Updates on MaPMT test

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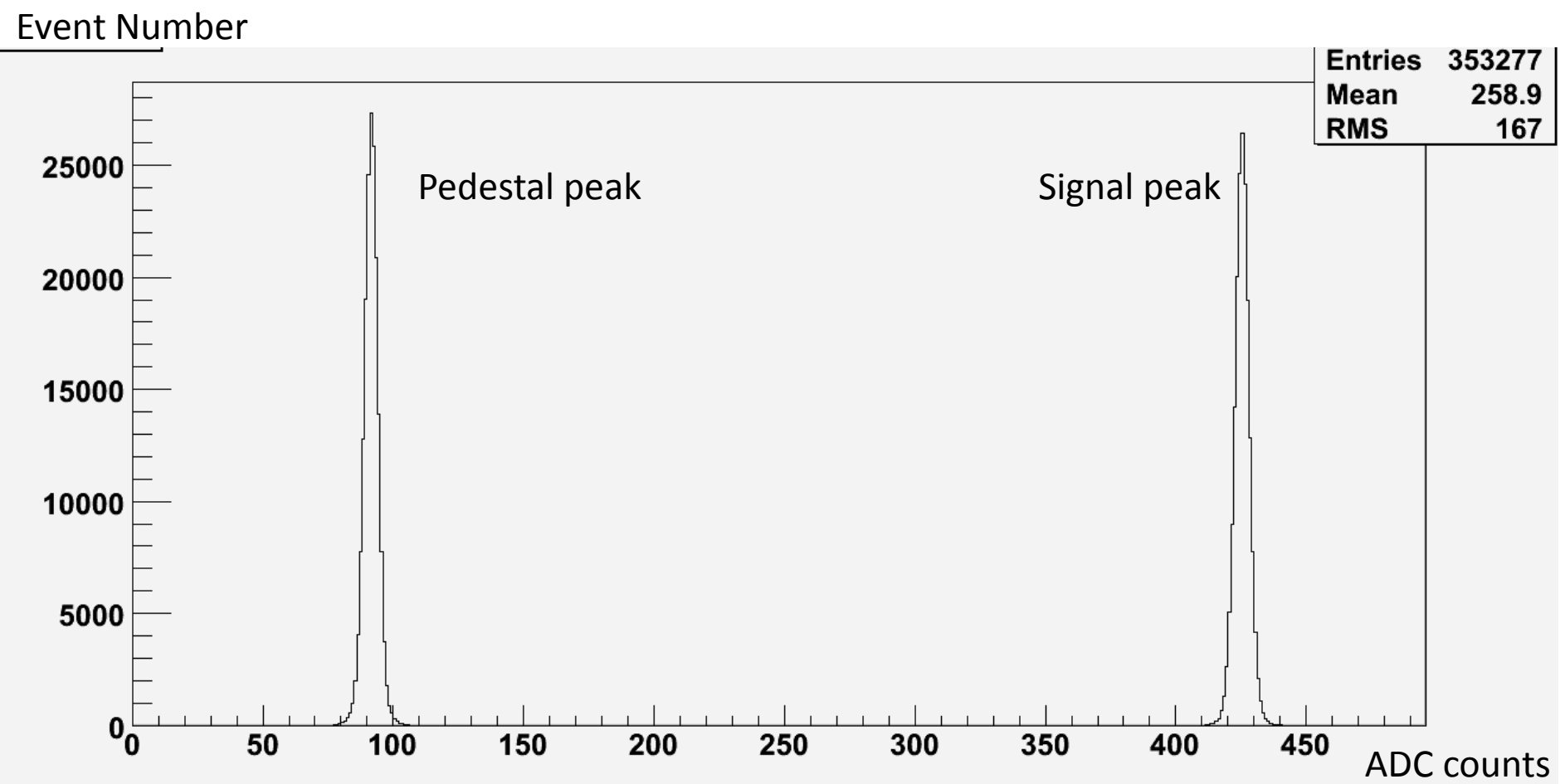
V792 calibration

