

Mode 10 Update

Previously it was noted that there was a discrepancy between the hardware and software versions of the Pulse Amplitudes.

Mark had suggested that it was due to a variable `phgcer_SampNSAT`. This is the minimum samples above threshold.

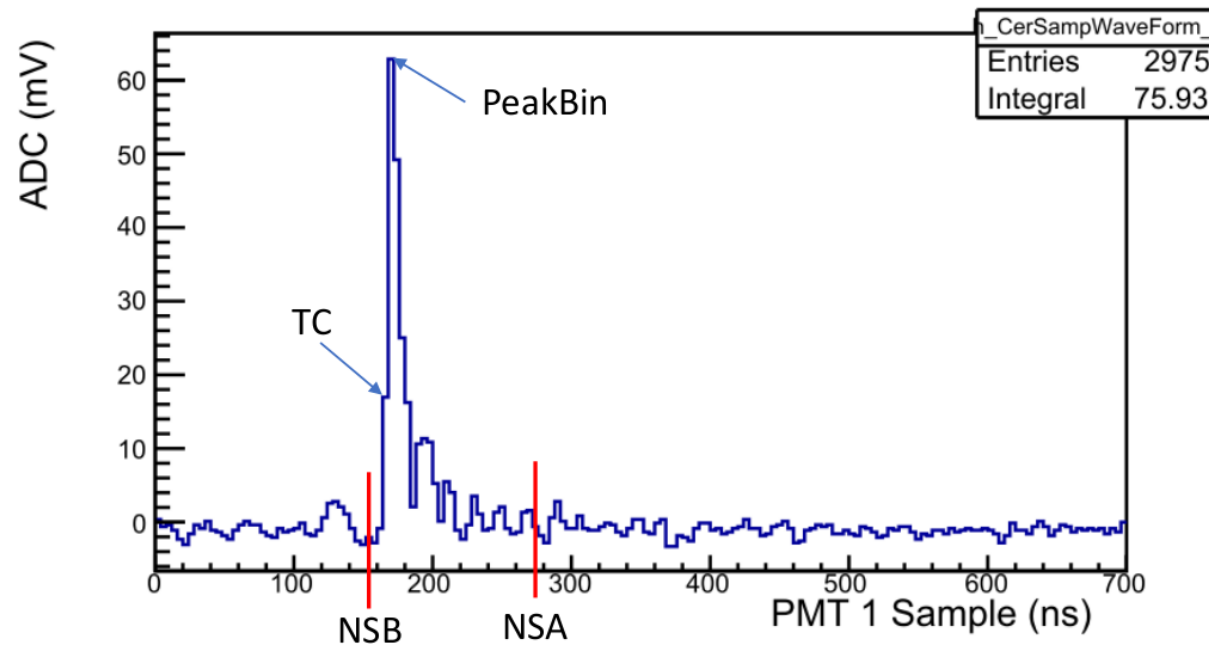
Mark set the default for this at 2 bins, where as the fADC's have it set to 1 bin.

Define terminology

- **NSAT** = Number of Samples above Threshold
 - For FADC configuration NSAT=1
 - HCANA can set NSAT with default = 2
- Pedestal determined by the average of ADC in first four time bins.
- Threshold is 10mV above pedestal.
- HCANA can set the threshold.
- TC = Threshold Crossing is first bin in the NSAT that is above threshold relative to the pedestal
- NSB = Number of Samples Before TC
- NSA = Number of Samples After TC
- In F250 configuration NSB=3 (12ns) and NSA=26 (104ns).
- HCANA can set NSB and NSA. Default is to use the F250 configuration.

Pedestal subtracted sample waveform
Each time bin is 4ns.

