

SiPM dark rate study update Calorimetry meeting

Varun Neelamana & Jon Zarling



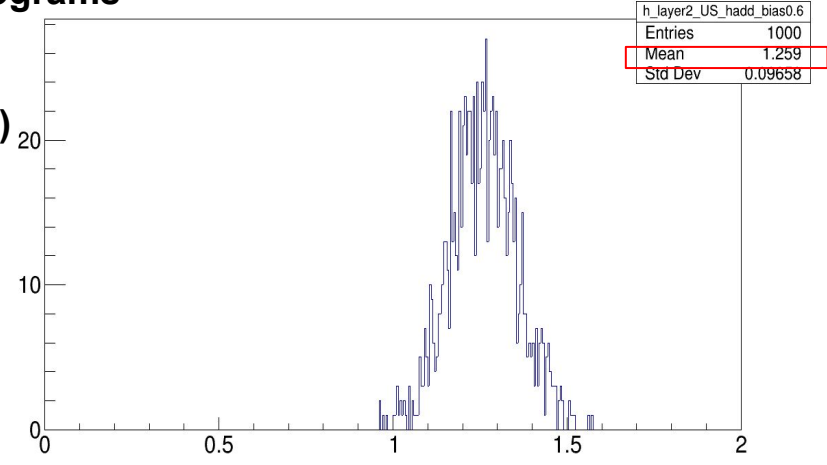
University
of Regina



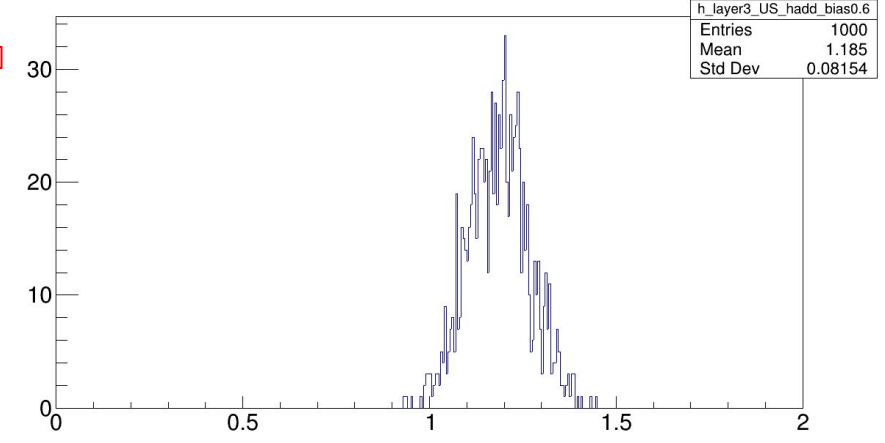
Faculty of
Science

Few histograms Ped RMS (Single channels)

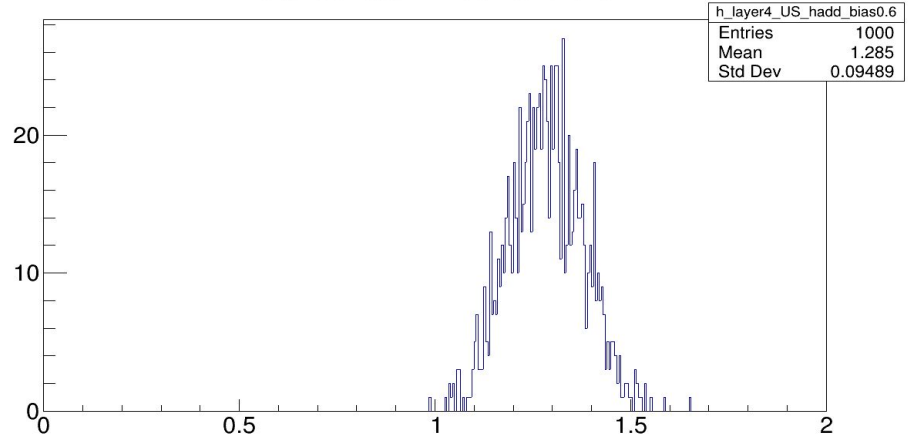
Sigma of each window (31, 3, 4) (rocid, slot, channel)



