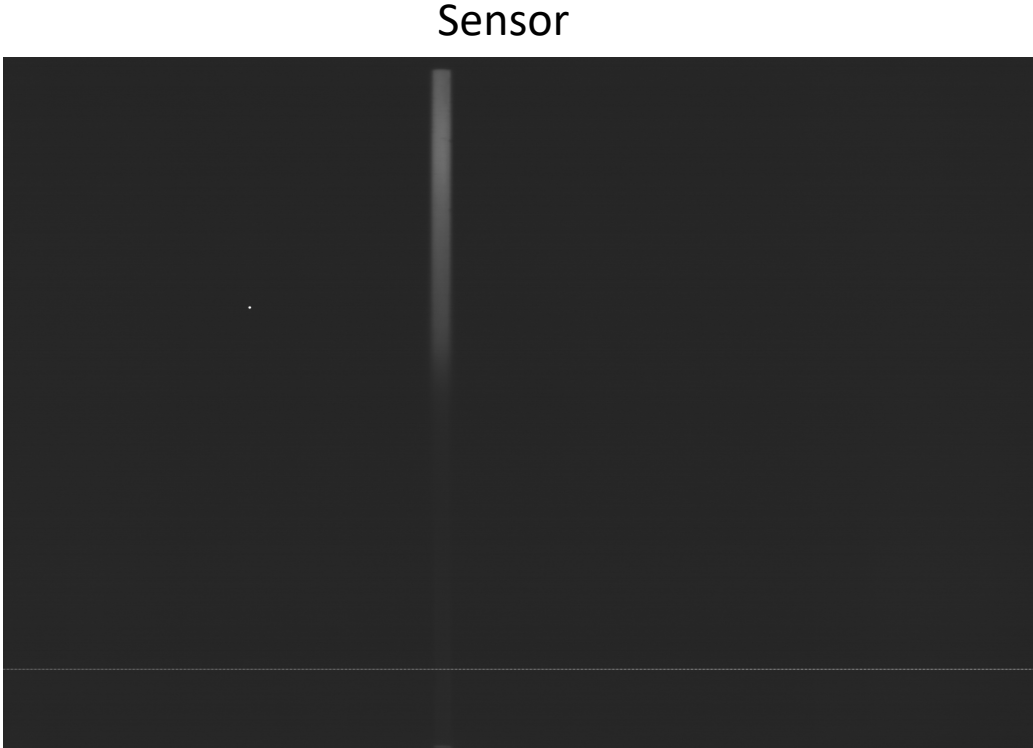
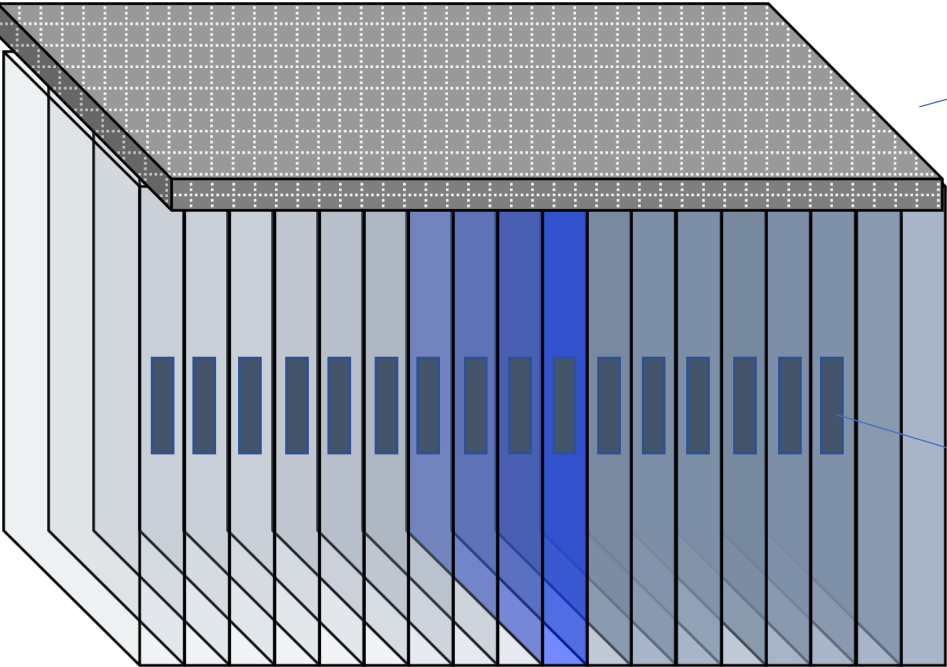


EXPERIMENTAL SETUP n.1

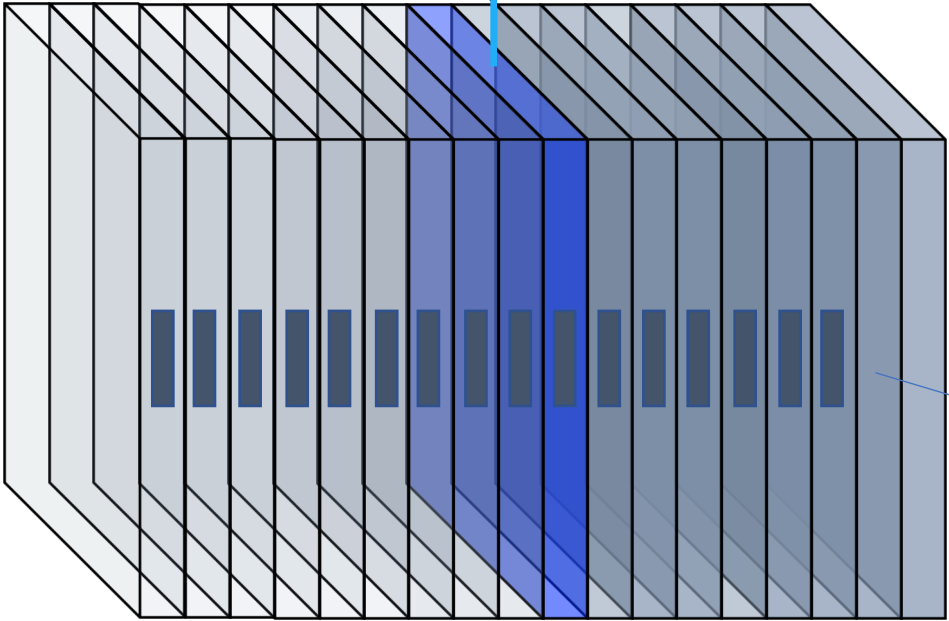
Optical fiber injecting UV light
opposite to the PDs array and
90deg to the CMOS sensor



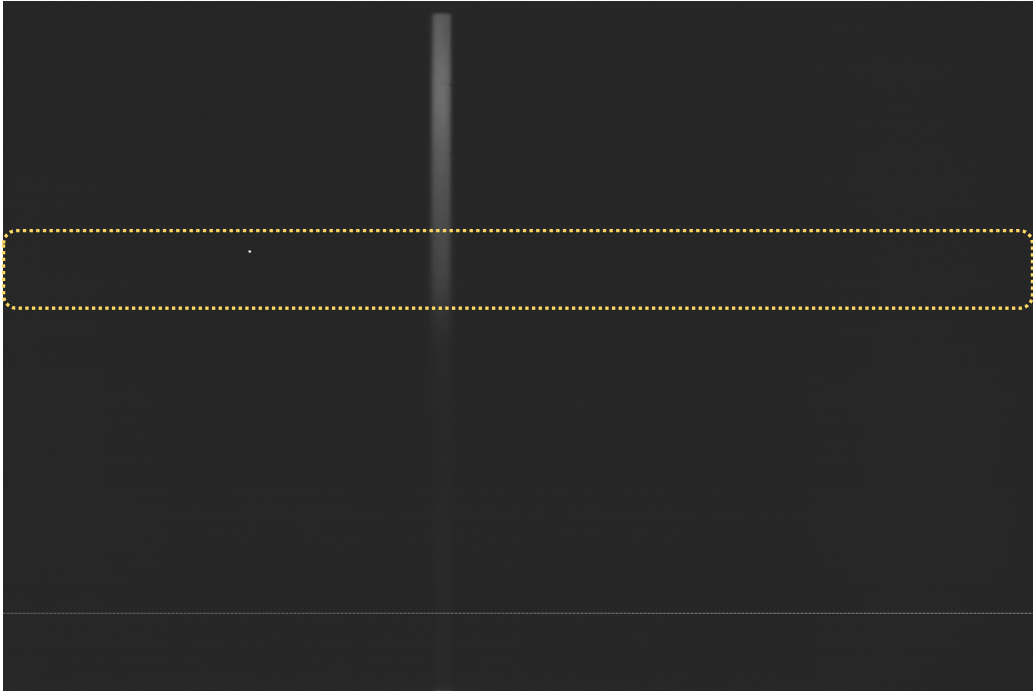
Very weak signal from photodiodes

EXPERIMENTAL SETUP n.2

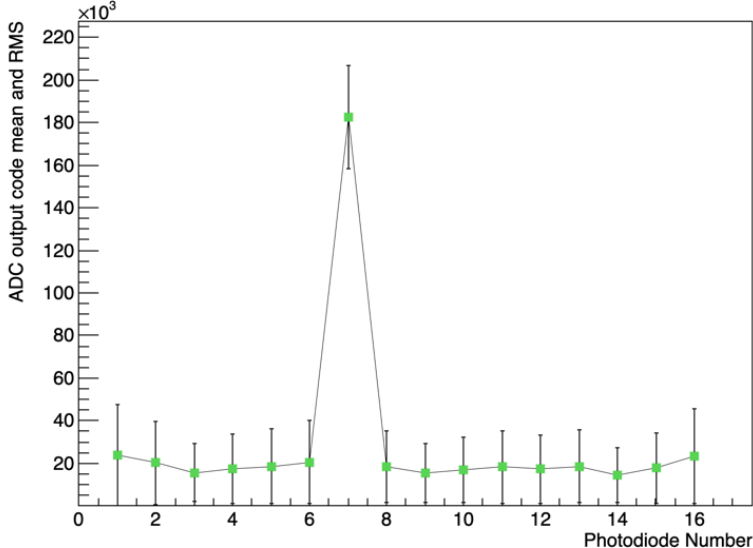
Optical fiber injecting UV light 90deg to the PDs array. Sensor removed.



Area of the sensor covered by PDs in this setup.



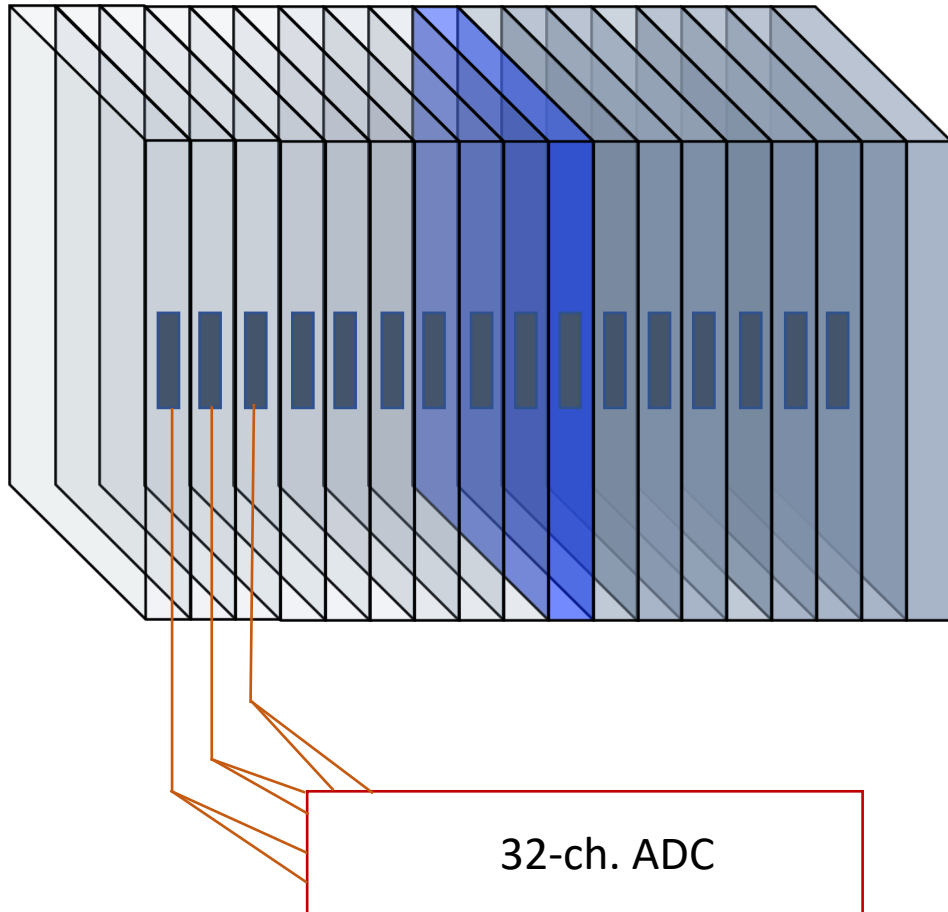
Candlestick Plot



MEASUREMENTS PERFORMED:

- Array of 16 photodiodes tested using a 32-channel current-input ADC. No reverse voltage applied.
- 2 different PD arrays tested using Hamamatsu S1337-16BR and S12915-16R
- Different integration times and ADC Full Scale ranges

ELECTRONIC CONFIGURATION

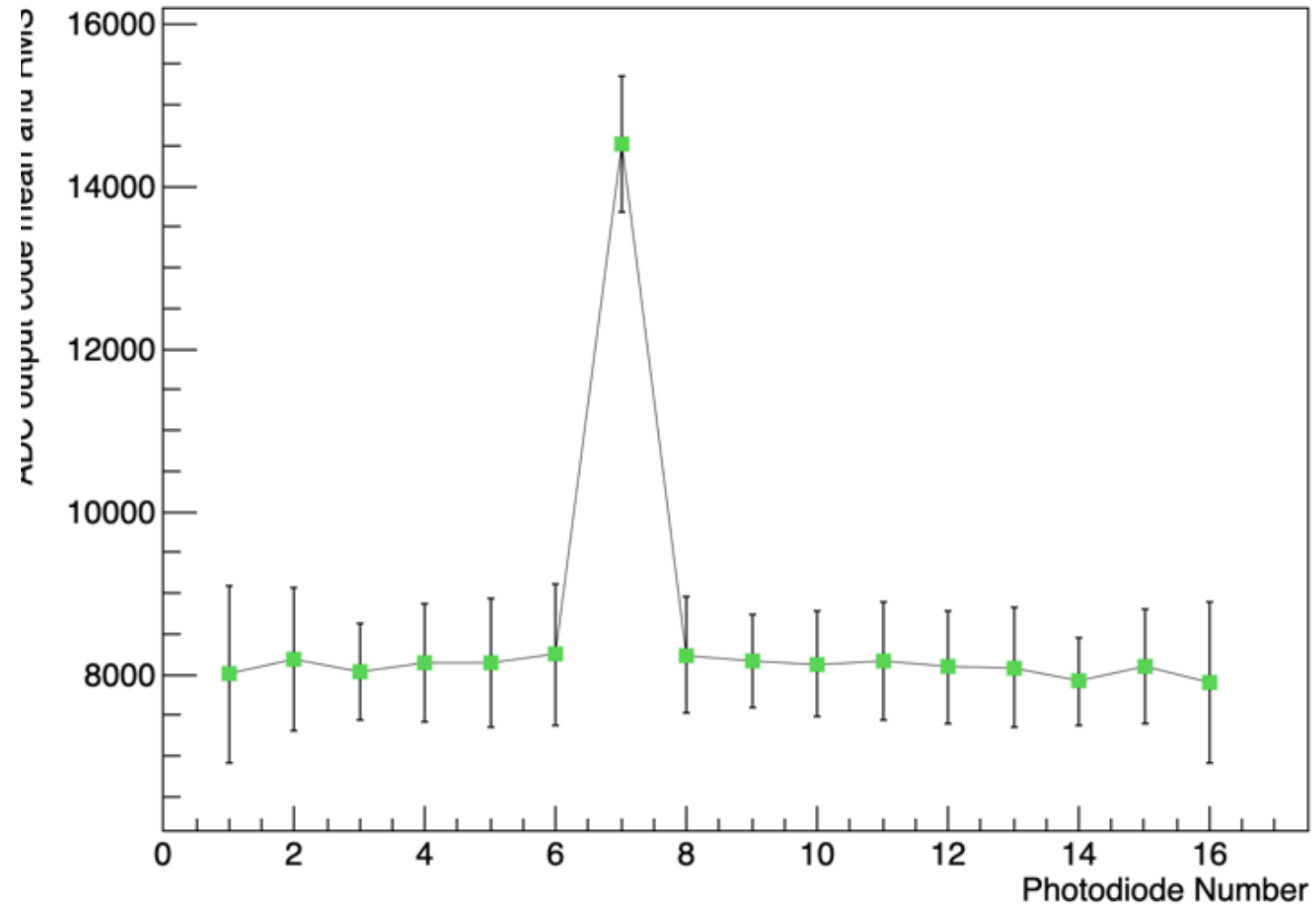


The signal from each PD is split in two ADC input channels

Useful Links:

