

First look at
PMT data in
GAR

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PMTs configuration and labelling convention

Channel	0	1	2	3	4
Name	PMT1	PMT2	PMT3	PMT4	PMT5
Pos/Neg	— (2 wires)	— (2 wires)	+ (1 wires)	+ (1 wires)	— (2 wires)
PMT #	FA0093	FA0092	FA0090	FA0094	FA0091
operating HV	-1500 V	-1500 V	+1300 V	+1100 V	-1500 V
HV cable #	25	23	24	22	21
Signal cable #	3 (?)	2 (?)	none	none	1 (?)
TPB	direct coating	plate	direct coating	plate	direct coating
Base	KEK	KEK	CIEMAT	CIEMAT	KEK

Fine tuning of DAQ parameters

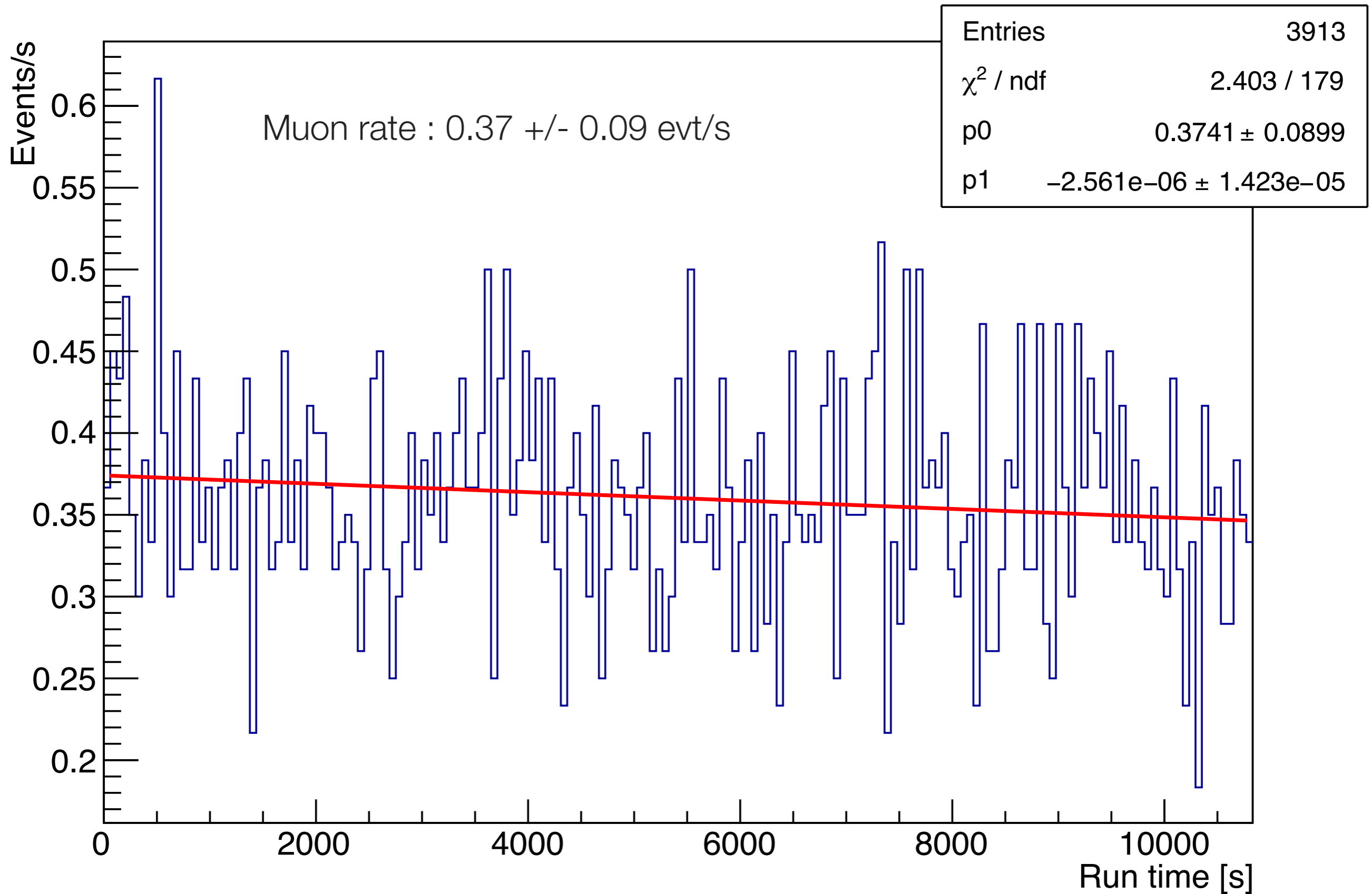
- Fine tuning of the DAC values
 - Waveform in [0; 4096] ADC (12 bit)
 - Pedestal set @ 4000 ADC
 - Leave 96 ADC count for overshooting
- Fine tuning of the trigger position
 - Trigger set at 500 ns
 - Leave 125 samples for pedestal calculation

Run summary

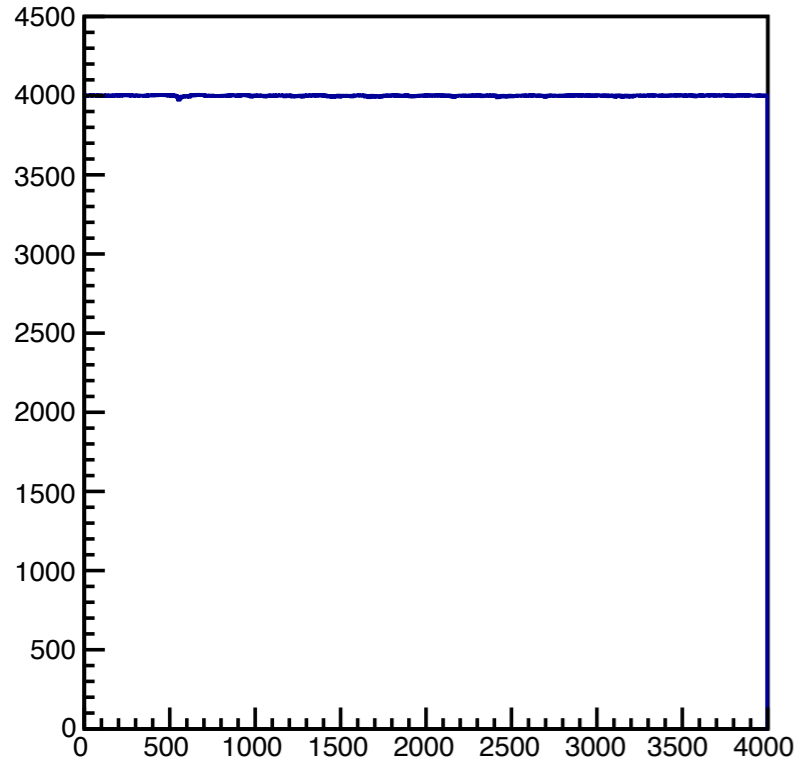
- Shifters: Alberto, Federico, Silvestro
- Run number: 211
- Run time: ~3h
- Total events read-out: 3913
- Root file size: 13 Mb (does not contain trigger info)
- Run condition:
 - External trigger from CRT
 - HV set to values reported in slide 2
 - GAr warming up

Data available [here](#) (temporary solution)