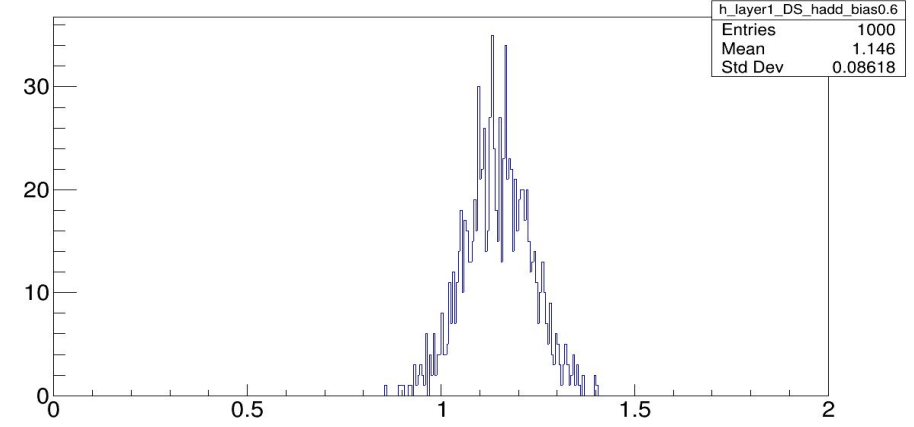
Sigma of each window (31, 4, 0)



Sigma of each window (31, 4, 4)