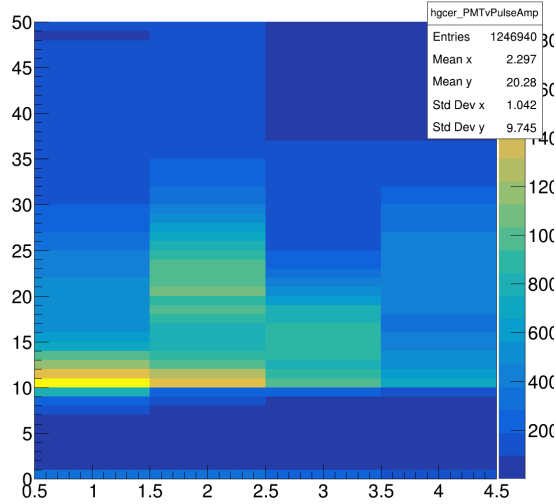
Run 13883



Comparison for run 11799

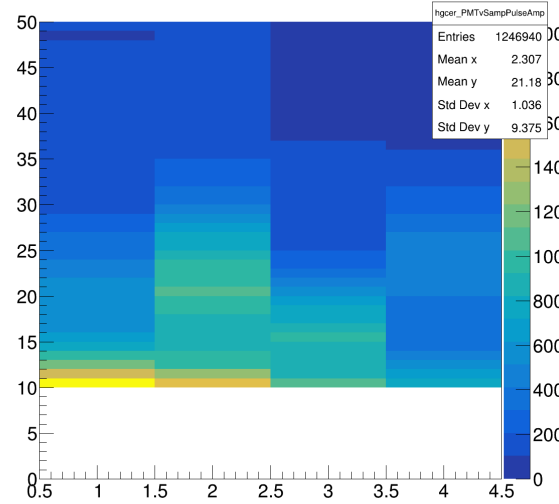
Hardware

hgcer_PMTvPulseAmp



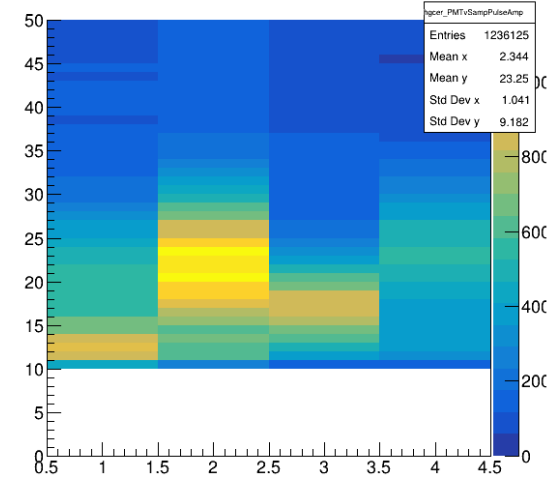
Software Threshold = 1 bin

hgcer_PMTvSampPulseAmp

