

Update on May 2026 Waveform Analysis of HGCROC Parameter Scans

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Ari spent 50 hours sailing across Lake Michigan, still making his way back.

Reminder: Analyzing May
2026 runs that scanned the
HGCROC preamp
parameters.

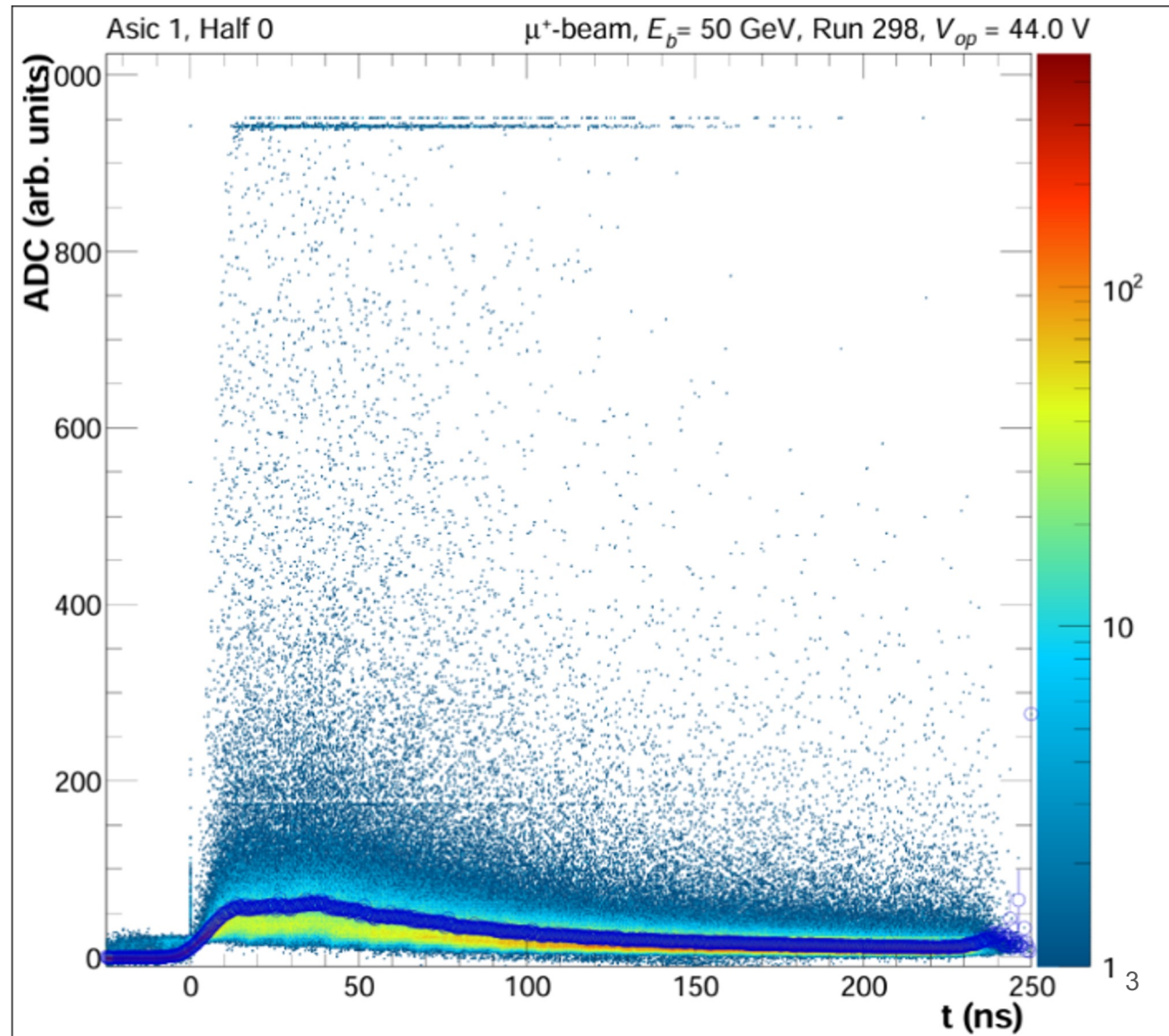
e.g. like this plot from last
time

Run 298

RF: 9

CF: 7

CC: 5



May 2026 converting long runs

- <https://docs.google.com/spreadsheets/d/1pmbsKPRPAIAqagHmNnuFb40VGemhyoWIZUqg1JhXNgk/>
- Has anybody converted runs 349, 359, or 366?
 - Maybe not... but probably people *have* converted runs with 200-300k events?
 - The preamp scans are often ~100k, so many of Ari's runs have been shorter
 - 349, 359, 366 all fail conversion for Ari
 - After ~180k events
 - maybe a bit of a memory leak?
 - But not obviously to the 6-7 GB level that was making old-school waveform jobs fail
 - Might just be a local (i.e. BNL SDCC) issue
 - Limiting to e.g. 100k succeeds, and is likely plenty for waveform analysis, so Ari may just stick to that.
 - But, a warning for others that you might run into problems

Some runs “finish” but with very few events

- Has anyone tried converting runs 302, 331, 353, or 355?
- For Ari:
- Run 302: Finishes Converting with 5 good events
- Run 331: Finishes Converting with 89 good events
- Run 353: Finished converting with 91 events (855 invalid data packs?)
- Run 355: Finishes Converting with 31 events
- expect ~100k events for each of these
- Some of these may be affected by data corruption issues?
 - Invalid data pack!
 - These may happen now and then anyhow, but perhaps some of these were specially affected? We haven't looked thoroughly (yet)

Invalid data pack!
5 0 0 0 5 30 0 0
5 10 0 0 4 e0 0 0
5 20 0 0 5 0 0 0
5 40 0 0 b1 8f 9c 51
aa 5a 0 24 0 0 0 0
0 2e 5 bd 0 e a 31
0 0 0 7 cc 24 f2 2e
0 0 0 0 0 0 0 0
f4 49 e0 85 0 0 a0 0
5 0 0 0 5 0 0 0
5 10 0 0 4 e0 0 0
4 e0 0 0 5 10 0 0
5 20 0 0 4 e0 0 0
5 0 0 0 5 10 0 0
5 0 0 0 4 f0 0 0
5 0 0 0 4 f0 0 0
5 10 0 0 5 10 0 0
5 d0 0 0 4 f0 0 0
7 70 0 0 6 30 0 0
5 10 0 0 5 0 0 0
3 f0 0 0 5 10 0 0
5 10 0 0 4 f0 0 0
4 e0 0 0 4 f0 0 0
5 10 0 0 4 f0 0 0
4 f0 0 0 5 0 0 0

- We have some new plots, but so far all still “all layers for a half ASIC” and nothing particularly shocking
- Canvases and even histograms (TH2, TProfile) were only automatically saved to pdf, not ROOT; we’re in the middle of debugging that
 - Some new code supplied by Fredi may help, haven’t tried it yet
- Still hope to single out individual channels, or at least 5 layer sum vs 10 layer sum, we’ll see how much summer Ari has left

Abstracts, approvals

- Ari will submit an abstract, reasonably soon, for a DNP CEU poster
 - It seems reasonable that we at least **try** to follow ePIC formalities, so keep a look out
 - (Anybody happen to know the deadlines? But looking them up can be part of commissioning the system...)