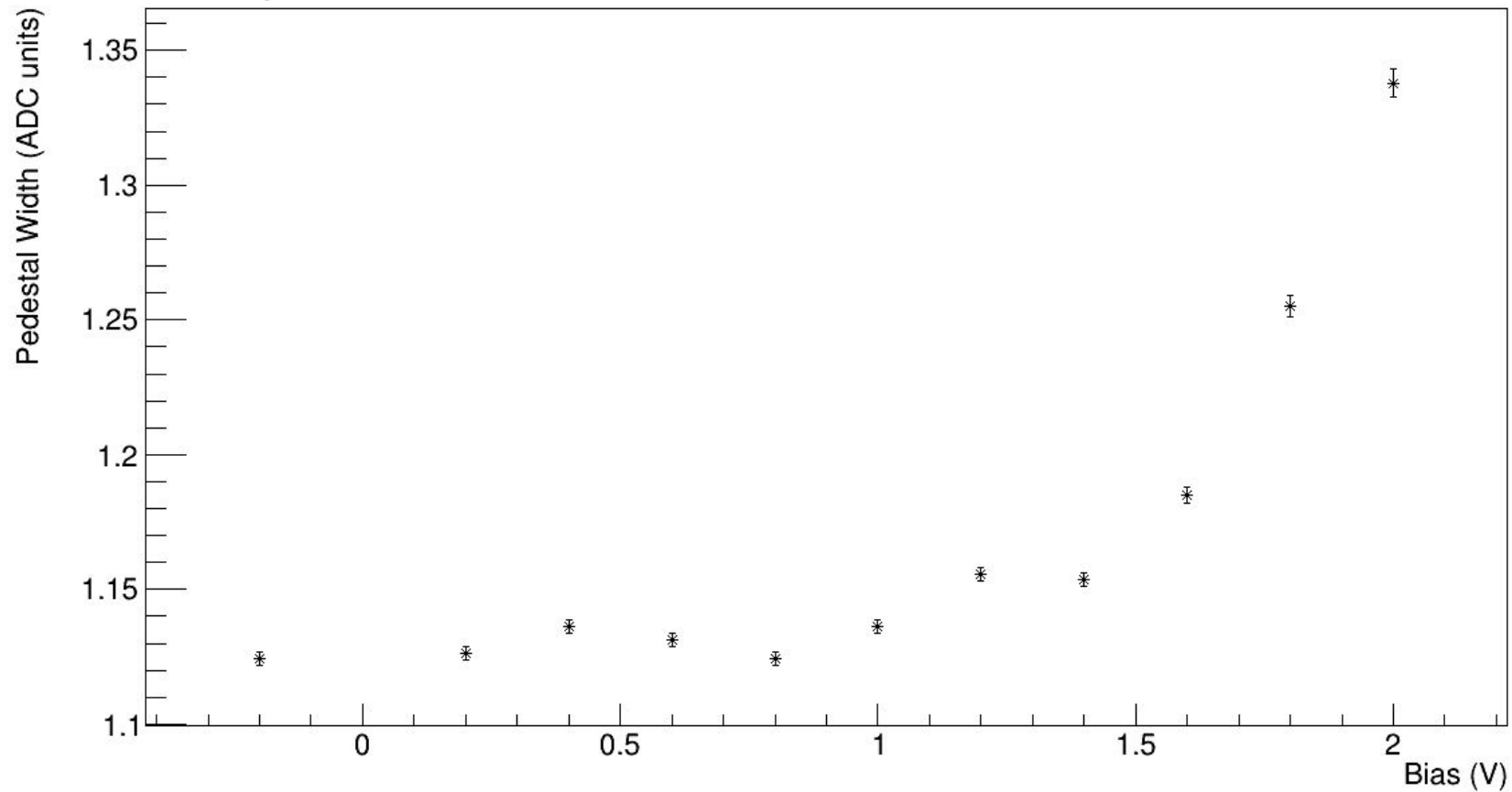


Sigma of each window (31, 3, 8)