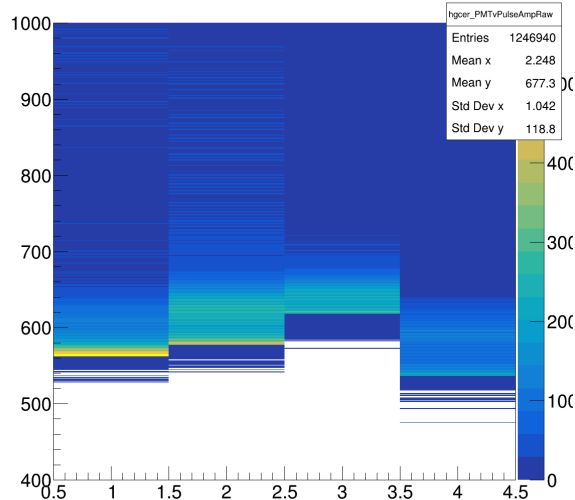


Threshold = 2 bins

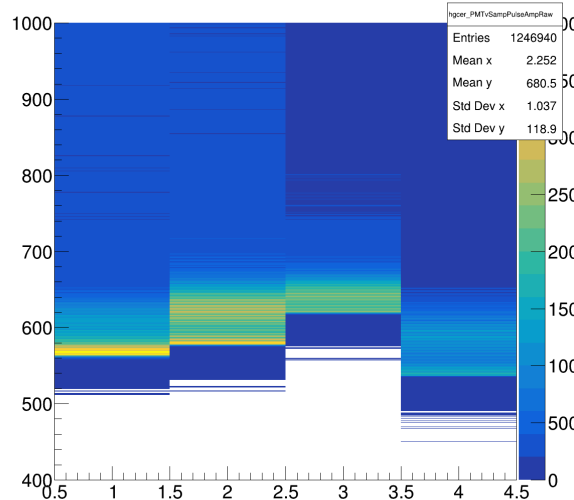
hgcer_PMTvSampPulseAmp



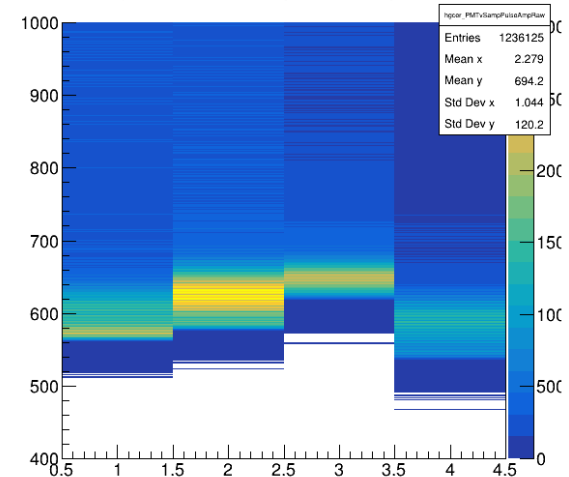
hgcer_PMTvPulseAmpRaw



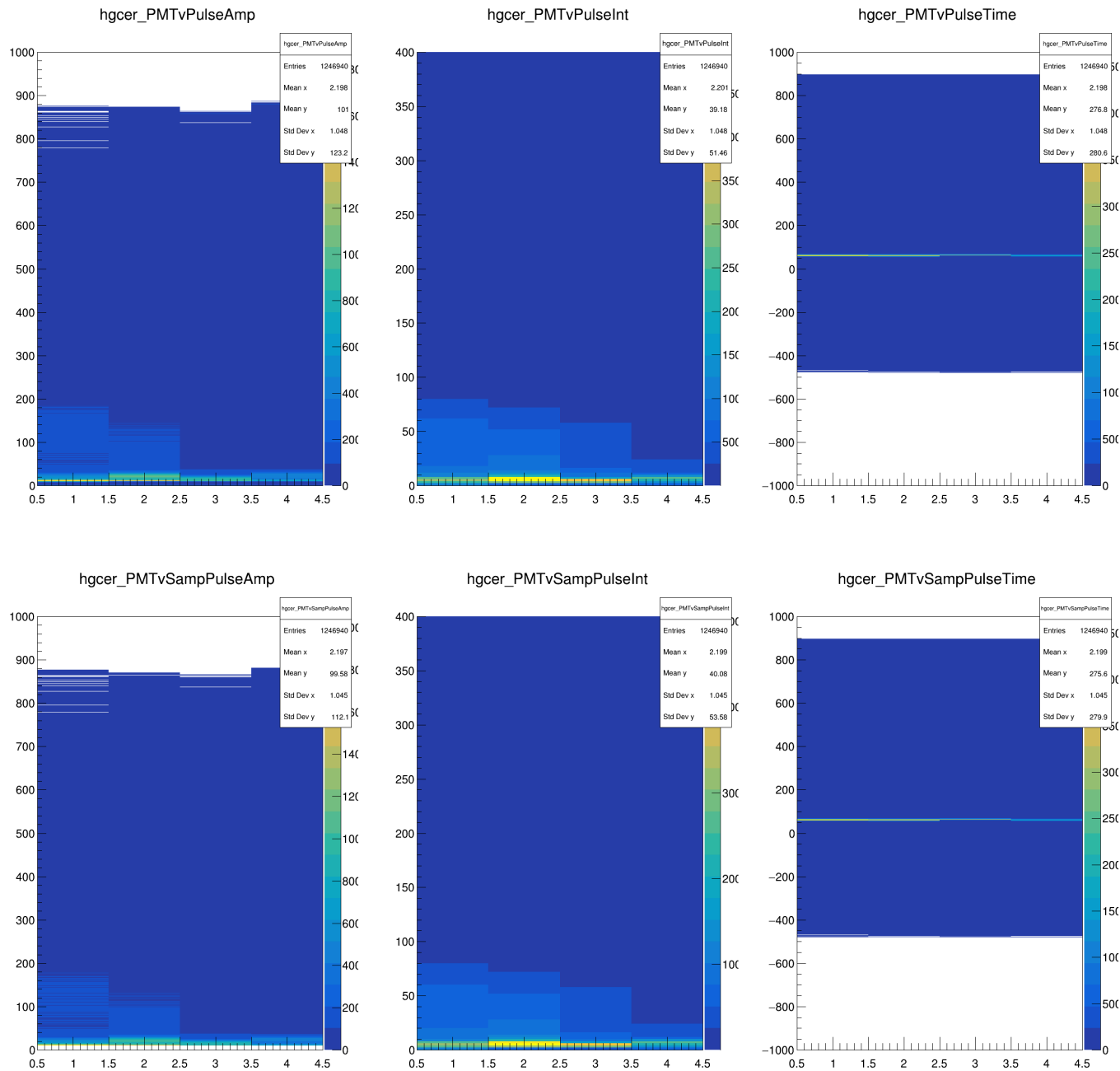
hgcer_PMTvSampPulseAmpRaw

