

CDet module commissioning DAQ preparation

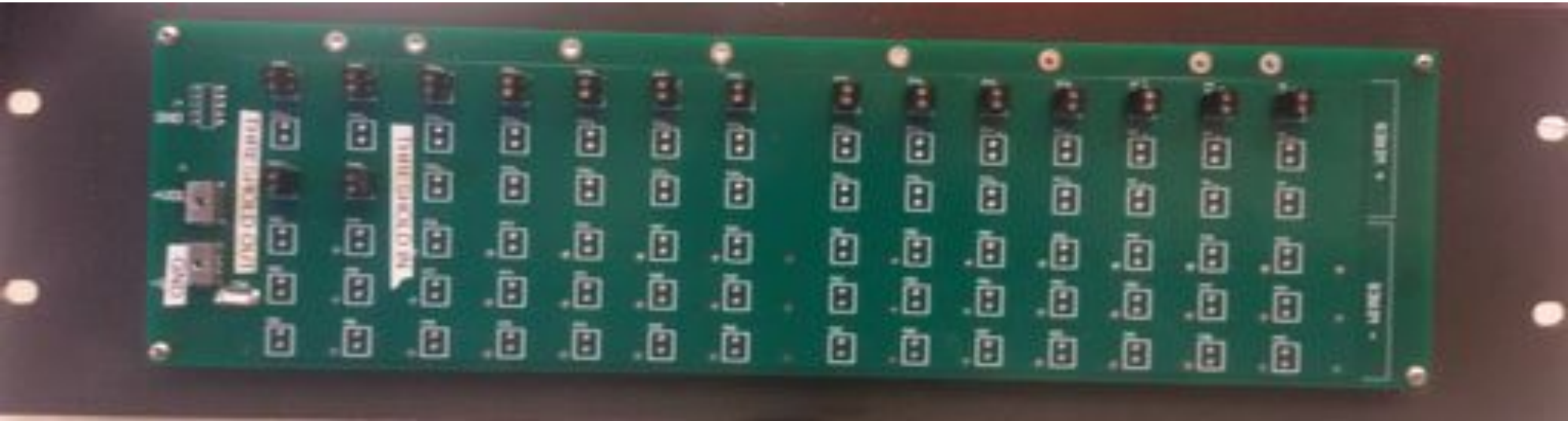
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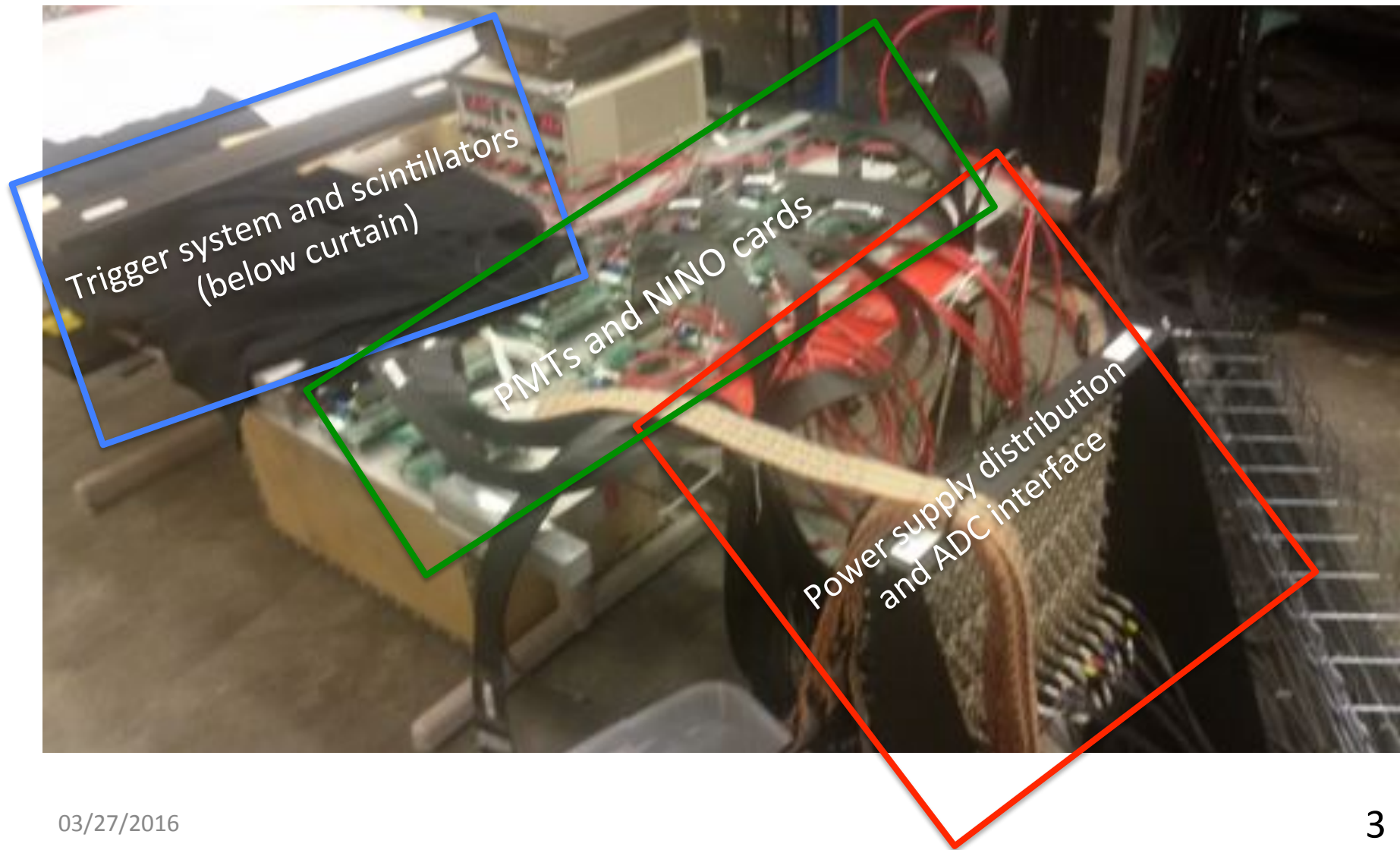
Overview