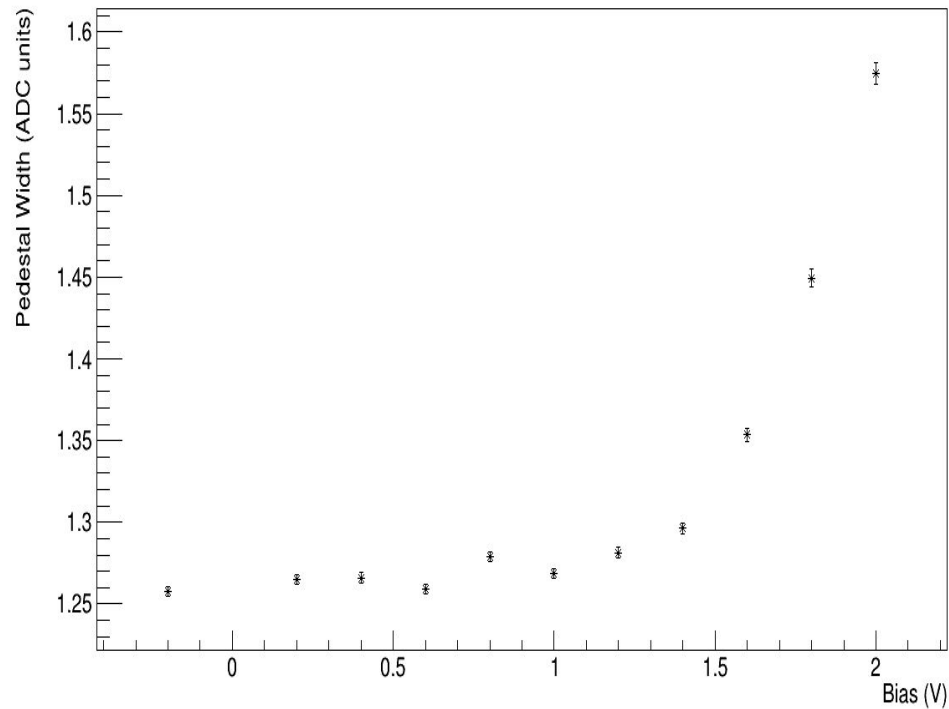


**Pedestal RMS vs bias voltage
(Overbias) for single channel**

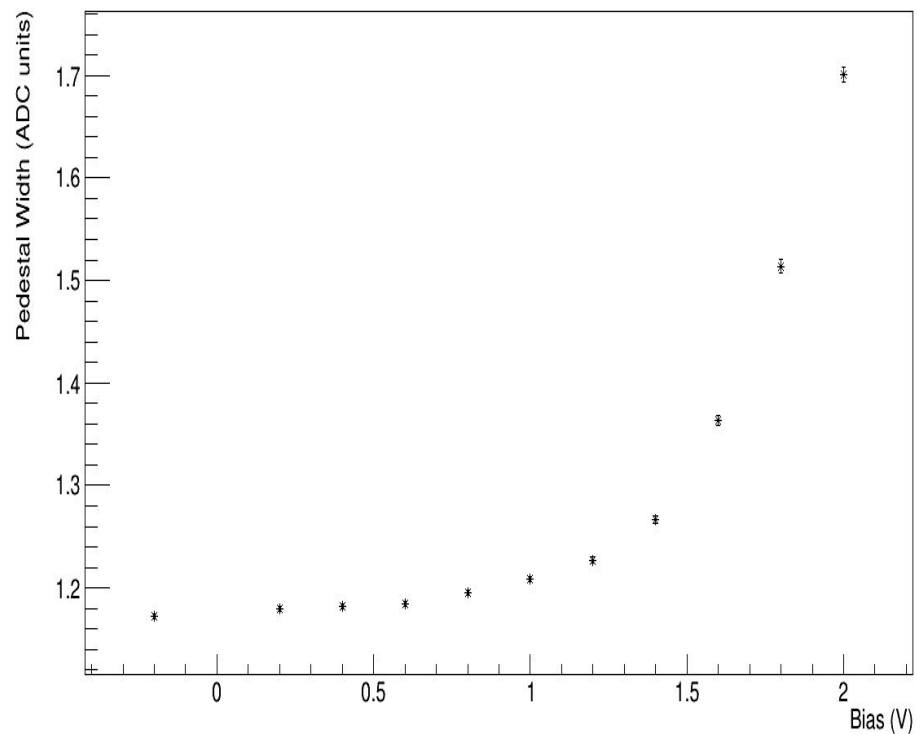
roc 31, slot 3, ch 0



roc 31, slot 3, ch 4