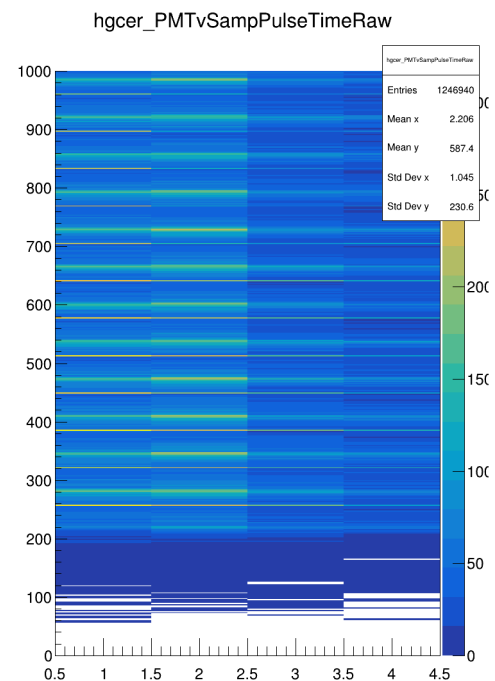
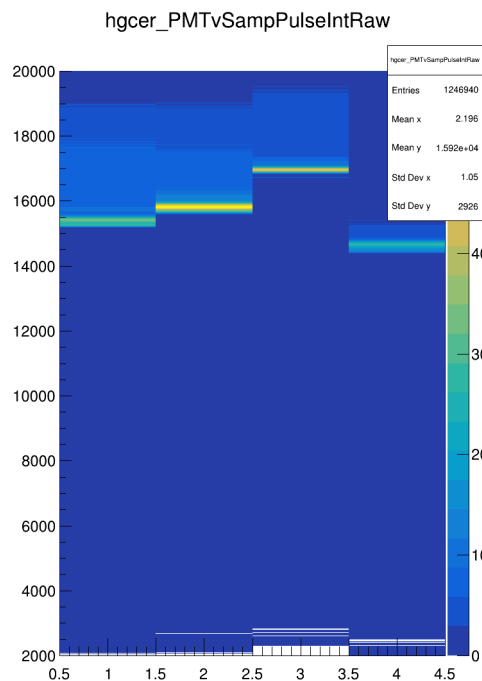
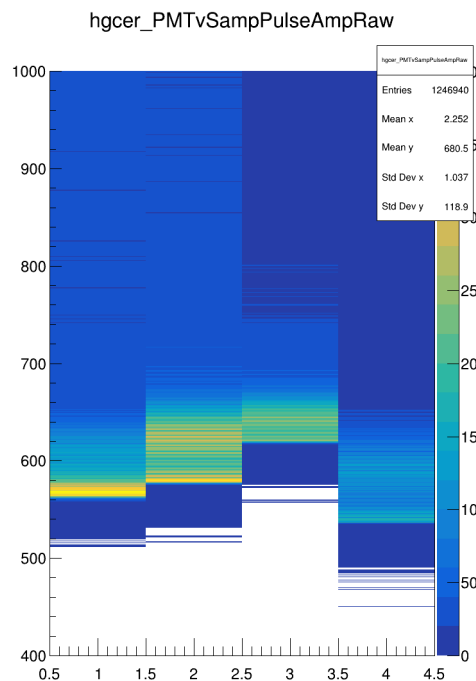
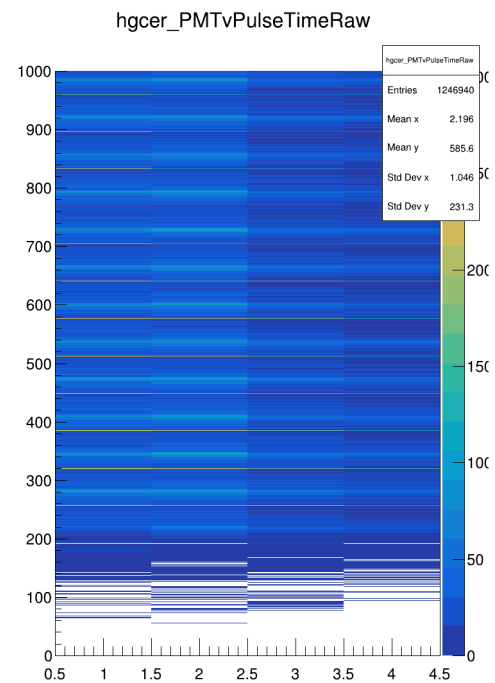
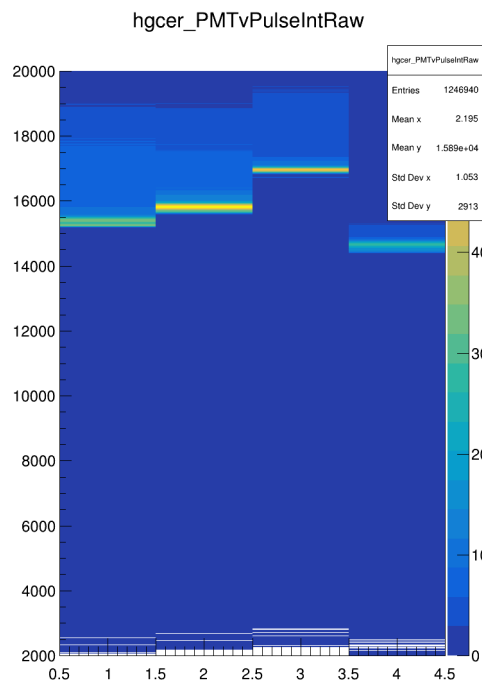
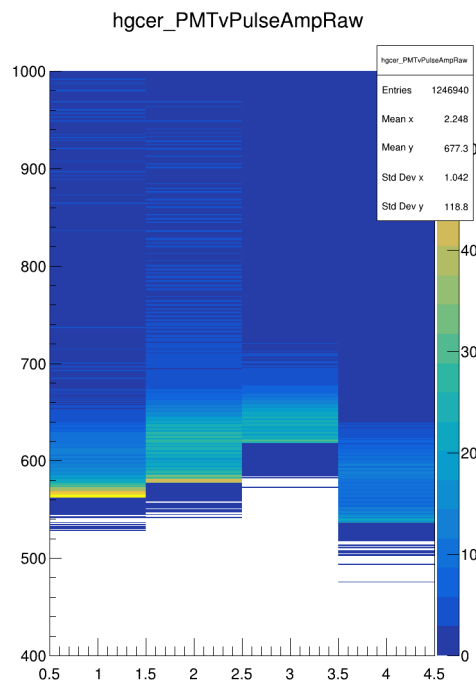


