



Jlab March 2026

DATA ANALYSIS

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Parasitic beam test of an ePIC Barrel Imaging Calorimeter prototype detector in Hall D / PS area

Quick Data Summary

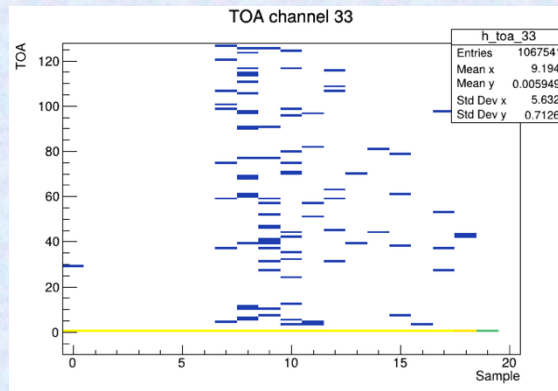
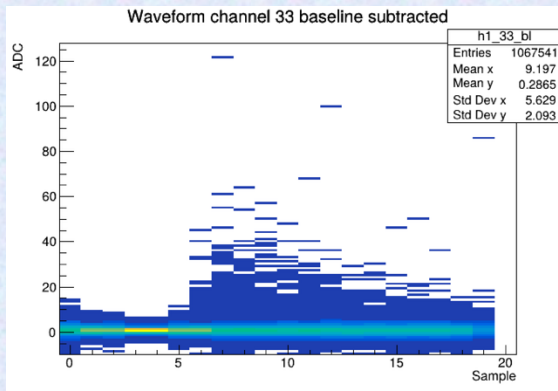
File Date	File Location in Carbon	Filename	Number of KCUs	File Size
March 25 overnight to March 26	/scratch/mep/data/cosmics	cosmics_ROC-00000023-0000.evt	2	1,763,409,920
March 27 overnight to March 28	/scratch/data/KCU0/cosmics	cosmics_ROC_0-00000002-0000.evt	1	376,365,056
March 28	/scratch/data/KCU0/cosmics/	cosmics_ROC_0-00000005-0000.evt	1	126,533,632

JLab 2026 – Data Analysis

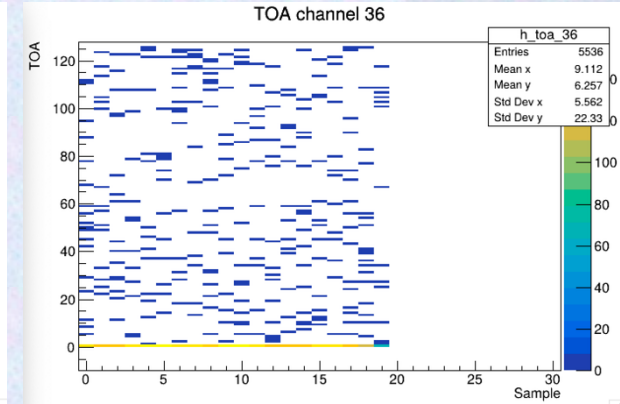
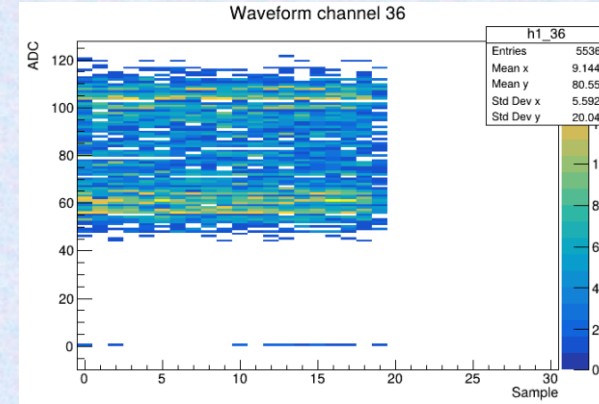
March 25 overnight to March 26