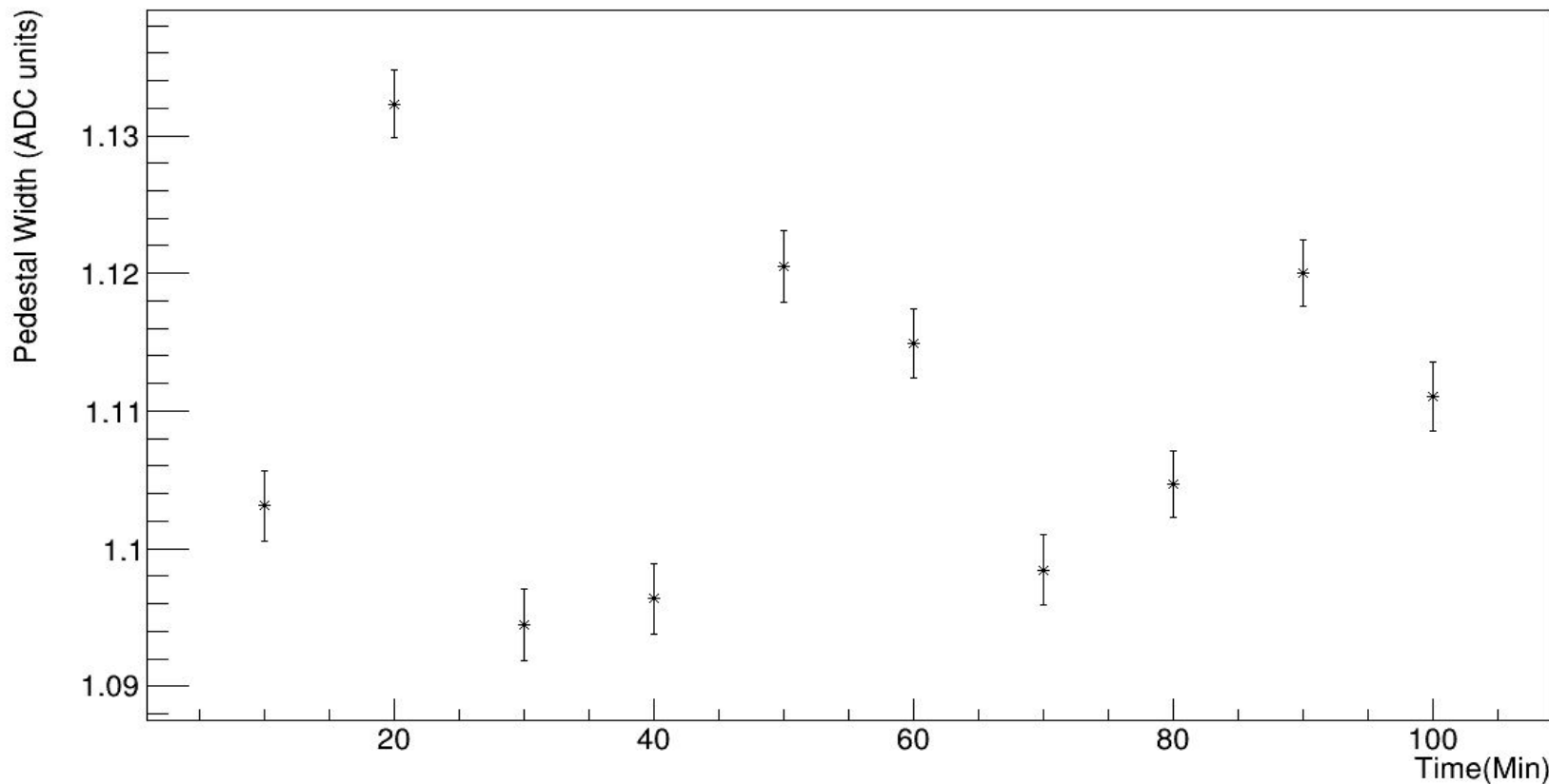


roc 31, slot 4, ch 0

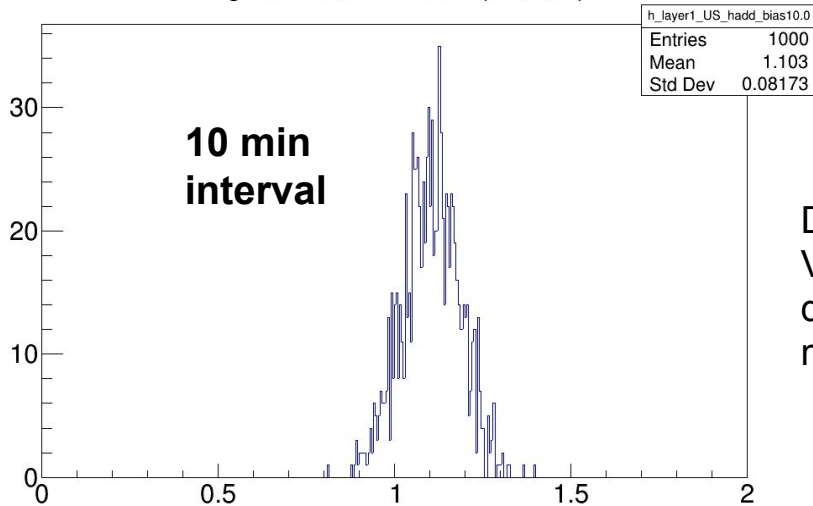


V = Off term vs Time (SiPMs are off data taken in intervals of 10 minutes)

