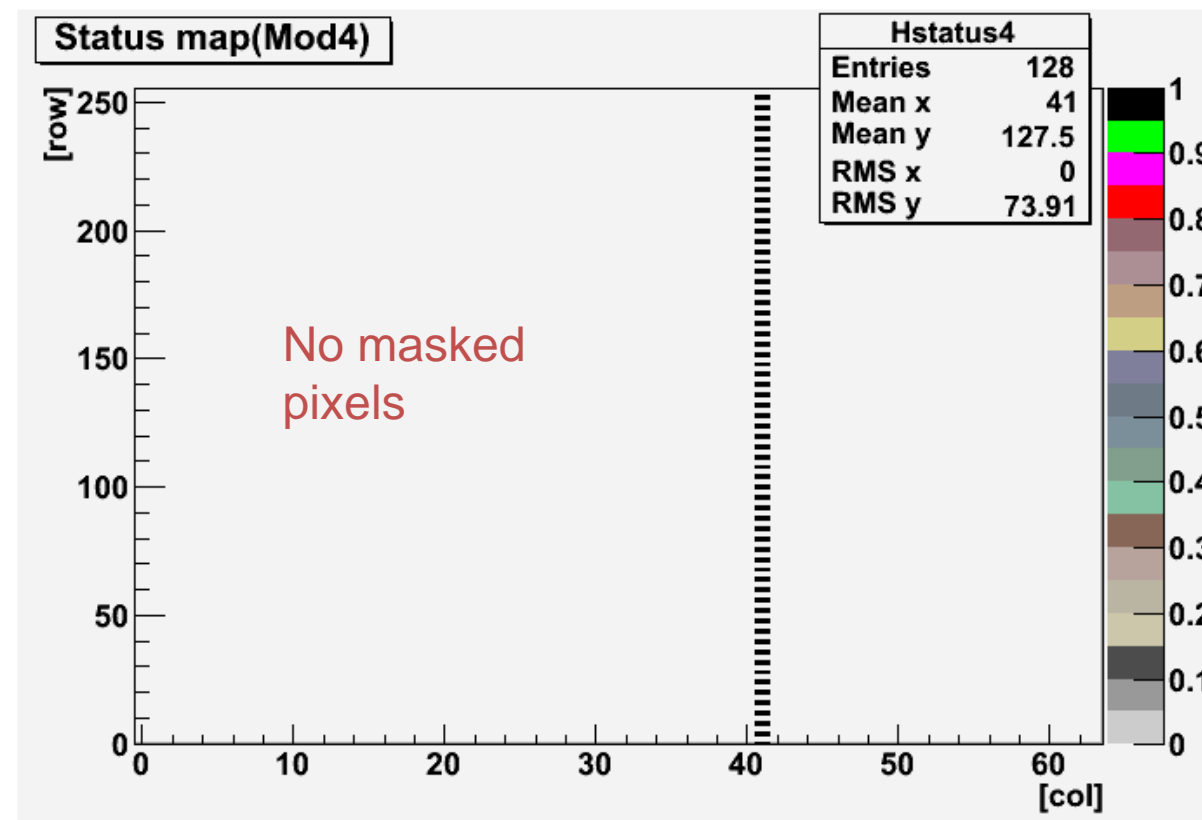
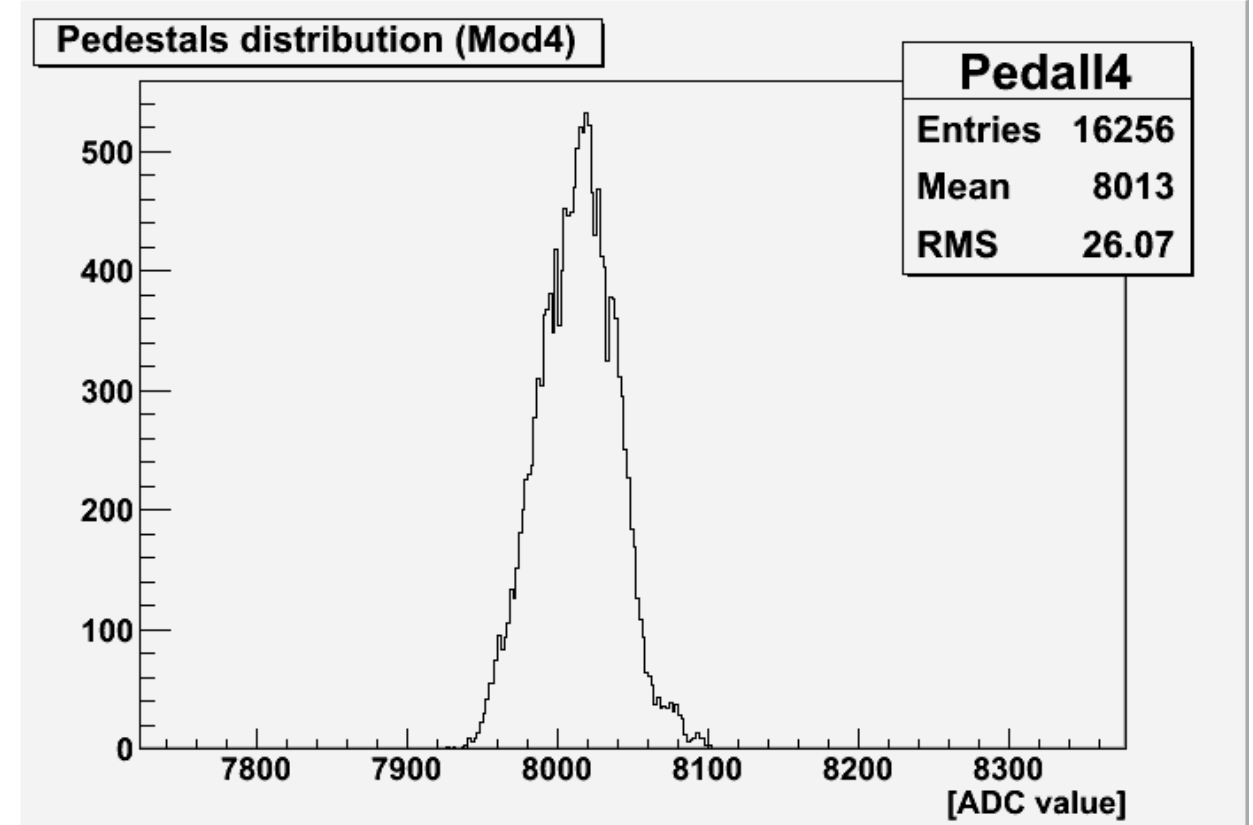
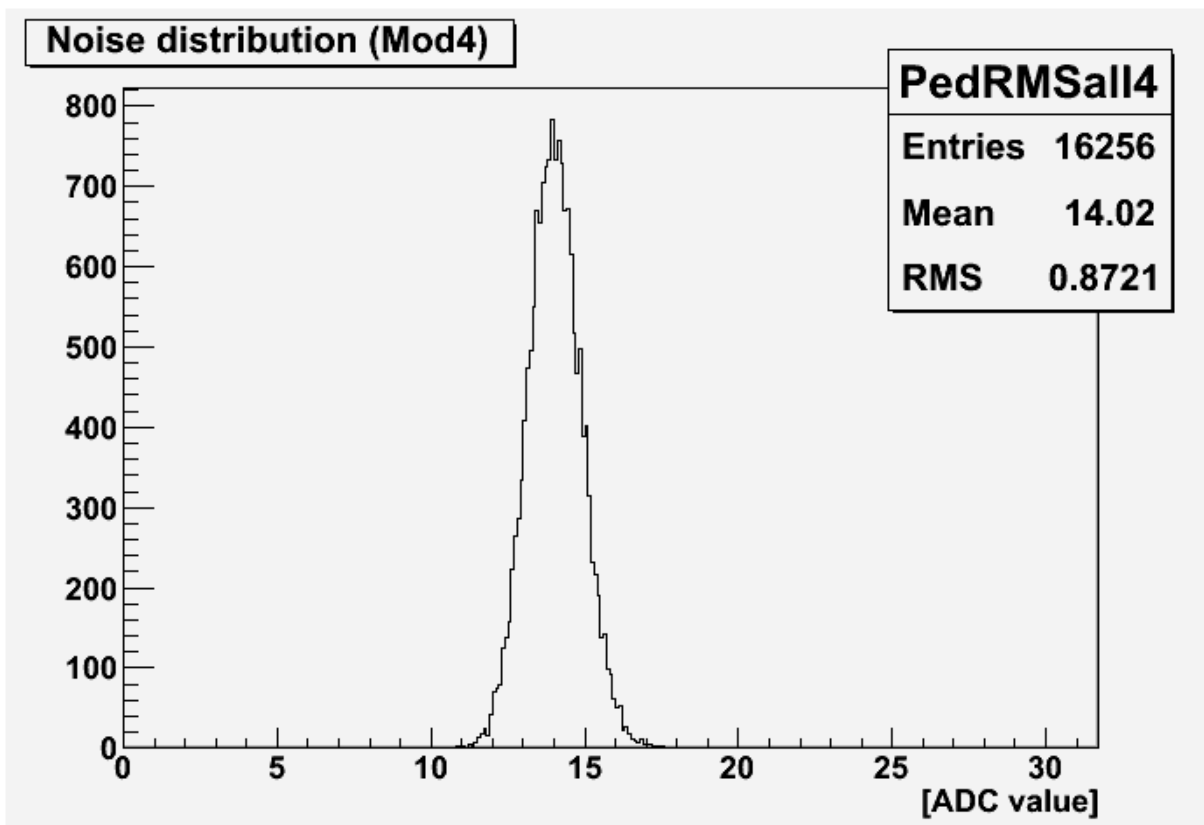
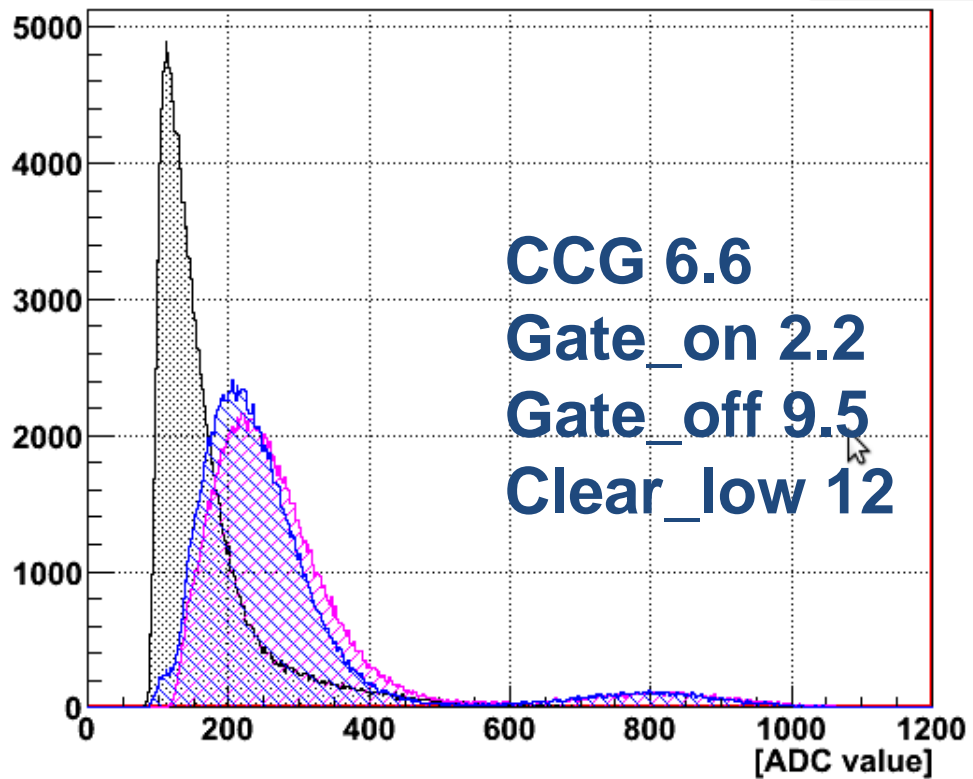