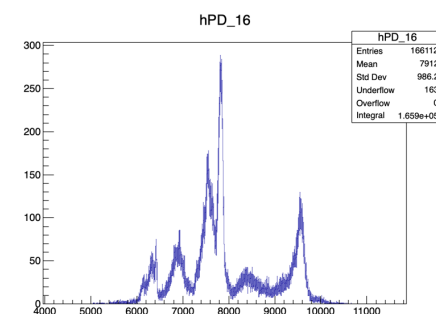
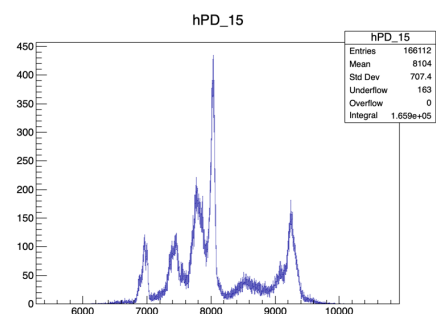
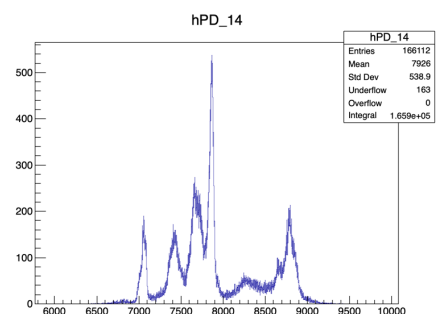
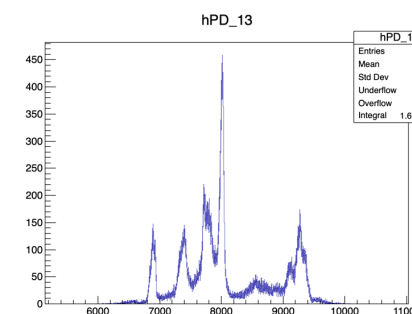
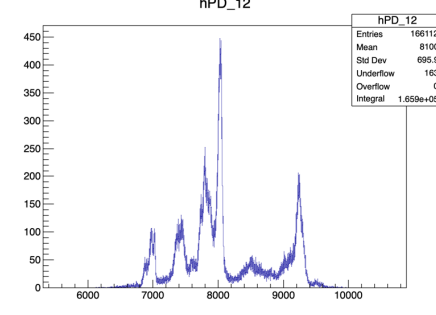
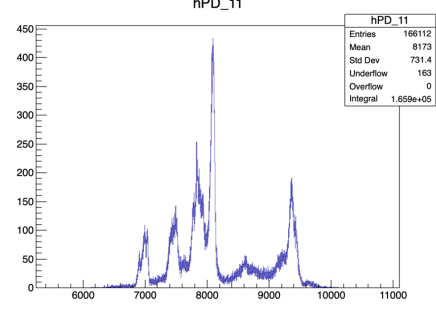
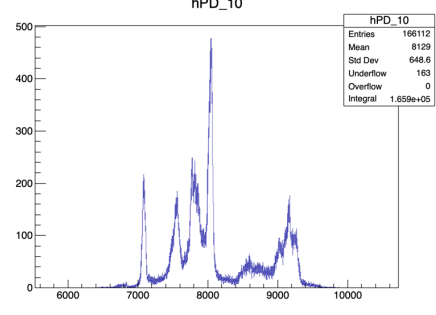
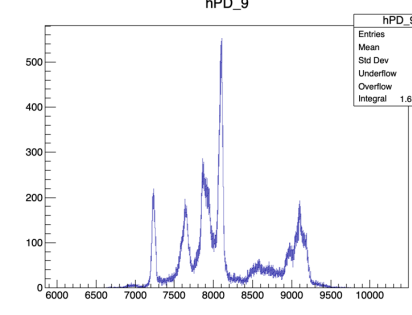
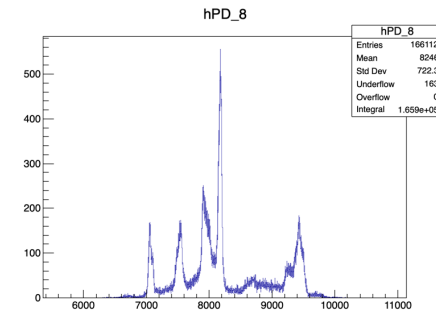
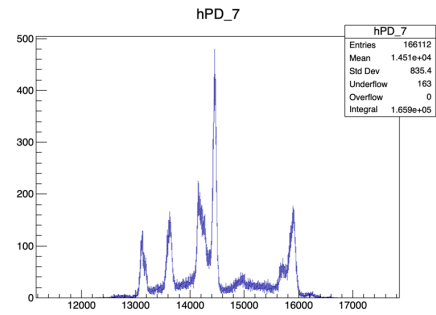
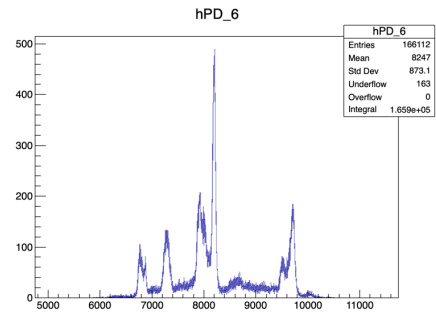
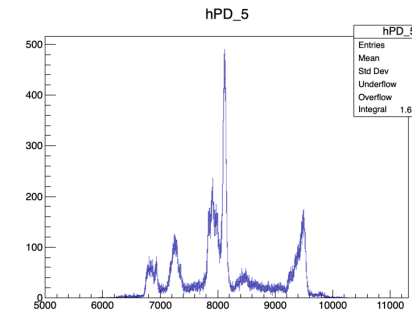
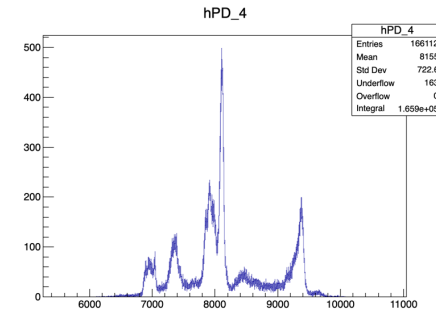
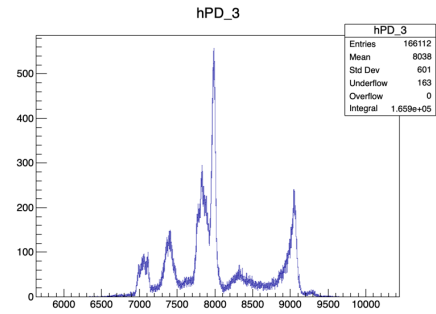
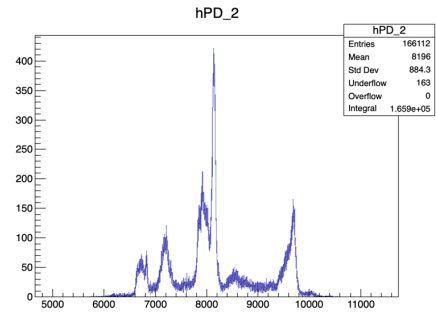
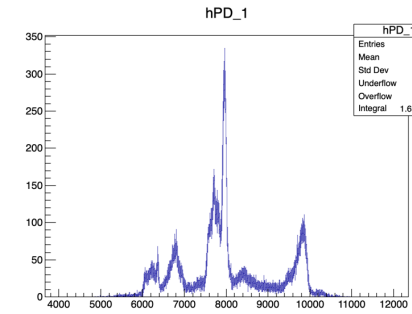
- Photodiodes S1337-16BR
<https://www.hamamatsu.com/eu/en/product/type/S1337-16BR/index.html>
- Photodiodes S12915-16R
<https://www.hamamatsu.com/eu/en/product/type/S12915-16R/index.html>
- Texas Instrument DDC232
https://www.ti.com/lit/ds/symlink/ddc232.pdf?ts=1591718081453&ref_url=https://www.ti.com/product/DDC232
- Experimental Runs
http://www.hep.ucl.ac.uk/pbt/wiki/Proton_Calorimetry/Experimental_Runs/2020/Oct23

Candlestick Plot

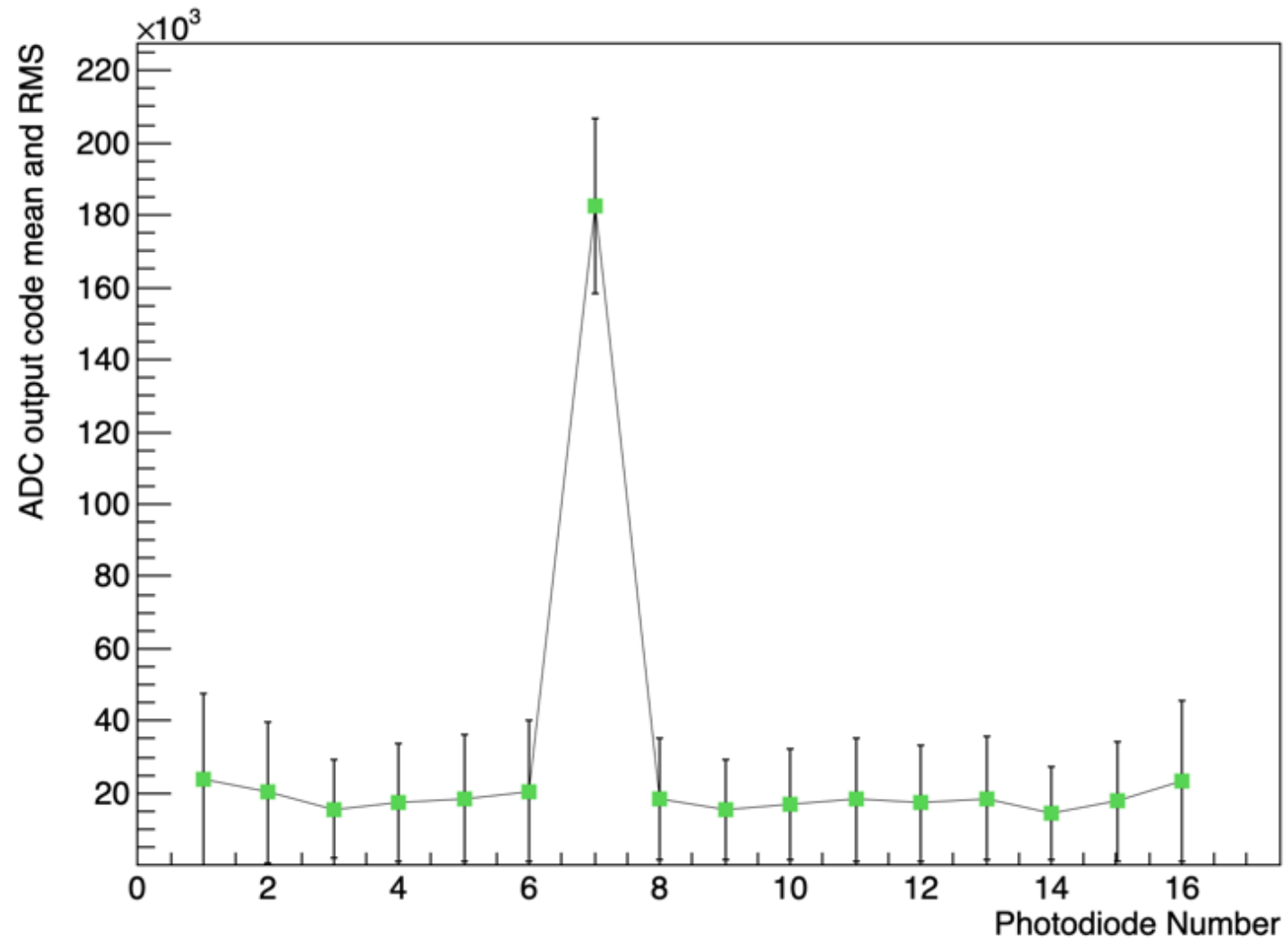


Run001; Int time 170us; Full Scale 350pC

Hamamatsu S1337-16BR



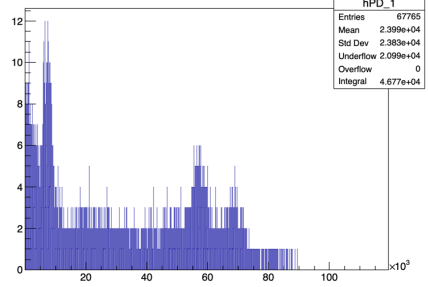
Candlestick Plot



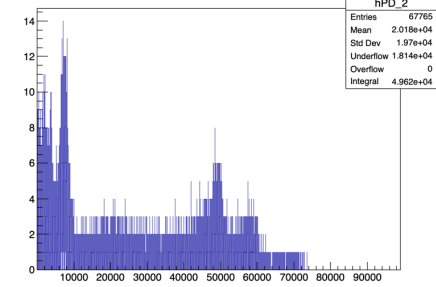
Run002; Int time 170us; Full Scale 12.5pC