- New hardware: power supply distributor for NINO cards
- Duration of pulse vs amplitude
- Testing of ADC channels
- New software tool: number of photoelectrons

Power supply distributor for NINO cards

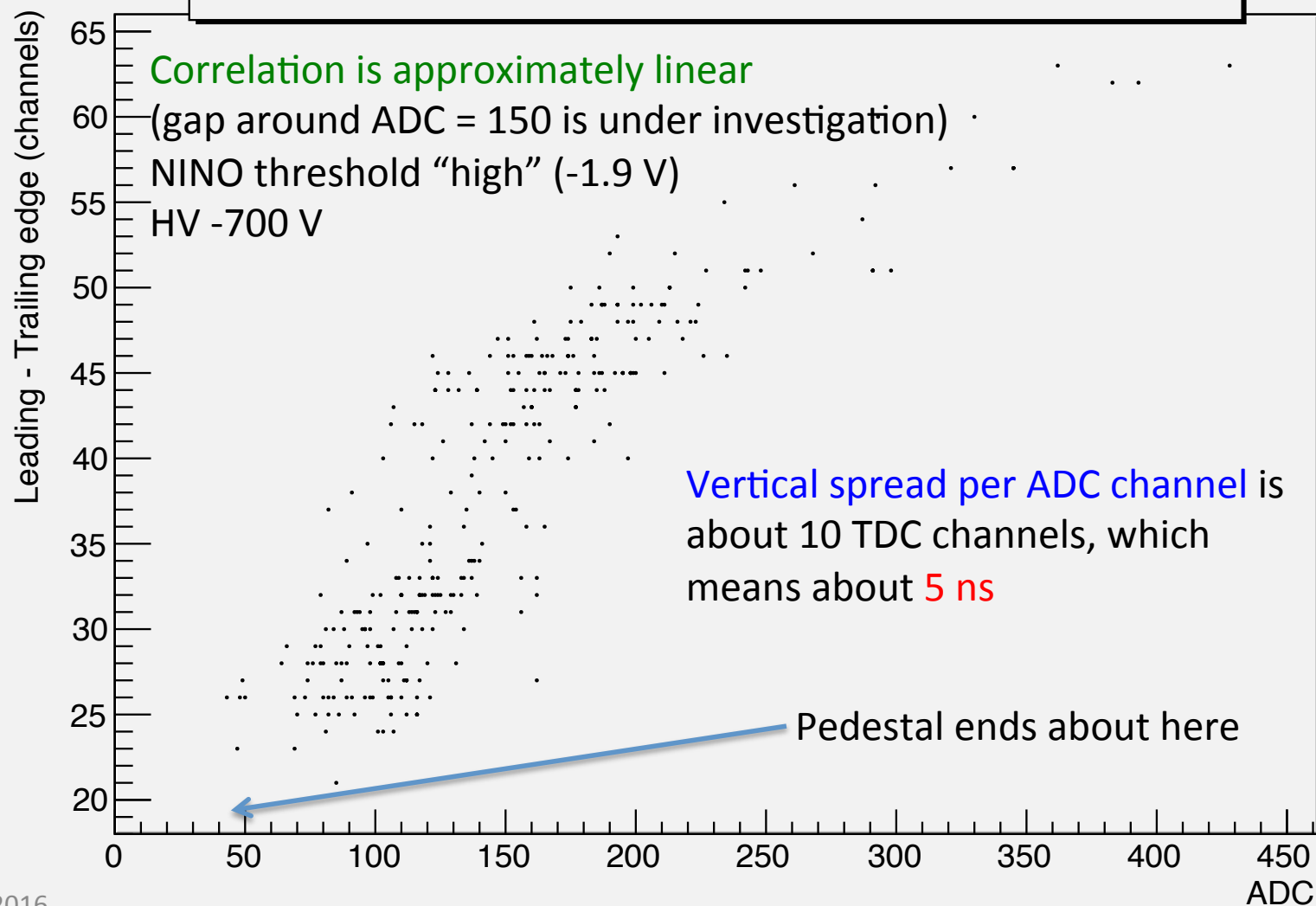