MATRIX H3.0.20 RUNS WITH AM241



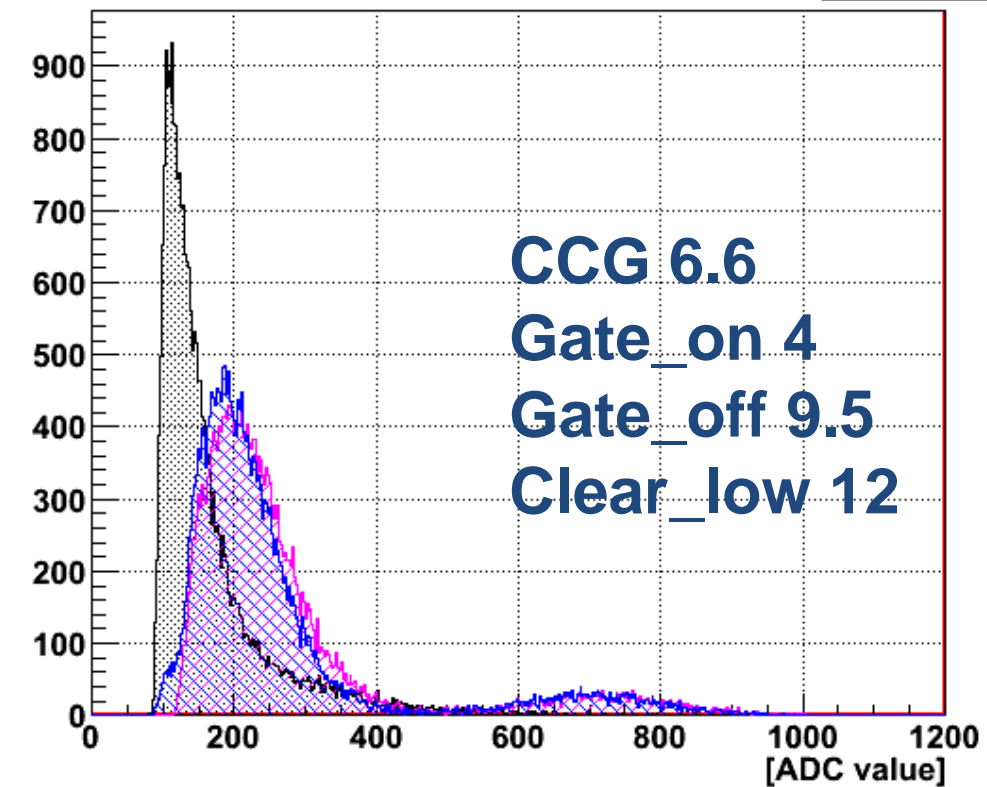
Seed and Clusters 3x3,5x5 (Mod4)

Entries 167564
Mean 170.5



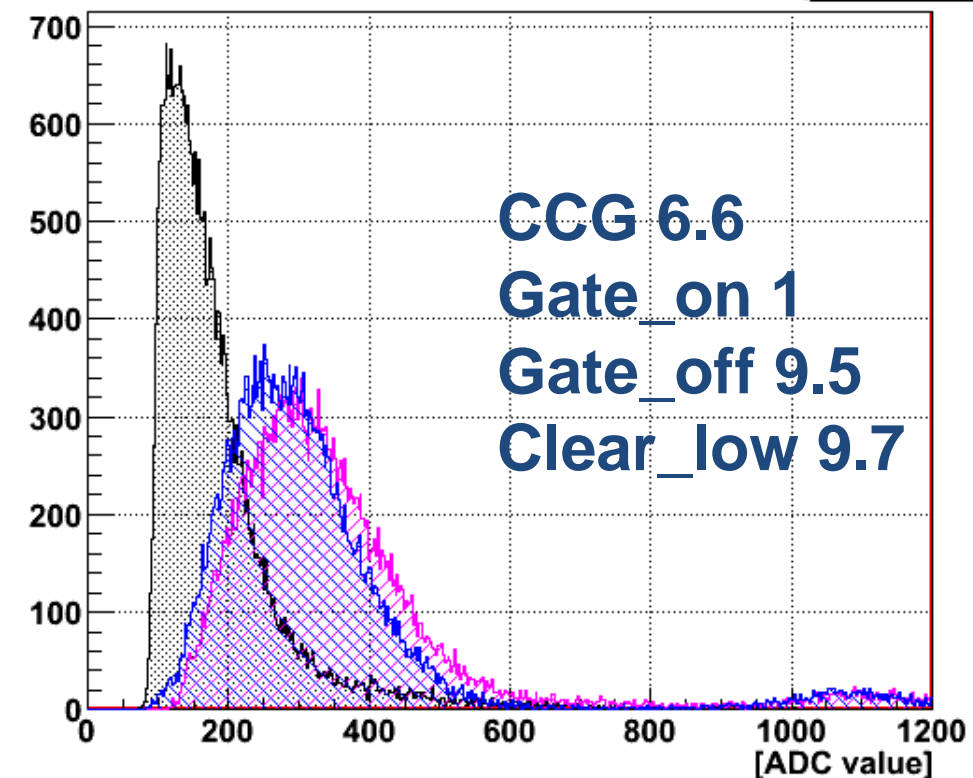
Seed and Clusters 3x3,5x5 (Mod4)