Hamamatsu S1337-16BR

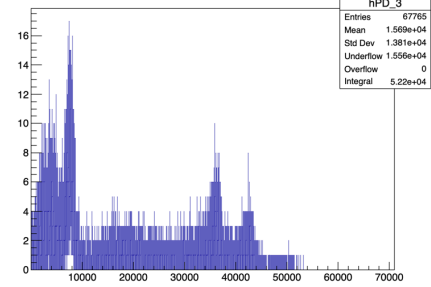
hPD_1



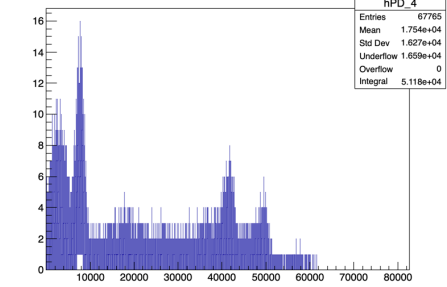
hPD_2



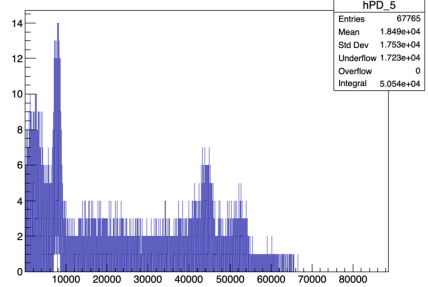
hPD_3



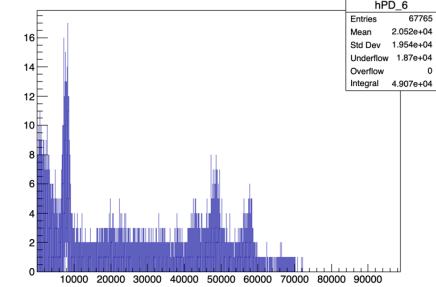
hPD_4



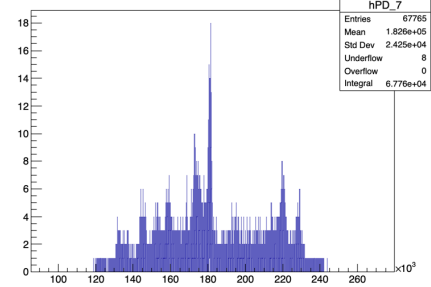
hPD_5



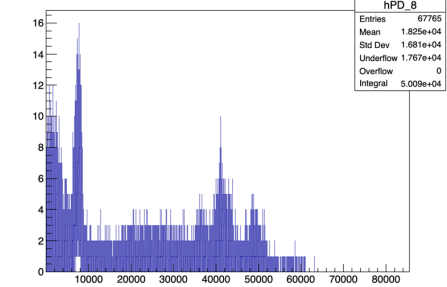
hPD_6



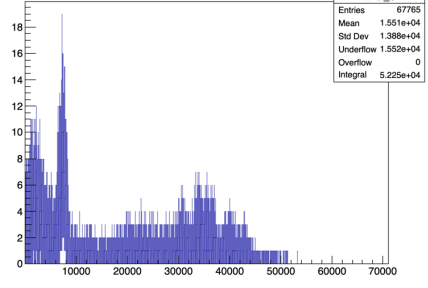
hPD_7



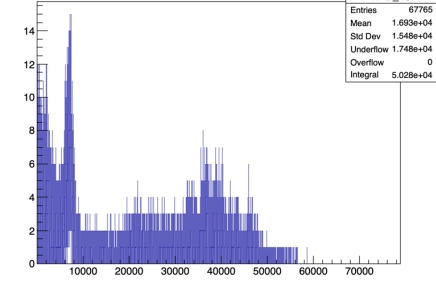
hPD_8



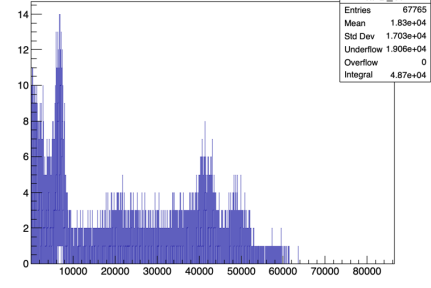
hPD_9



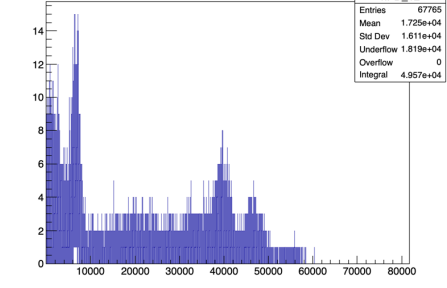
hPD_10



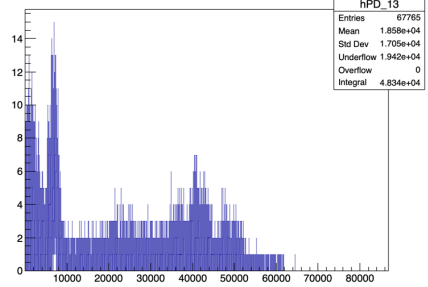
hPD_11



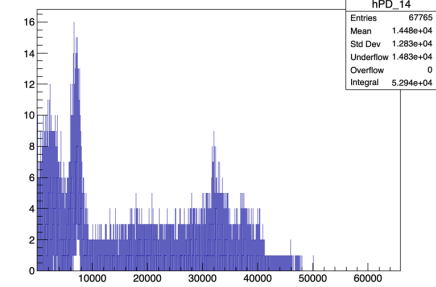
hPD_12



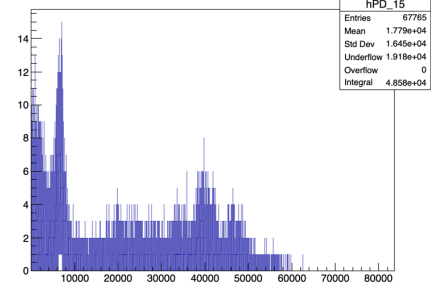
hPD_13



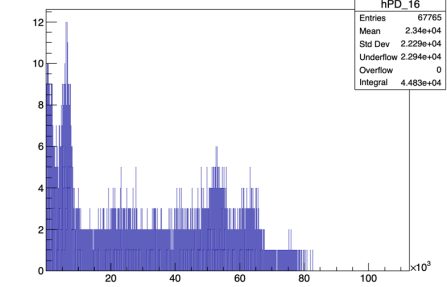
hPD_14



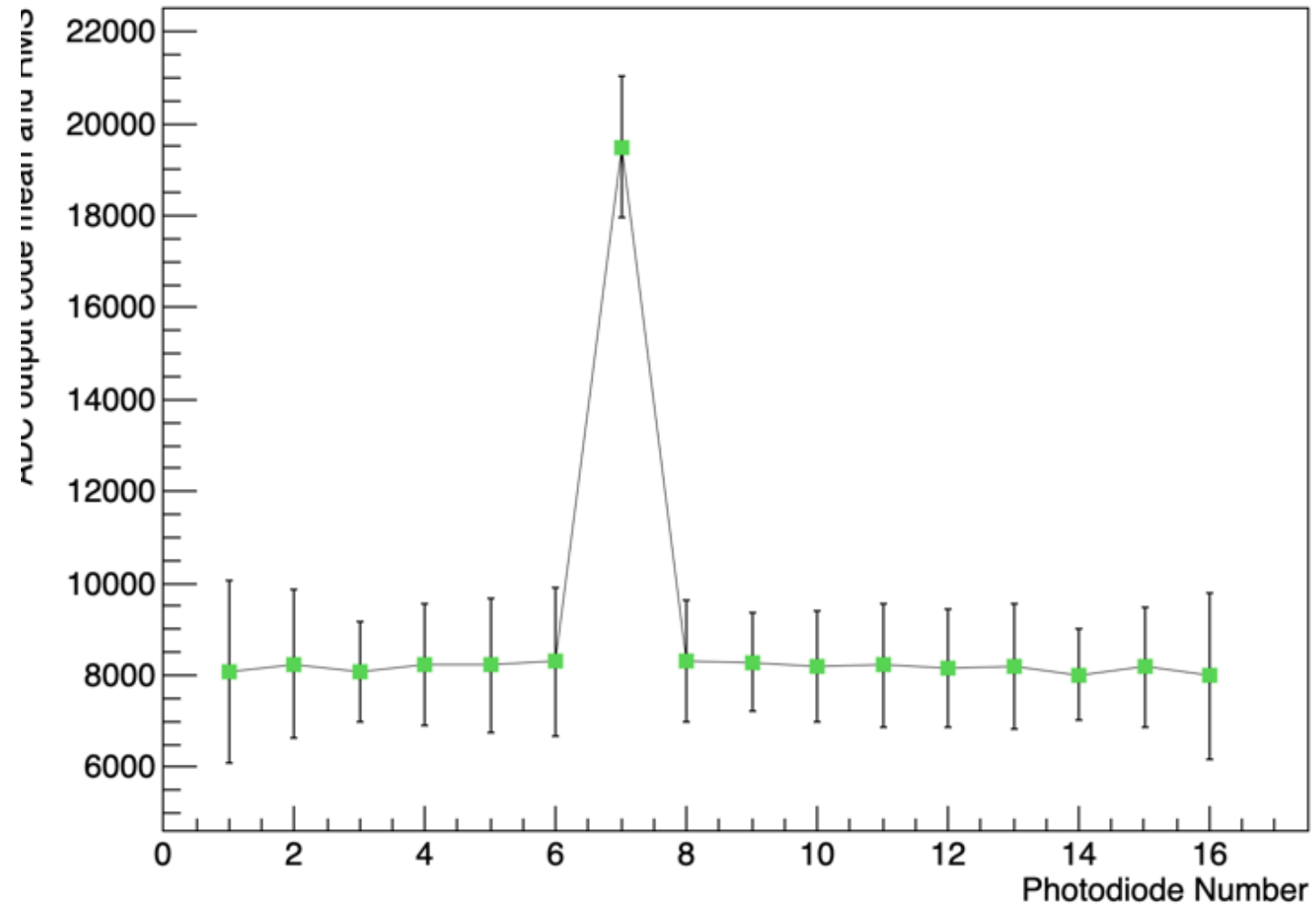
hPD_15



hPD_16

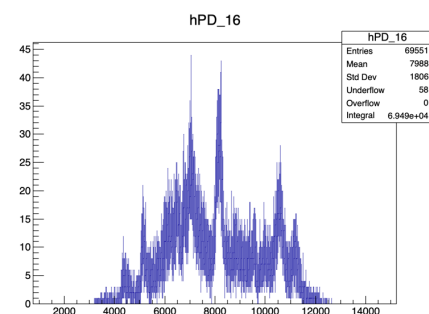
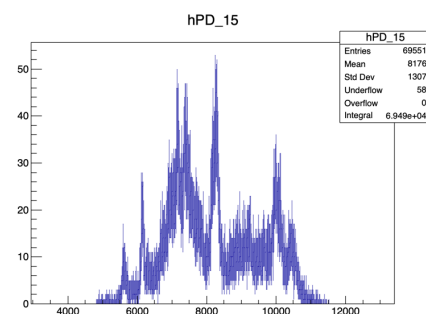
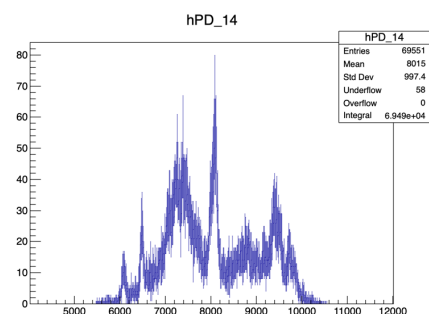
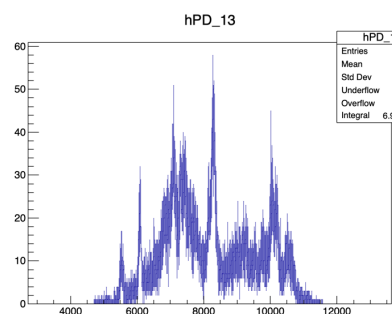
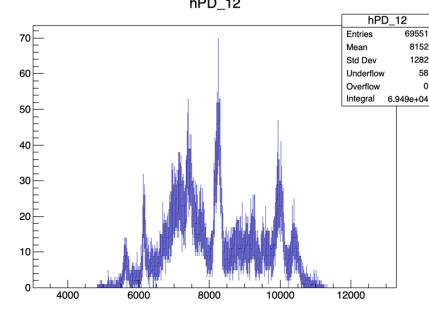
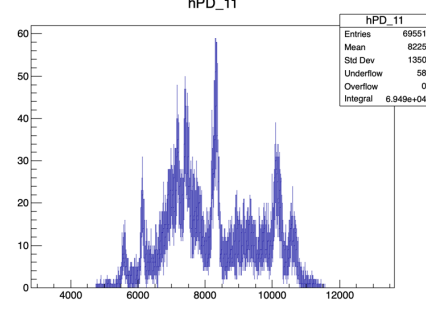
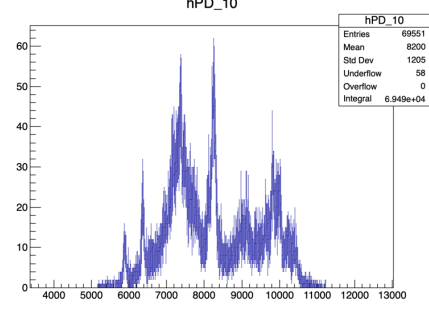
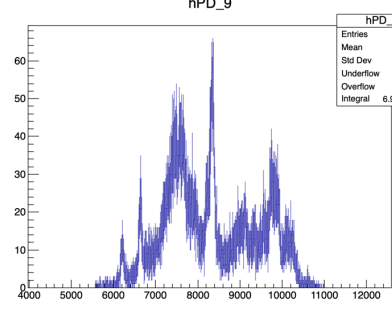
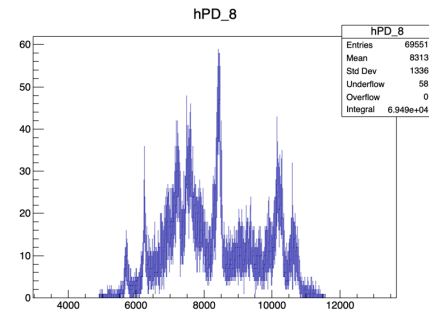
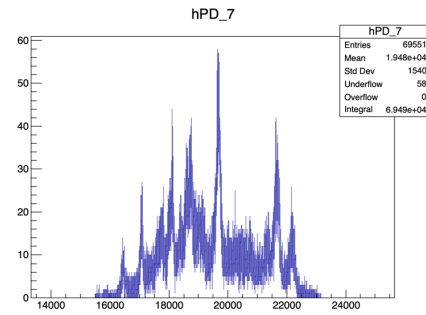
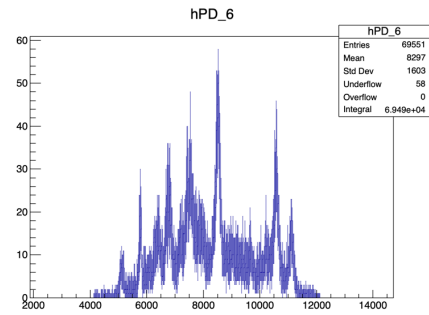
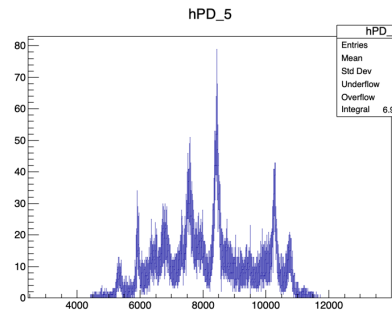
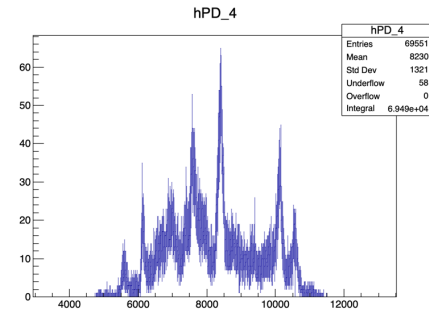
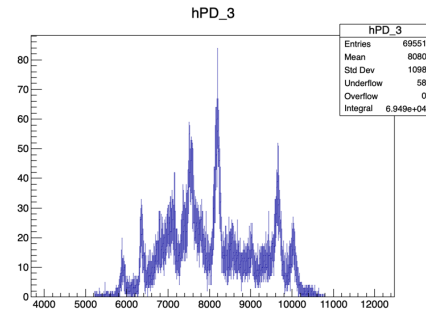
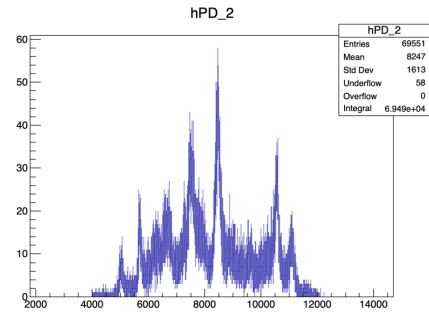
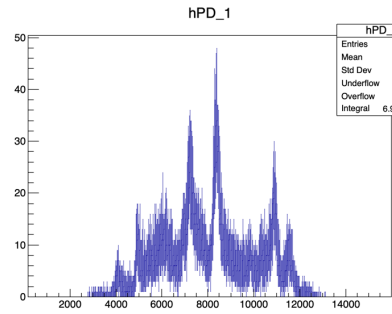


Candlestick Plot

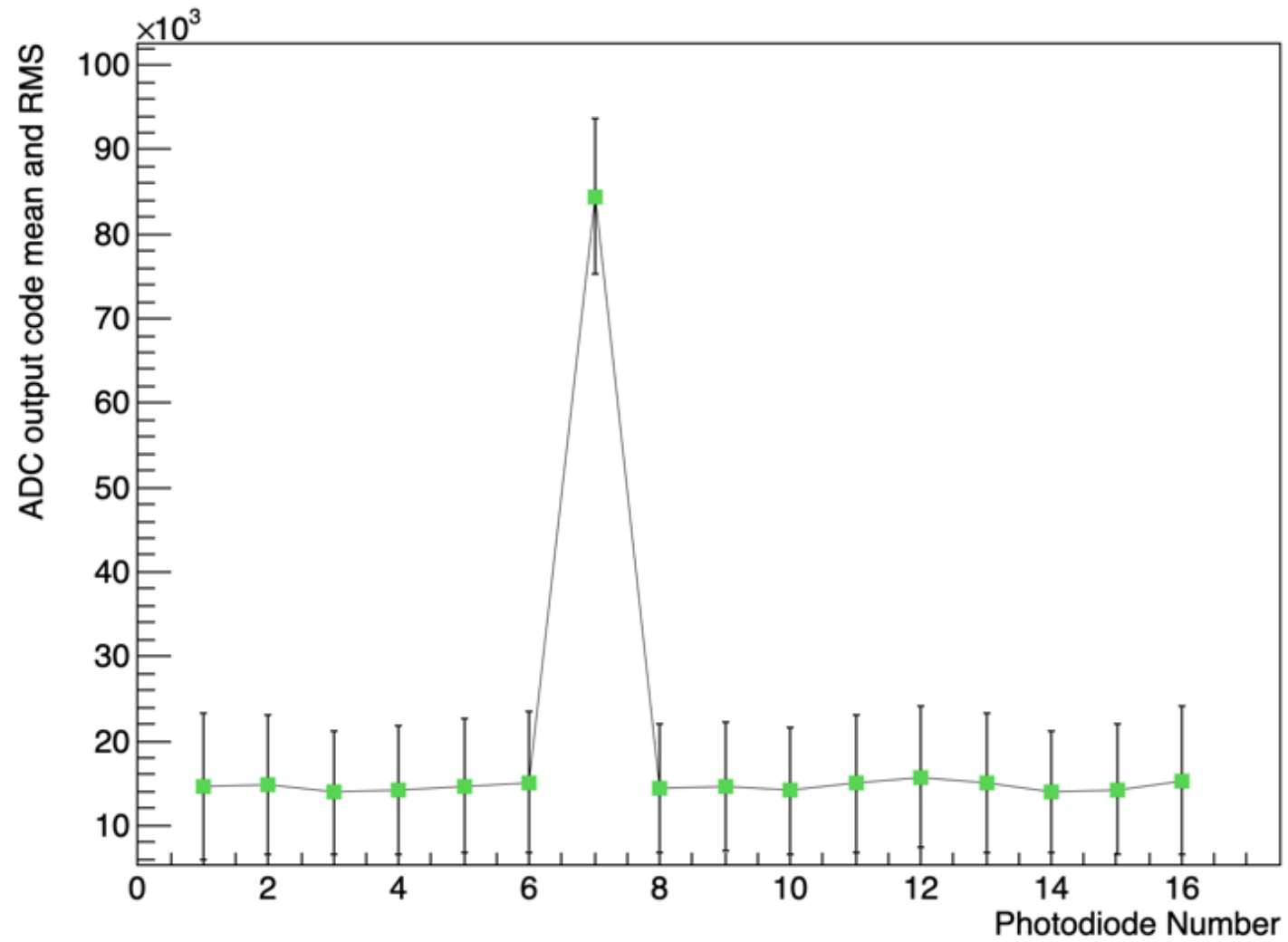


Run003; Int time 170us; Full Scale 200pC

Hamamatsu S1337-16BR

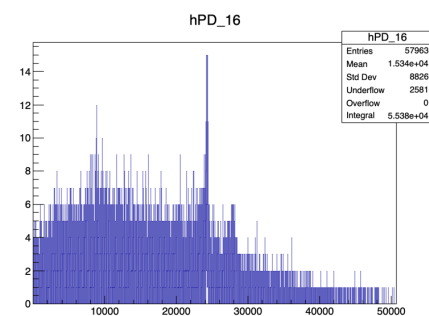
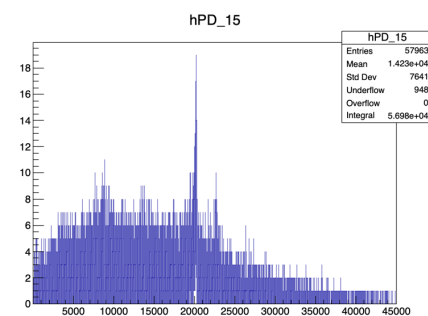
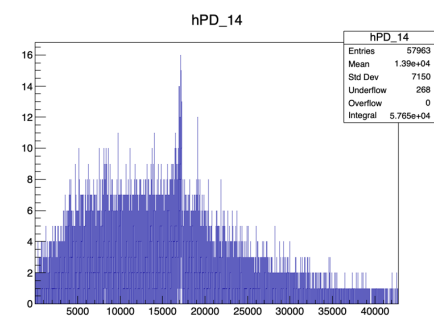
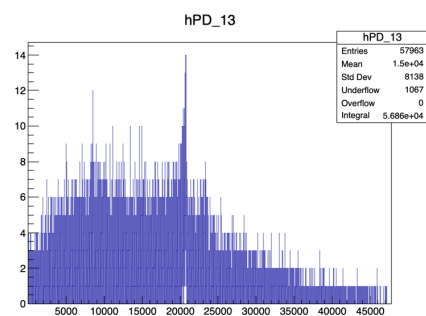
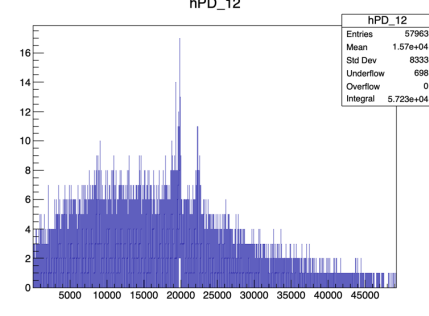
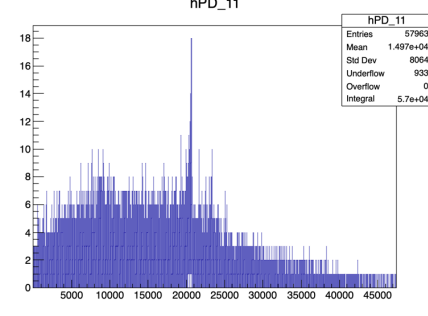
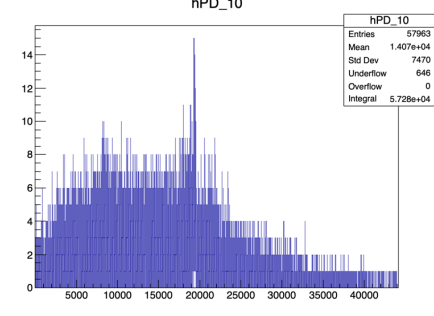
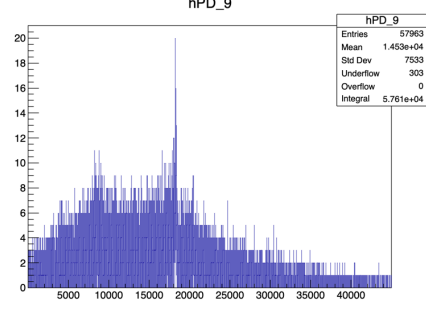
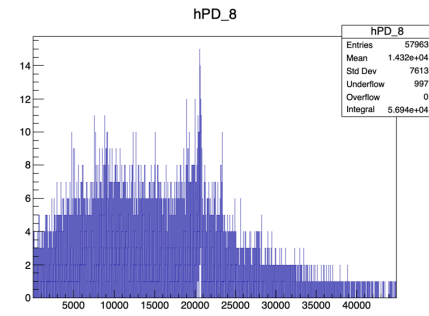
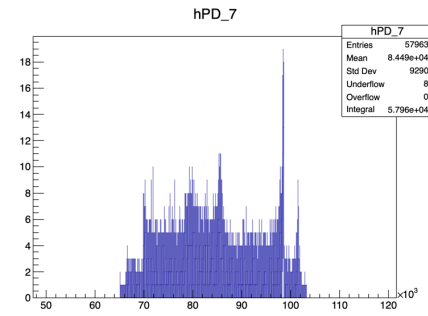
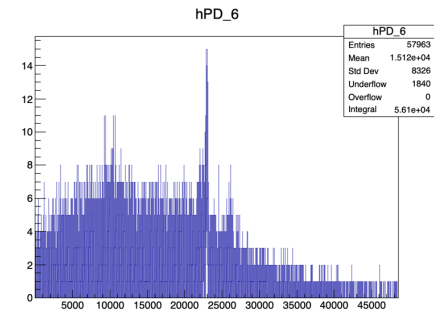
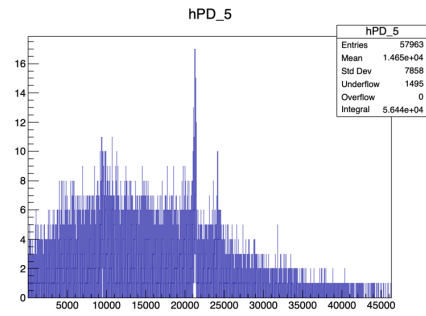
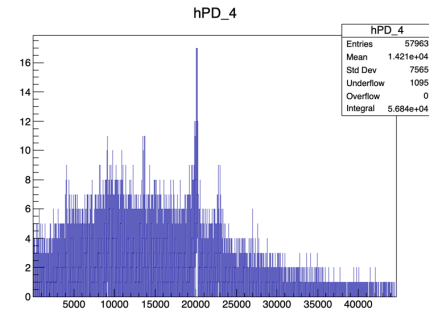
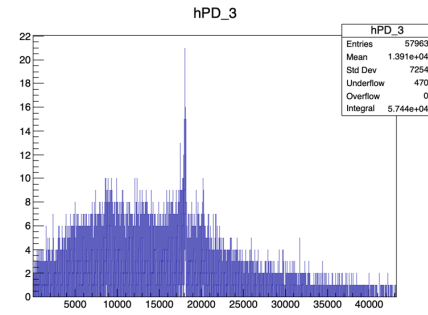
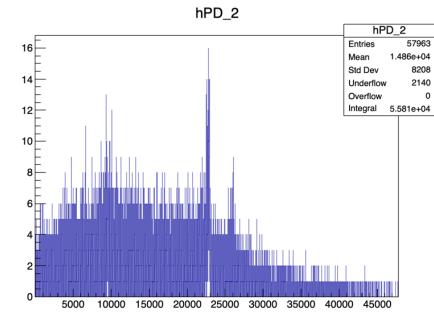
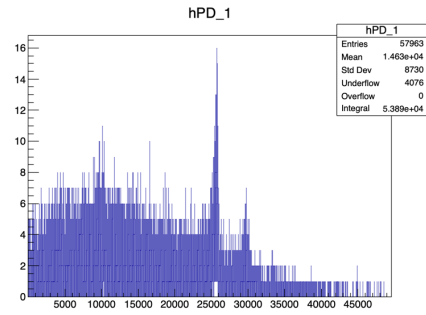