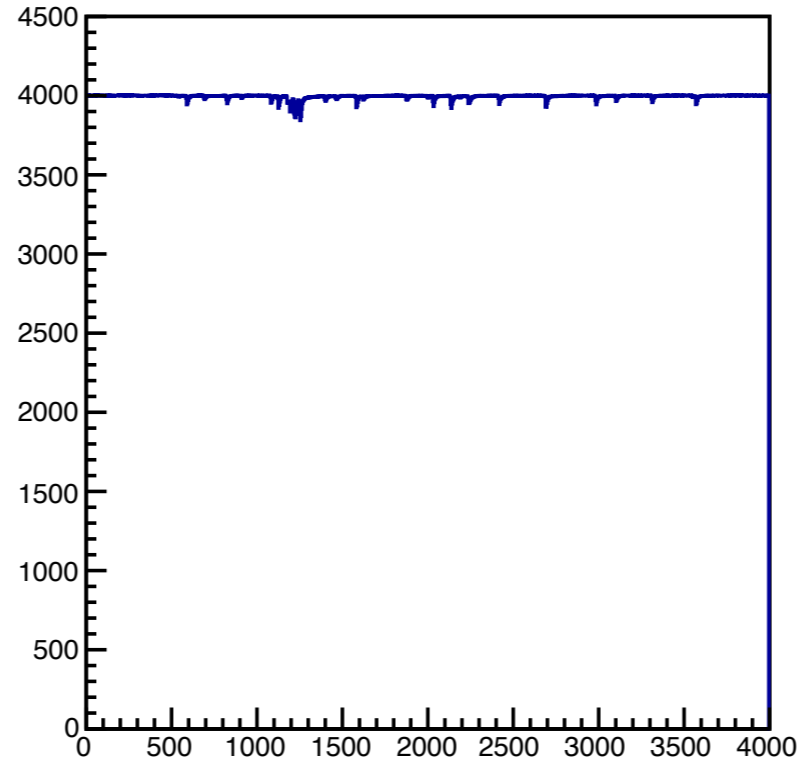
Event rate



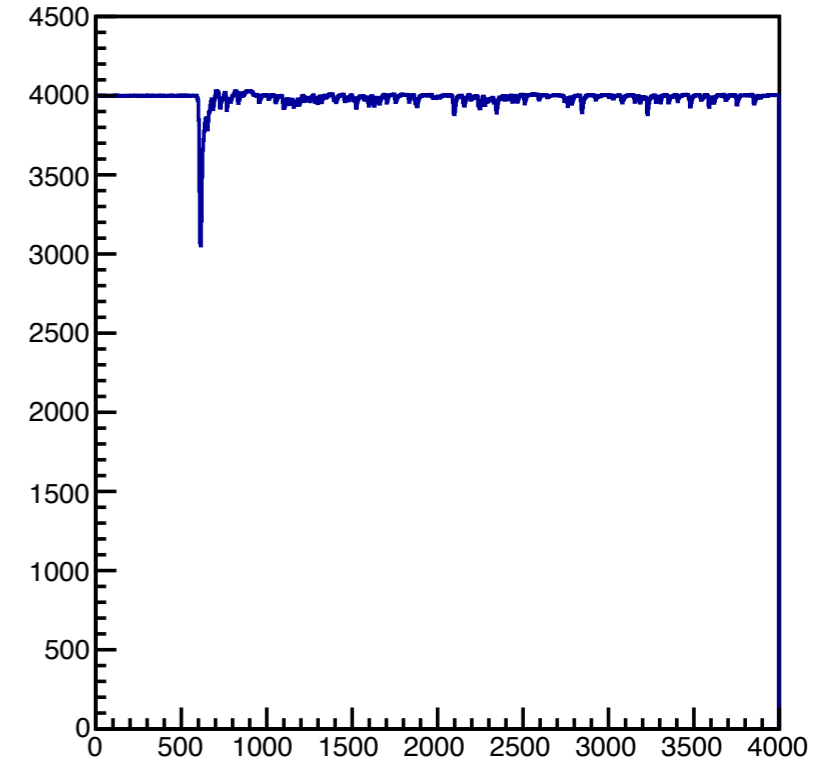
waveform_0_71



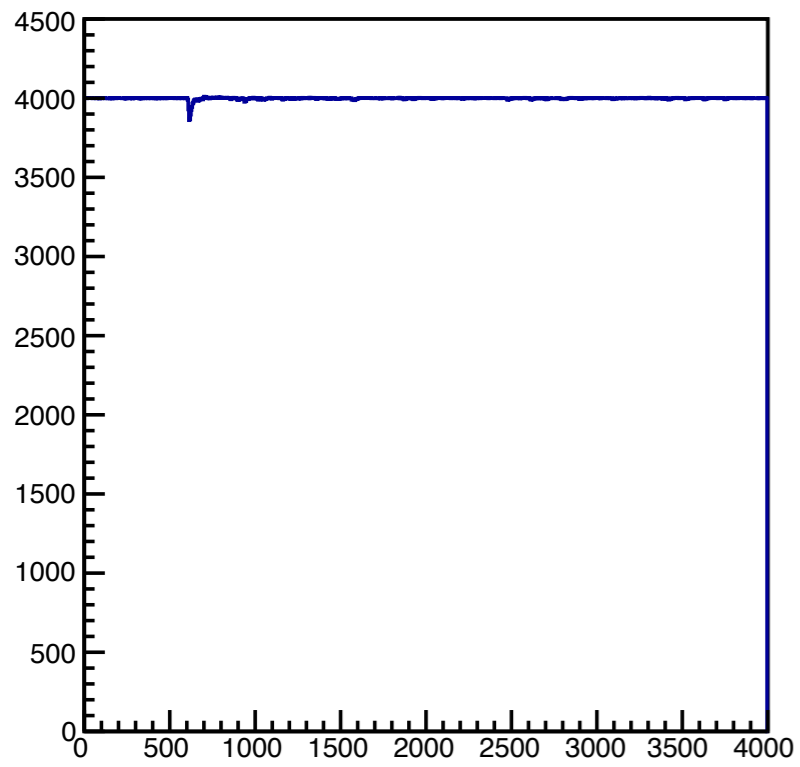
waveform_1_71



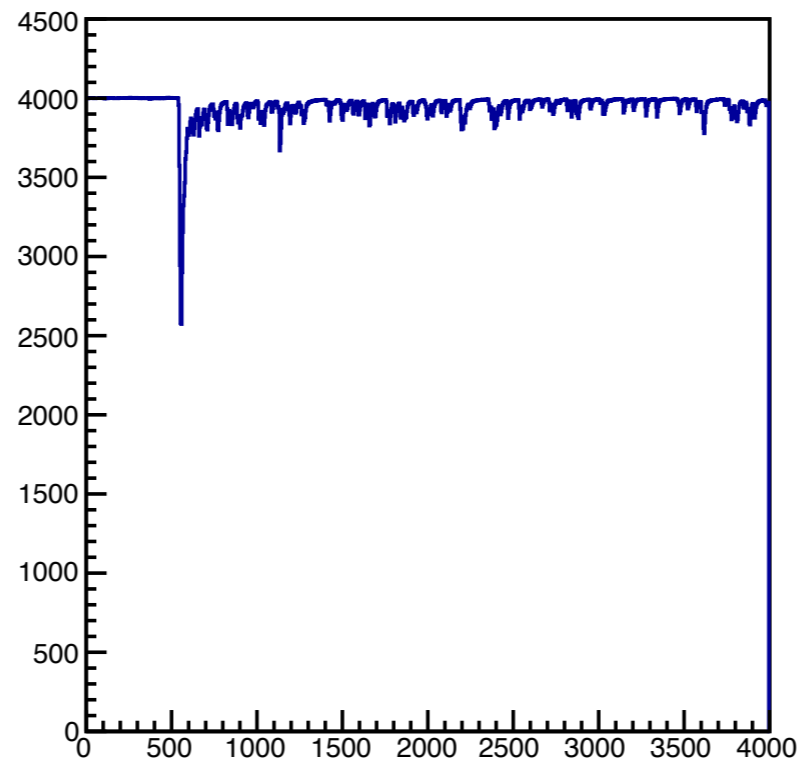
waveform_2_71



waveform_3_71

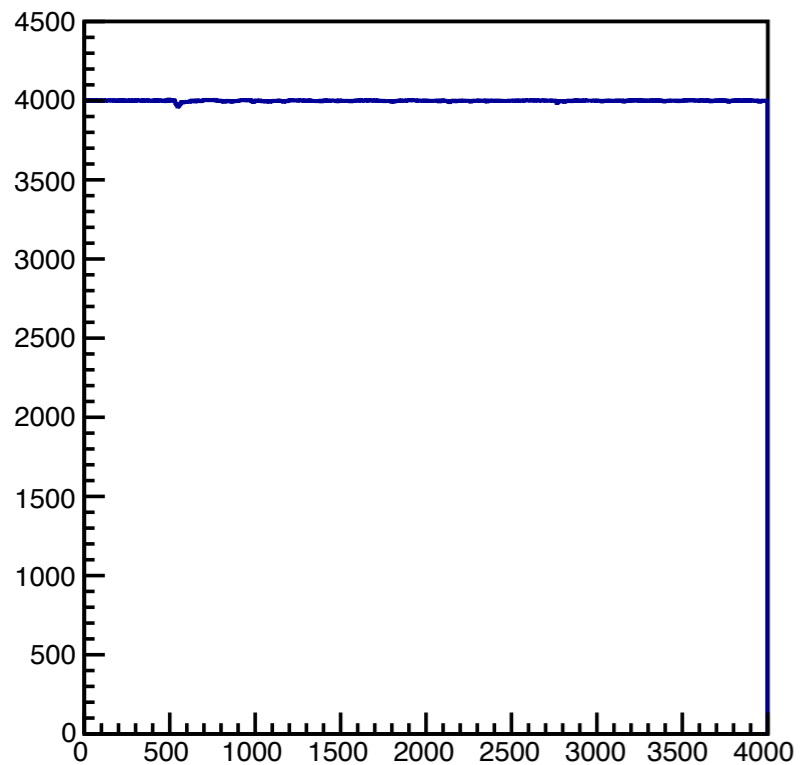


waveform_4_71

