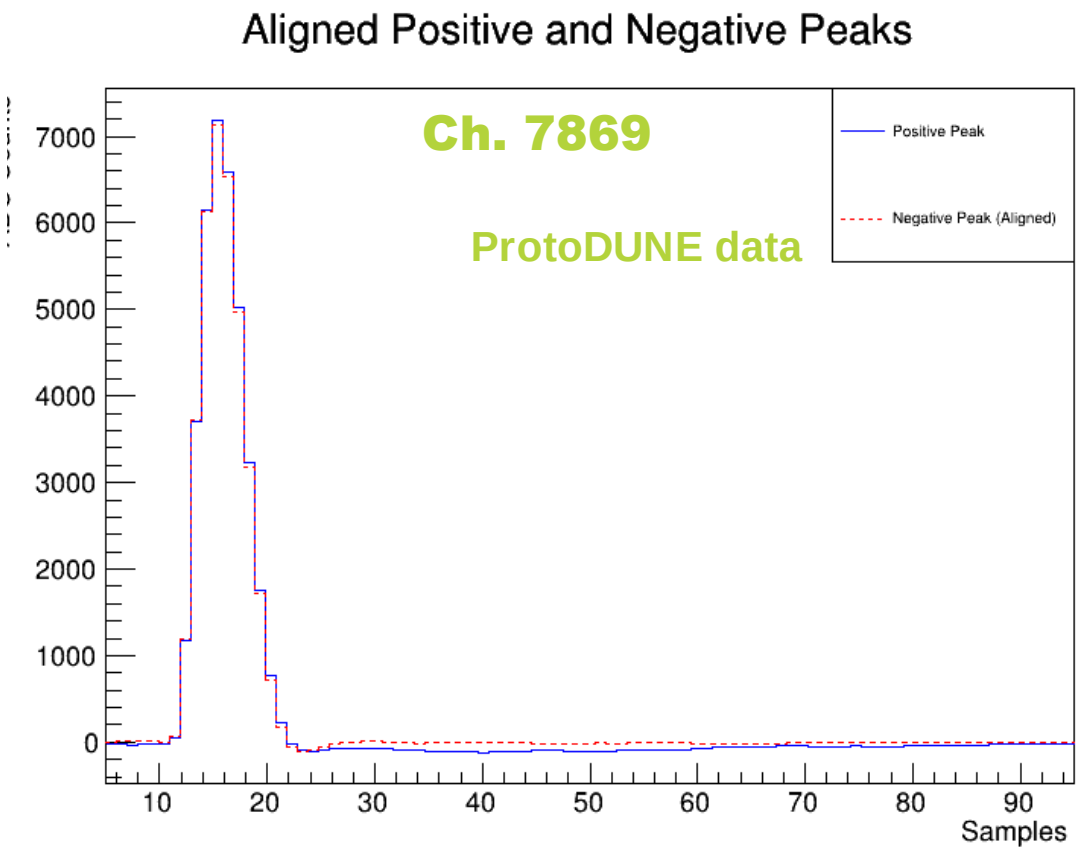




Pending....

Positive and Negative Pulse Tails in Induction Channels are very different (MORE EXAMPLES)





Pending....

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