Prex/Crex DAQ Update 3/5/2019

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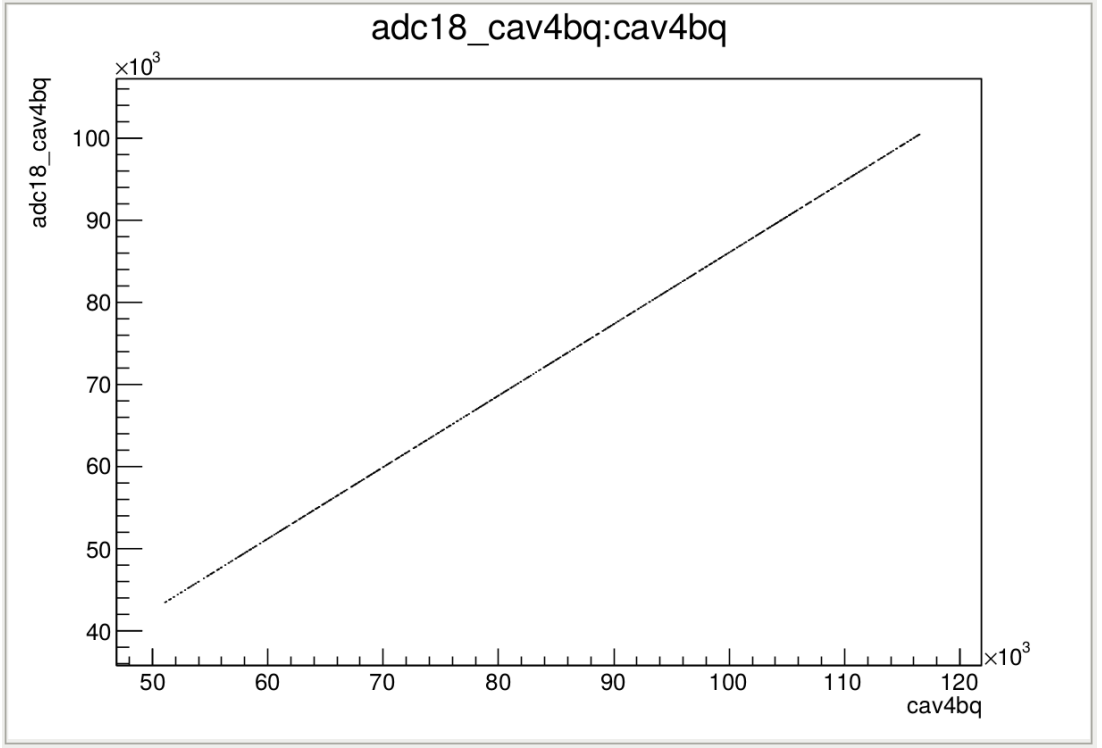
Some recent updates

- Happex ADCs can be decoded in JAPAN
- Two more QWeak ADCs fixed (Mark Taylor is getting more comfortable repairing)
- 20 Second sleep at go no longer needed – fix for 64 bit ET as remote tested

- Many more updates pending once APEX is done

Happex ADCs in JAPAN

- Wouter and Bob have gotten Happex ADC decoding implemented in JAPAN
  - It works with reasonable voltages: depending on the gain settings the HAPPEX ADCs work from 0 to +5 V at 30 Hz, and generally less
  - Bob and Iris have tested a few HAPPEX ADCs in the TEDf test stand with a standalone decoder
  - Cameron and Chandan previously verified that the currently set gains in vxworks boot scripts are ideal

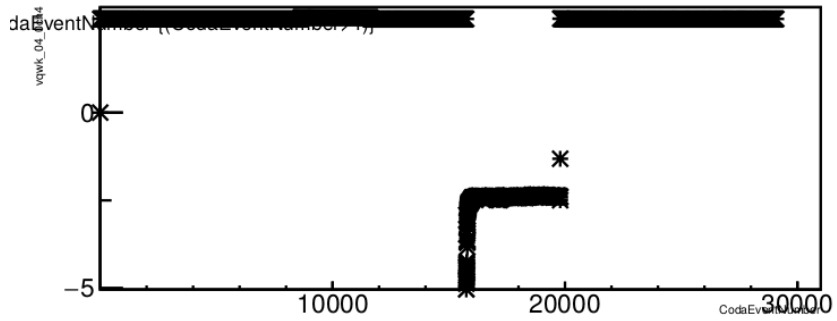


- Tested in CH crate with random ramping voltage
- Decoding works for ~2 – 5 volt signals
- Error decoding needs to be committed still
- Plugged into both Happex ADC and QWeak ADC →
- So the Happex ADC can match closely and Japan works