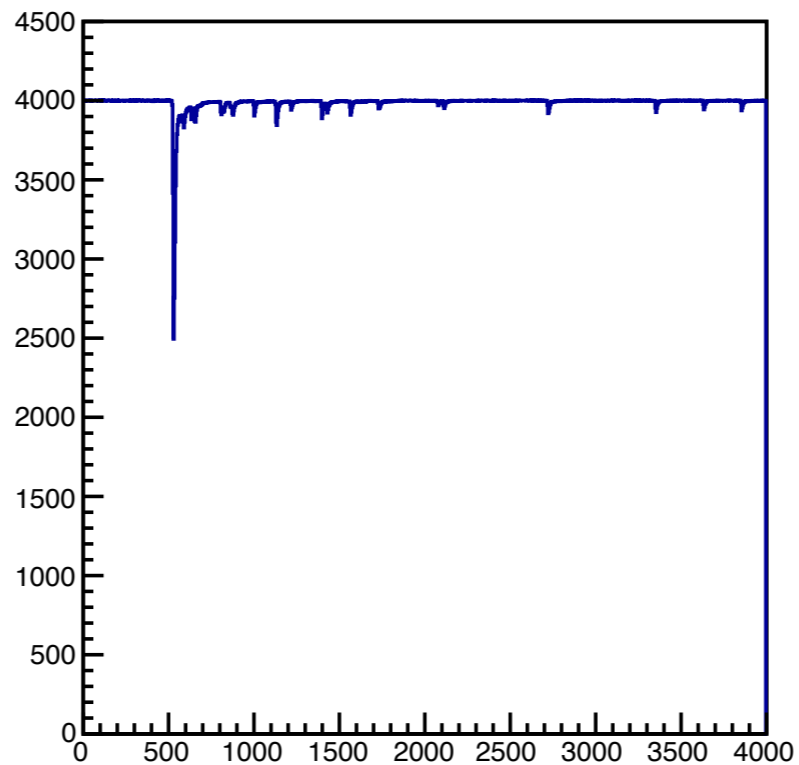


Evt. number 71

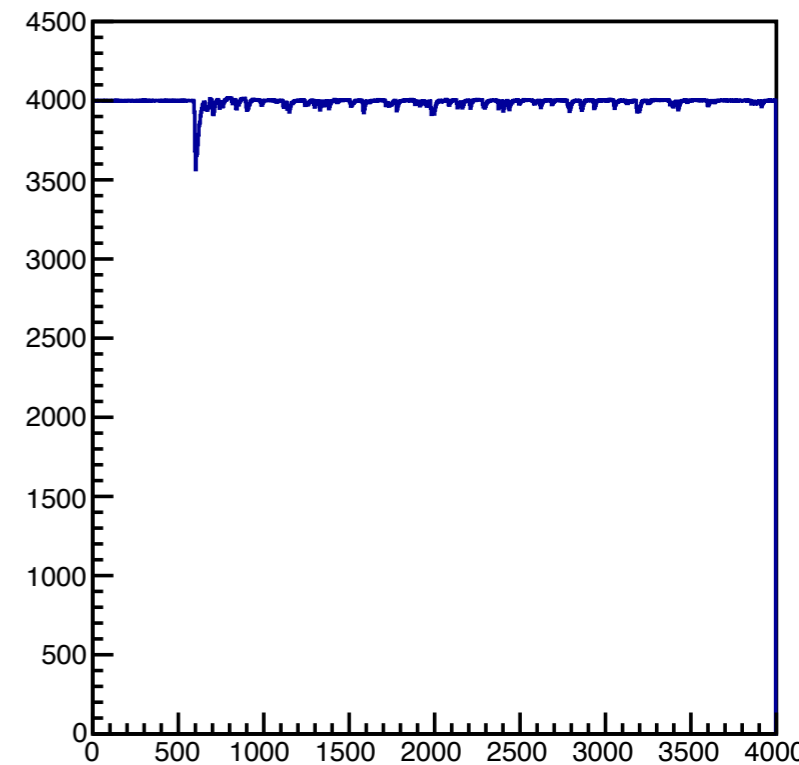
waveform_0_78



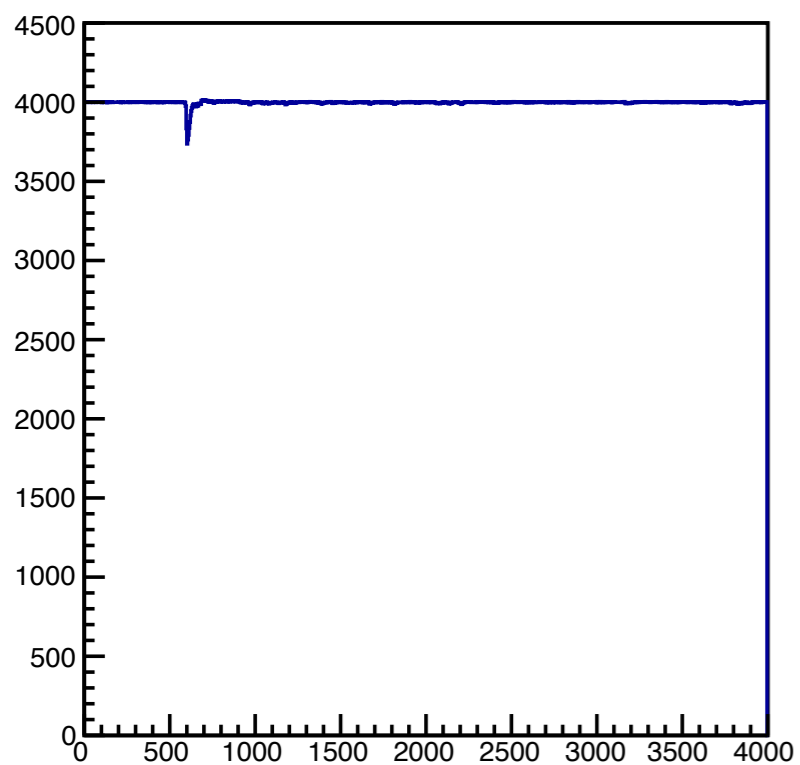
waveform_1_78



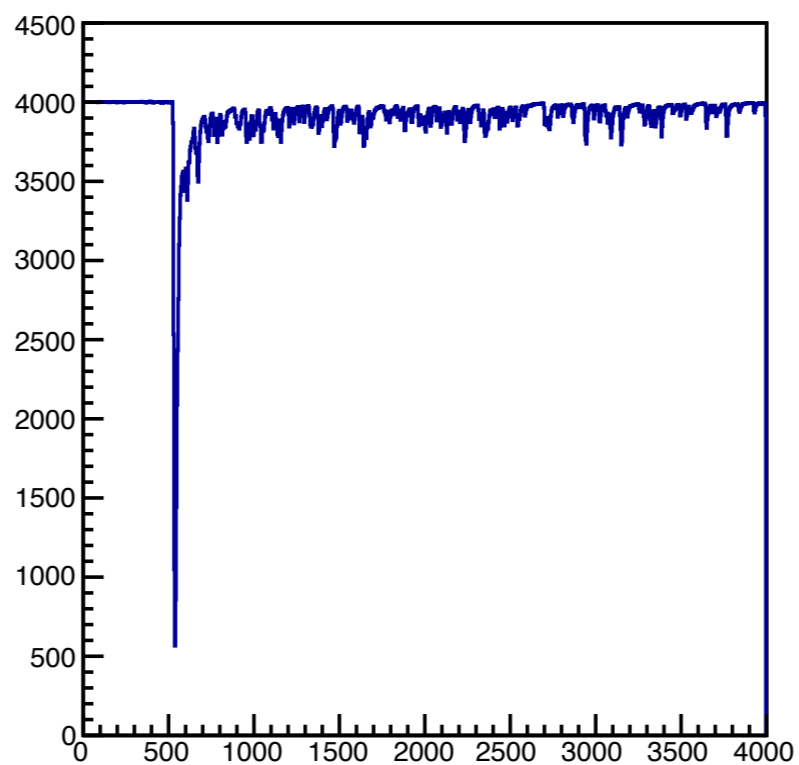
waveform_2_78



waveform_3_78

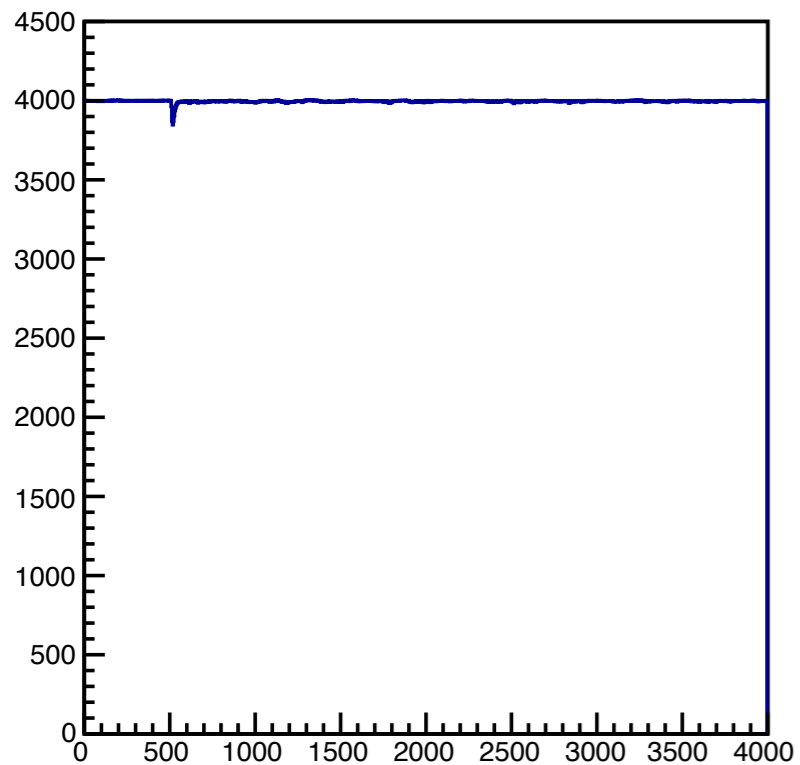