Entries 28349
Mean 170.3



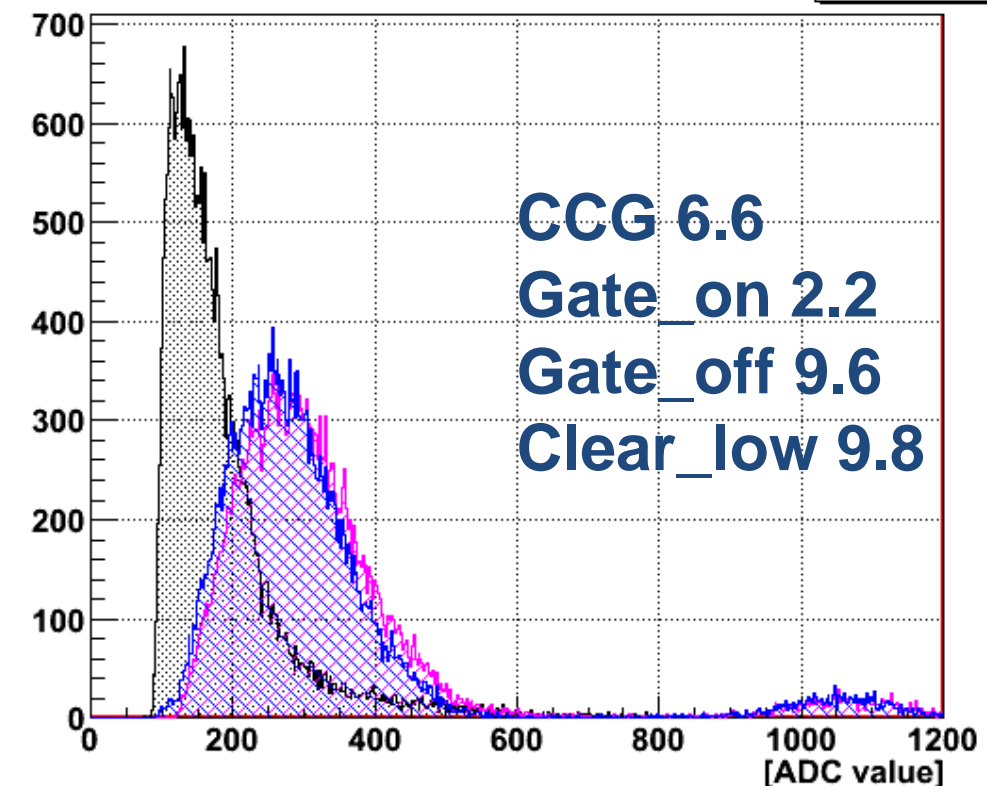
Seed and Clusters 3x3,5x5 (Mod4)

Entries 33102
Mean 187.1

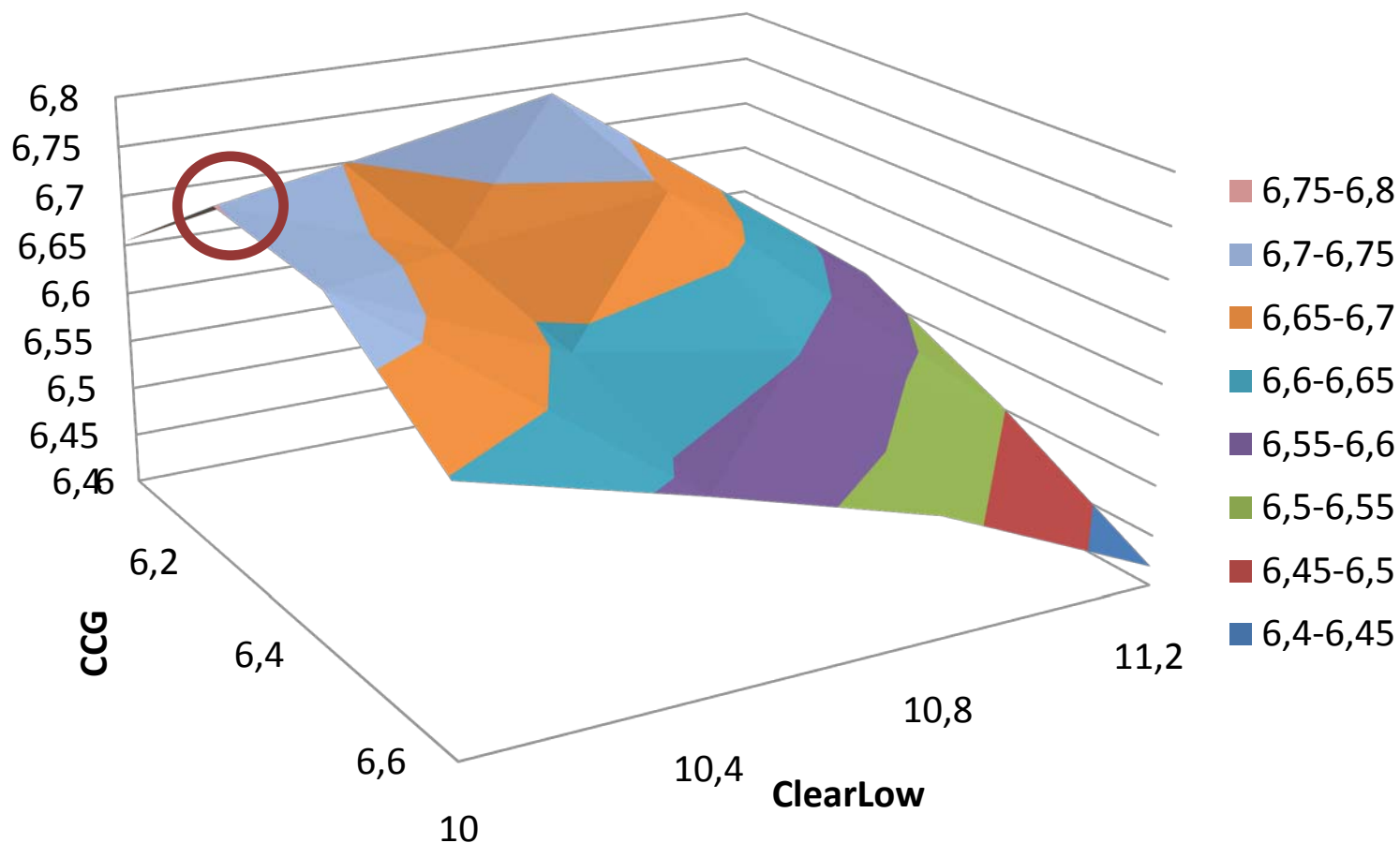


Seed and Clusters 3x3,5x5 (Mod4)