Experimental setup



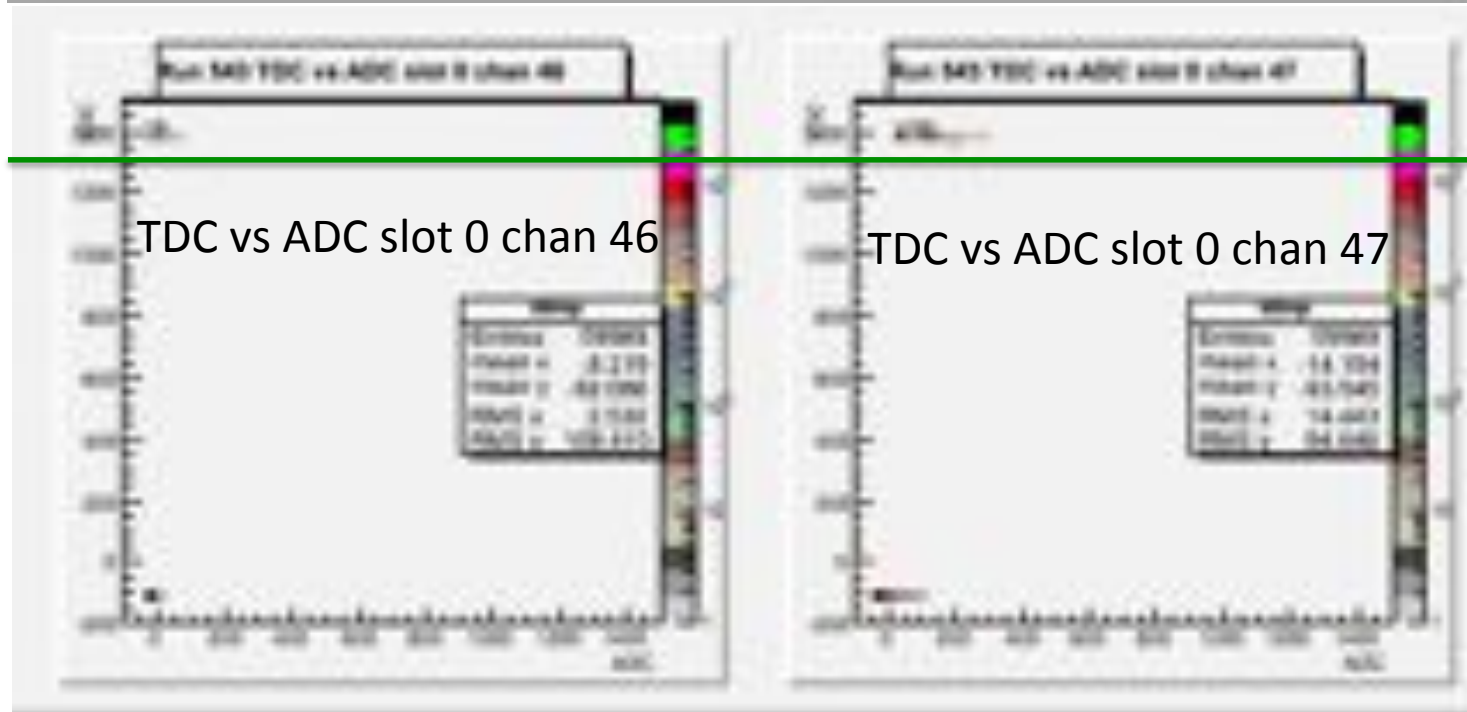
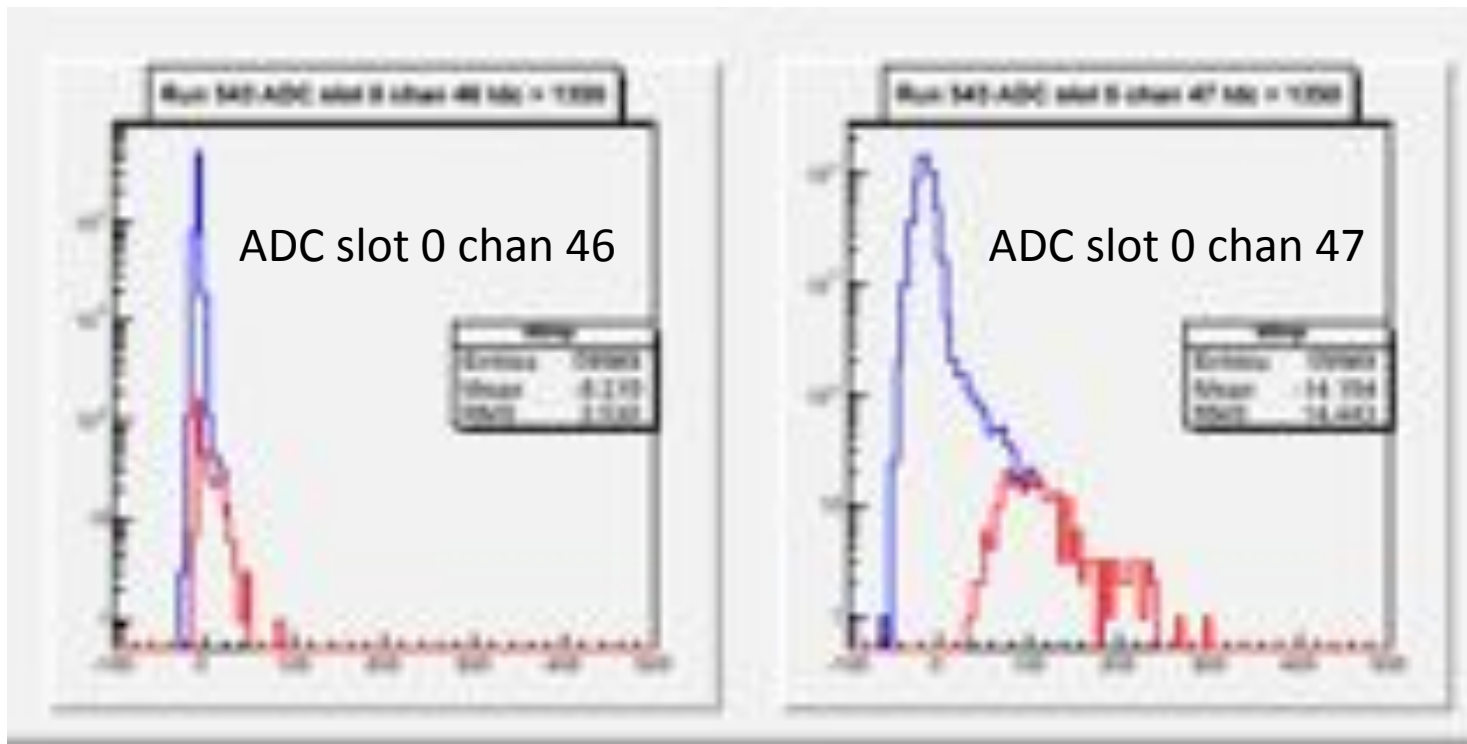
Duration vs amplitude