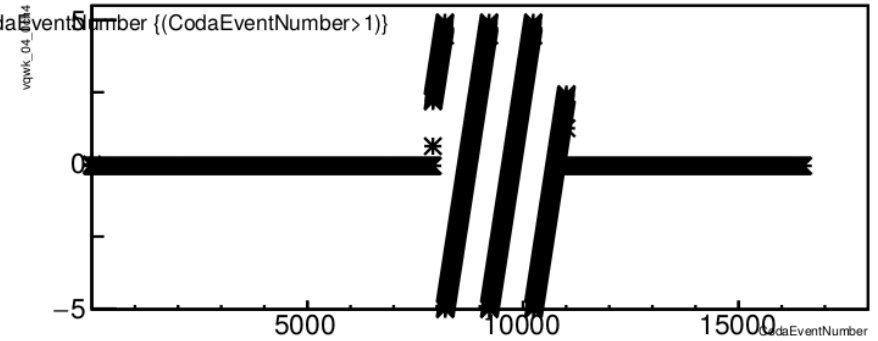
QWeak ADCs in Virginia

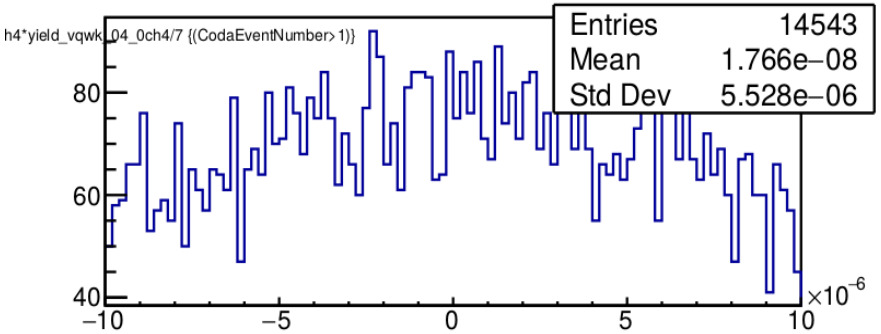
- Mark Taylor has done it again – fixed two more ADCs (at least 6 channels restored)
- New parts have been arrived and further repairs can be done on the remaining two dozen channels

Example plots for ch 4 of ADC 37:

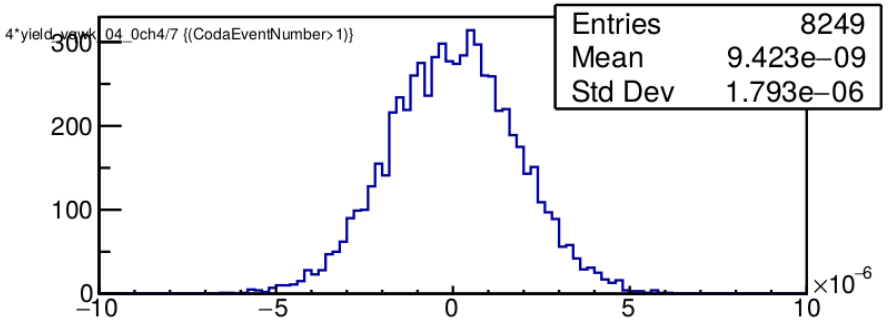


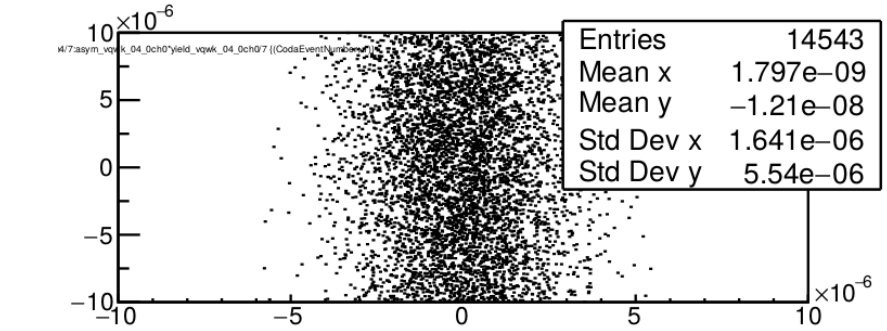
voltage vs. event number





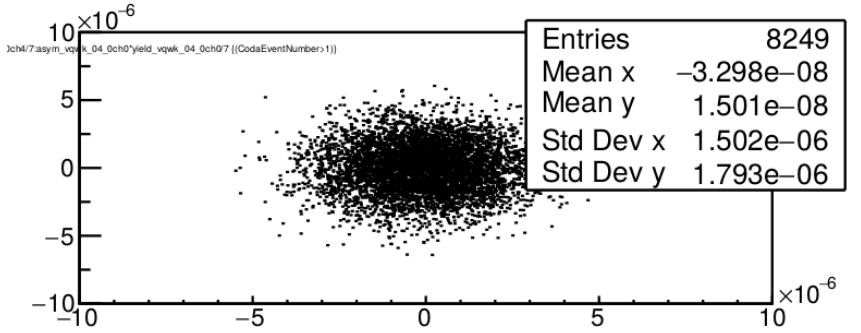
Diff / 7 volts noise floor





Correlation of channel 4 vs. channel 0

← Broken | Fixed →



Sleep for 20 seconds

- CODA 2.6.2 had a bug which we caught and got a fix from Carl Timmer
- Previously wouldn't let you treat a local instance of ET system as remote and ETbridge segfaults
- A few lines of code updated and it now waits for the local-as-remote ET instead of giving up
- Now we can run the Etbridge from “startcoda” rather than at each run's “start”, and 20 second sleep is no longer needed as well
- Running ET systems manually with monitors independently of Rcgui:
- Ready to implement any day