Entries 30321
Mean 187.9

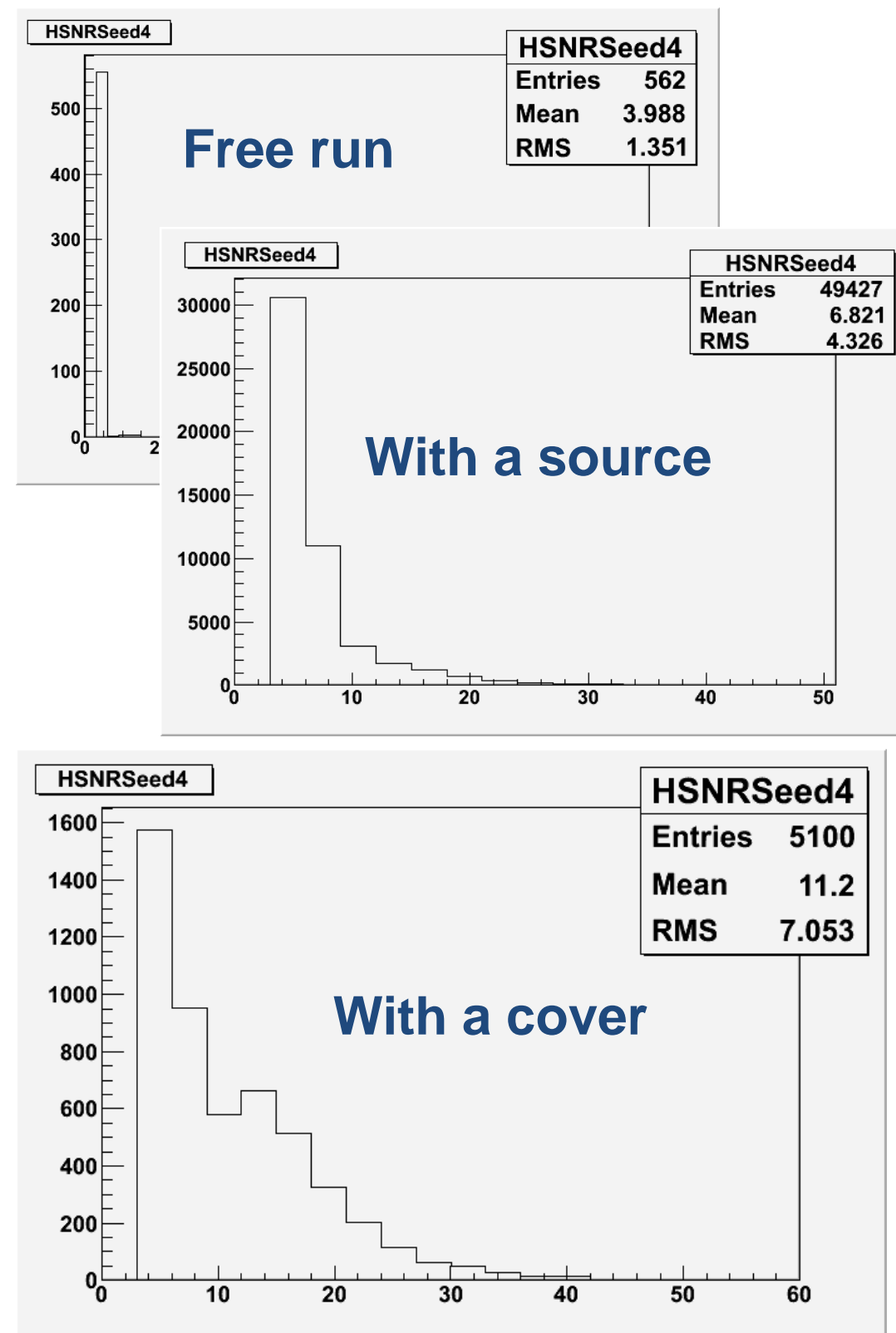


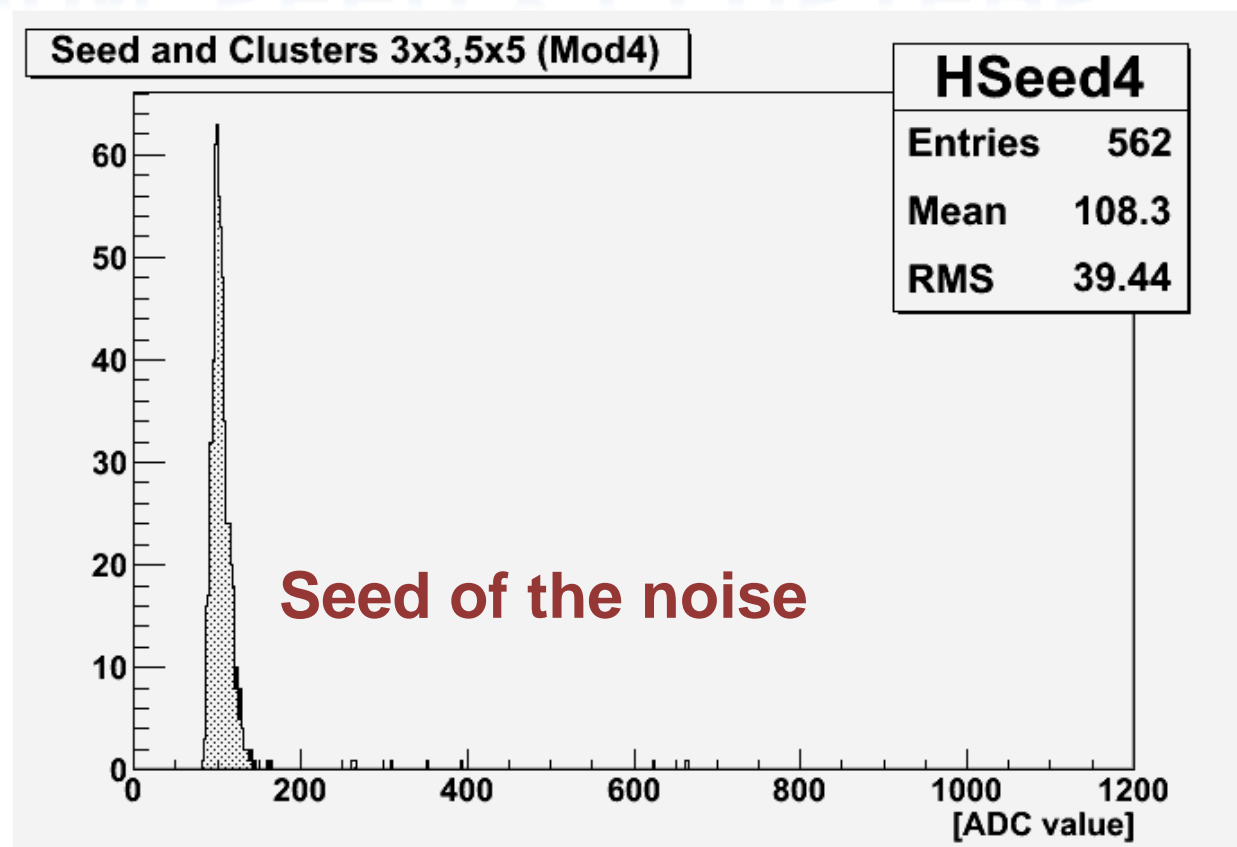
SNR (Seed mean value)