Candlestick Plot

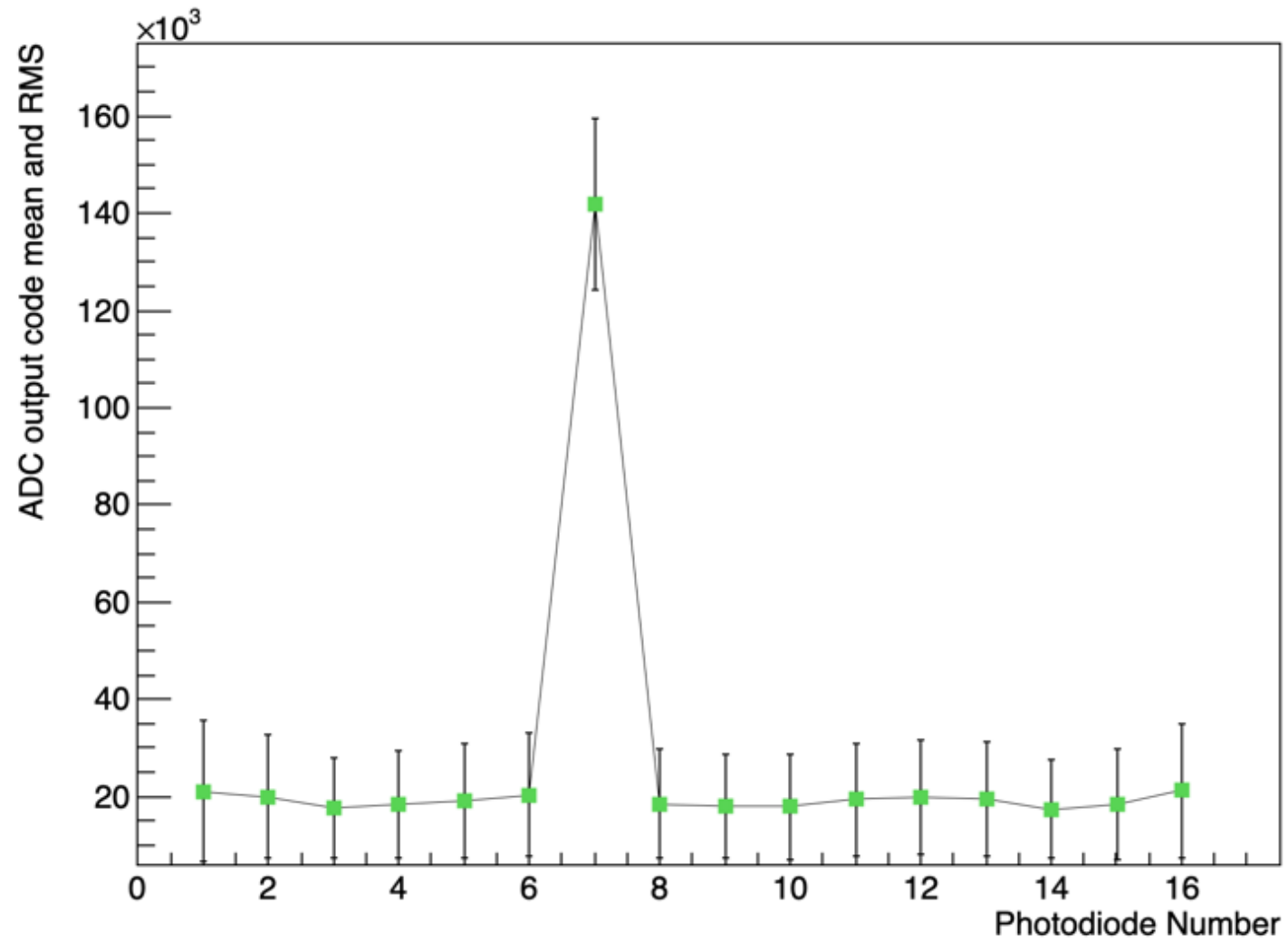


Run004; Int time 2000us; Full Scale 350pC

Hamamatsu S1337-16BR

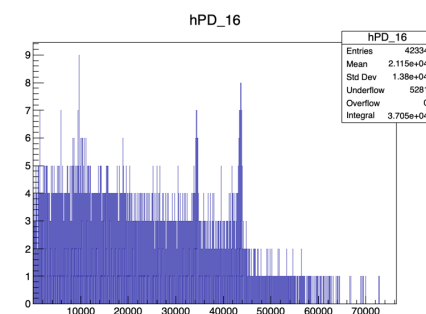
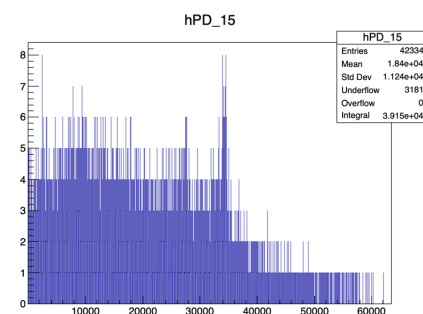
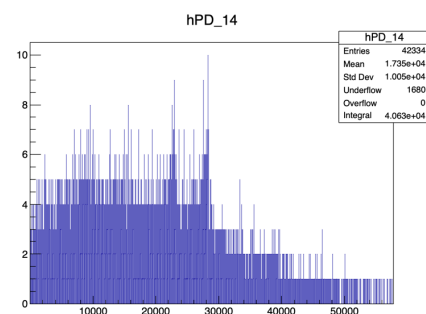
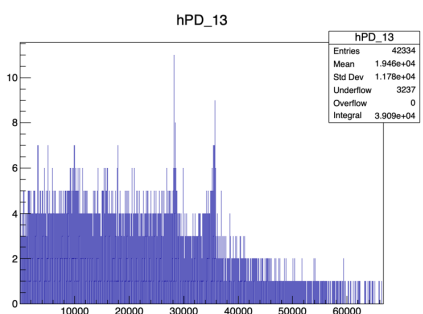
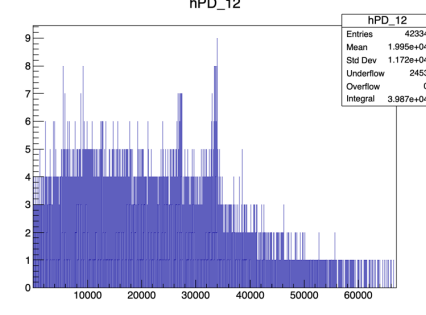
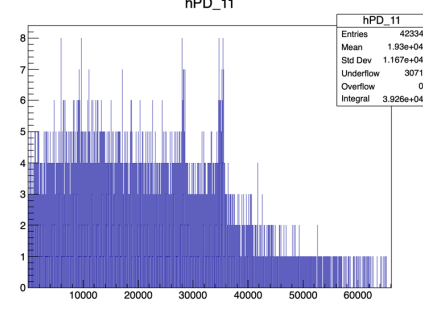
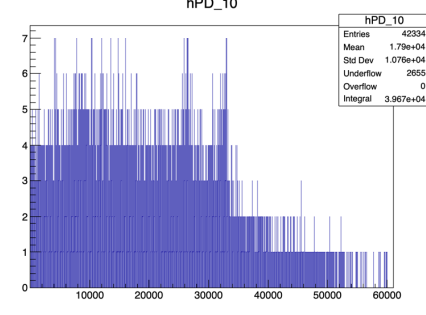
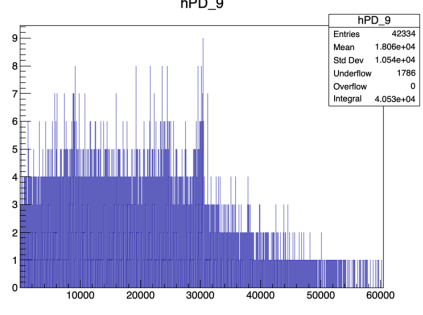
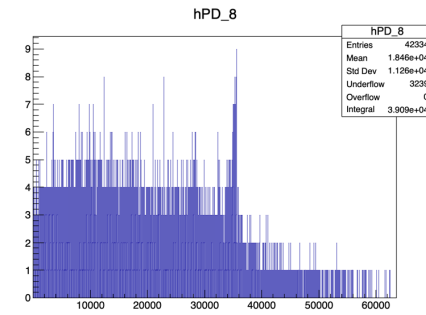
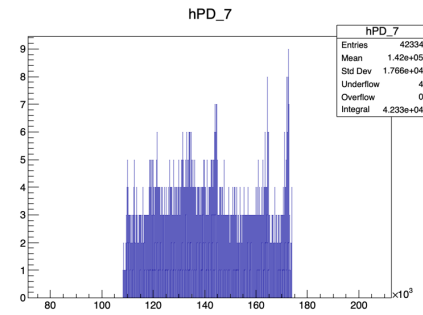
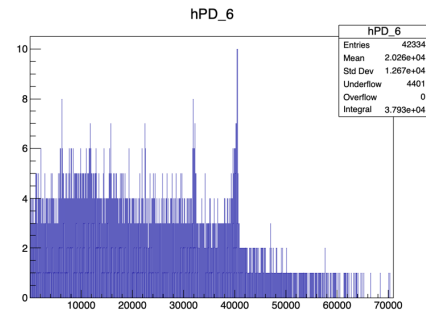
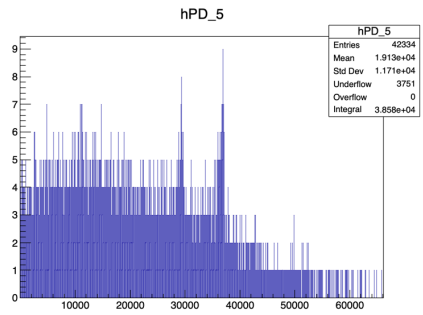
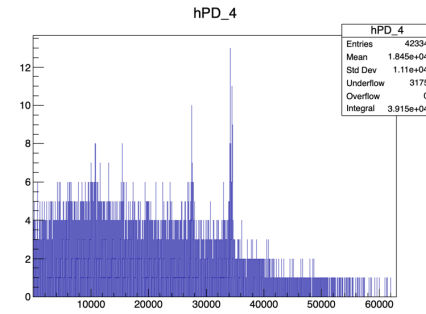
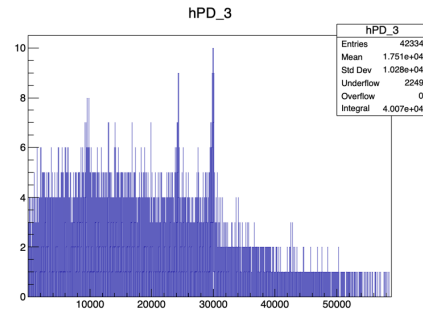
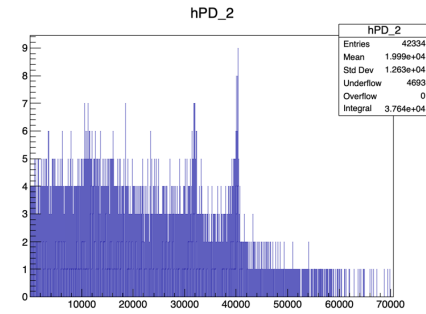
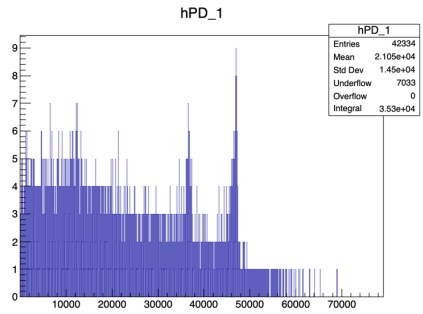