hgcer_PMTvSampPulseAmpRaw

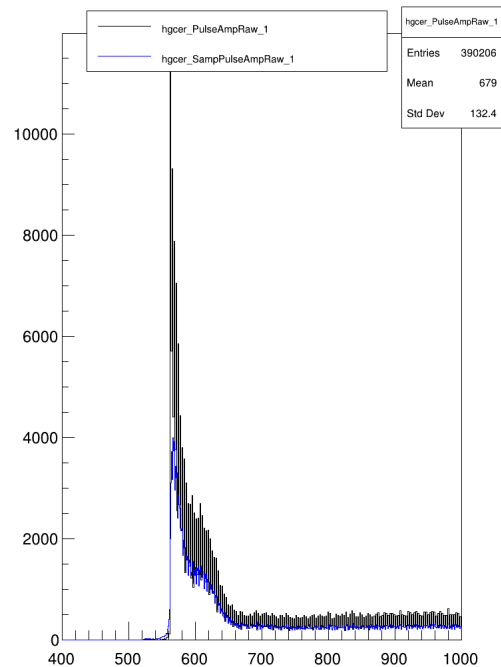


Other plots with Threshold = 1

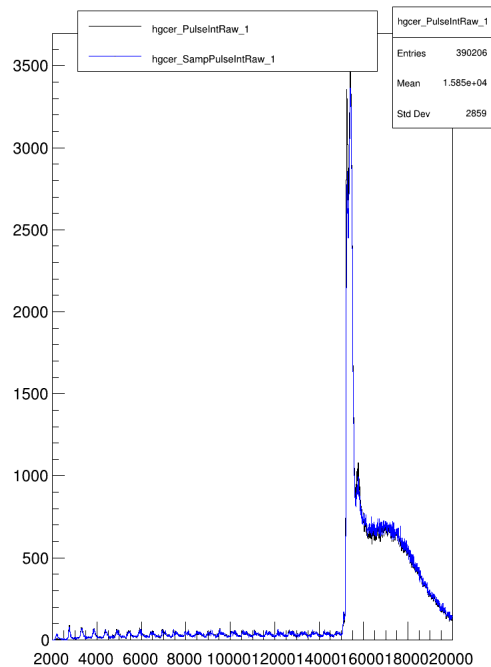




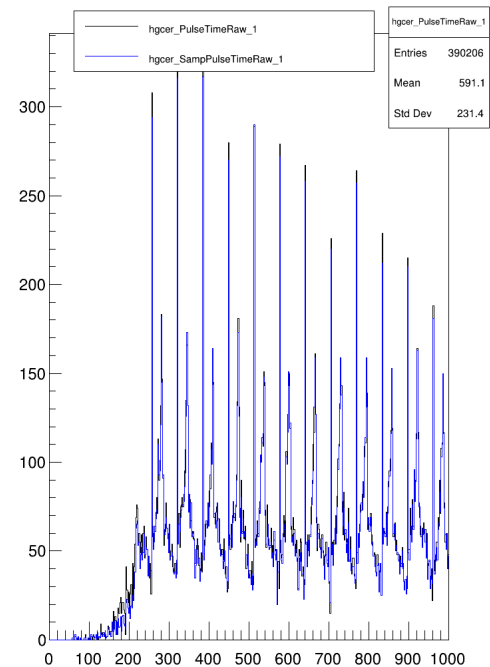
hgcer_PulseAmpRaw_1



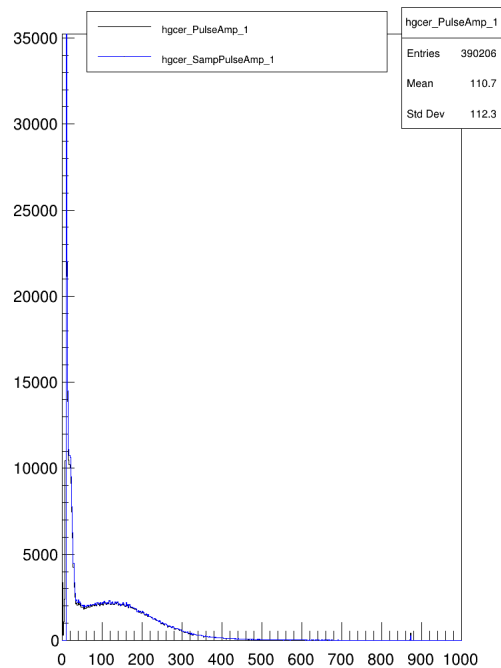
hgcer_PulseIntRaw_1



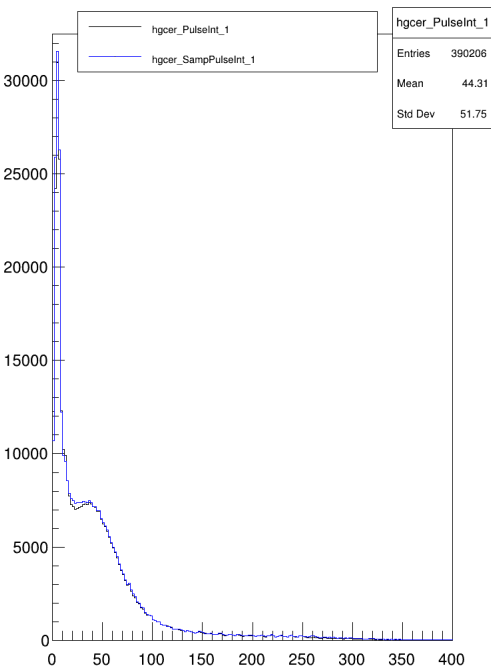