roc 31, slot 3, ch 0

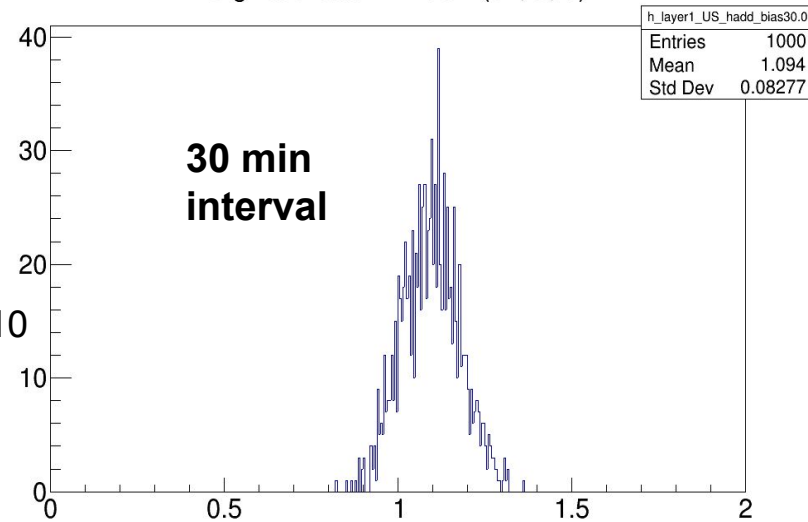


Sigma of each window (31, 3, 0)

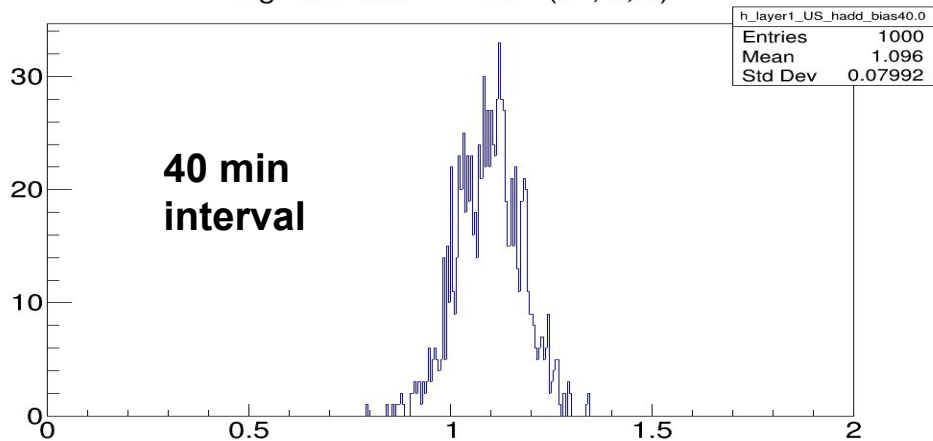


Distributions at
V=off & at
different time. 10
minute interval

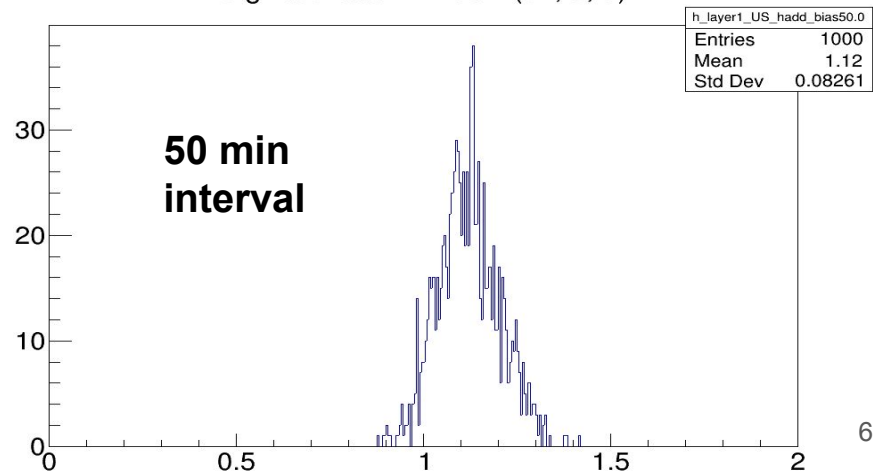
Sigma of each window (31, 3, 0)