Candlestick Plot

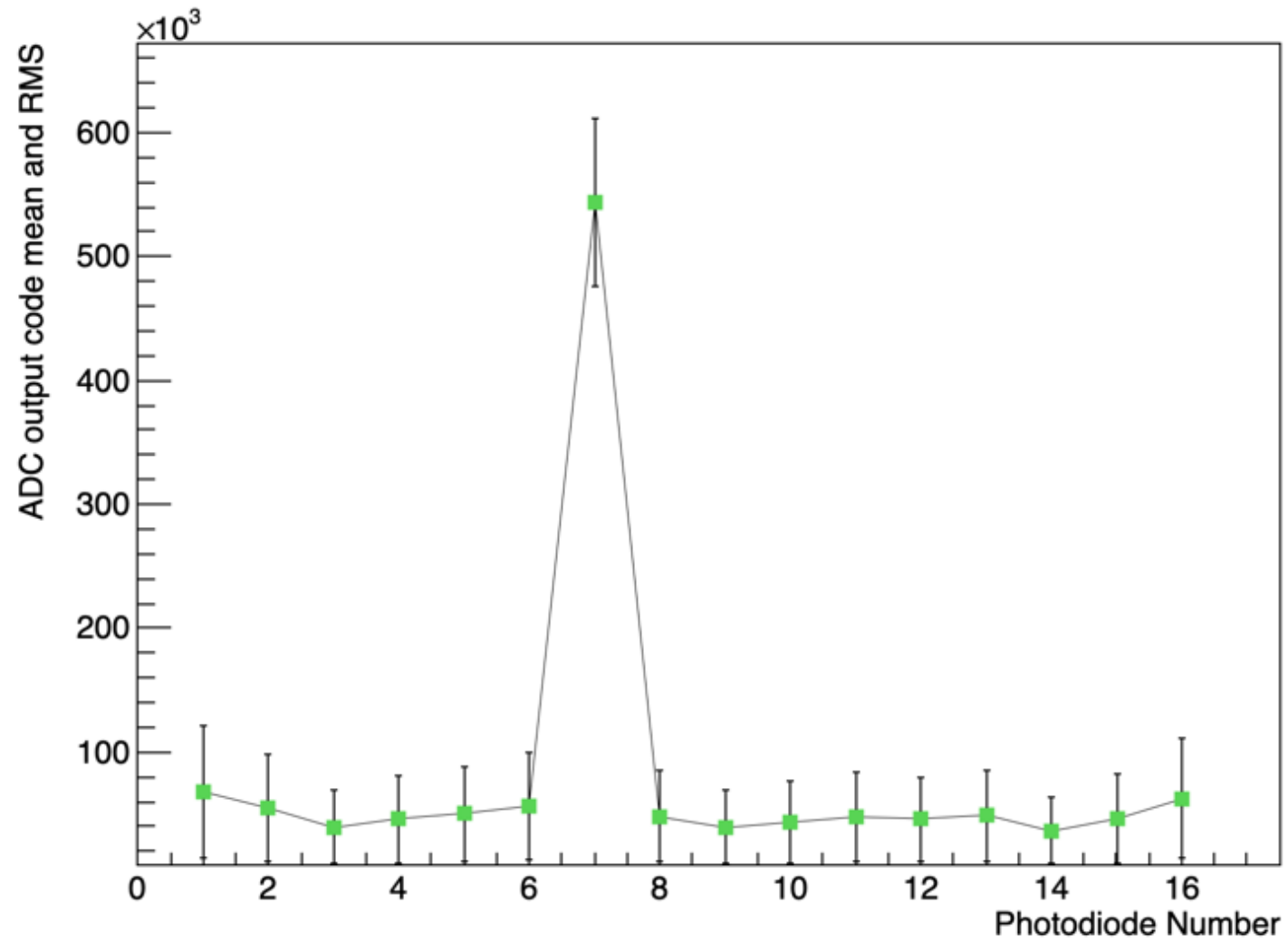


Run005; Int time 2000us; Full Scale 200pC

Hamamatsu S1337-16BR

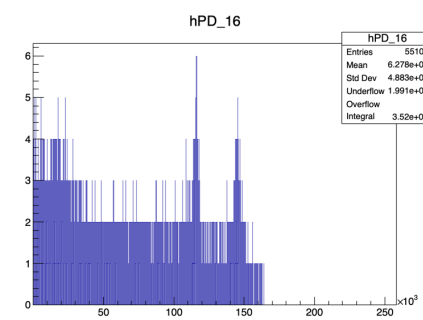
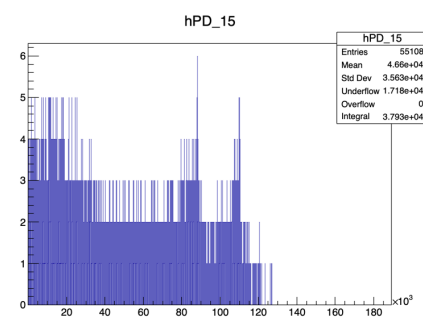
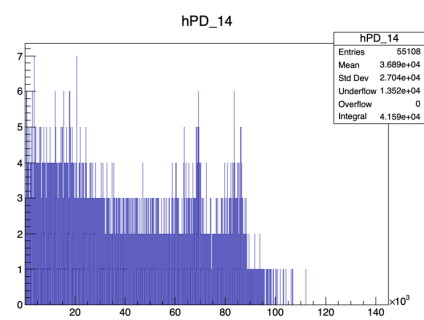
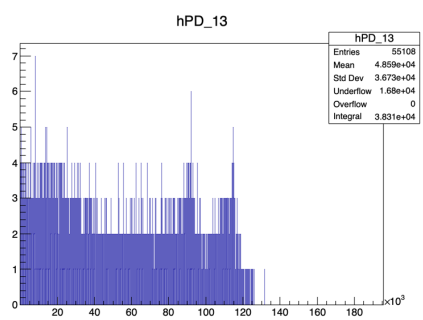
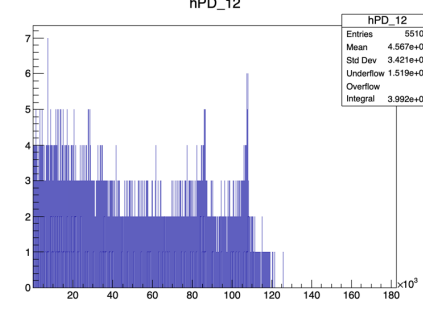
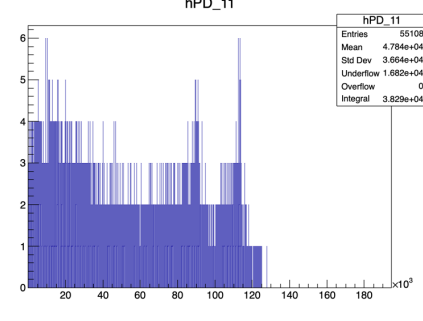
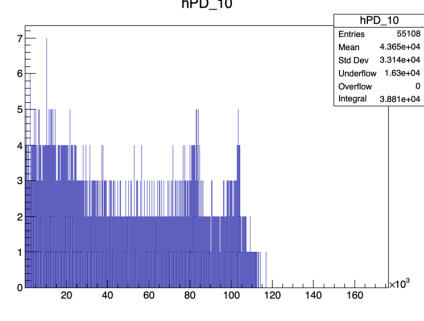
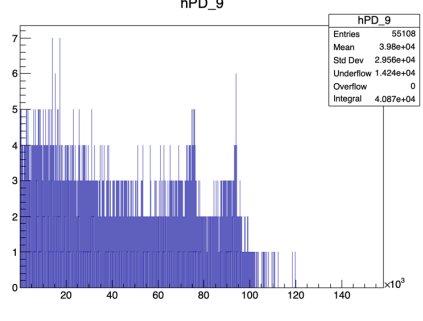
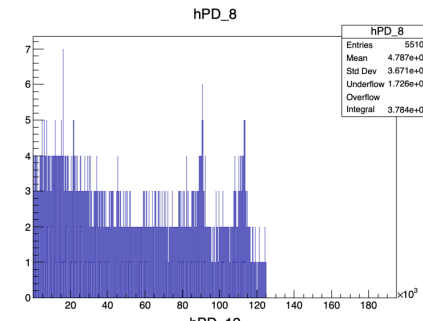
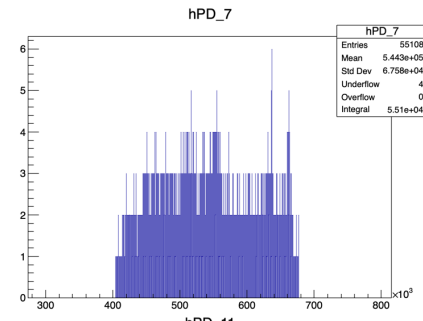
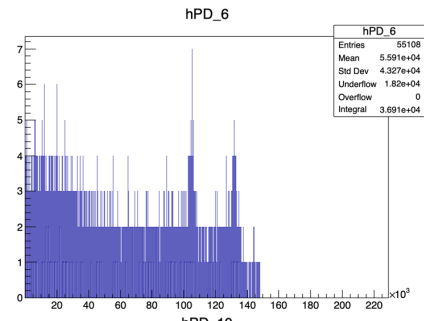
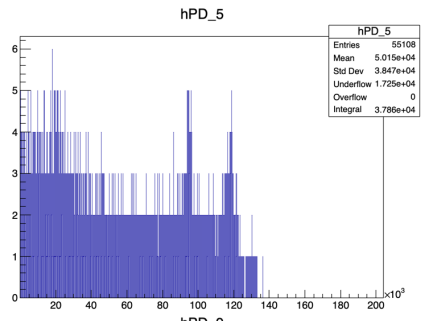
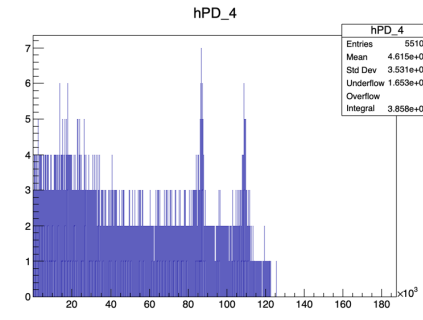
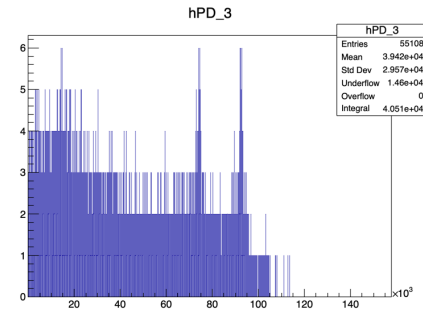
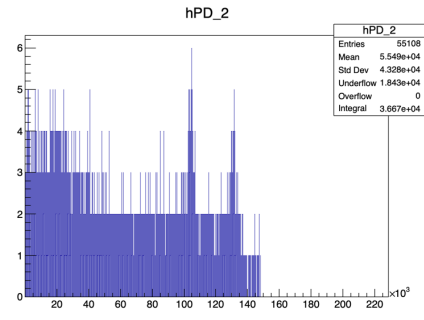
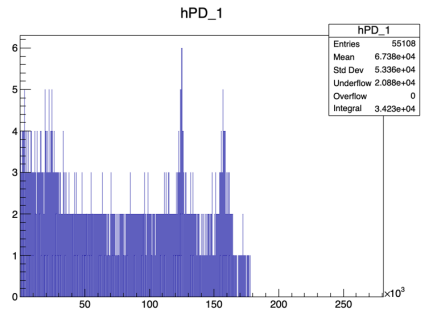


Candlestick Plot

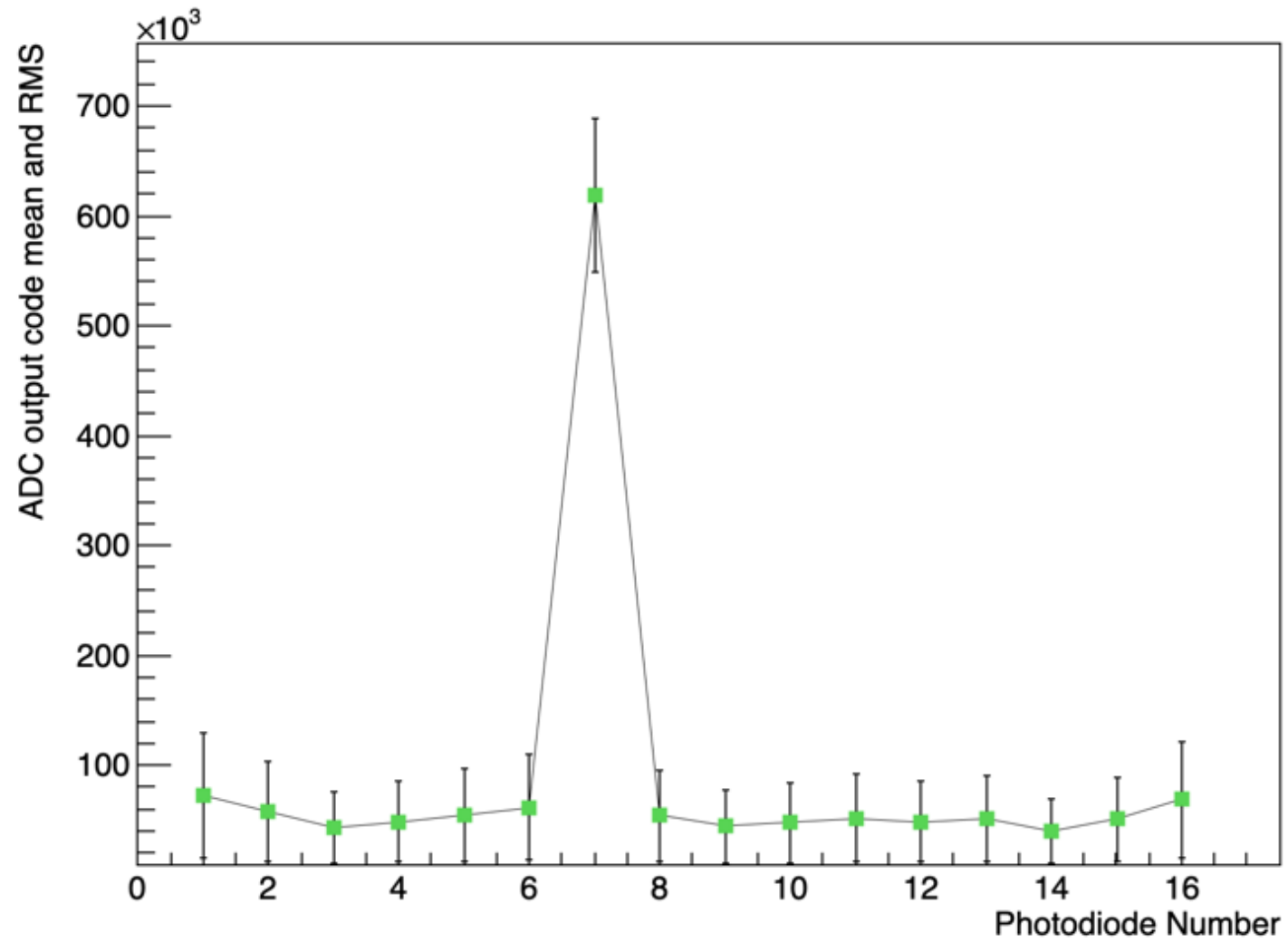


Run006; Int time 2000us; Full Scale 50pC

Hamamatsu S1337-16BR

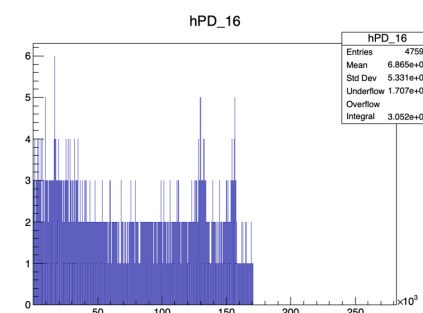
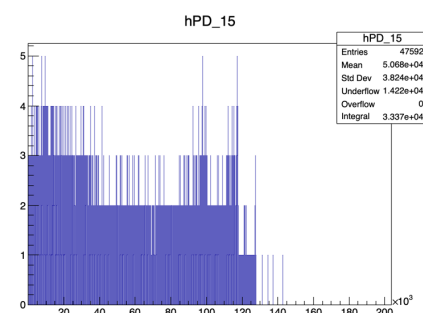
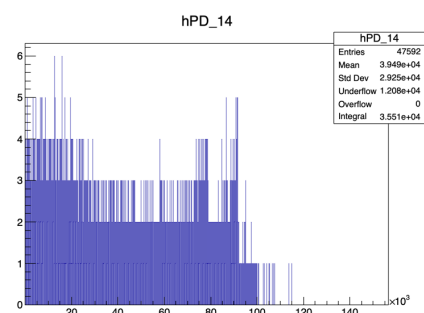
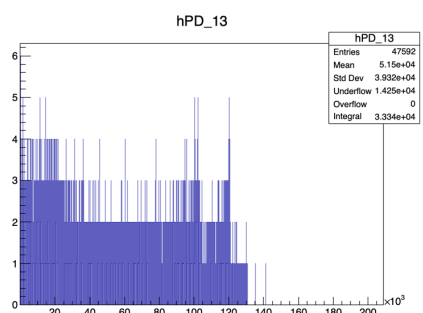
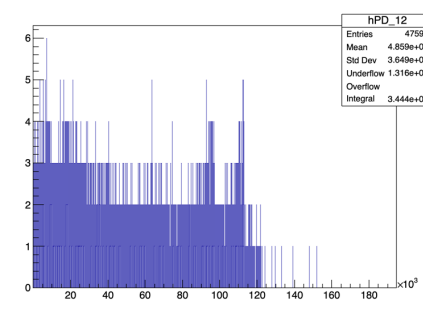
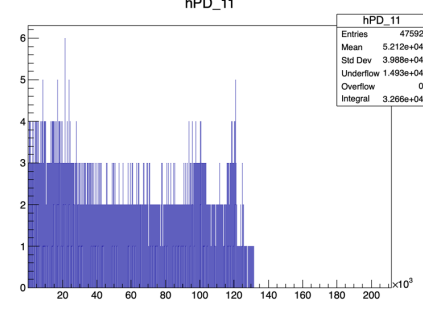
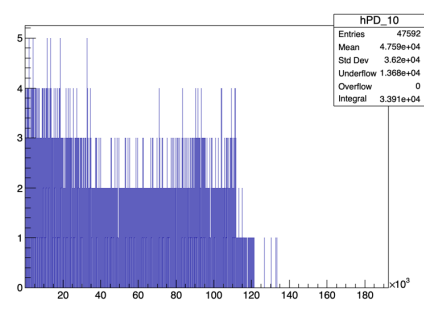
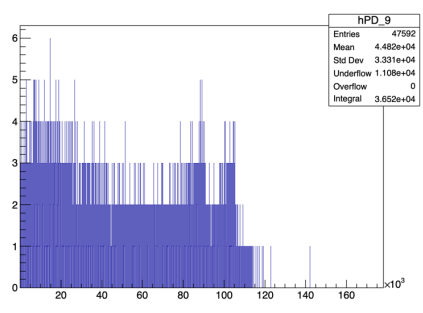
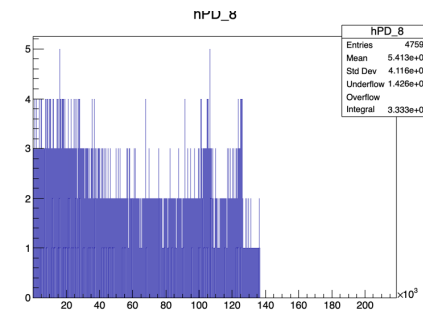
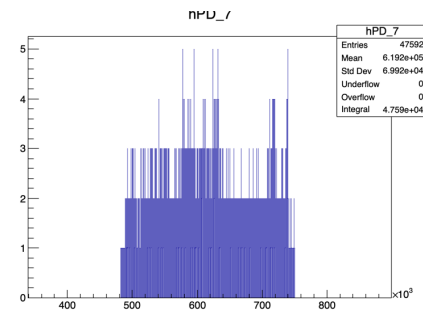
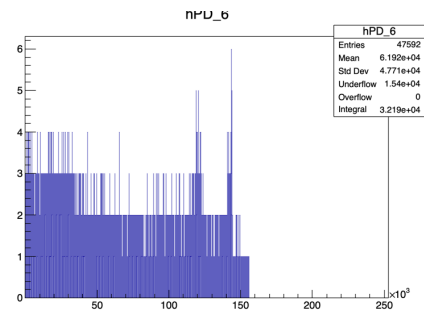
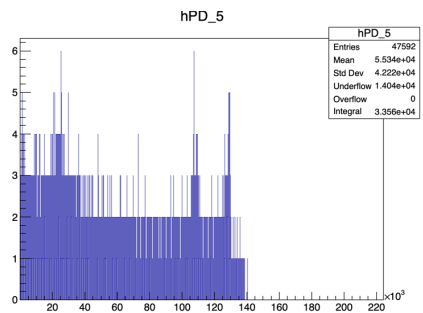
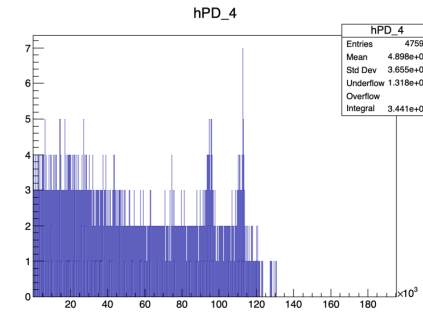
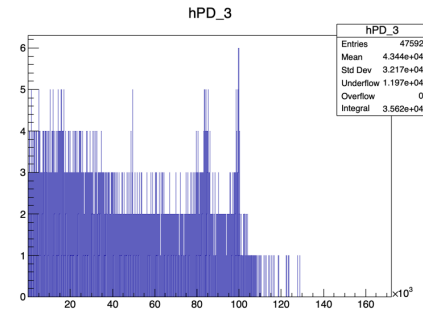
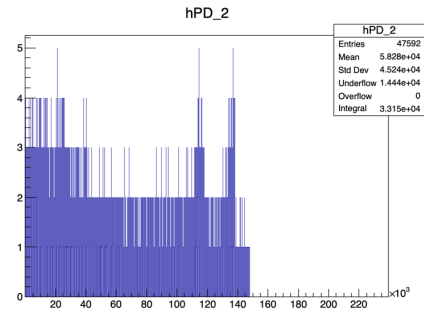
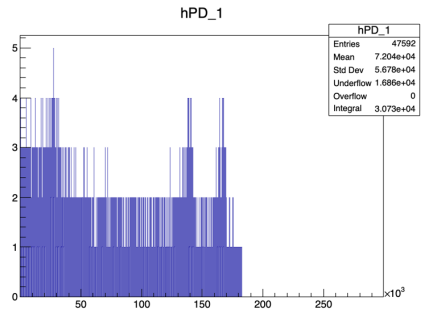