- Strategy:
  - Input signal (Generator: WaveTek 80)

  -5mv → -100mv

  - Signal frequency: 1HZ
  - V792 gate: 1KHz, gate width= 200ns(fixed)
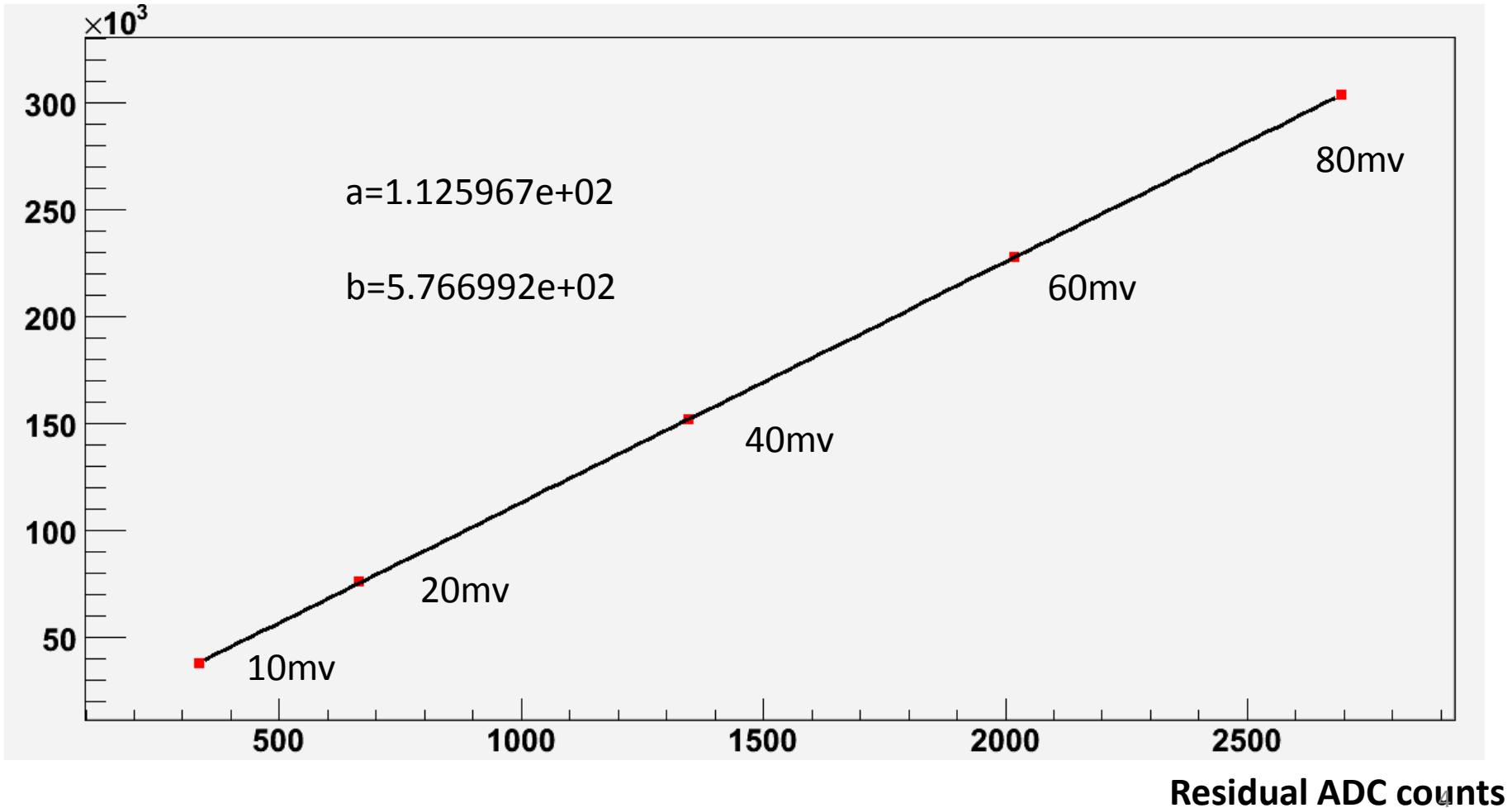- Pedestal and signal peak can be taken in one spectrum
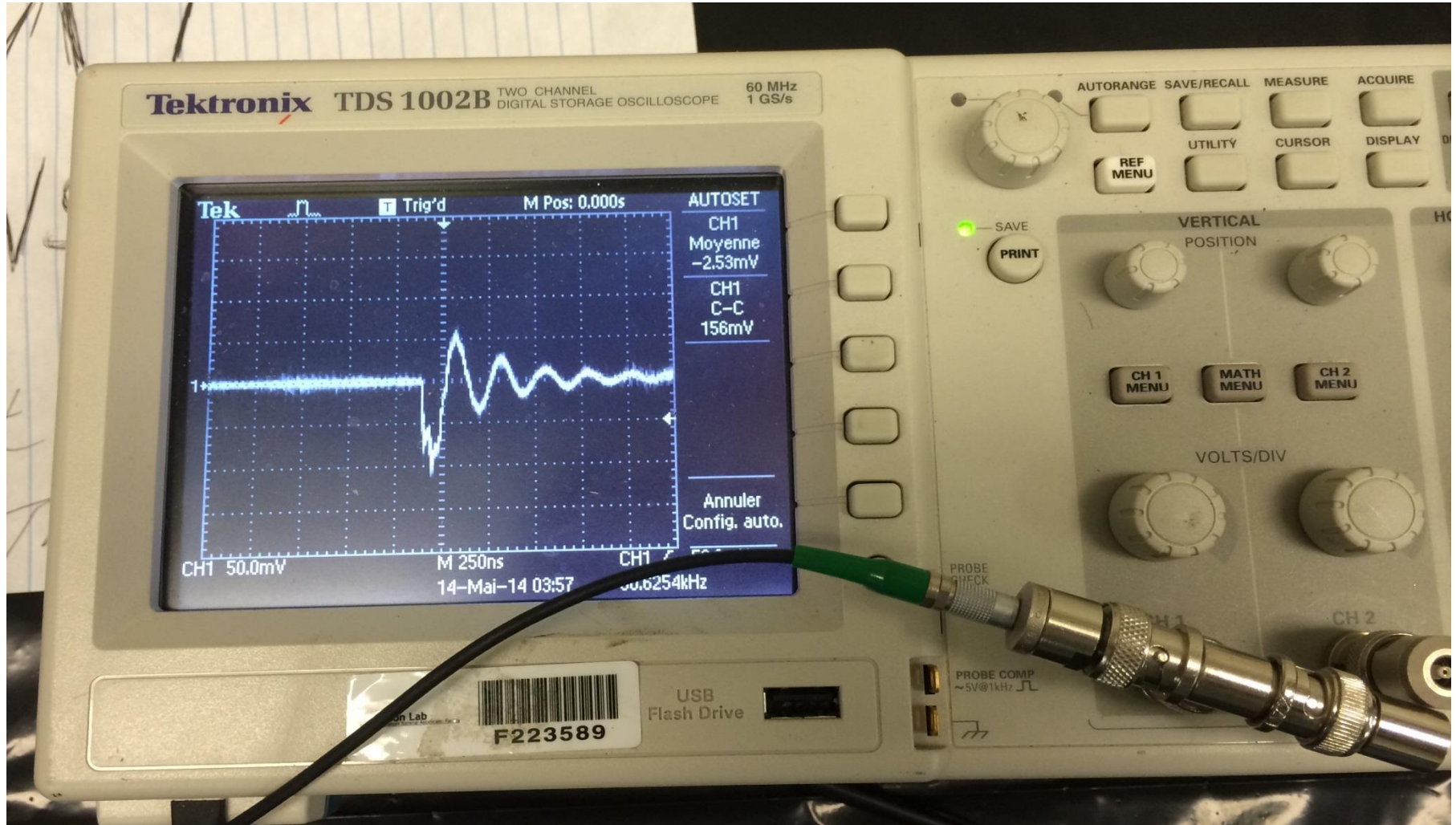
A typical spectrum(10mv input)