/scratch/mep/data/cosmics/cosmics_ROC-00000023-0000.evt

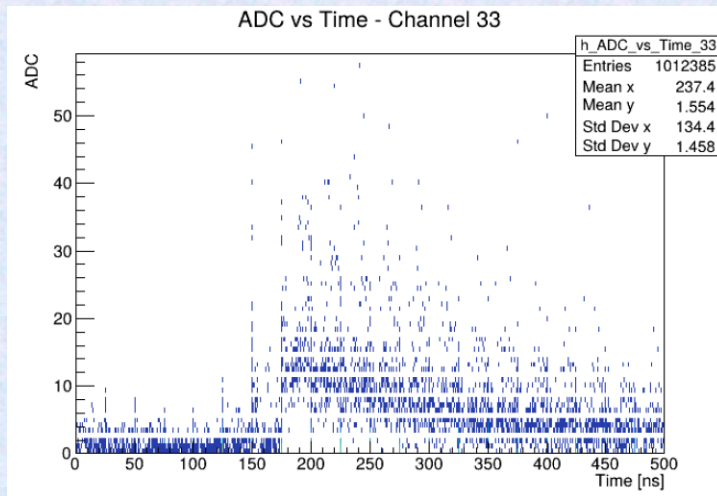
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Sample 7 to 12

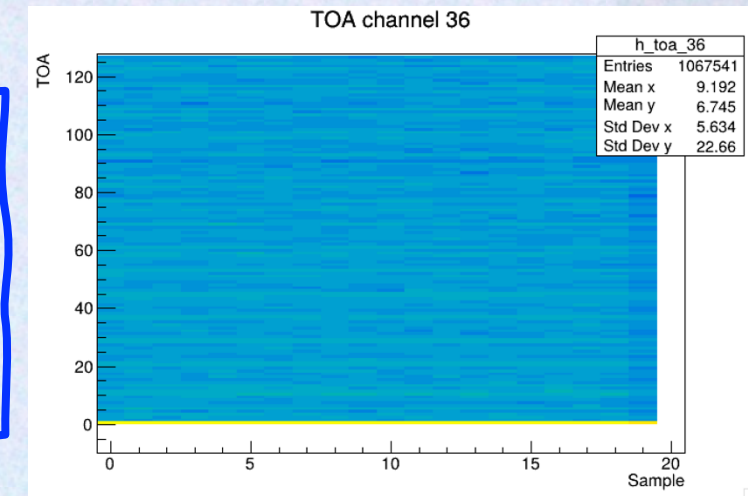


CH 36 to 39 - Noise



Event signals arrive in batches/packets every 25 ns.

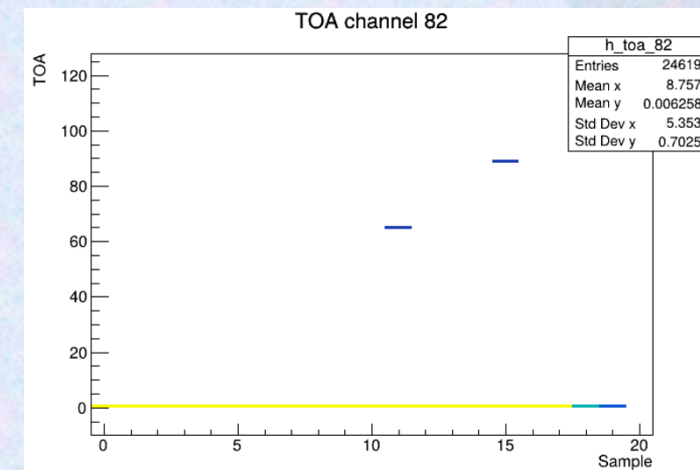
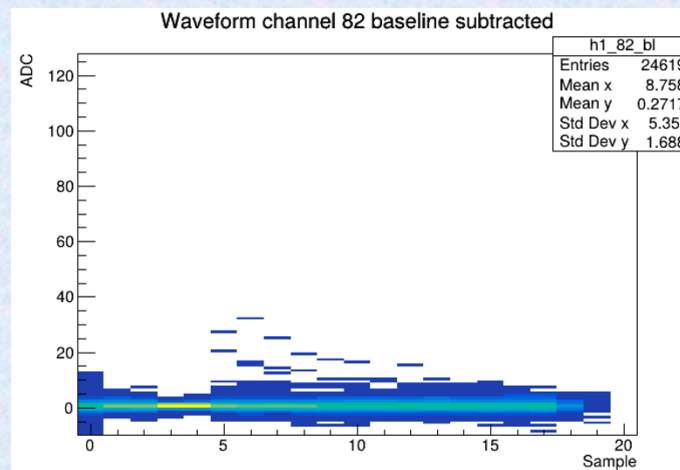
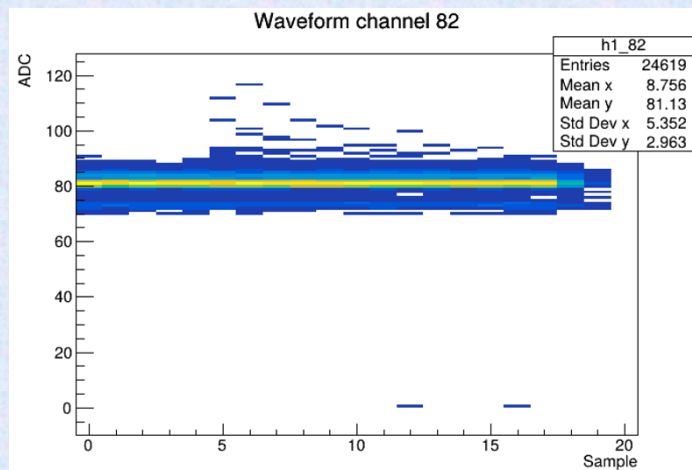
A lot of entries but ~90% of them are baseline.