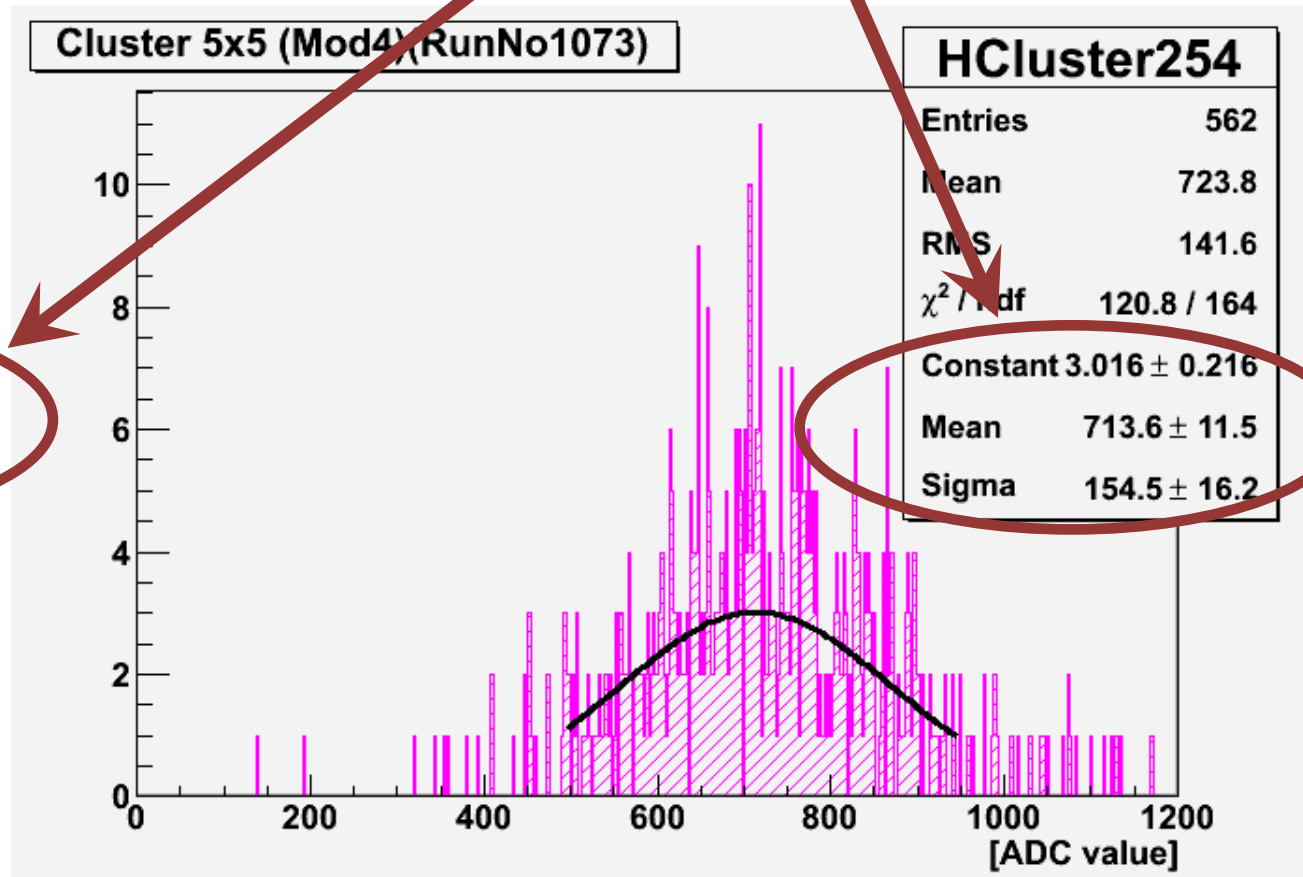
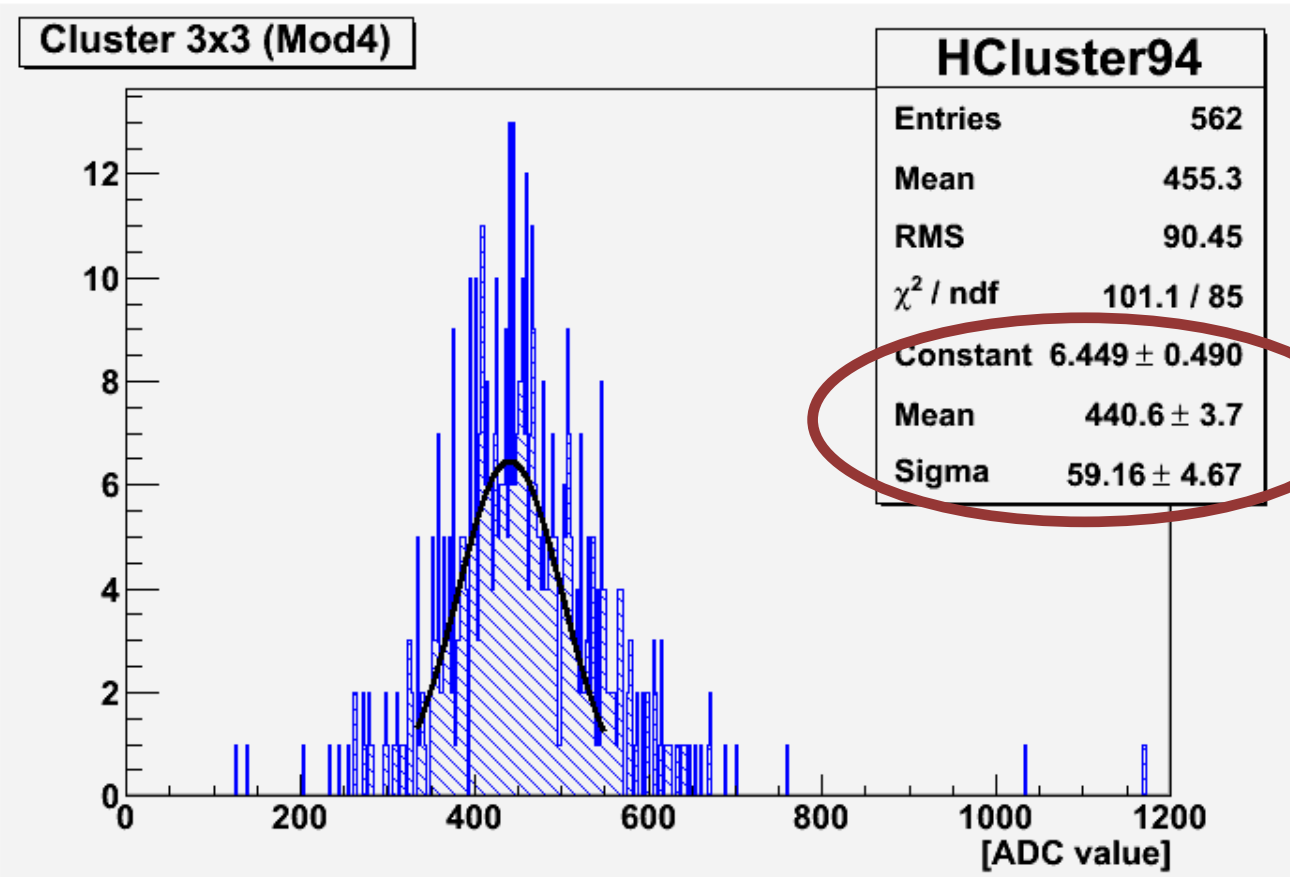
CCG 6.2V
Clear_Low 10V

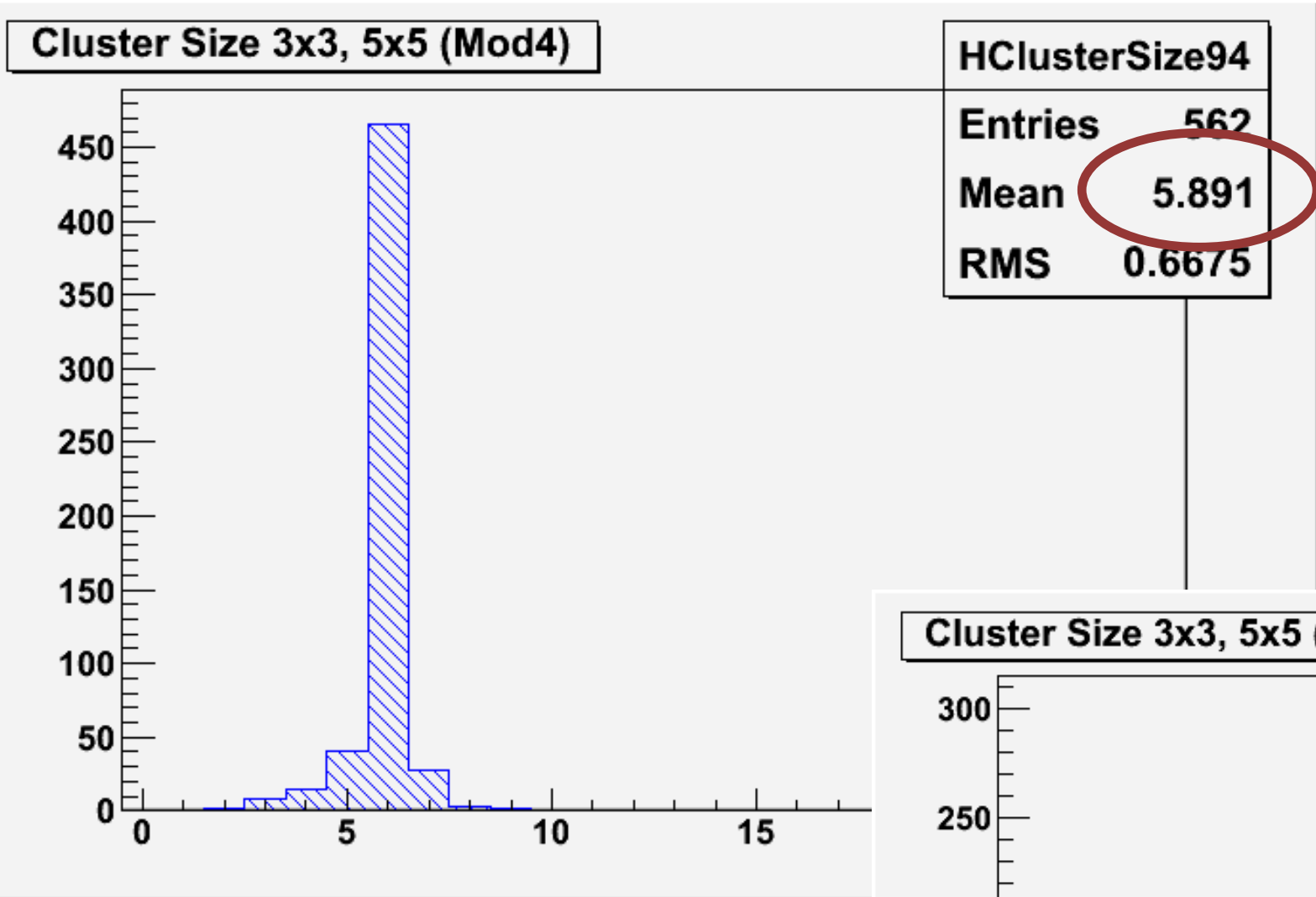
Voltages for all further runs:
CCG – 5.8; Gate_on – 2.4; Gate_off – 9.6;
Clear_low – 9.6; Clear_high – 10.4.