hgcer_PulseTimeRaw_1



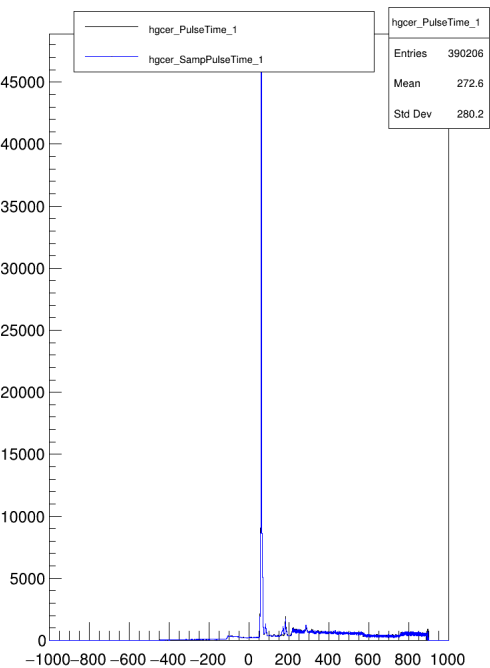
hgcer_PulseAmp_1

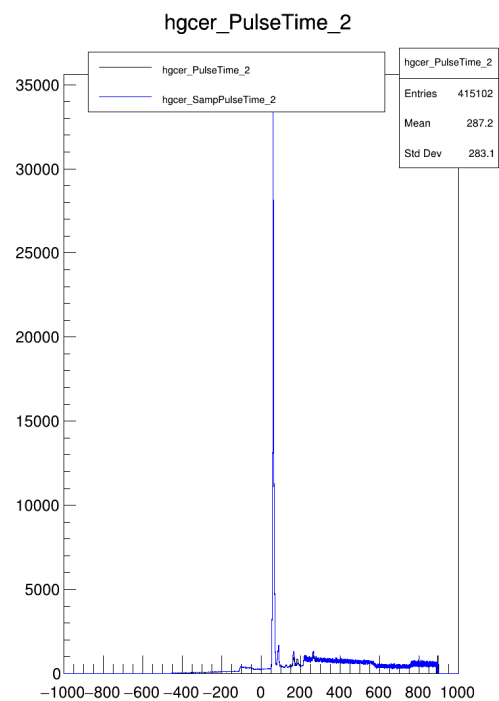
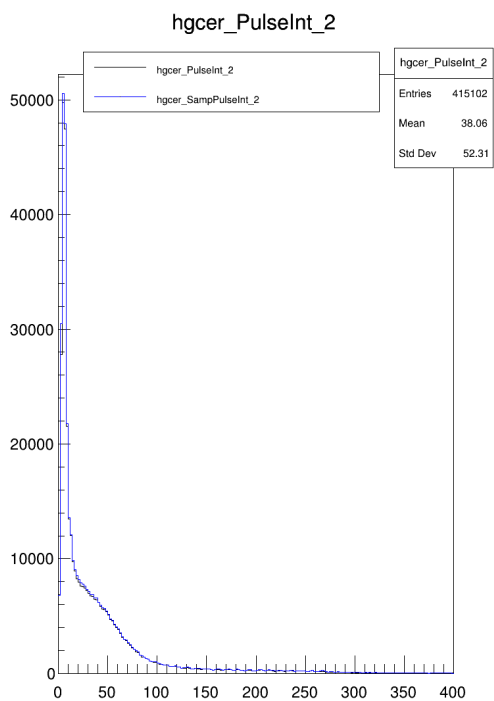
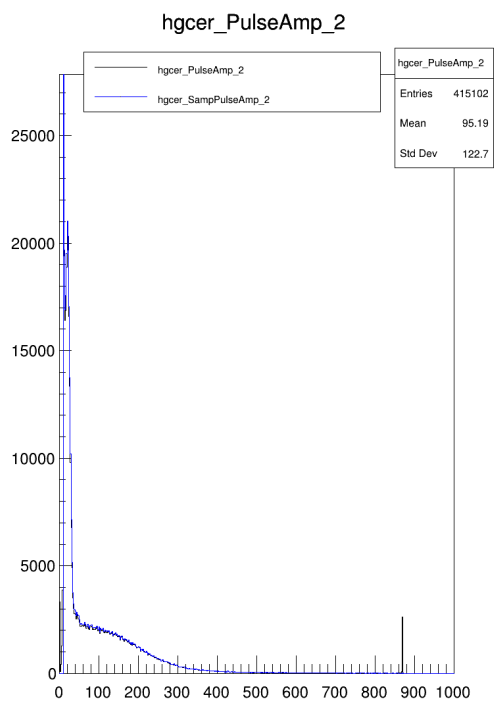
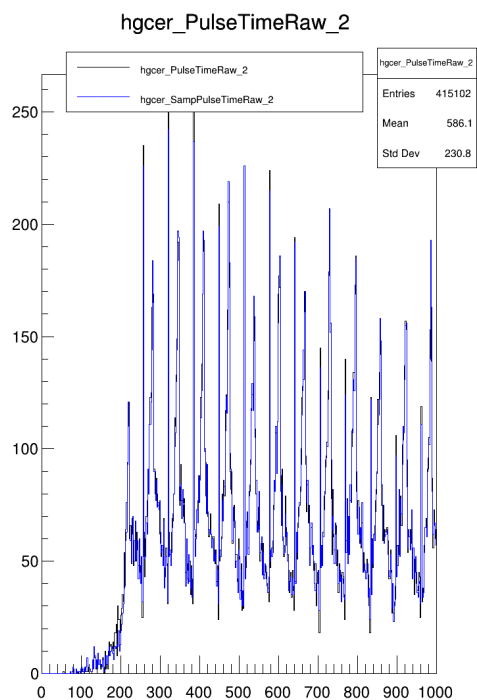
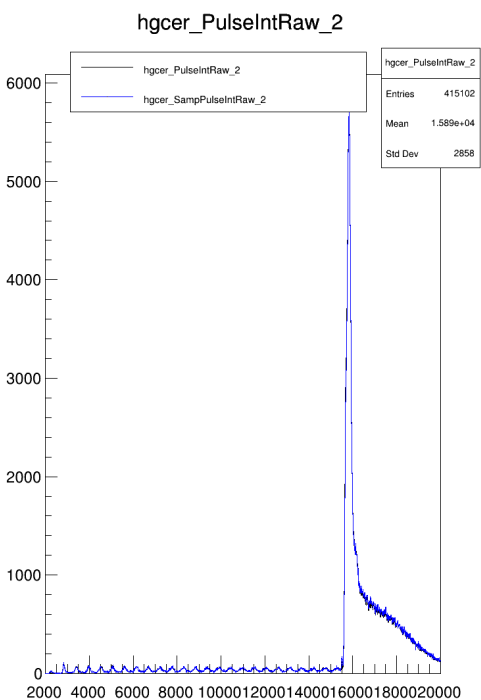
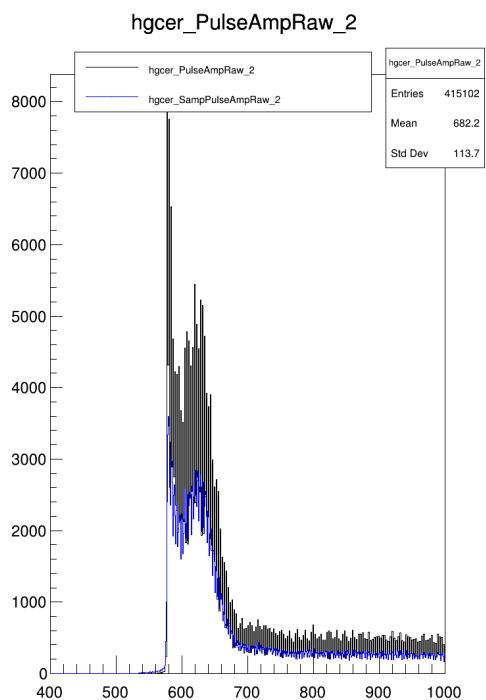