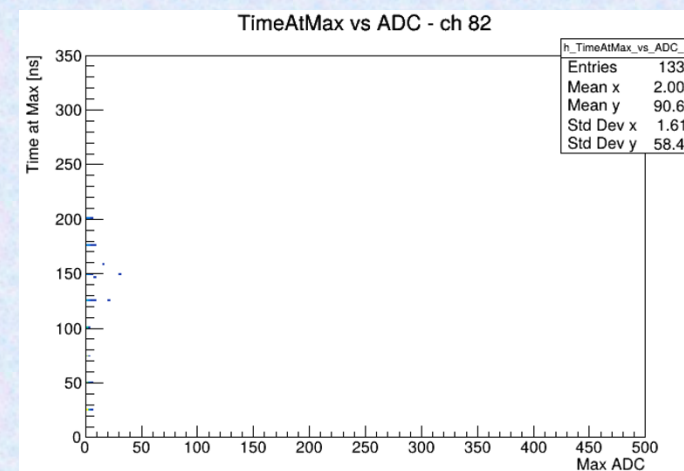
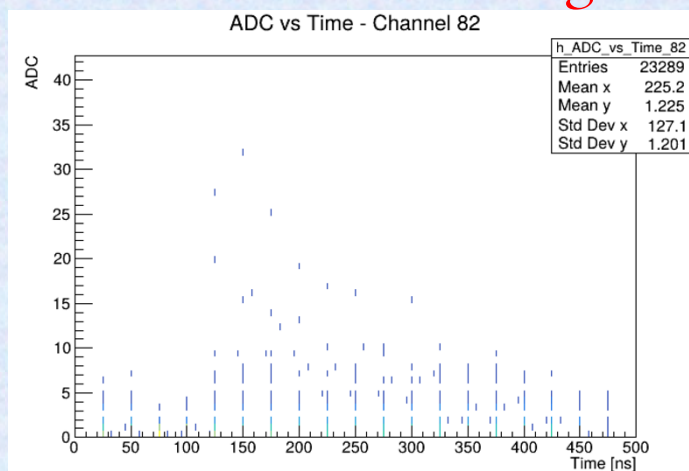
Each point represents **One event**
ADC value at the **Time of Arrival**.