Candlestick Plot

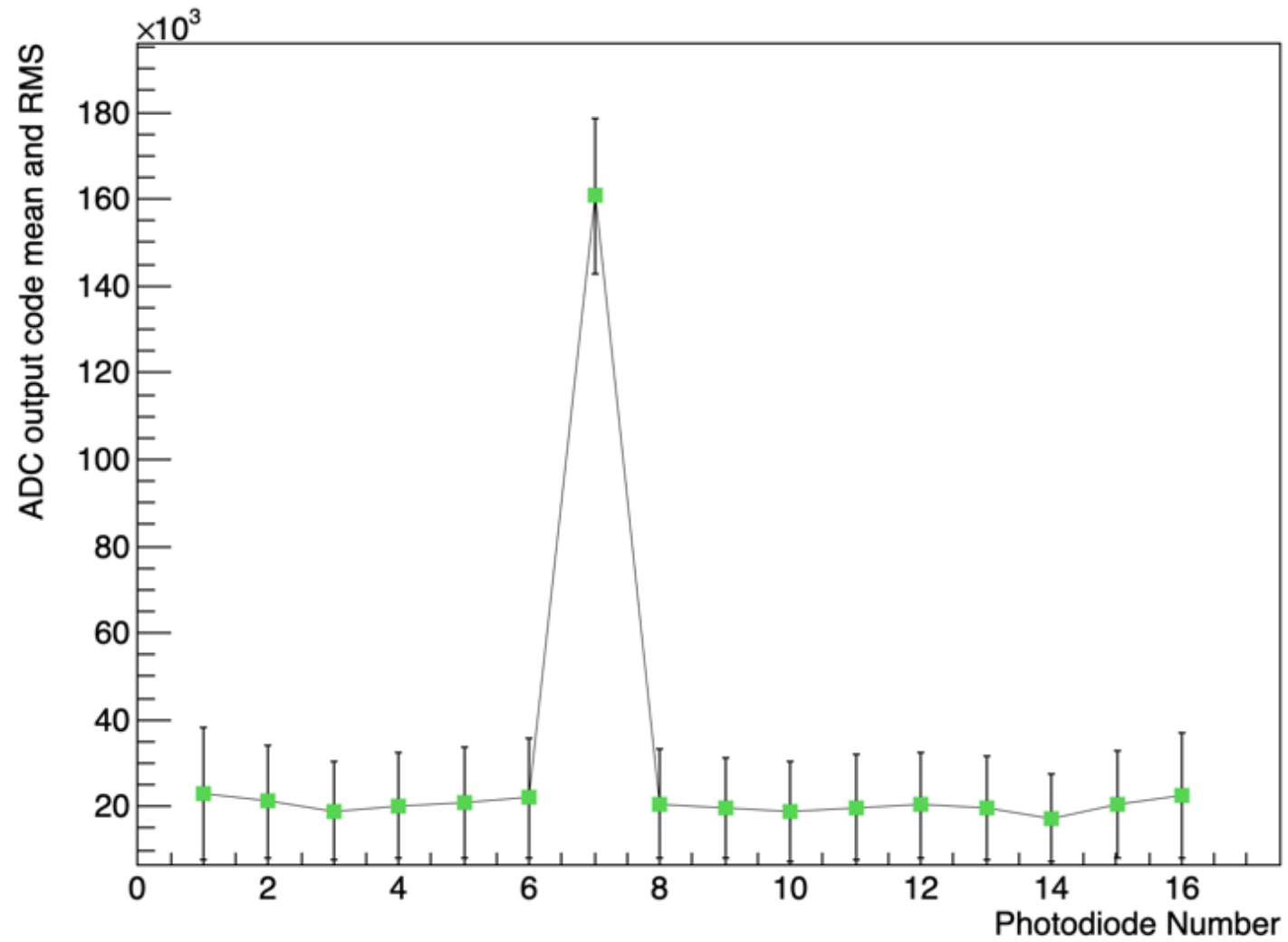


Run007; Int time 2000us; Full Scale 50pC

Hamamatsu S12915-16R



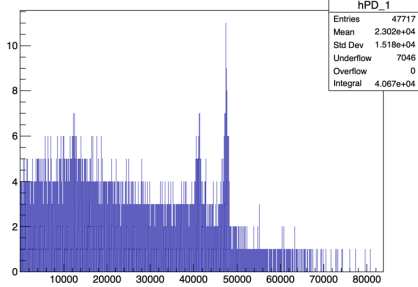
Candlestick Plot



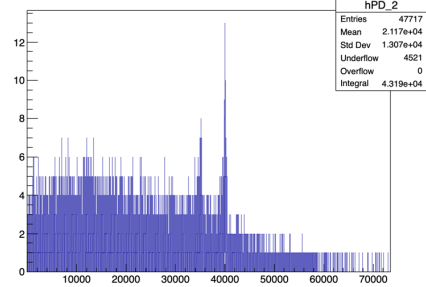
Run008; Int time 2000us; Full Scale 200pC