waveform_4_78

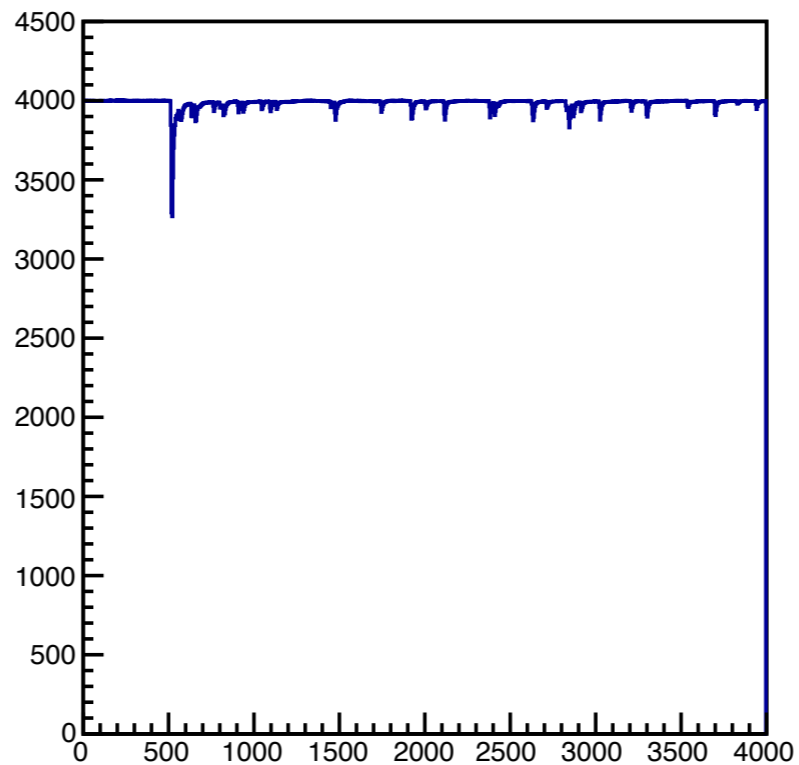


Evt. number 78

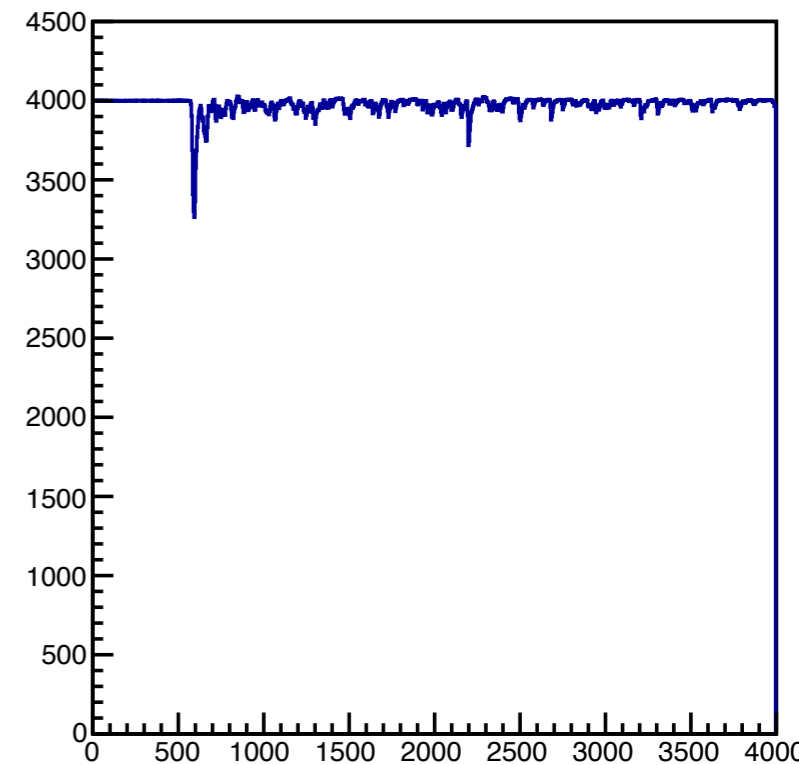
waveform_0_86



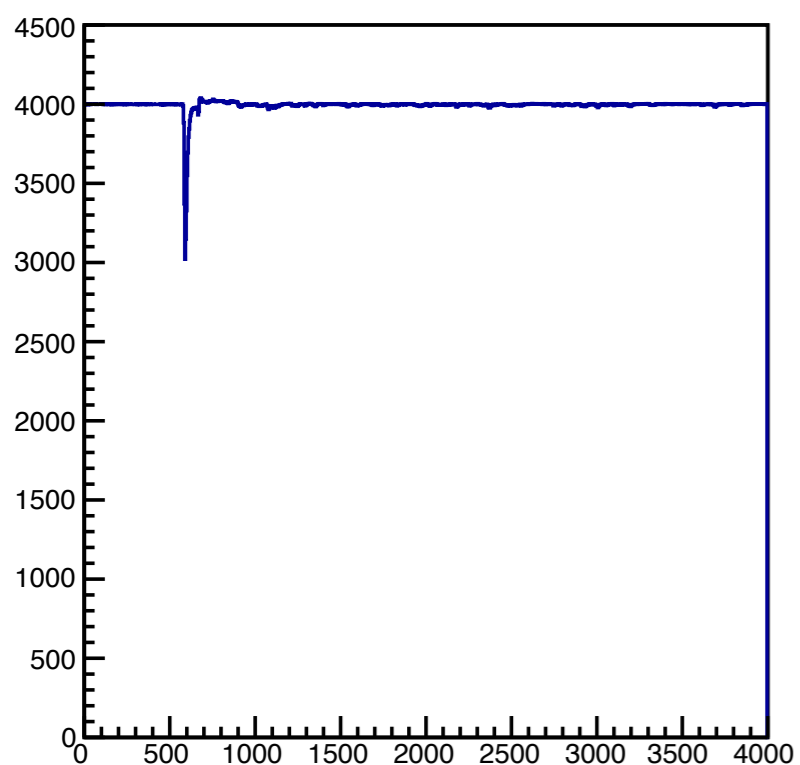
waveform_1_86



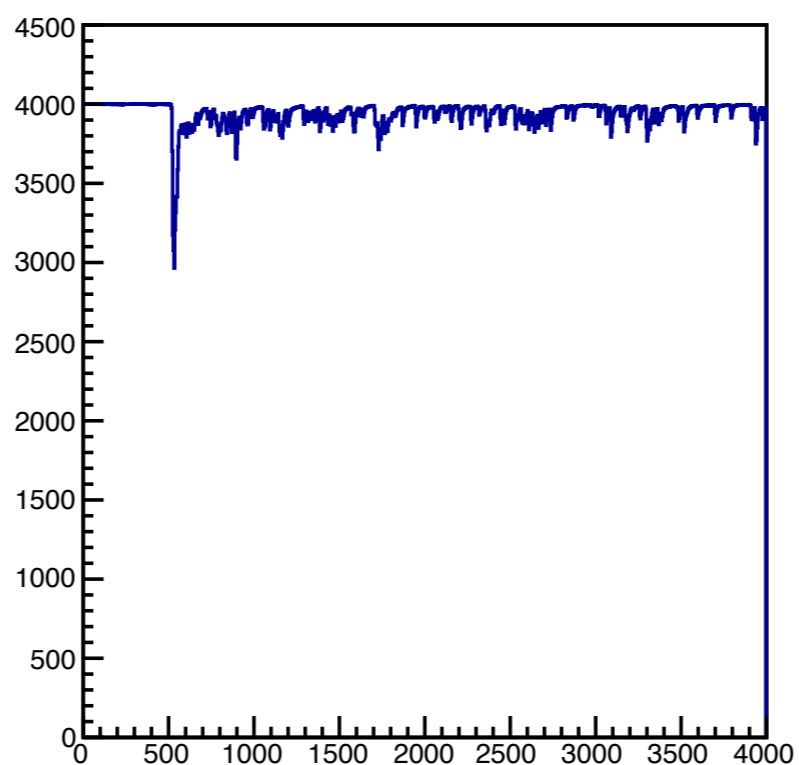
waveform_2_86



waveform_3_86

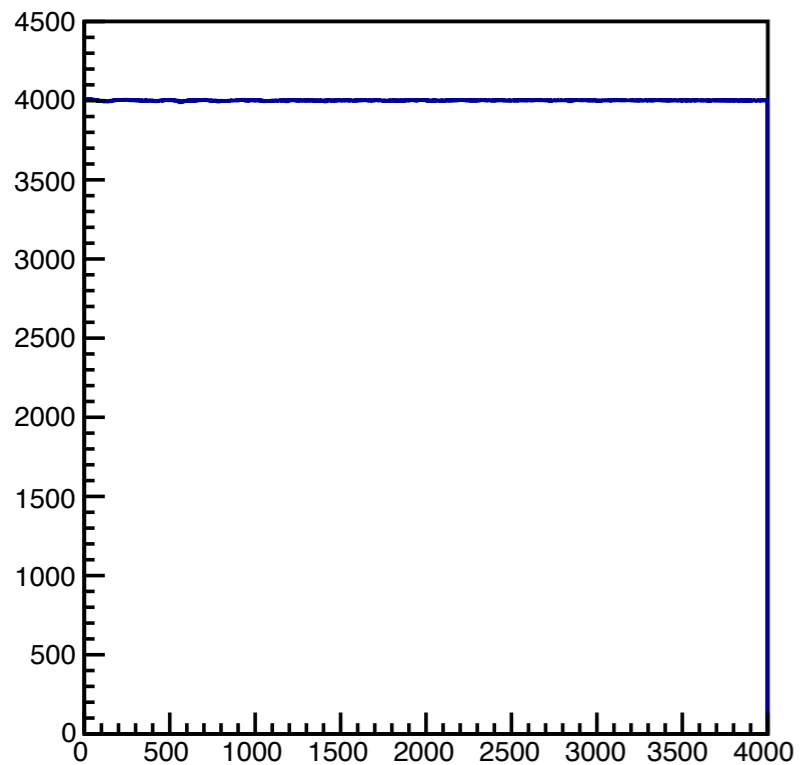