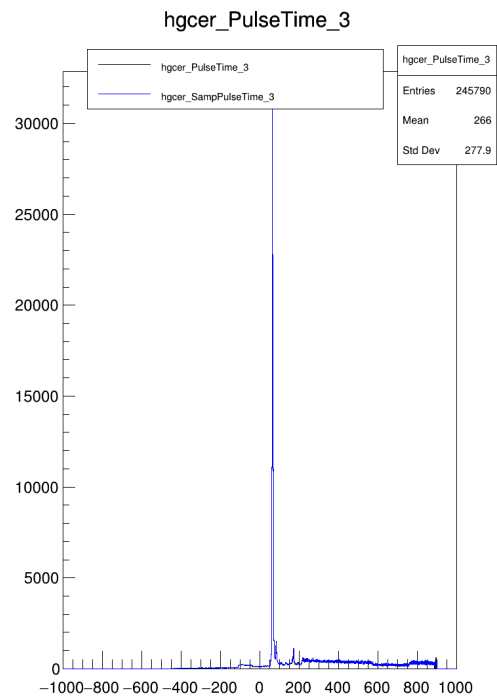
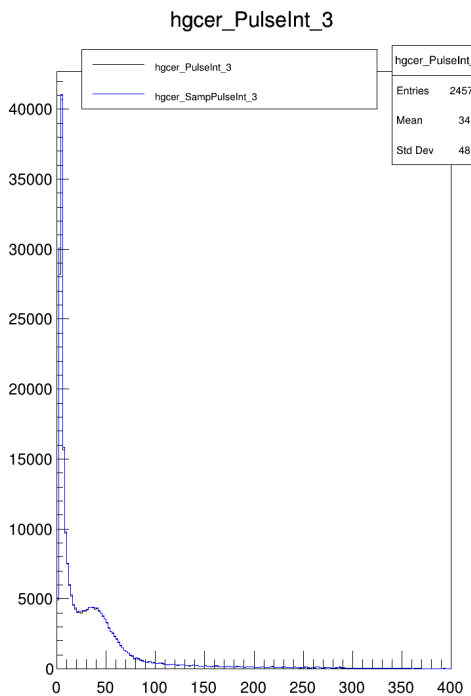
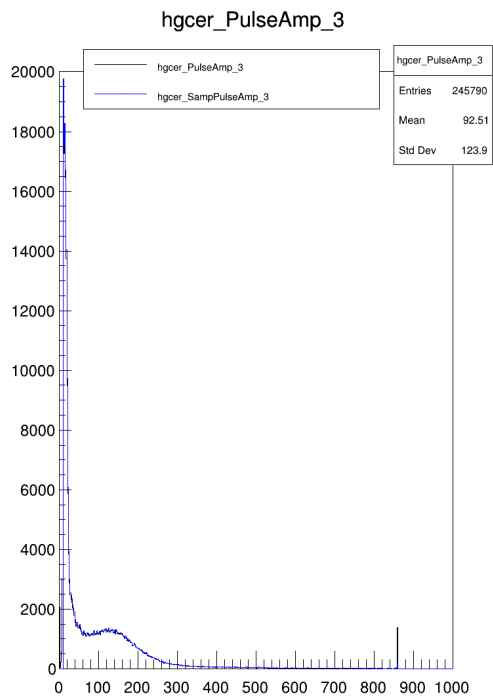
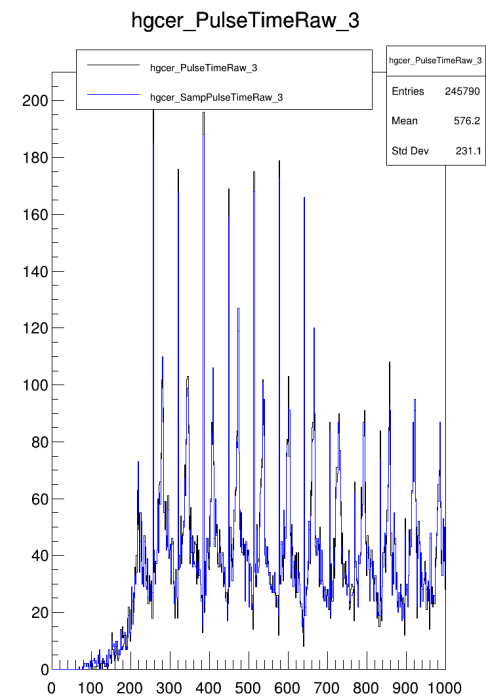
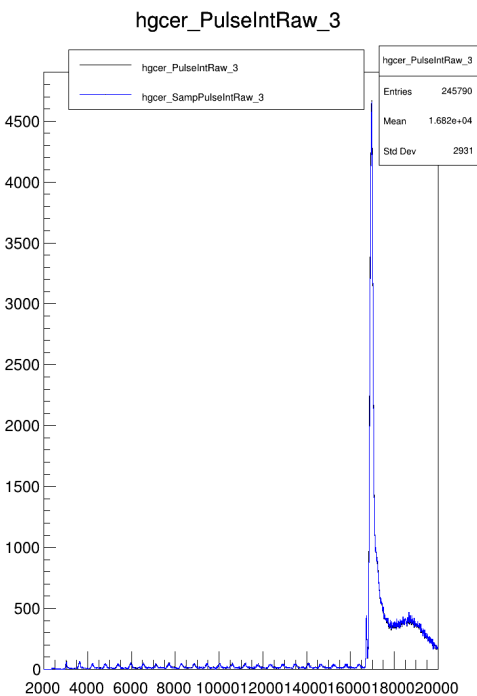
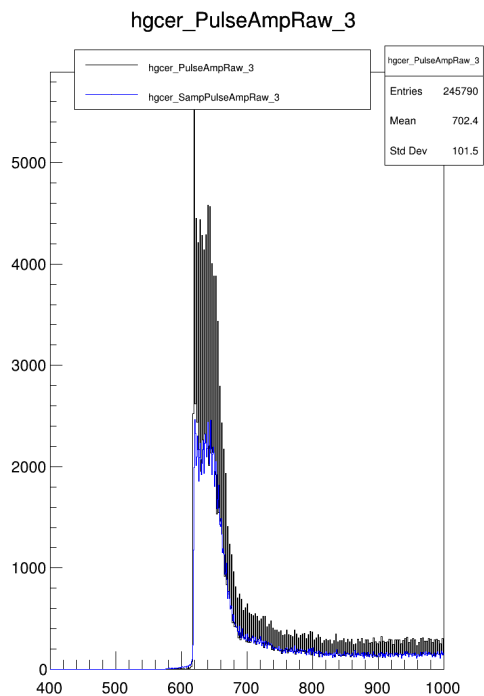
hgcer_PulseInt_1