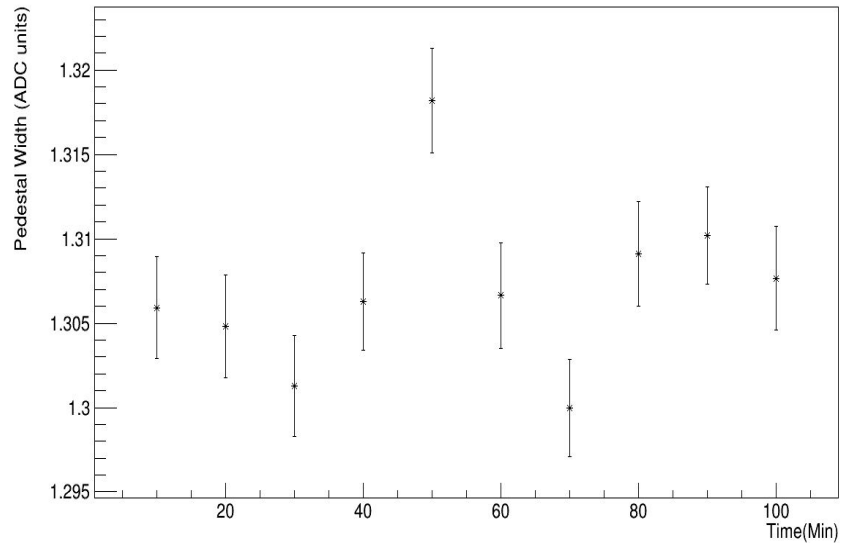
Sigma of each window (31, 3, 0)



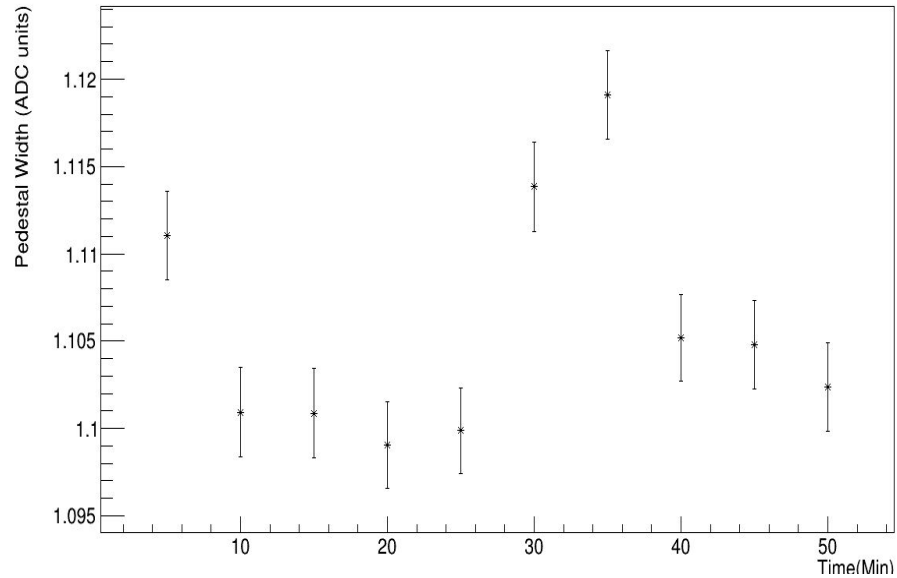
Sigma of each window (31, 3, 0)