waveform_4_86

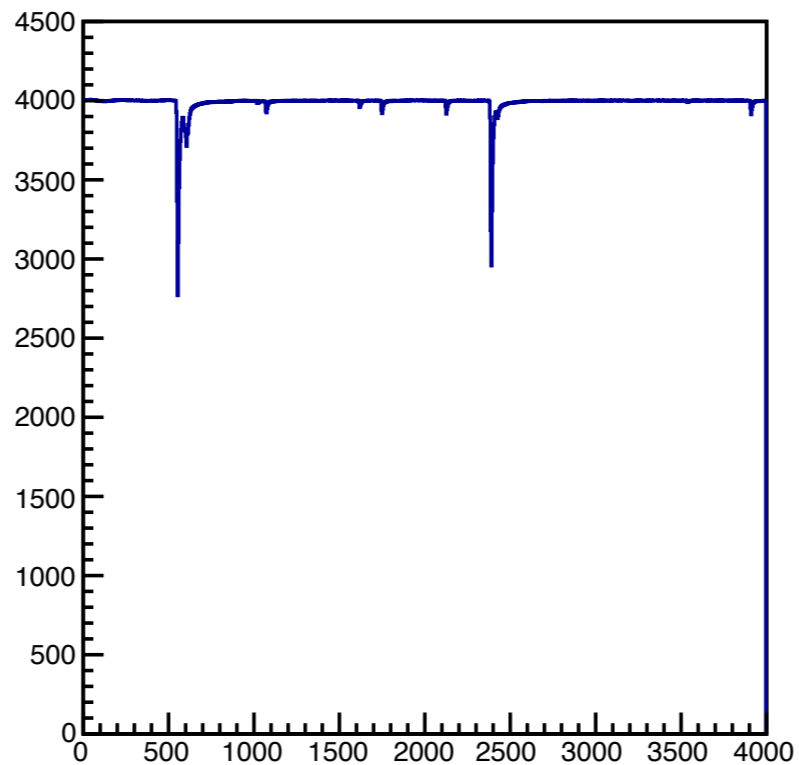


Evt. number 86

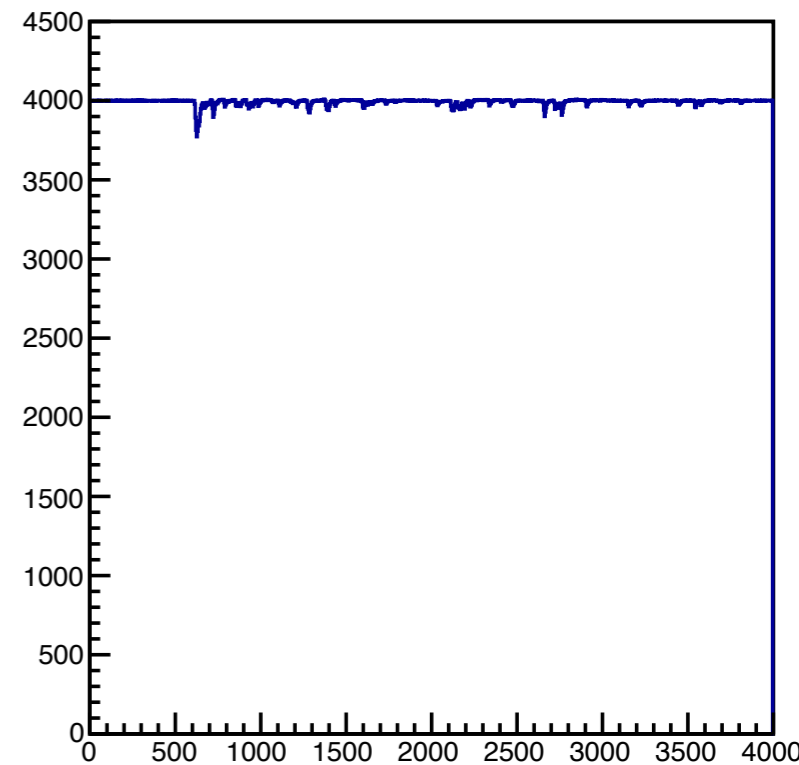
waveform_0_131



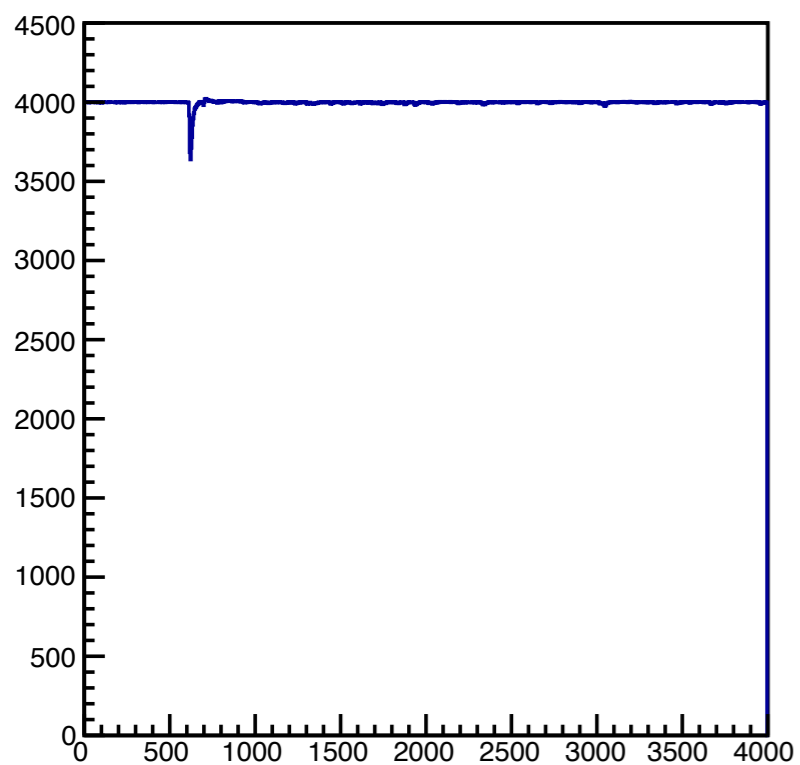
waveform_1_131



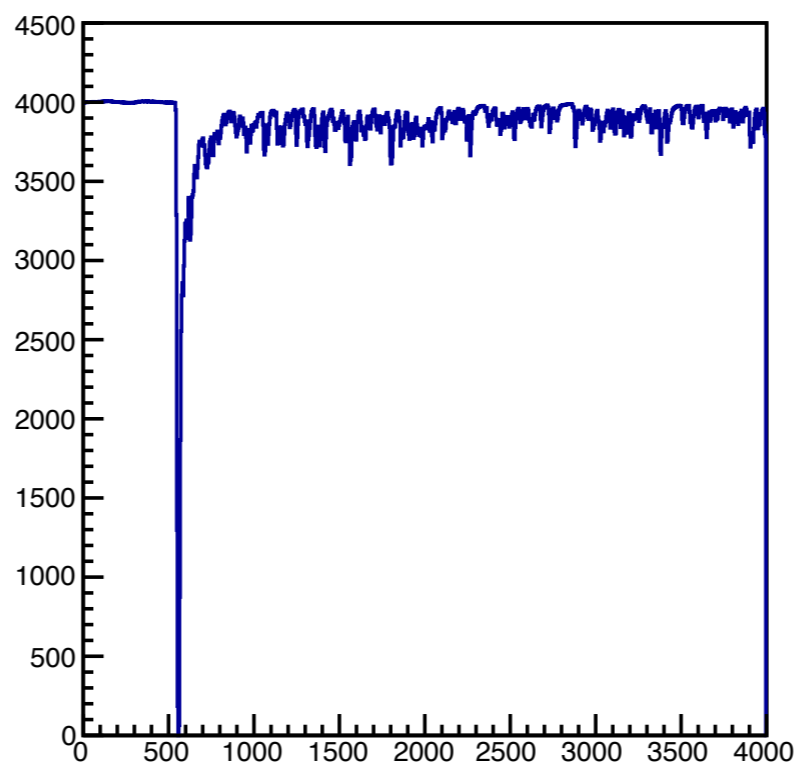
waveform_2_131



waveform_3_131