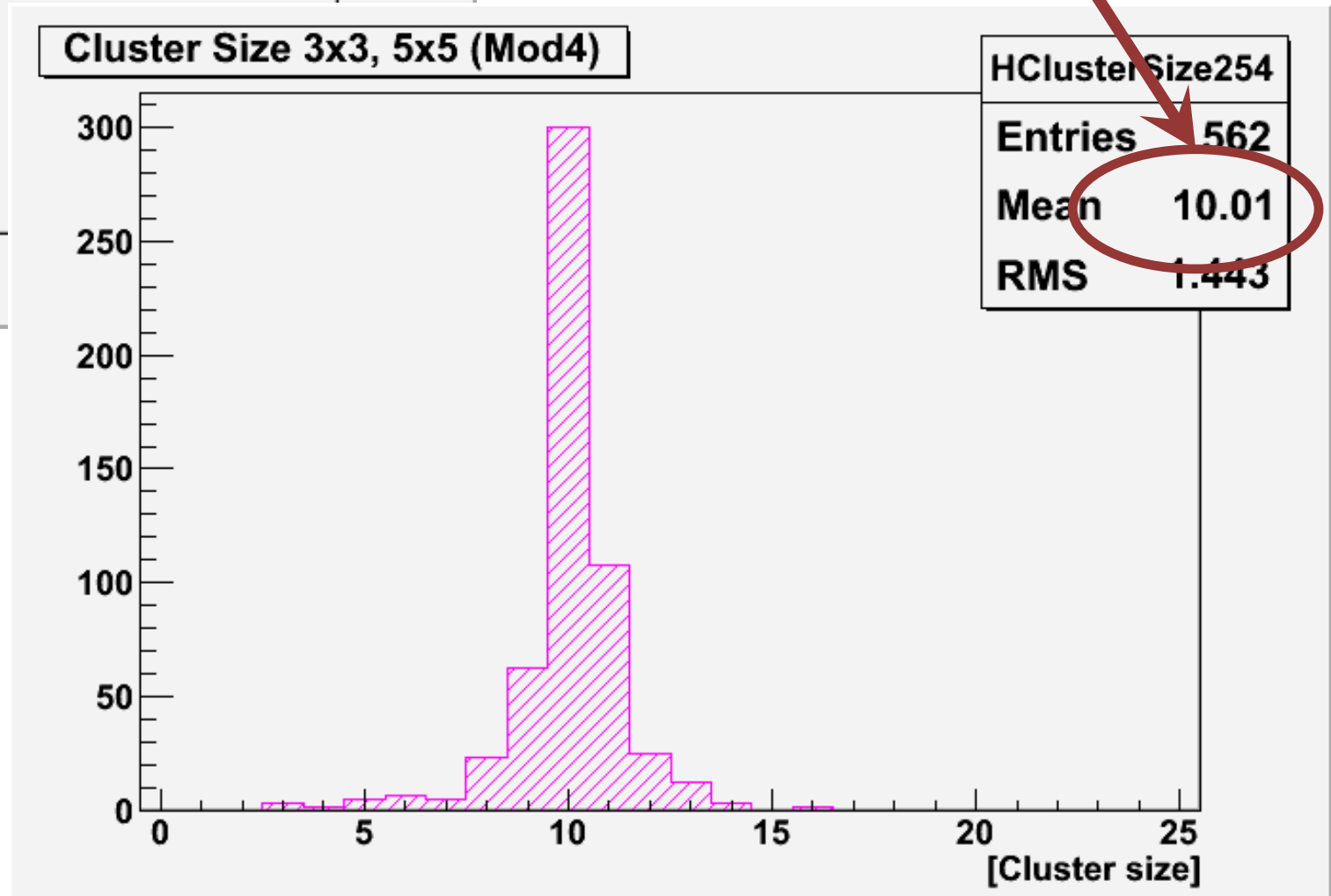


Cluster parameters of the noise

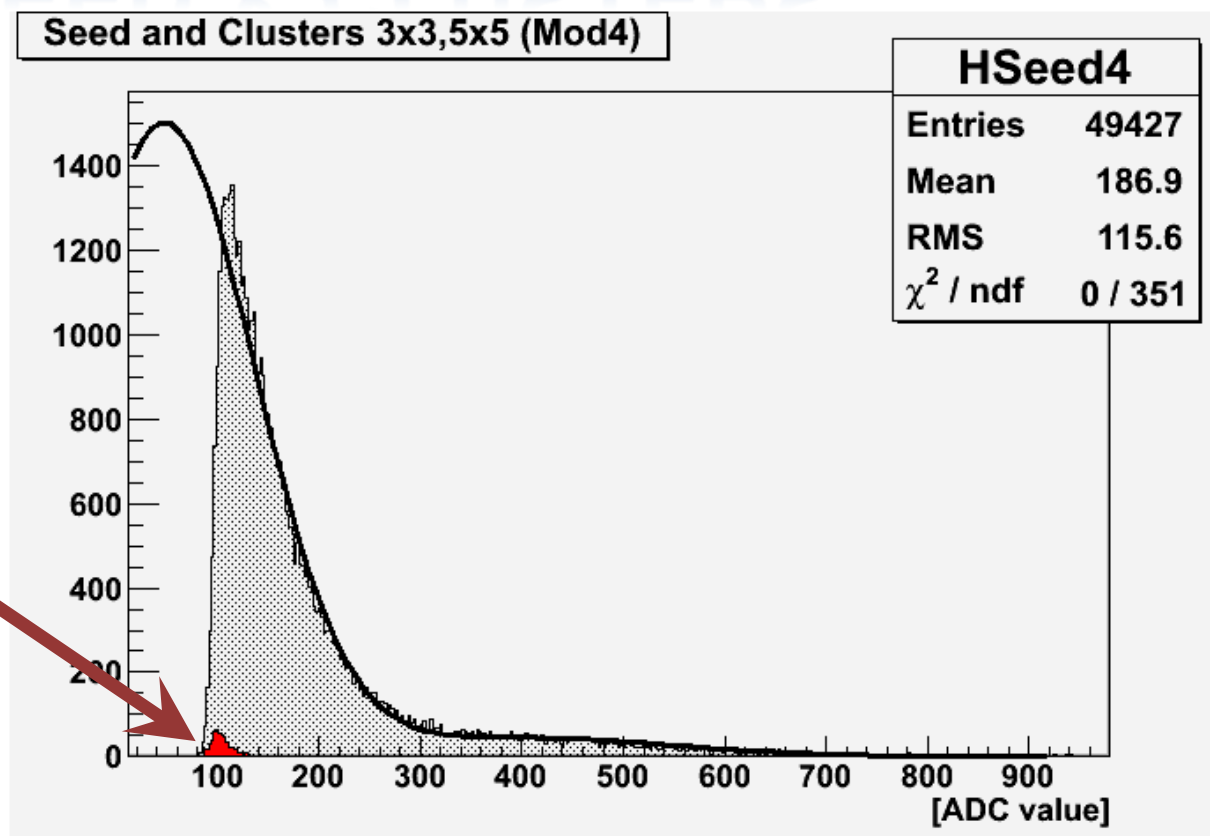