Hamamatsu S12915-16R

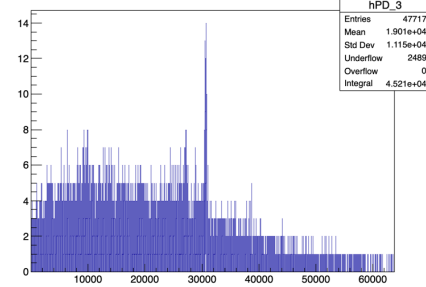
hPD_1



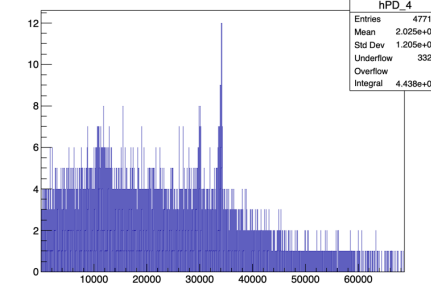
hPD_2



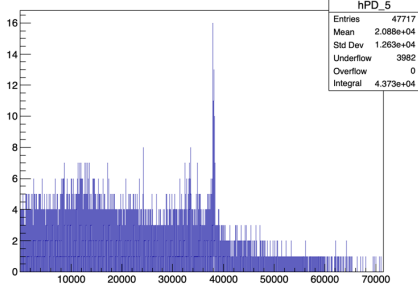
hPD_3



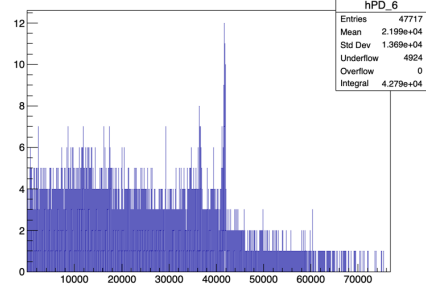
hPD_4



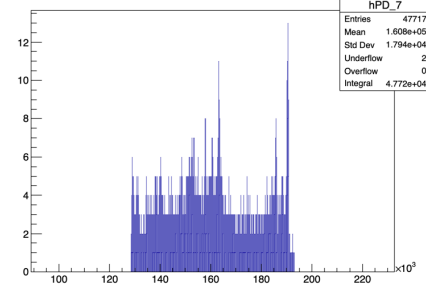
hPD_5



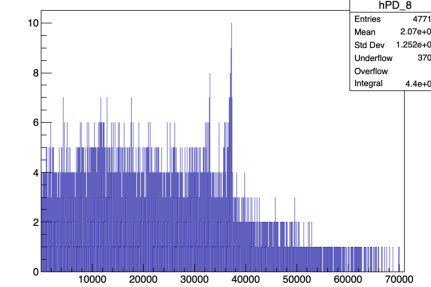
hPD_6



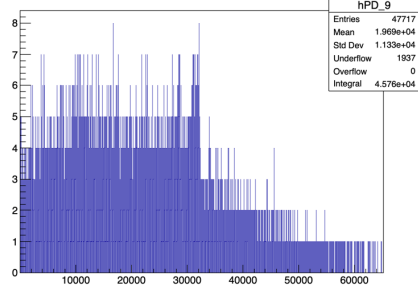
hPD_7



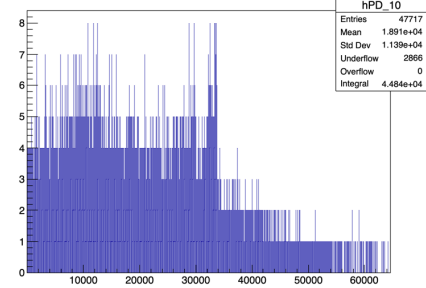
hPD_8



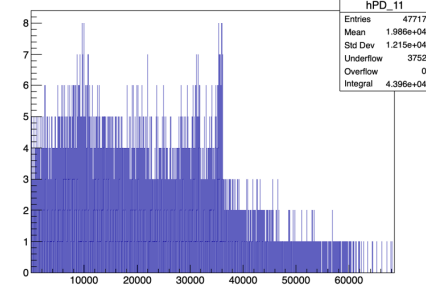
hPD_9



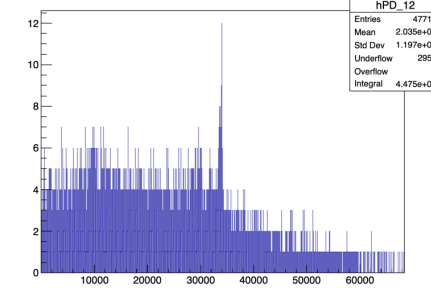
hPD_10



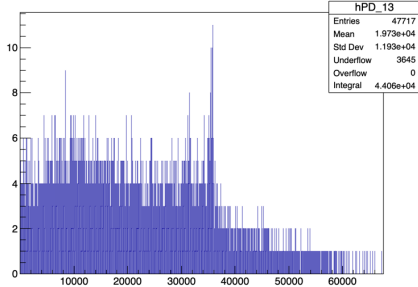
hPD_11



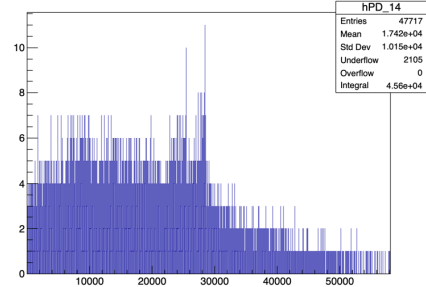
hPD_12



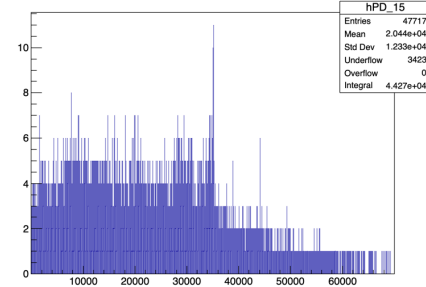
hPD_13



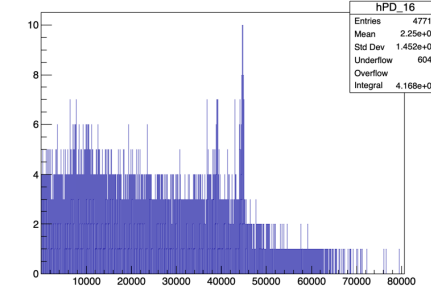
hPD_14



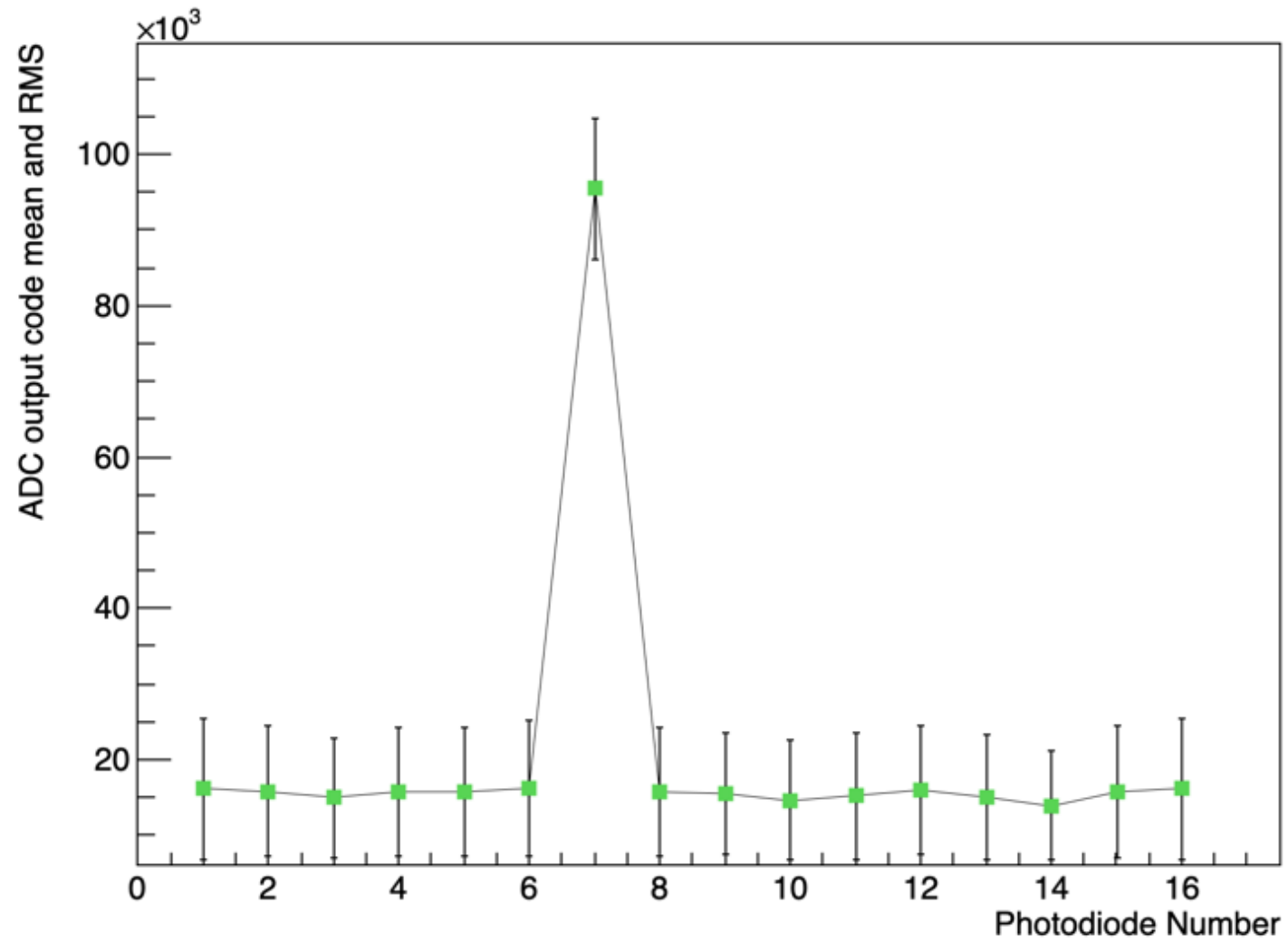
hPD_15



hPD_16

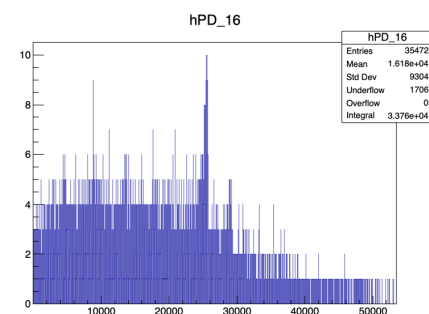
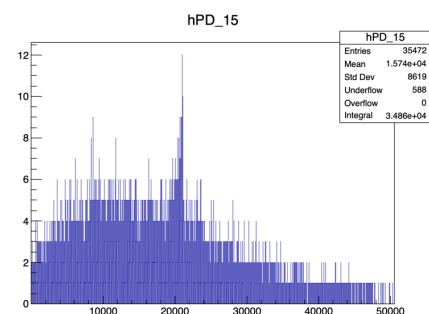
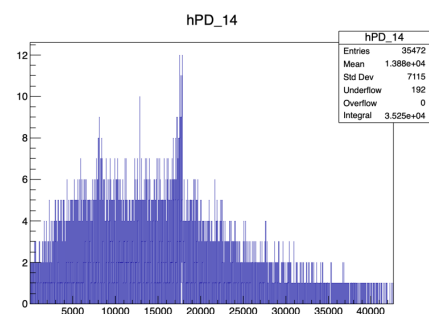
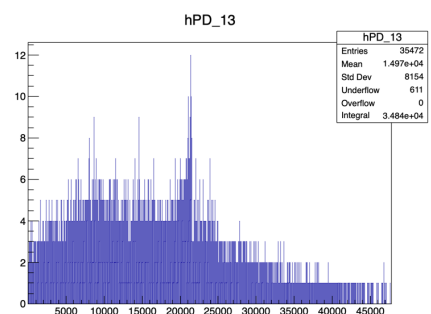
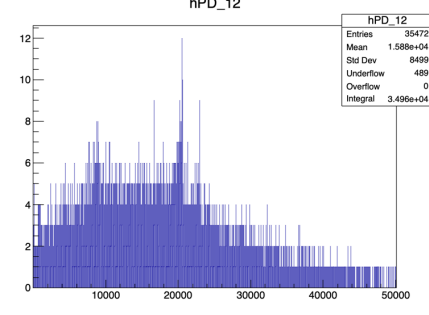
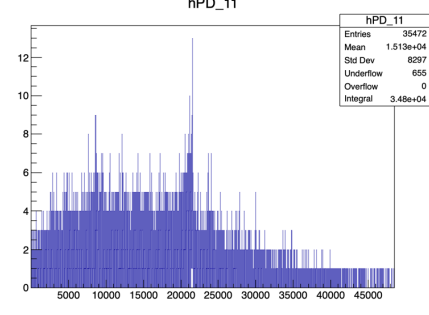
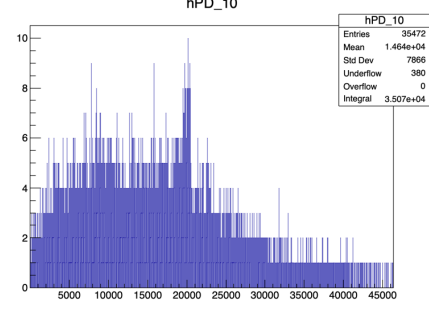
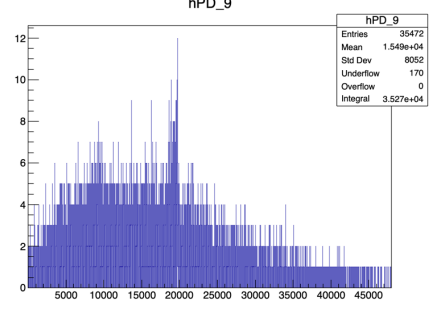
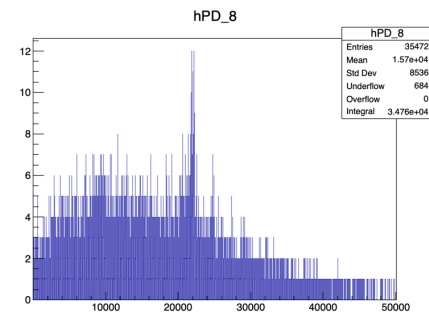
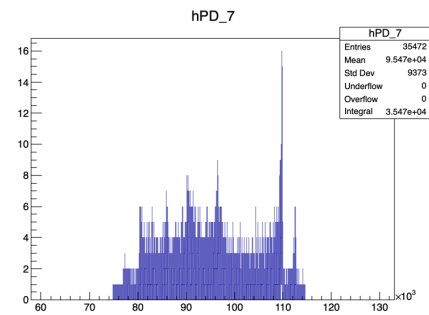
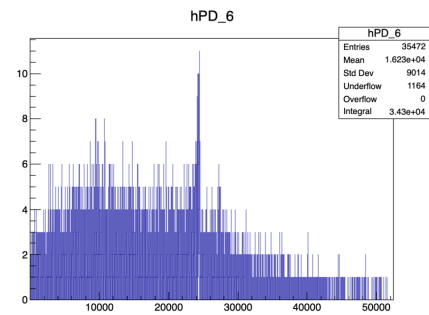
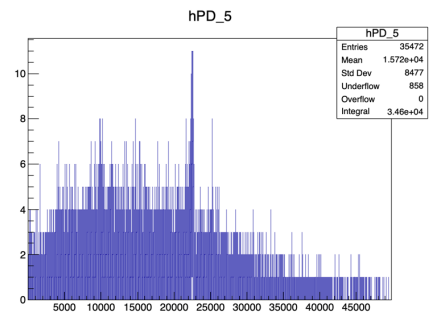
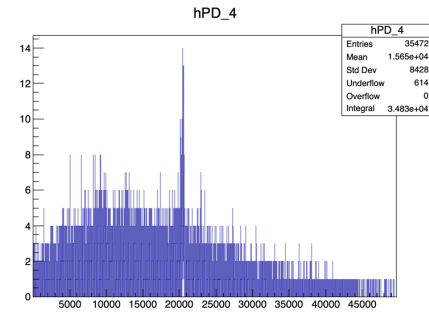
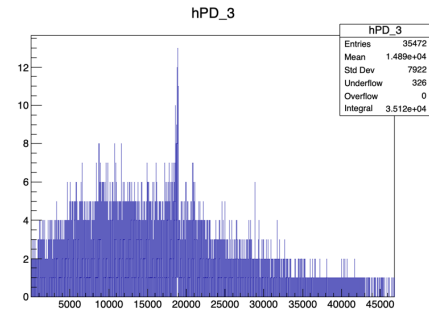
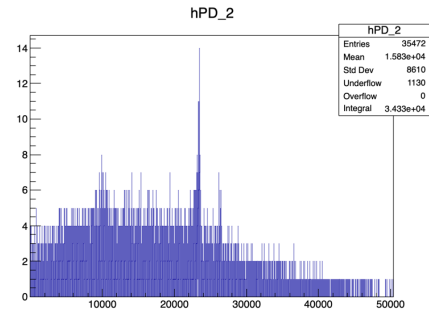
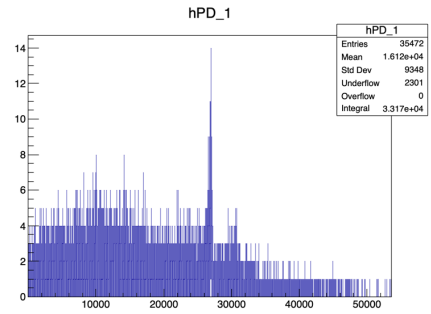


Candlestick Plot

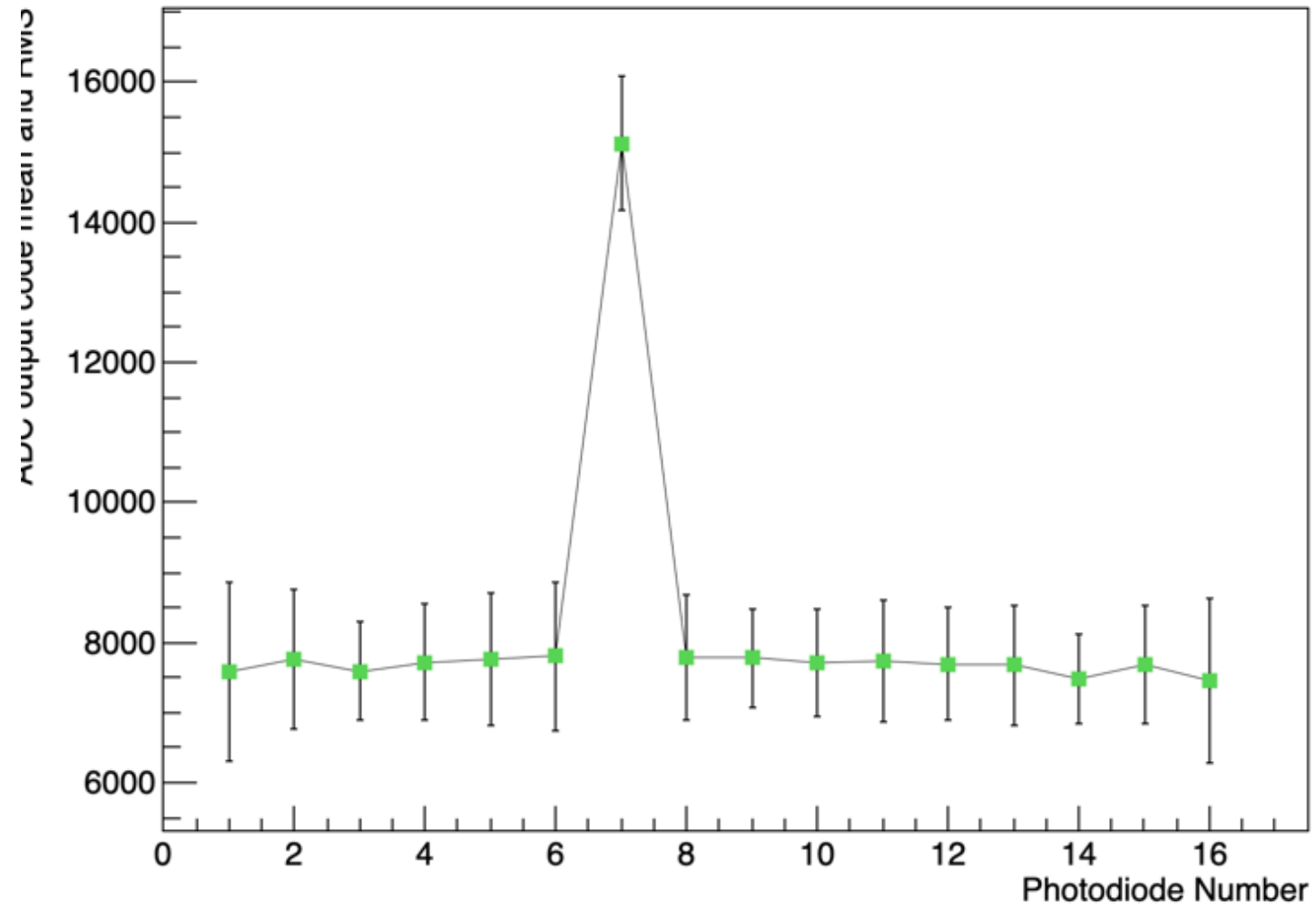


Run009; Int time 2000us; Full Scale 350pC

Hamamatsu S12915-16R

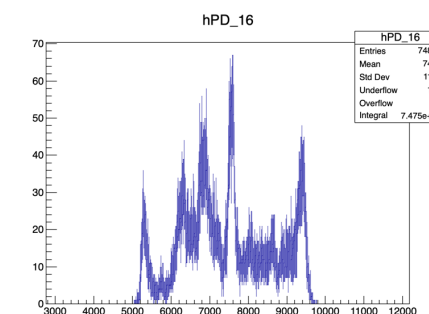
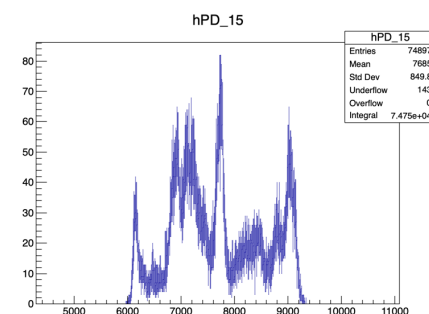
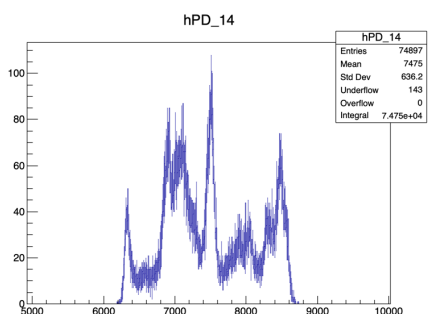
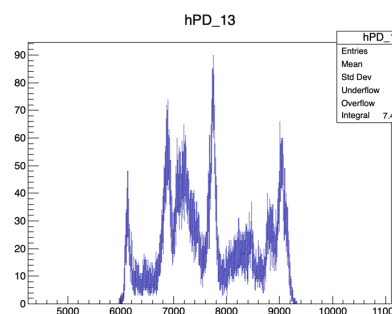
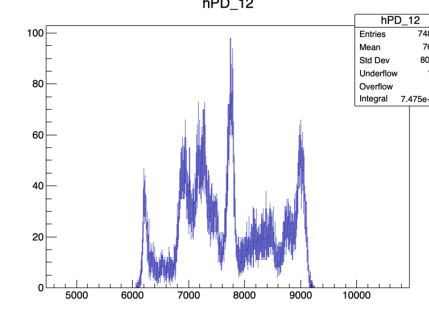
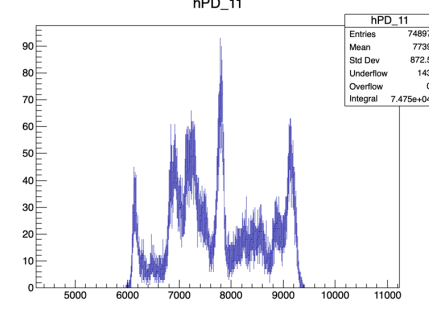
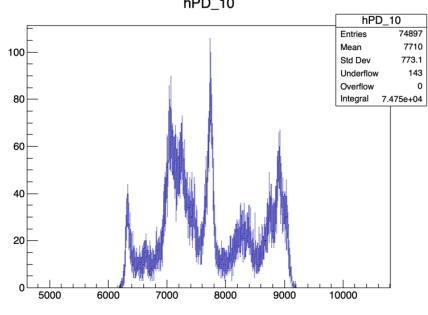
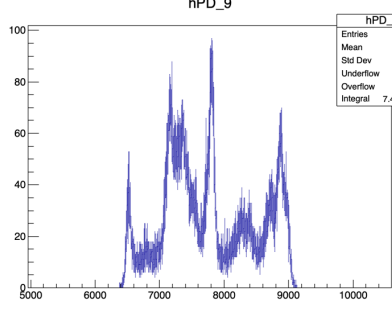
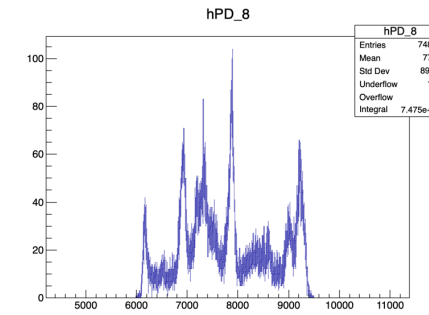
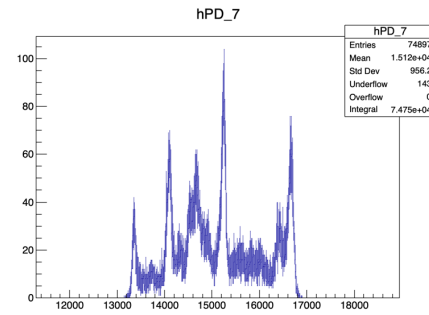
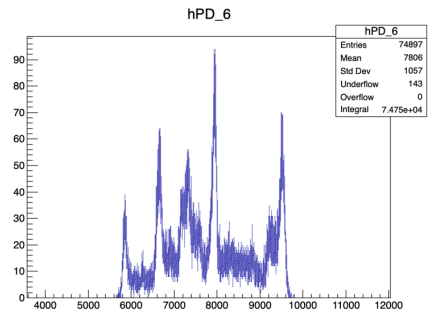
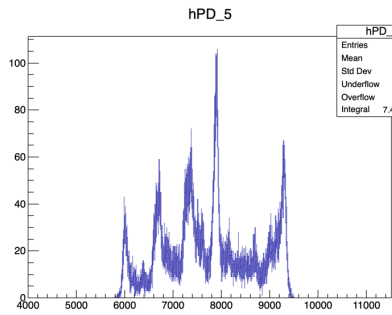
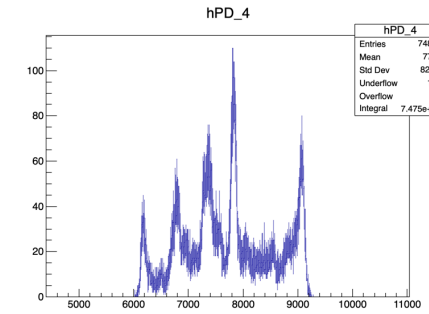
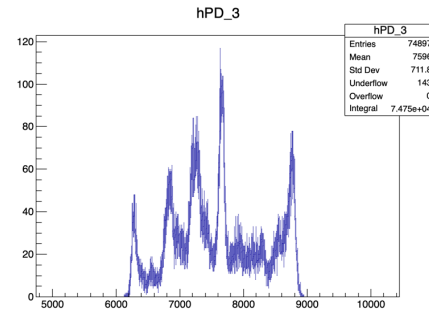
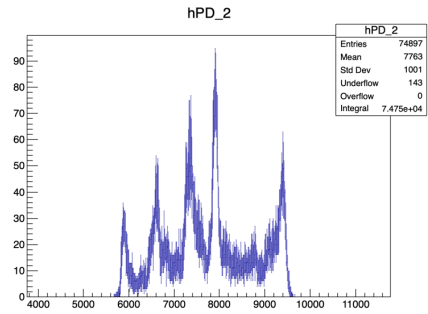
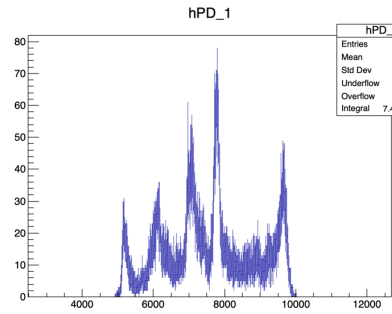