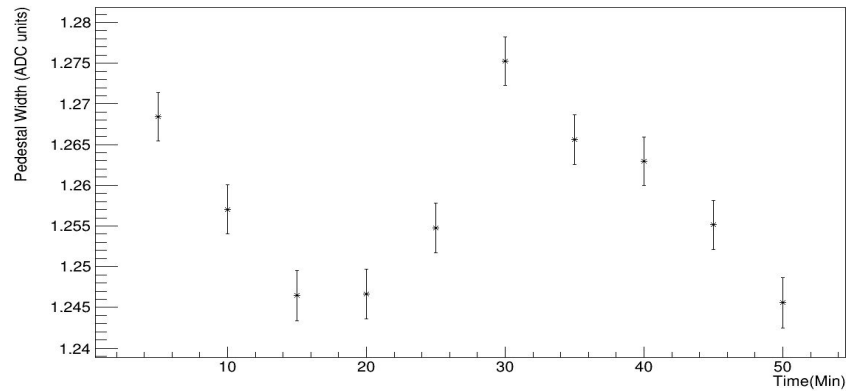
roc 31, slot 4, ch 4



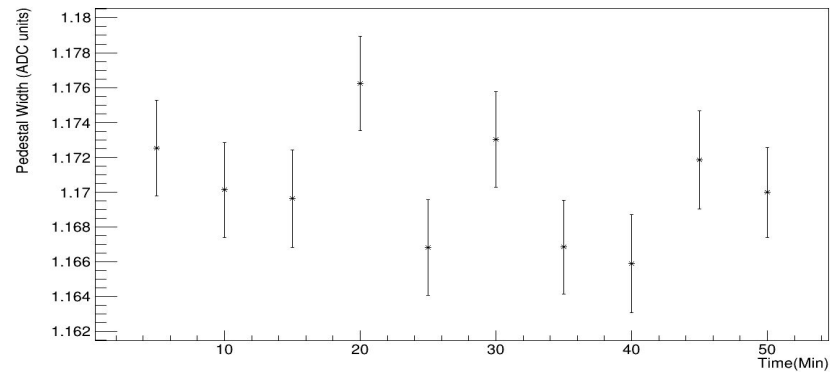
roc 31, slot 3, ch 0



roc 31, slot 3, ch 4



roc 31, slot 4, ch 0



LED monitoring Update (Spring 2020)

Channel 1486 US M=45, L=4, S=3 (~ 7% change in gain) (from 72590)

DS LED

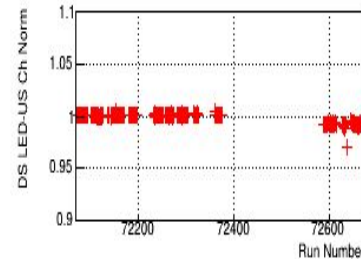
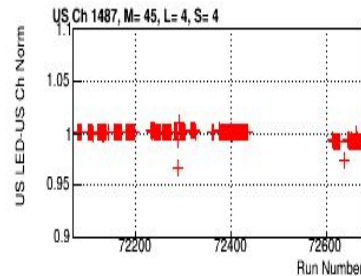
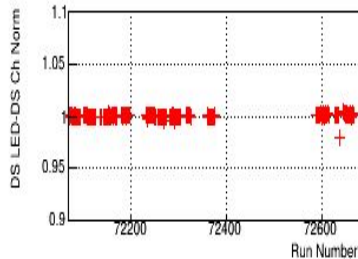
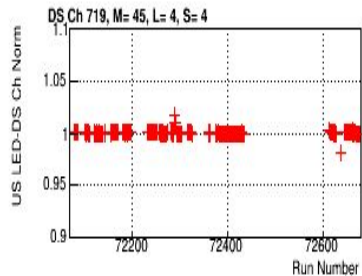
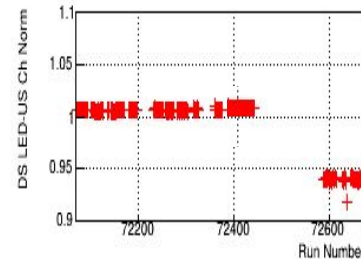
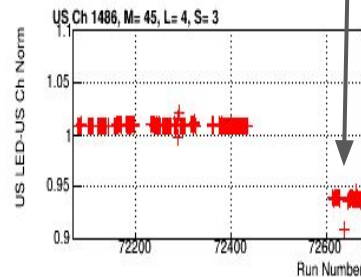
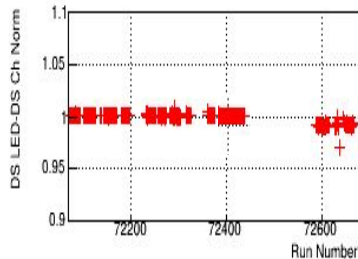
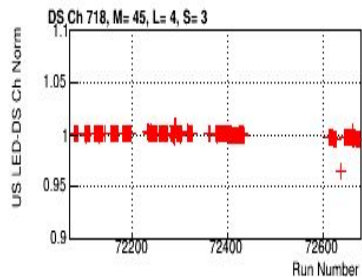
US LED

DS LED

US LED

72590(Aug02)- current runs

Y Axis
0.9
To
1.1



Downstream SiPMs

Upstream SiPMs