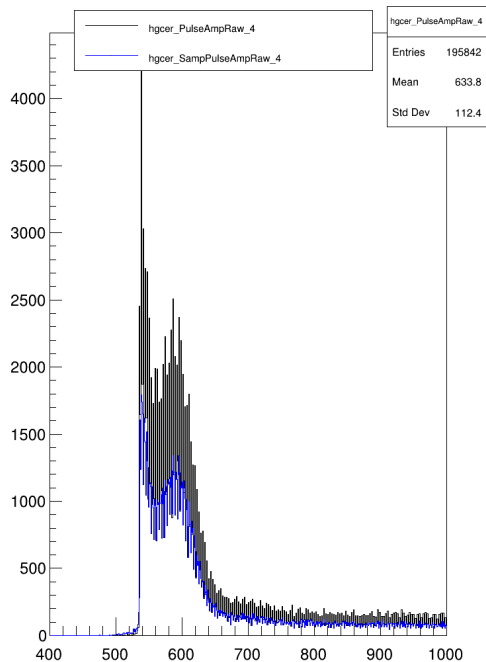
hgcer_PulseTime_1



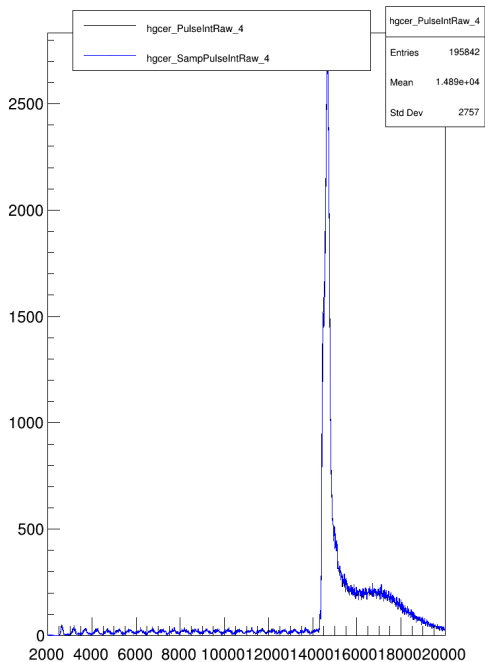




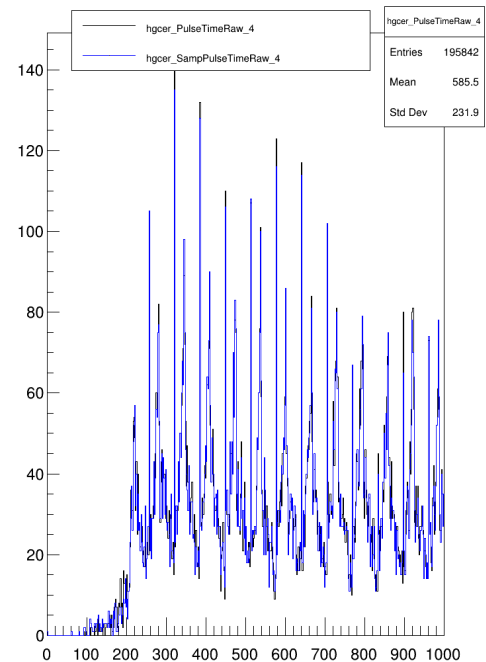
hgcer_PulseAmpRaw_4



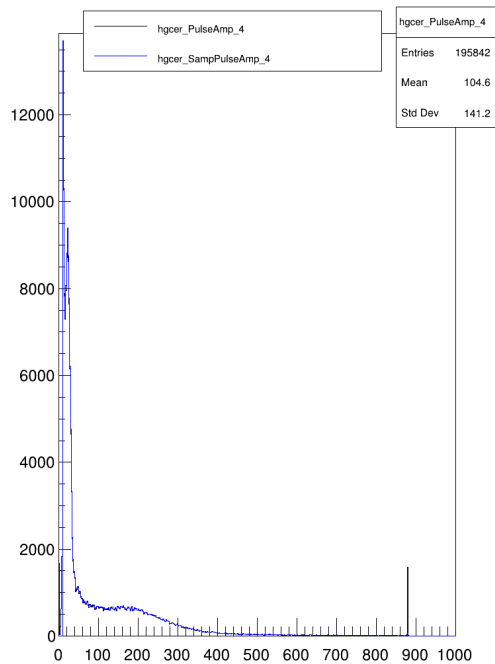
hgcer_PulseIntRaw_4



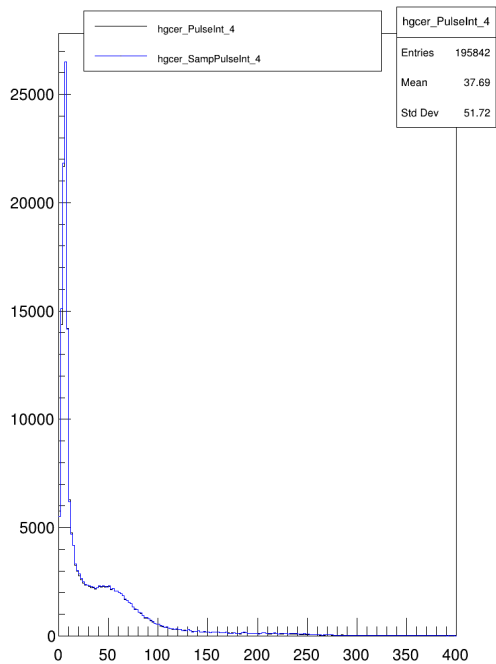
hgcer_PulseTimeRaw_4



hgcer_PulseAmp_4



hgcer_PulseInt_4



hgcer_PulseTime_4