Run 552 ADC slot 1 channel 35



Testing of ADC channels

- General conditions:
 - NINO card 1 @ -1.9 V & PMT 1
 - HV -700 V
 - TDC slot 0 channels 0-15
- ADC slot 0
 - All fine, but probably channel 46, which not recorded much above the pedestal (see next slide for a comparison with a “normal” channel)
- ADC slot 1
 - Channels 27 and 29 do have a relatively low gain
- ADC slot 2
 - Channels 14,29 have a low gain
- ADC slot 3
 - All fine



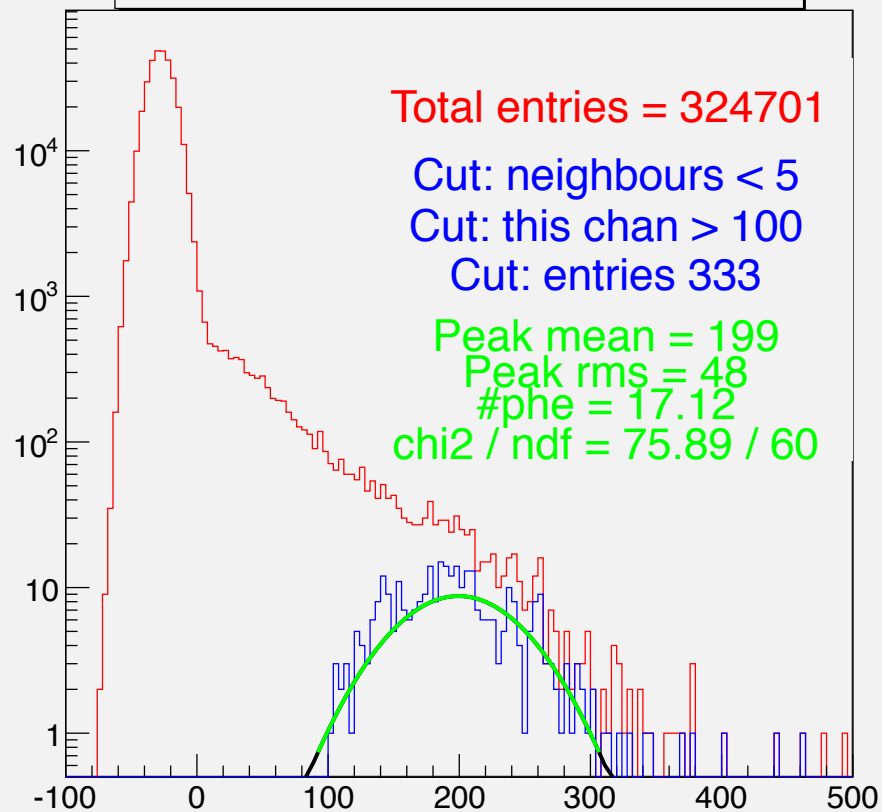
Above this **TDC channel** we expect to have **signal**, as opposed to **pedestal**