Candlestick Plot

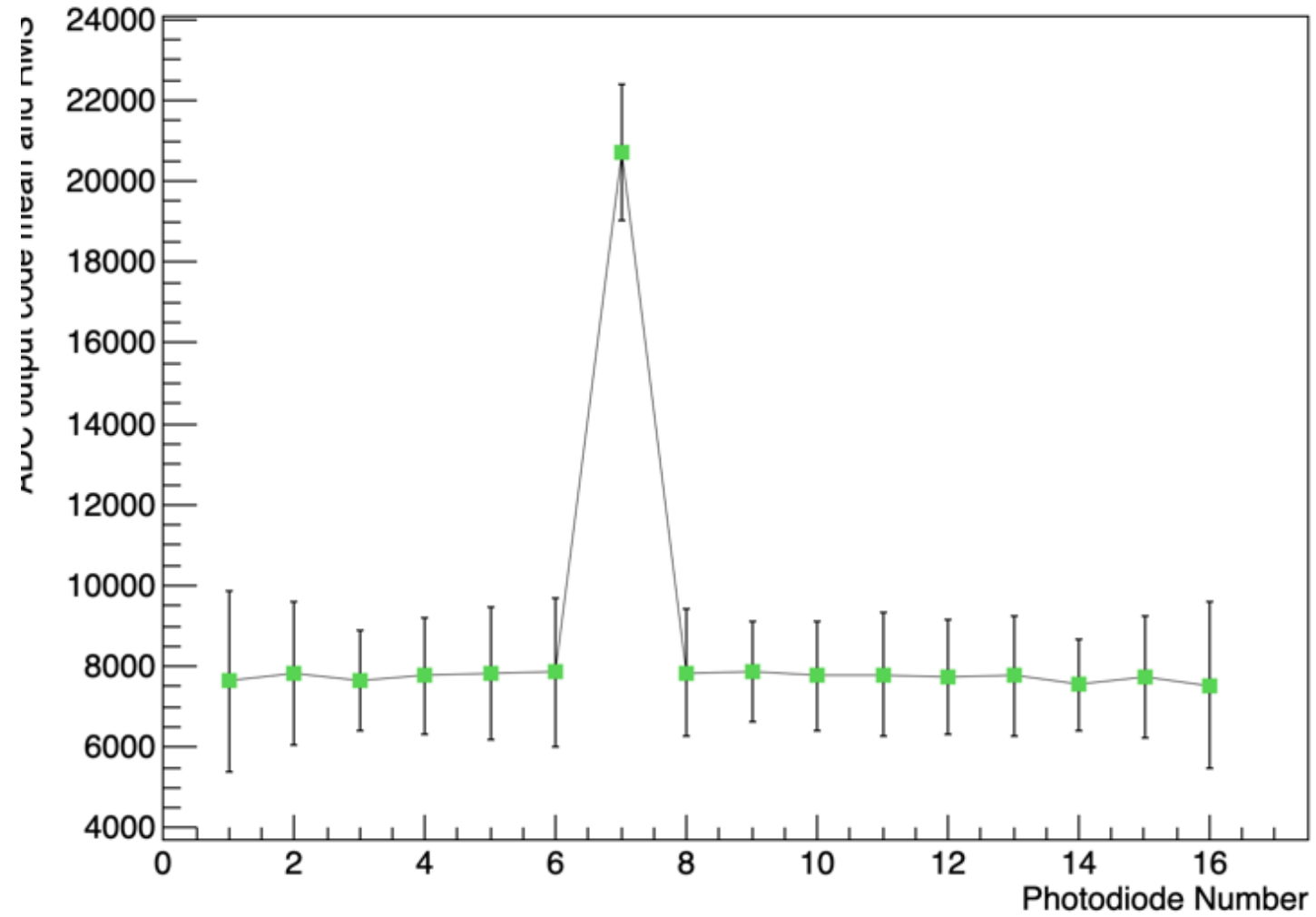


Run010; Int time 170us; Full Scale 350pC

Hamamatsu S12915-16R

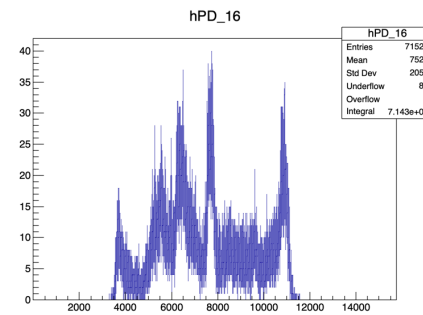
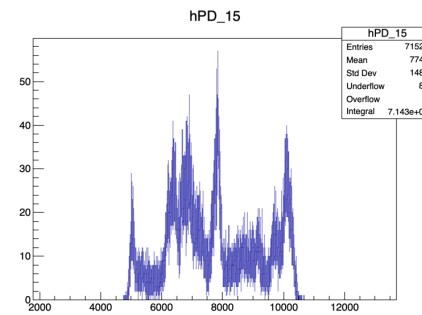
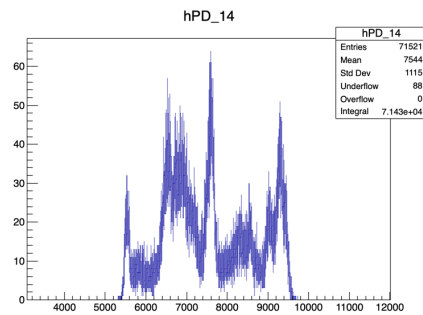
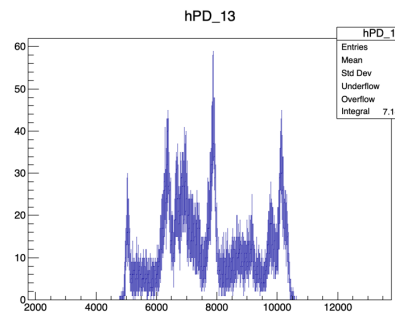
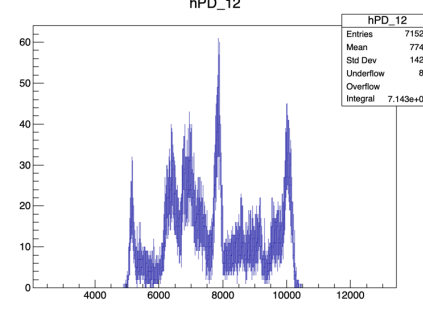
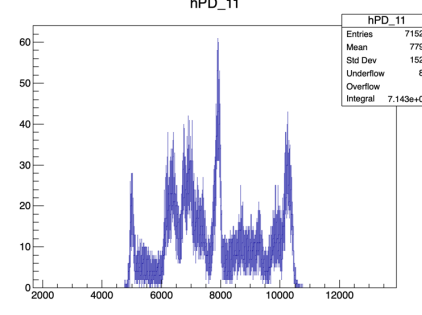
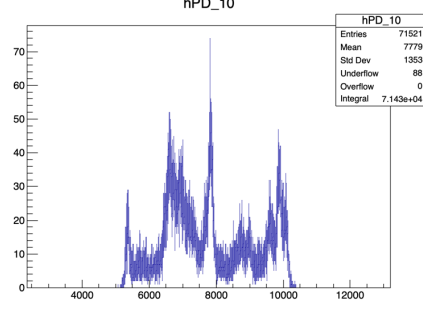
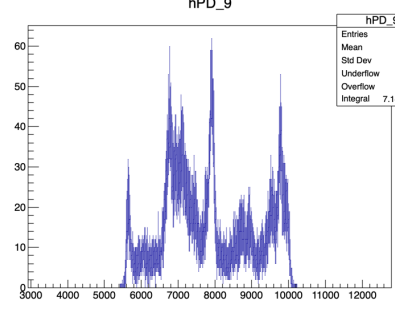
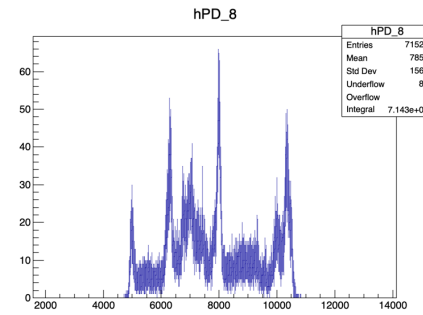
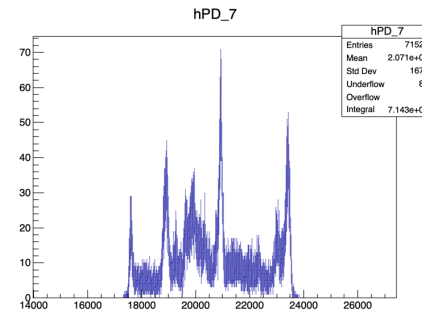
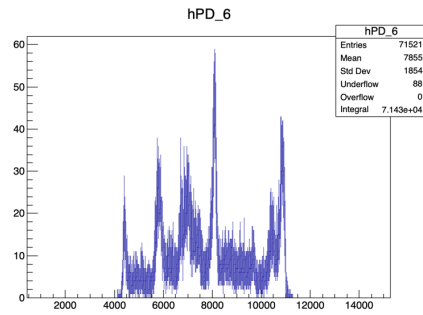
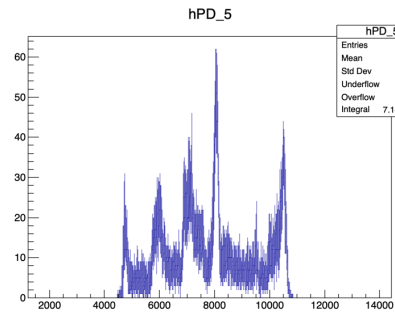
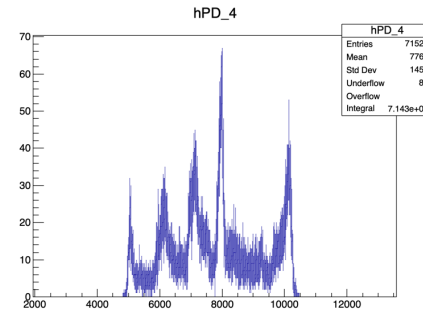
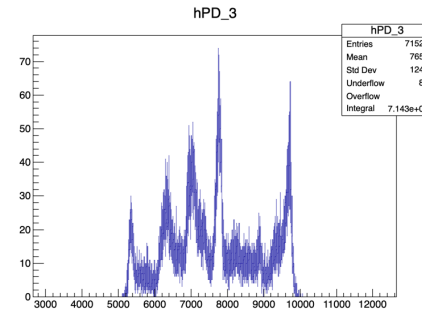
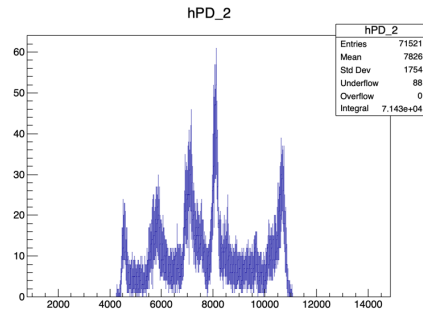
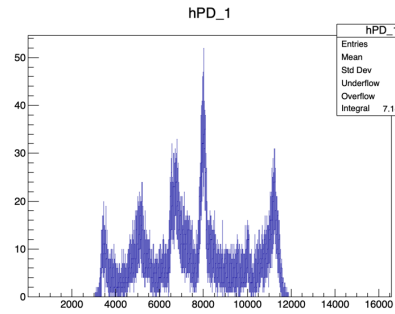


Candlestick Plot

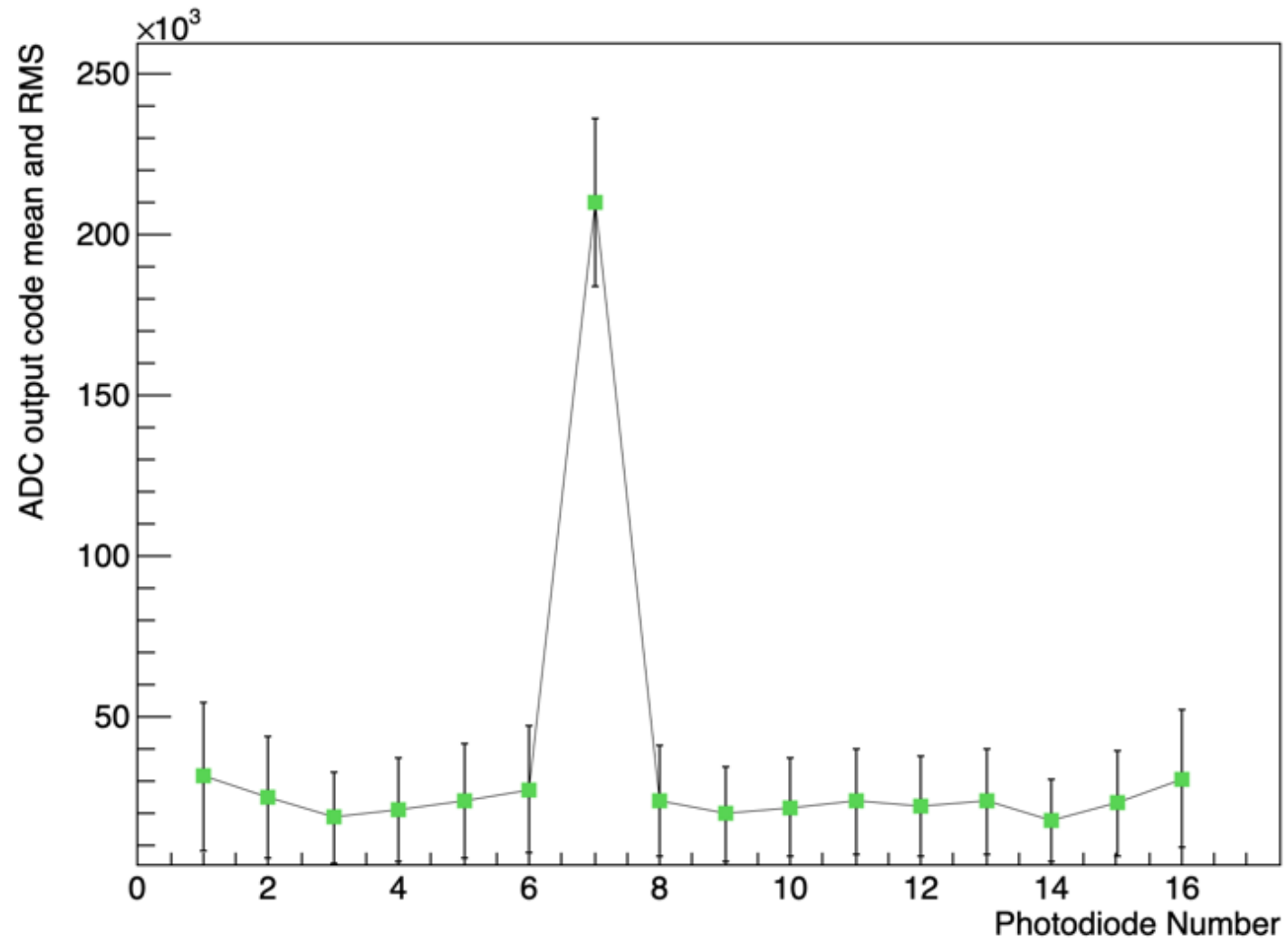


Run011; Int time 170us; Full Scale 200pC

Hamamatsu S12915-16R



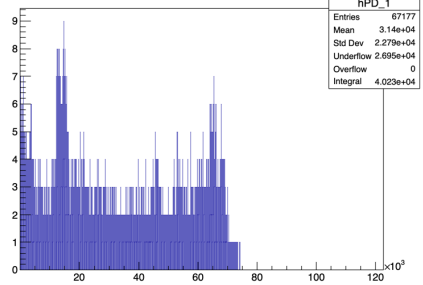
Candlestick Plot



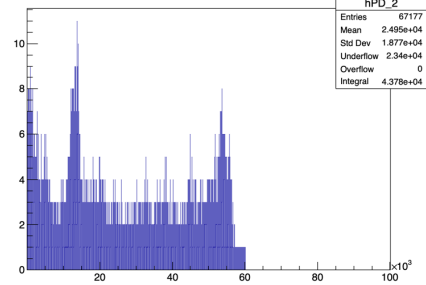
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Hamamatsu S12915-16R

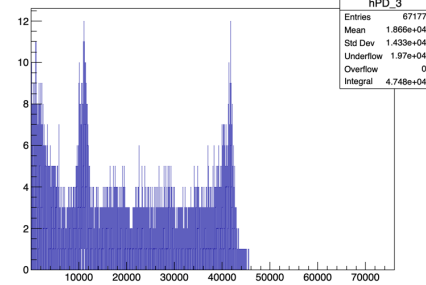
hPD_1



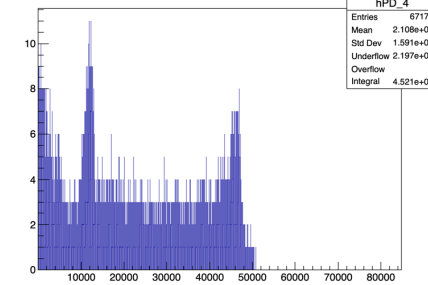
hPD_2



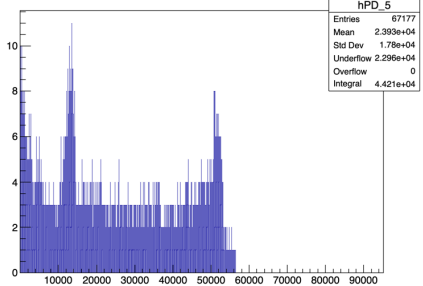
hPD_3



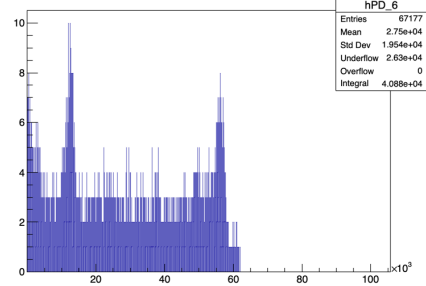
hPD_4



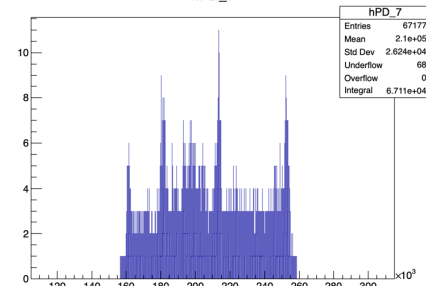
hPD_5



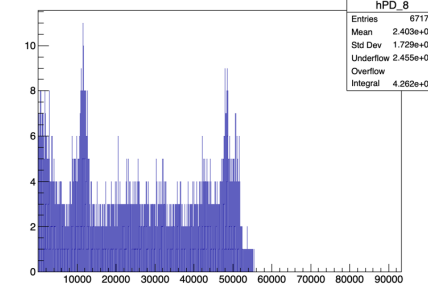
hPD_6



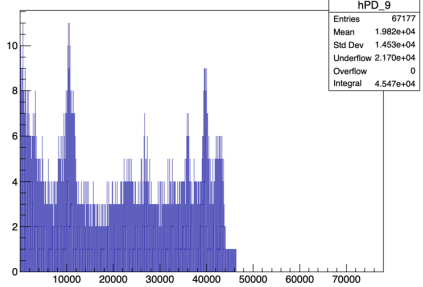
hPD_7



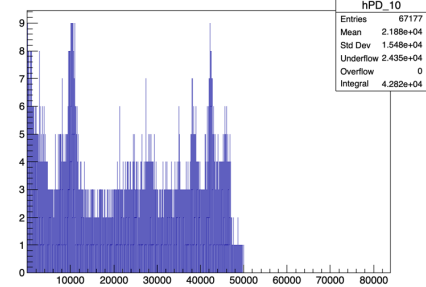
hPD_8



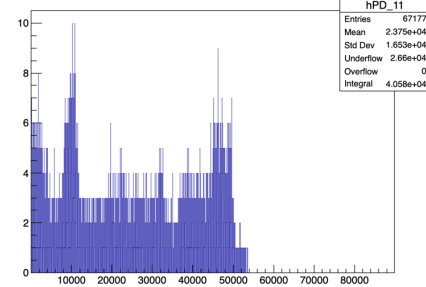
hPD_9



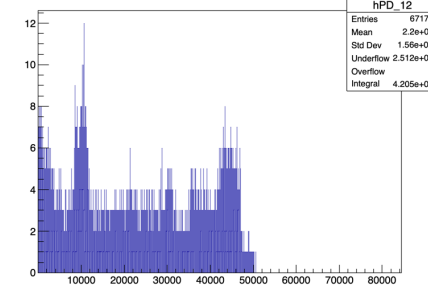
hPD_10



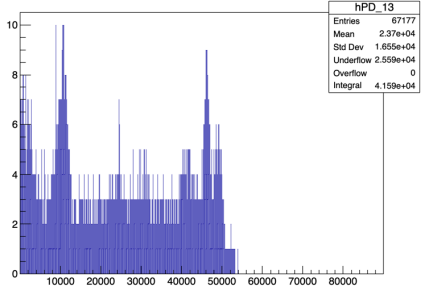
hPD_11



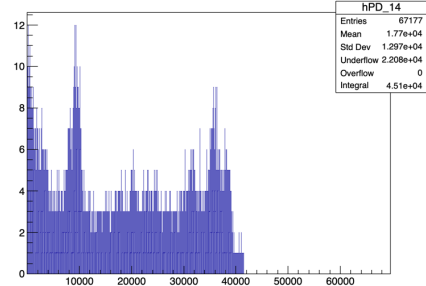
hPD_12



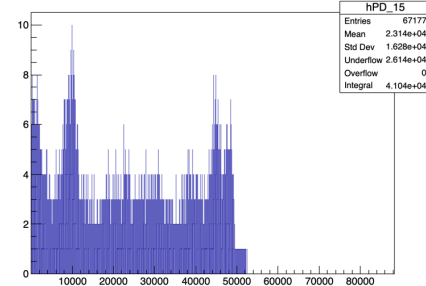
hPD_13



hPD_14



hPD_15



hPD_16