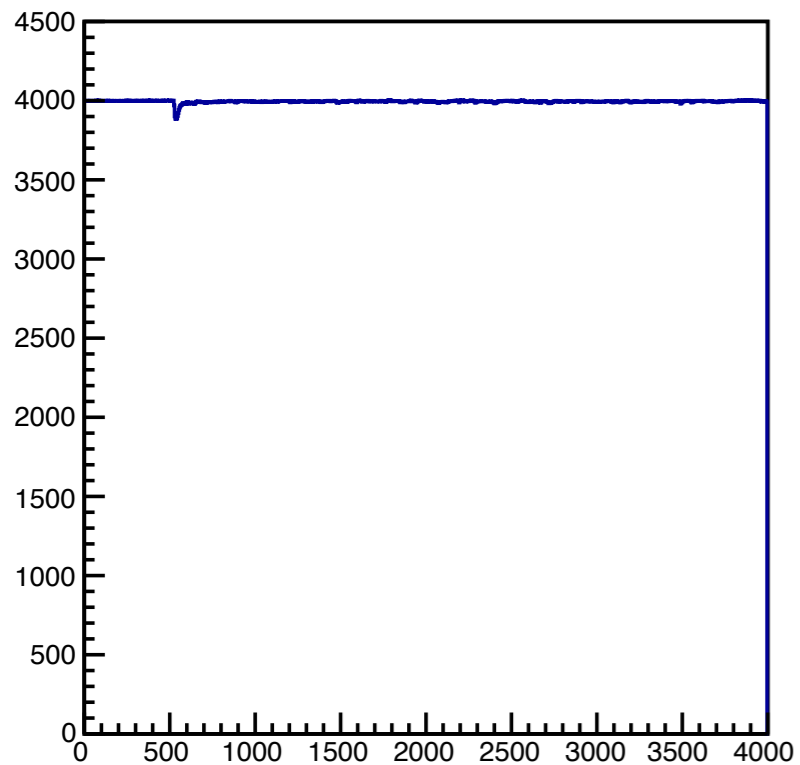


waveform_4_131

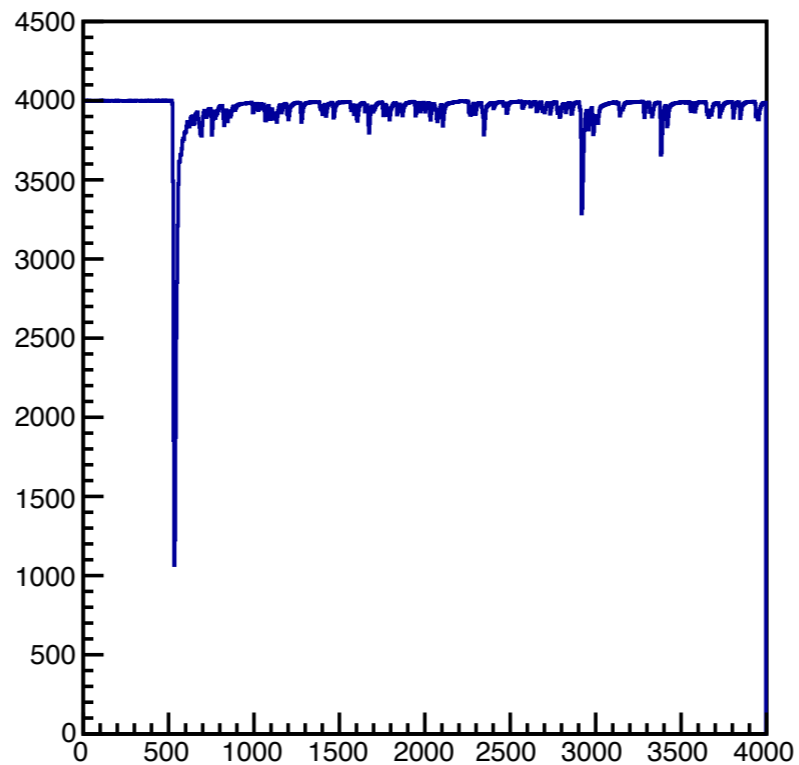


Evt. number 131

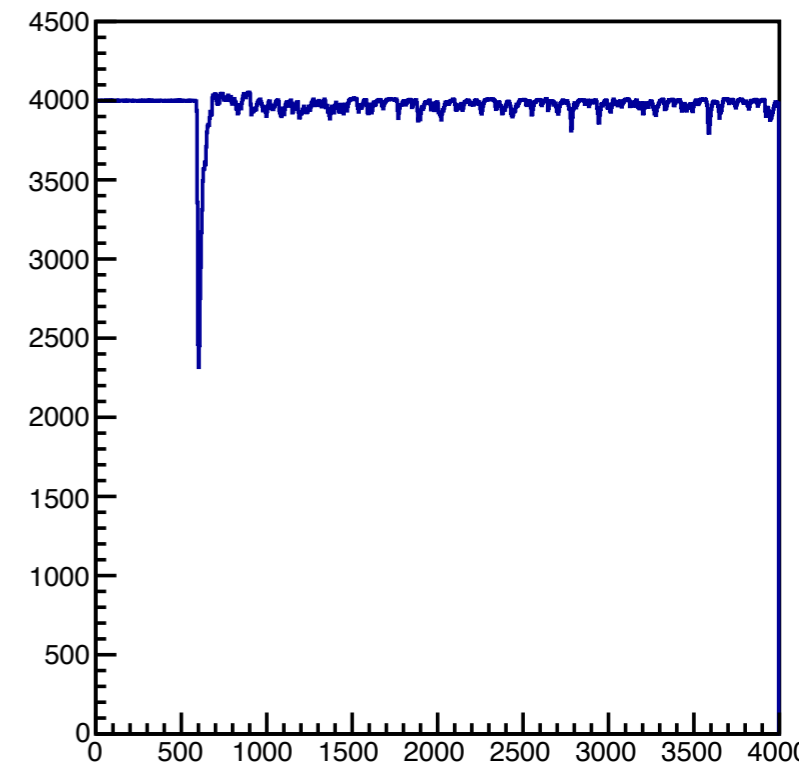
waveform_0_307



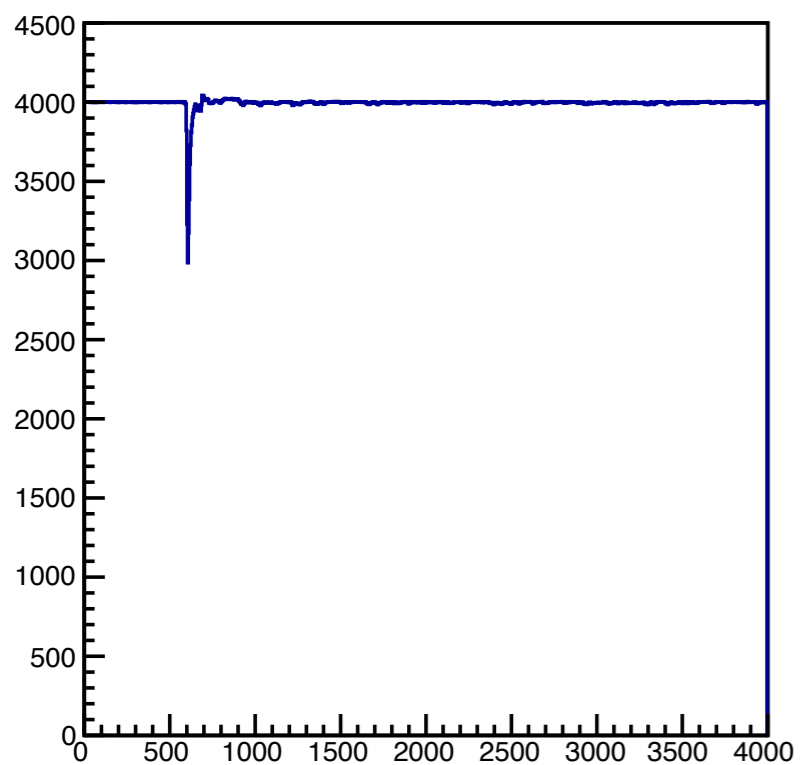
waveform_1_307



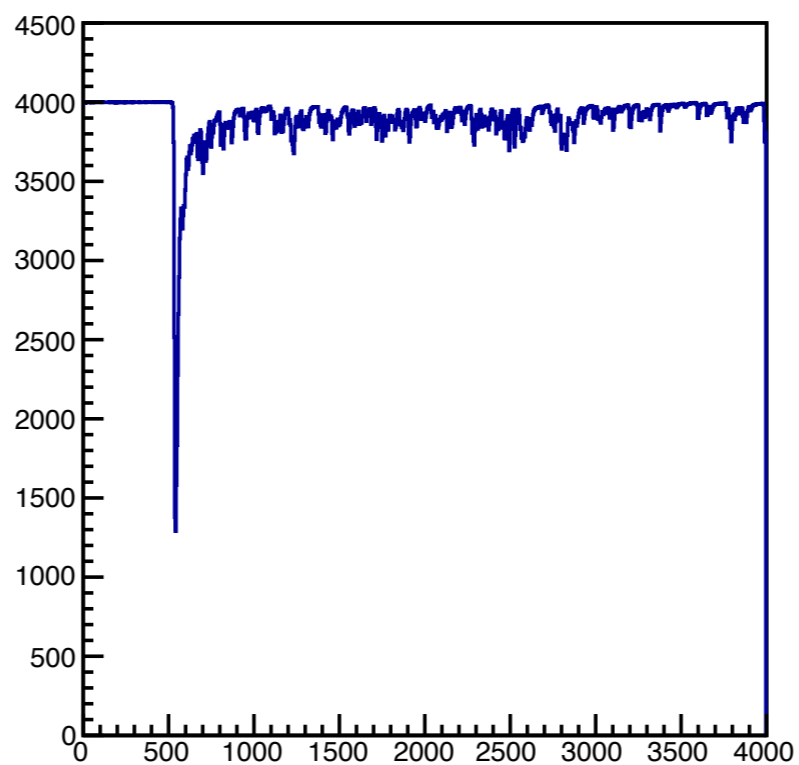
waveform_2_307



waveform_3_307