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Removing the Baseline

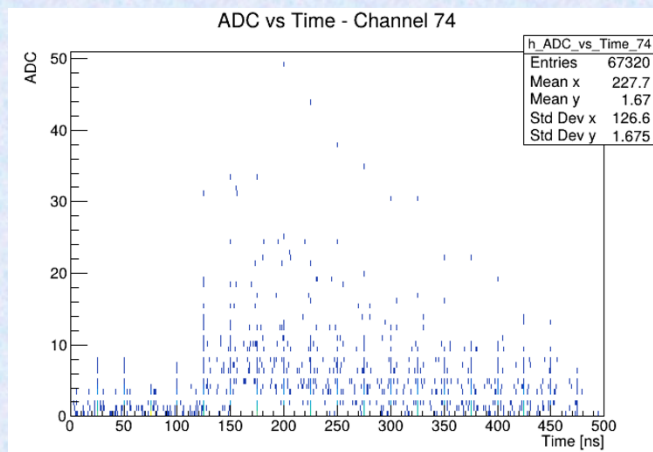
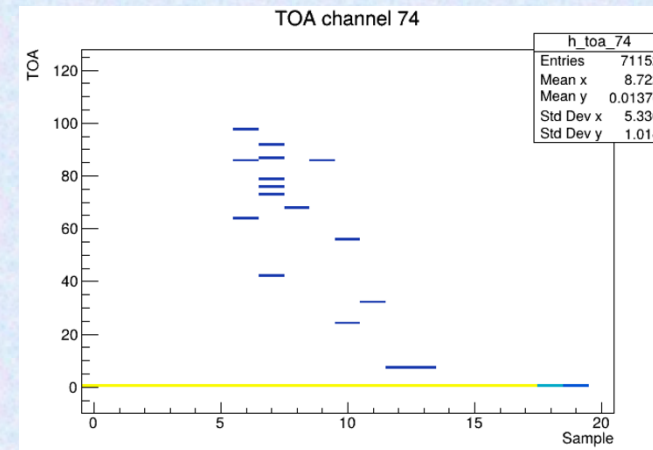
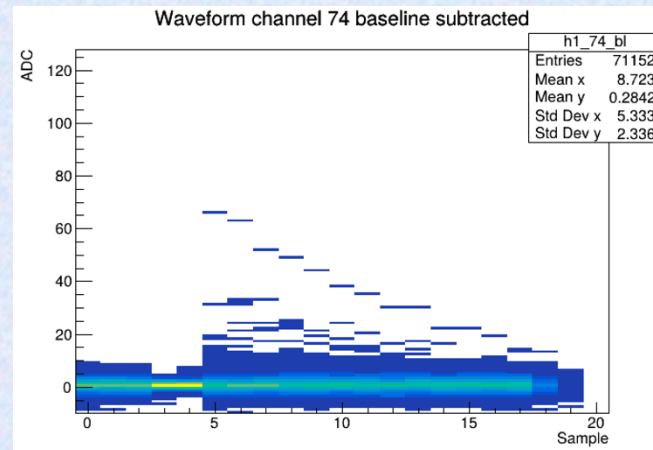
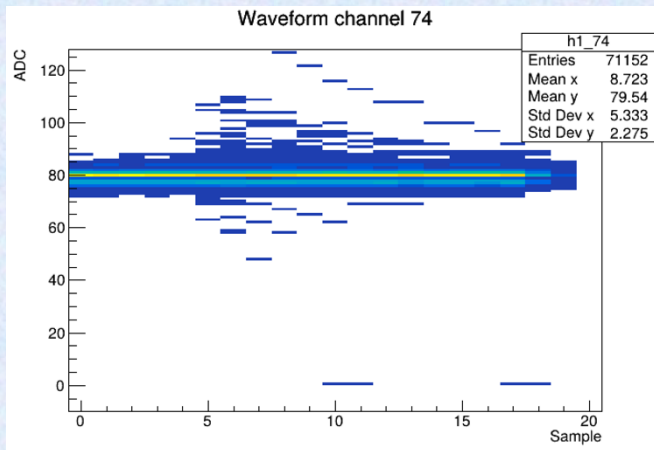


High Power Voltage was tuned off



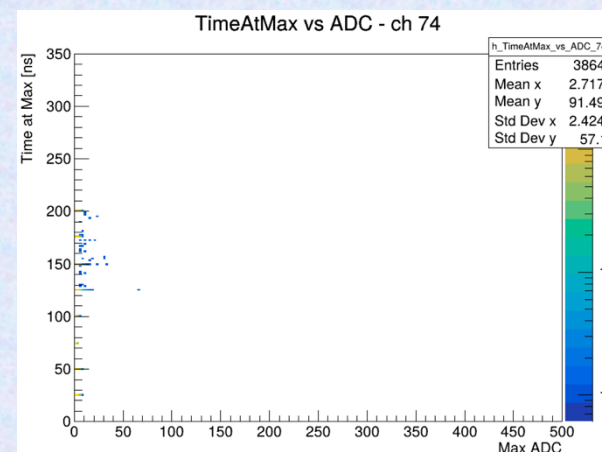
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Removing the Baseline



- Most hits are clustered around ~150–250 ns
- ADC values are mostly low (0–10) with a few higher signals
- There is a broad horizontal spread in time

• Not yet optimal



- Most entries are at low ADC (< ~50)
- TimeAtMax clusters roughly around ~100–200 ns
- No clear /sharp correlation yet

• Not yet optimal