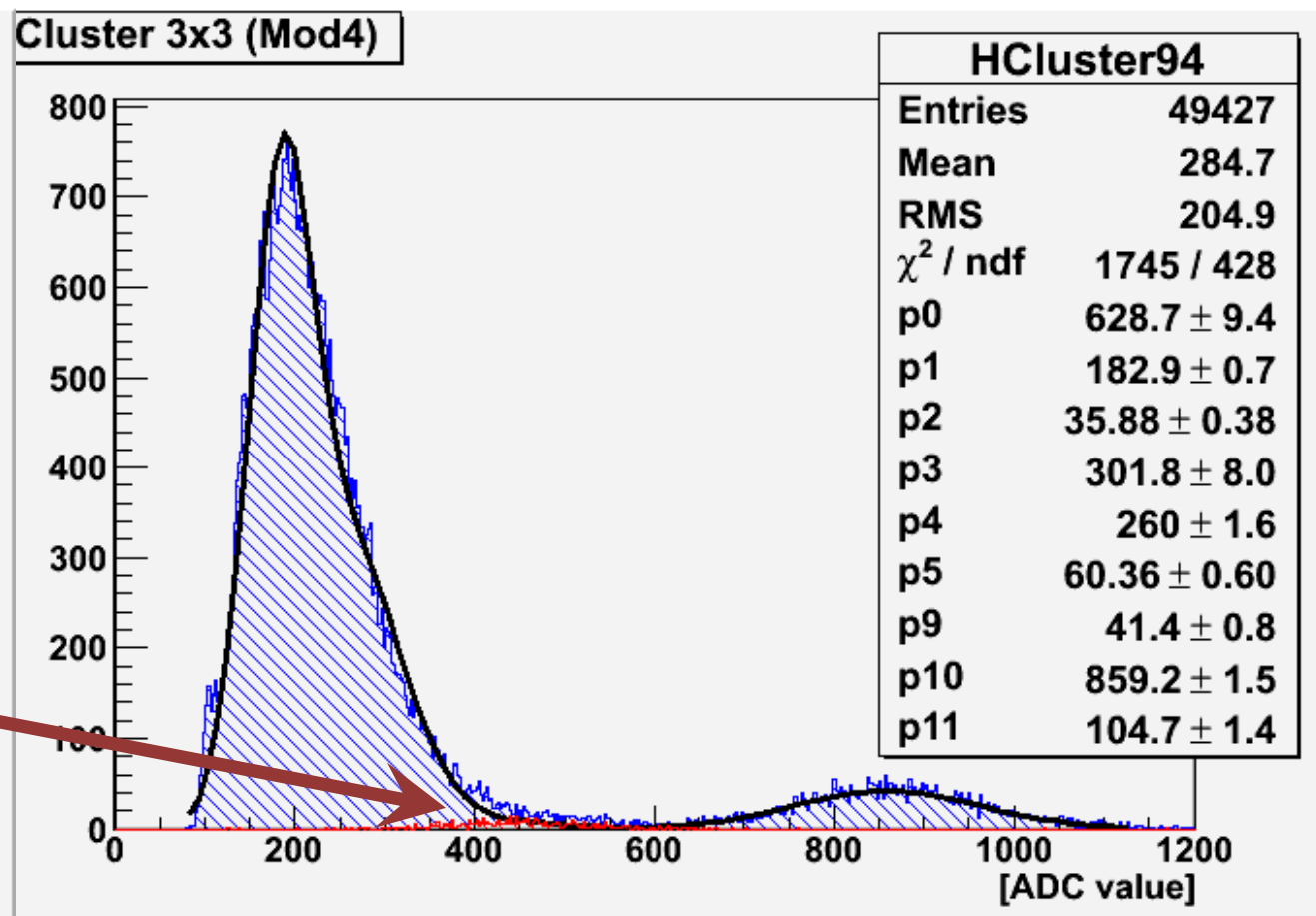
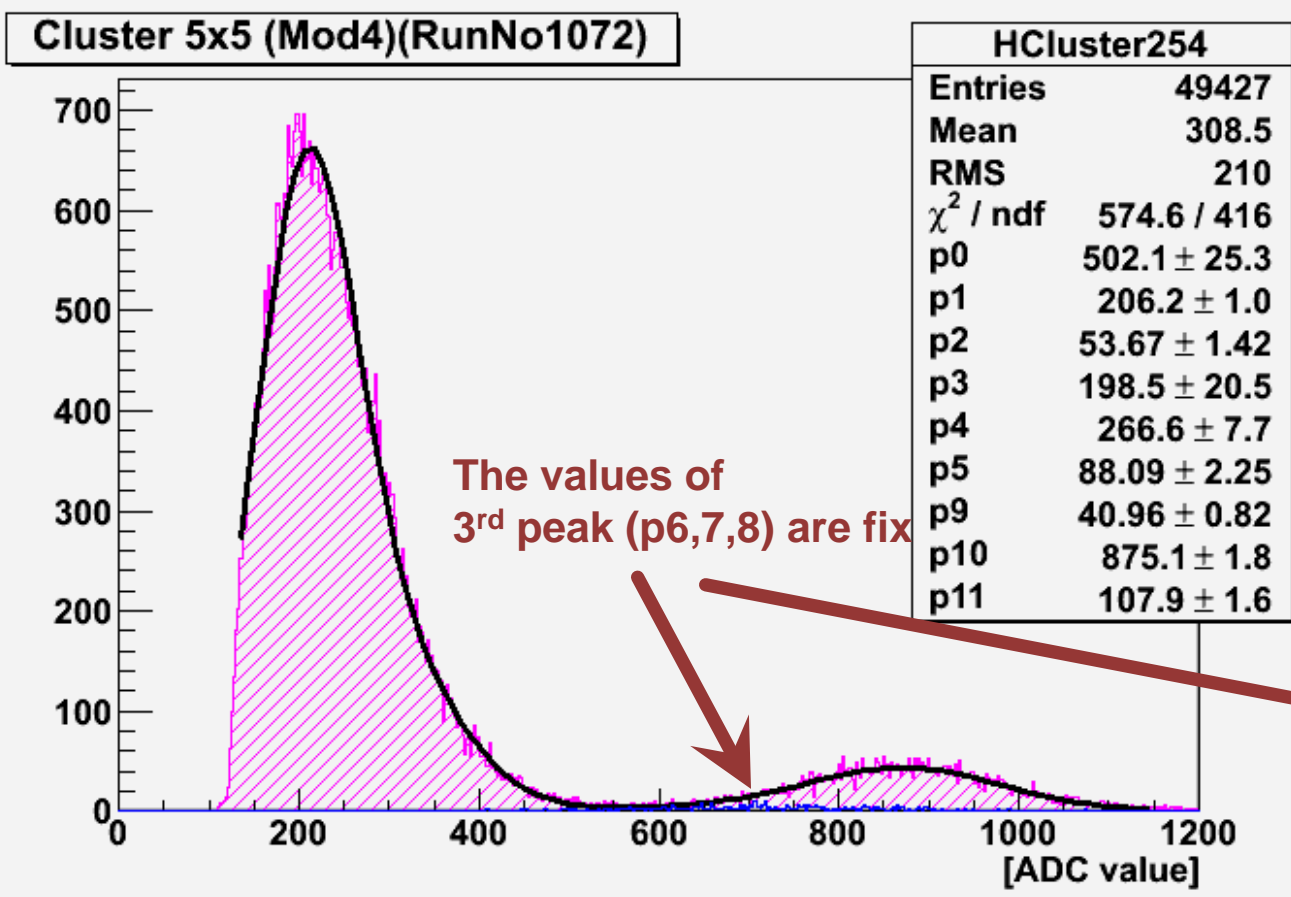
Two lines of each cluster are with noisy pixels