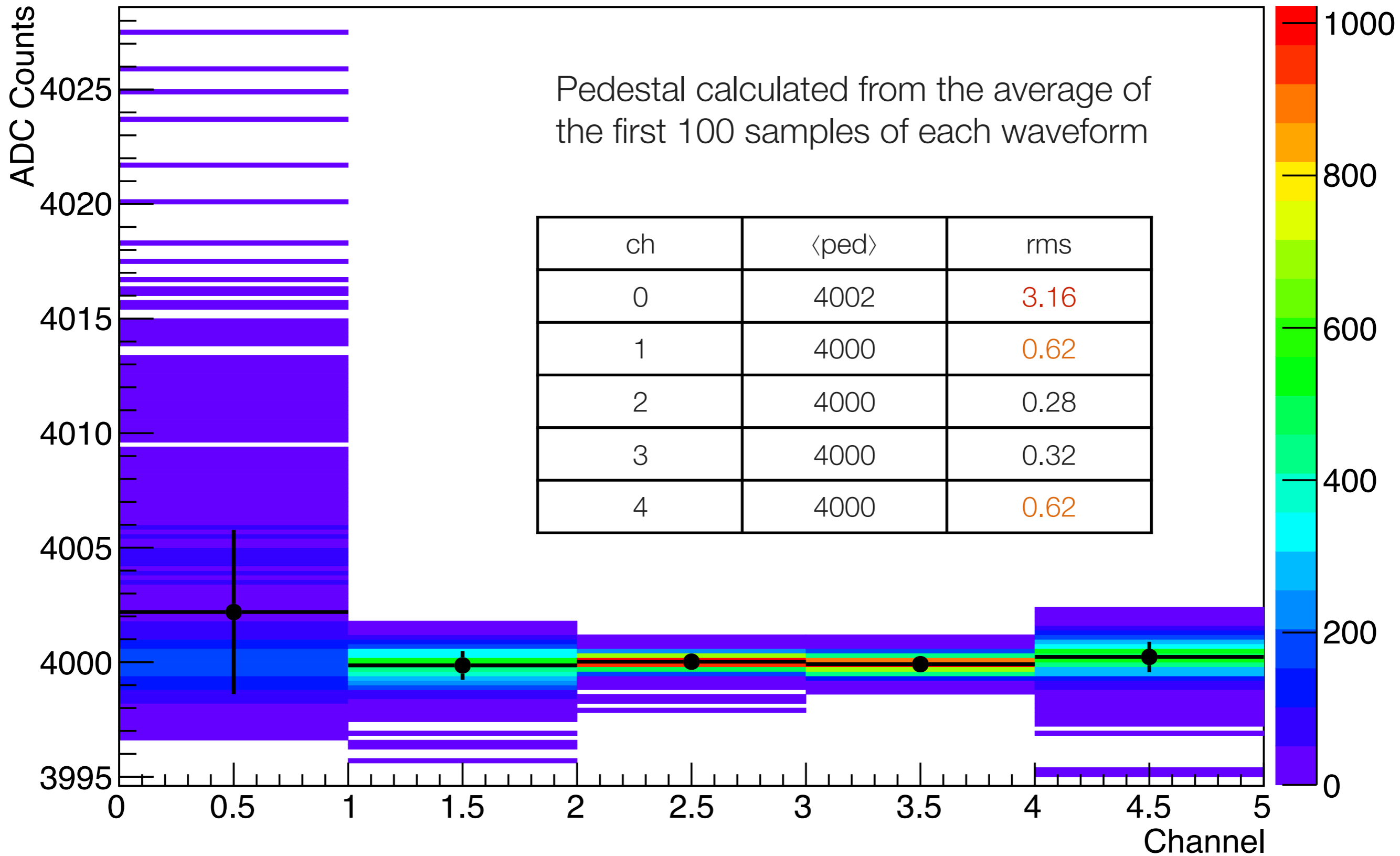


waveform_4_307

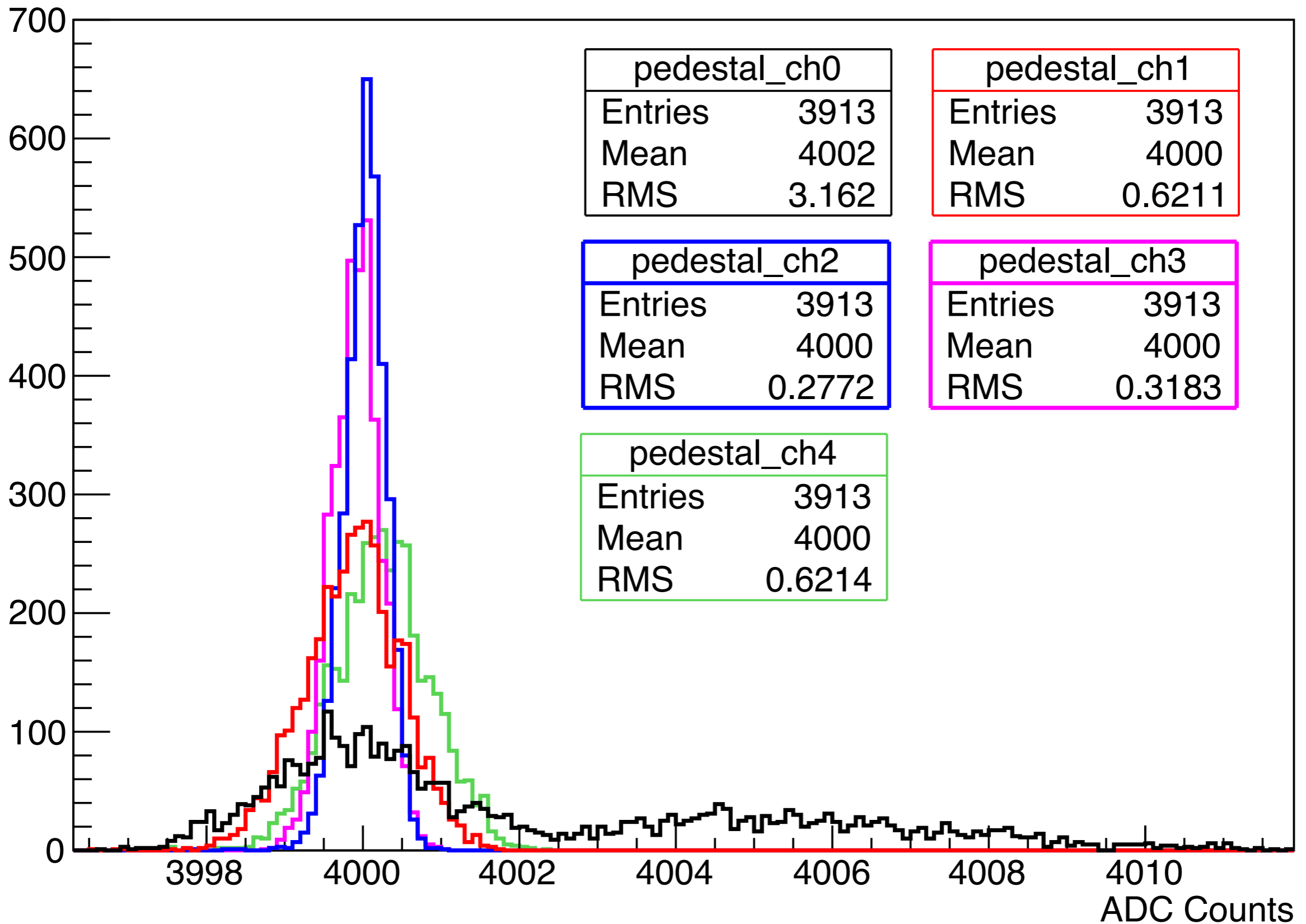


Evt. number 307

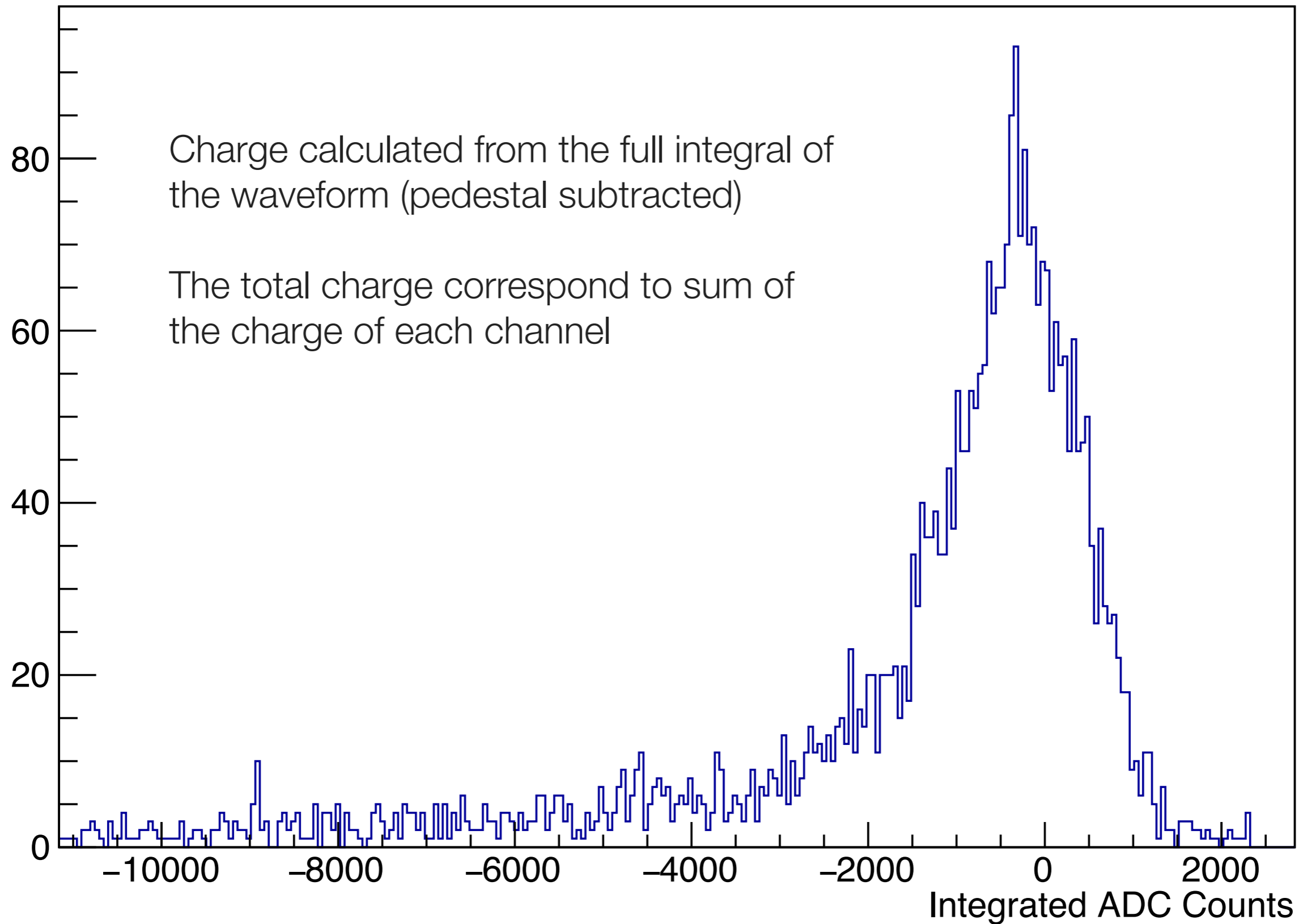
Pedestal vs channel distribution



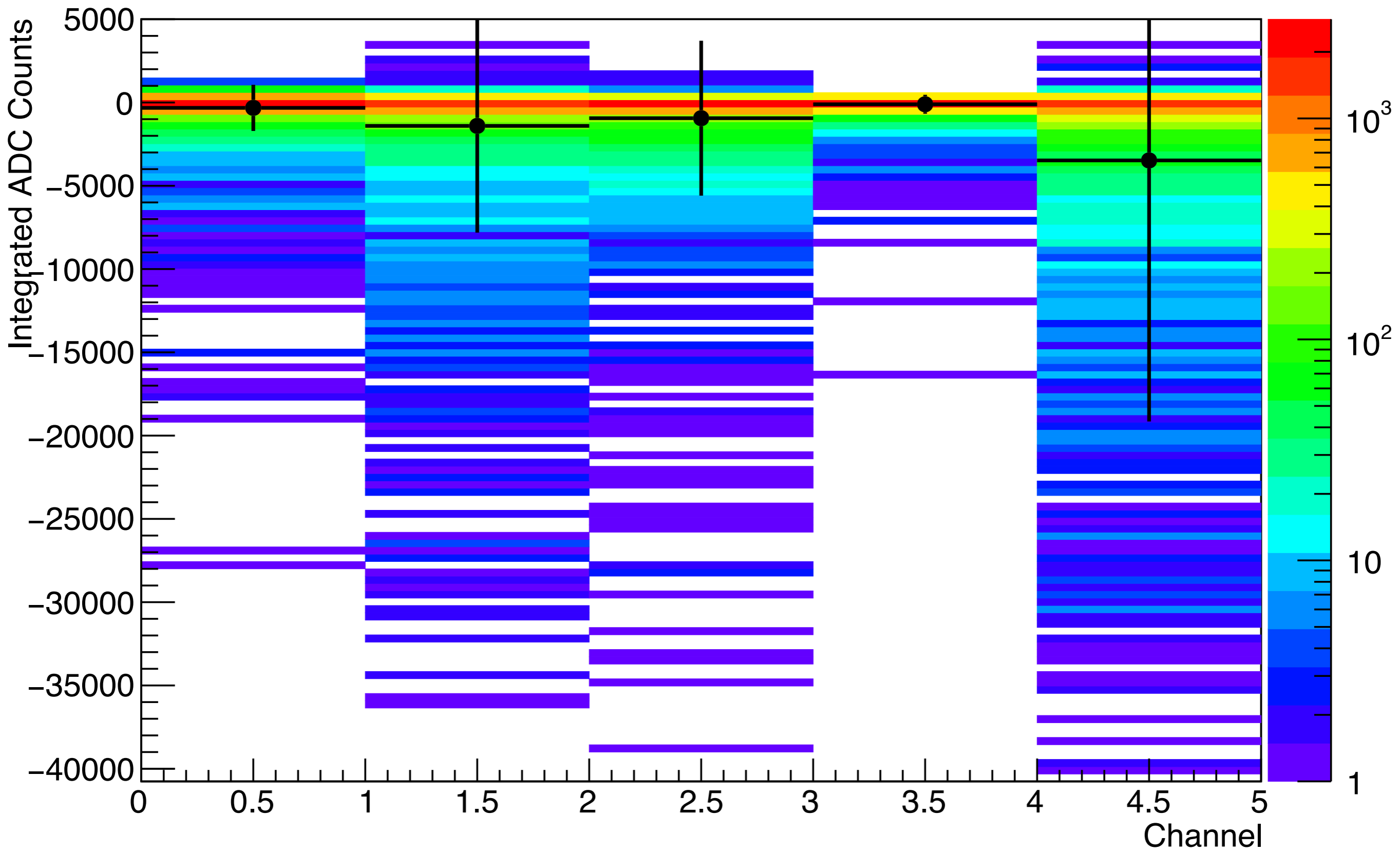
Pedestal distribution



Total charge distribution



Charge vs channel distribution



Summary

- DAQ work smoothly over 3h run
- High pedestal RMS observed in channel 0
 - Is it expected from PMT characterisation?
 - Unexpected source of noise?
- Charge distribution suggest the gain should be tuned for ch 0 and 3
- Need to match with muon information