No. of phe calculation

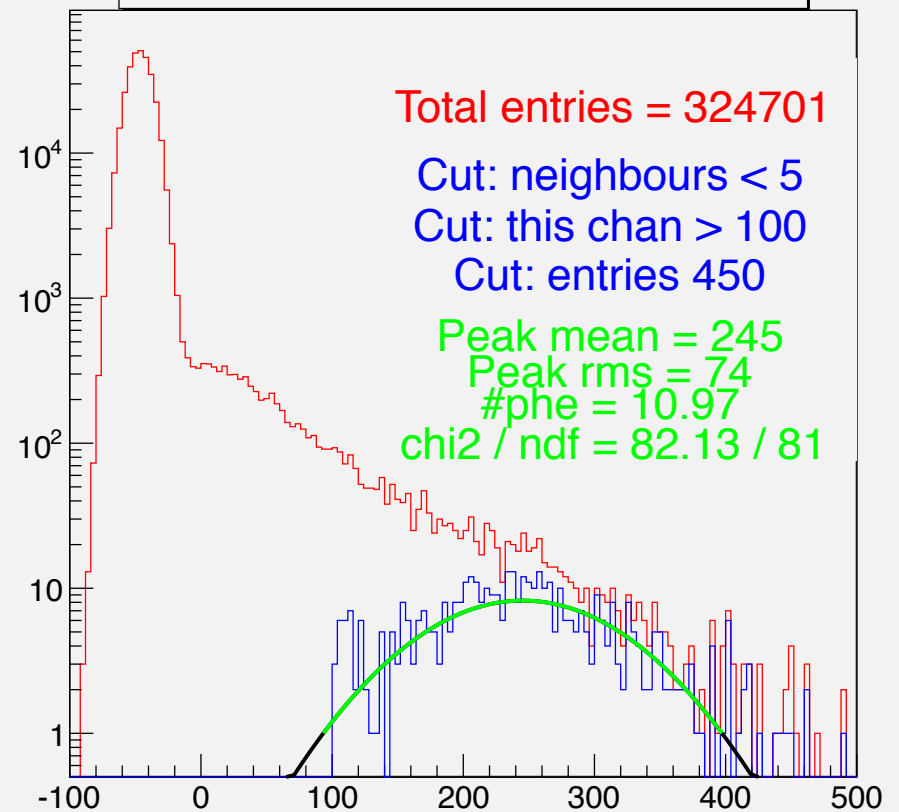
- New tool, acts on a given ADC channel
- First, we select vertical tracks by demanding
 - Above pedestal ADC for current channel
 - Low ADC for neighbouring channels
- Gaussian fit of the signal peak
 - Retrieve mean and rms
- Number of photoelectrons = $(\text{mean}/\text{rms})^2$

No. of phe calculation

Run 549 slot 0 channel 55



Run 549 slot 0 channel 54



Summary and plan

- Commissioning is about measuring times and amplitudes from cosmic signals
 - ✓ We essentially have the tools we need
- New this week:
 - ✓ Power supply distributor for NINO cards
 - ✓ Duration of pulse vs amplitude
 - ✓ Number of photoelectrons
 - Testing of ADC channels