Event Number

Pedestal peak

Signal peak

Entries	353277
Mean	258.9
RMS	167

ADC counts

Q VS ADC counts

$$Q = a*(Mean\_signal - Mean\_pedestal) + b$$

Charge (fC)

a=1.125967e+02

b=5.766992e+02
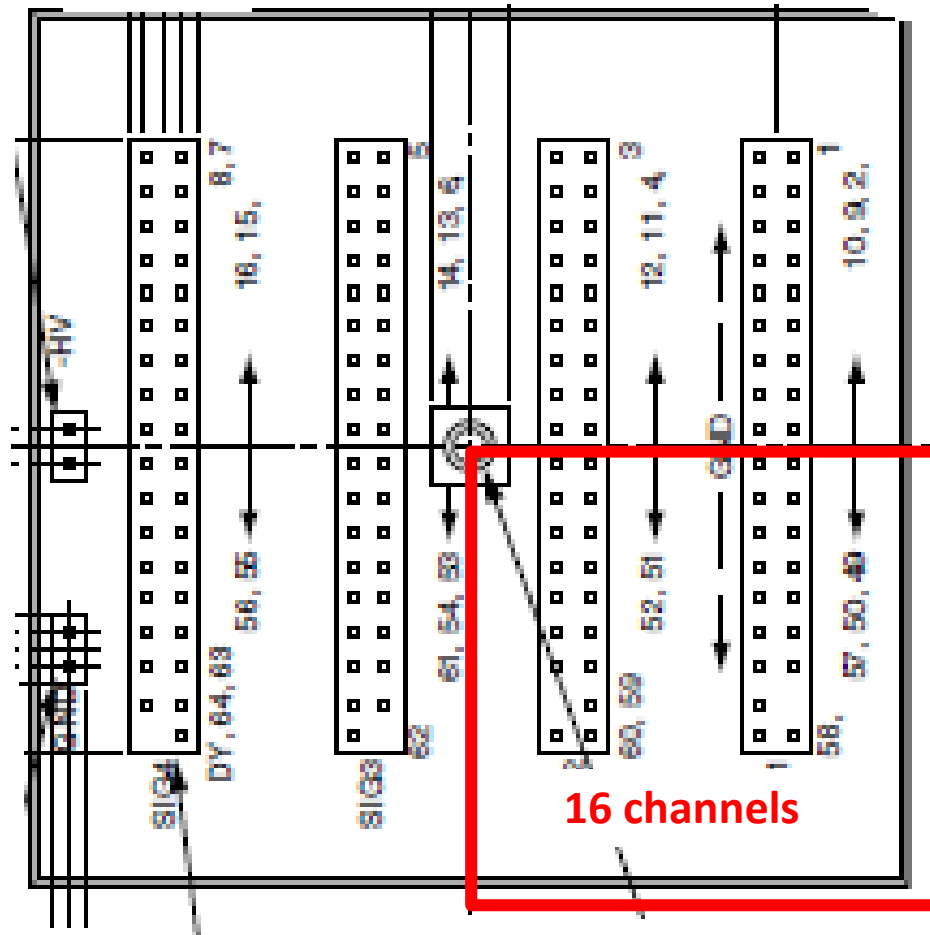
80mv

60mv

40mv

20mv

10mv

Residual ADC counts

H8500 signal with LED light
---fiber: scsf81MJ length=2m φ=1mm

Reflection is very strong!!!

Possible reason for reflection: readout cable on PMT side

Grouped together to read out

16 channels

Carl has "PMT socket"←→"BNC" cable, all 64 channels are grouped together
64 channels → 1 cable

To-do list

- Solve the reflection
- HV scan and determine a "low gain" voltage
  - See the first signal on scope at -700V (gain: 1e5 in manual)
- Uniformity test
  - A 64 channels to 64 channels (PMT side) cable should be made
- Cross talk measurement
  - Rakitha is now calibrating 2D table: steps → mm

Carl's cable for PMT side