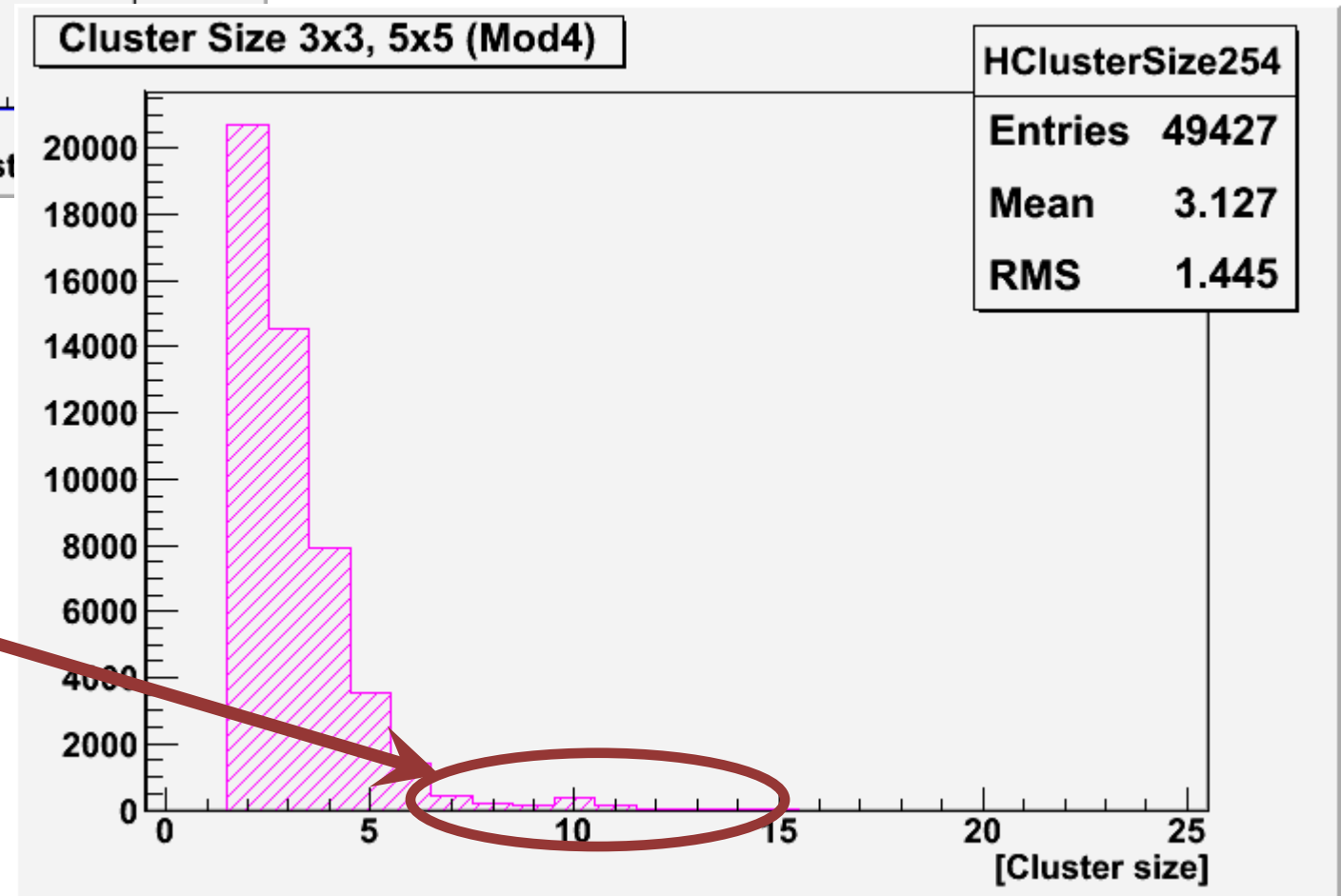
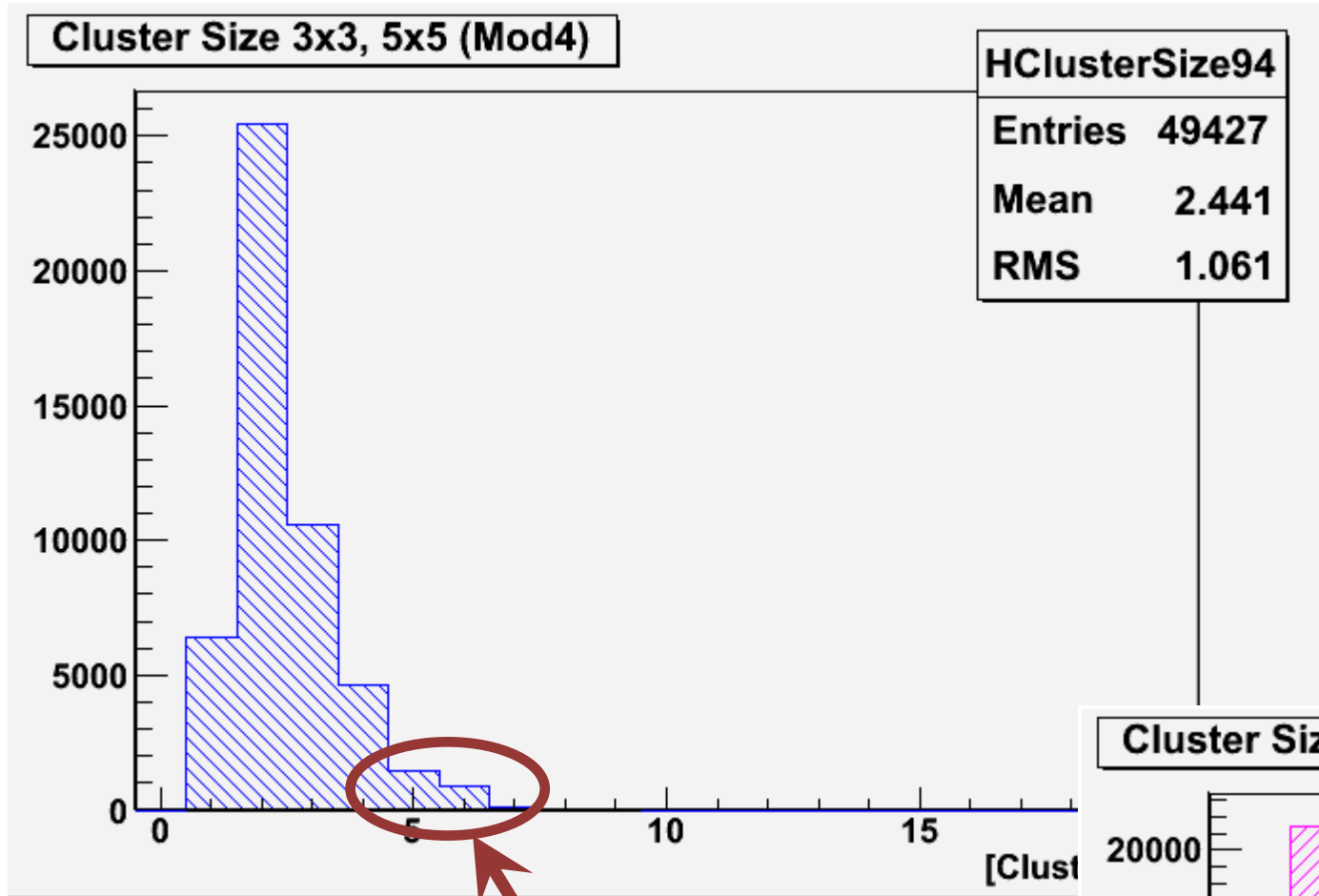
Noise seed from the free run



- 3 signal peaks:
- P0 – constant 1
 - P3 – constant 2
 - P9 – constant 4
 - P1 – mean 1
 - P4 – mean 2
 - P10 – mean 4
 - P2 – sigma 1
 - P5 – sigma 2
 - P11 – sigma 4

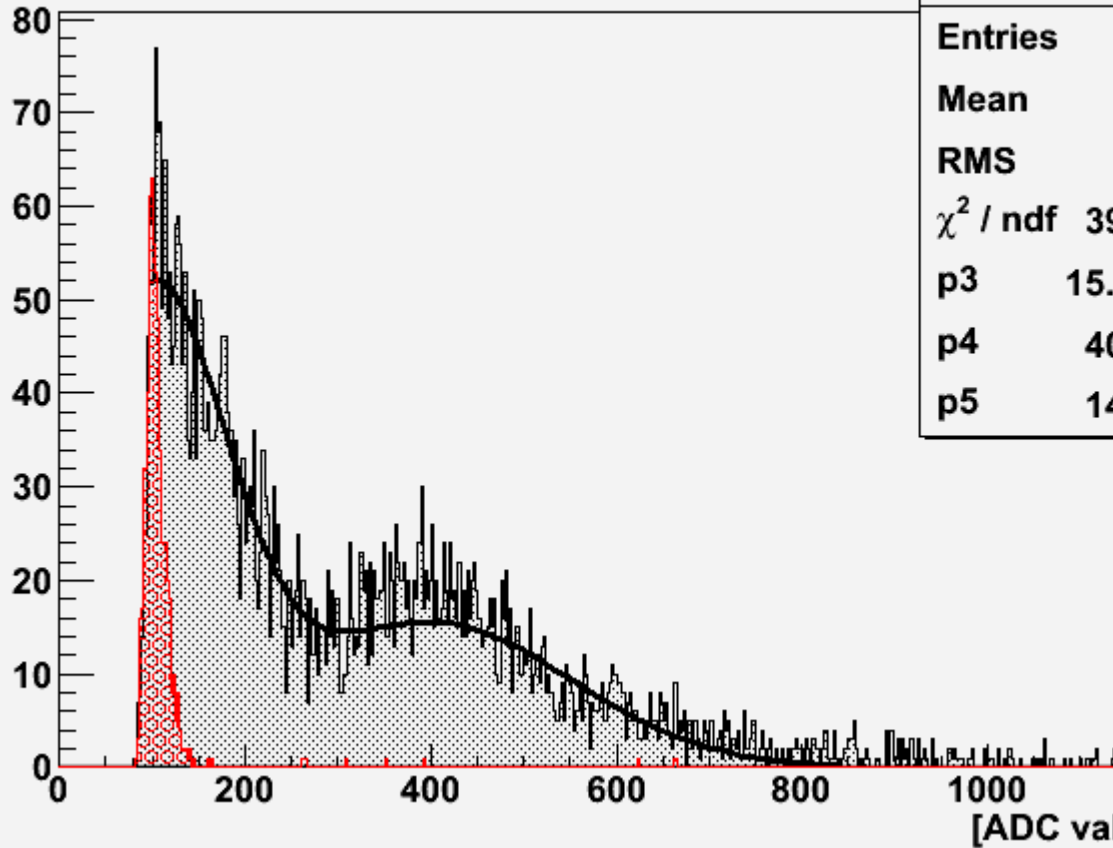


AM241. CLUSTER SIZE



Noise

Seed and Clusters 3x3,5x5 (Mod4)

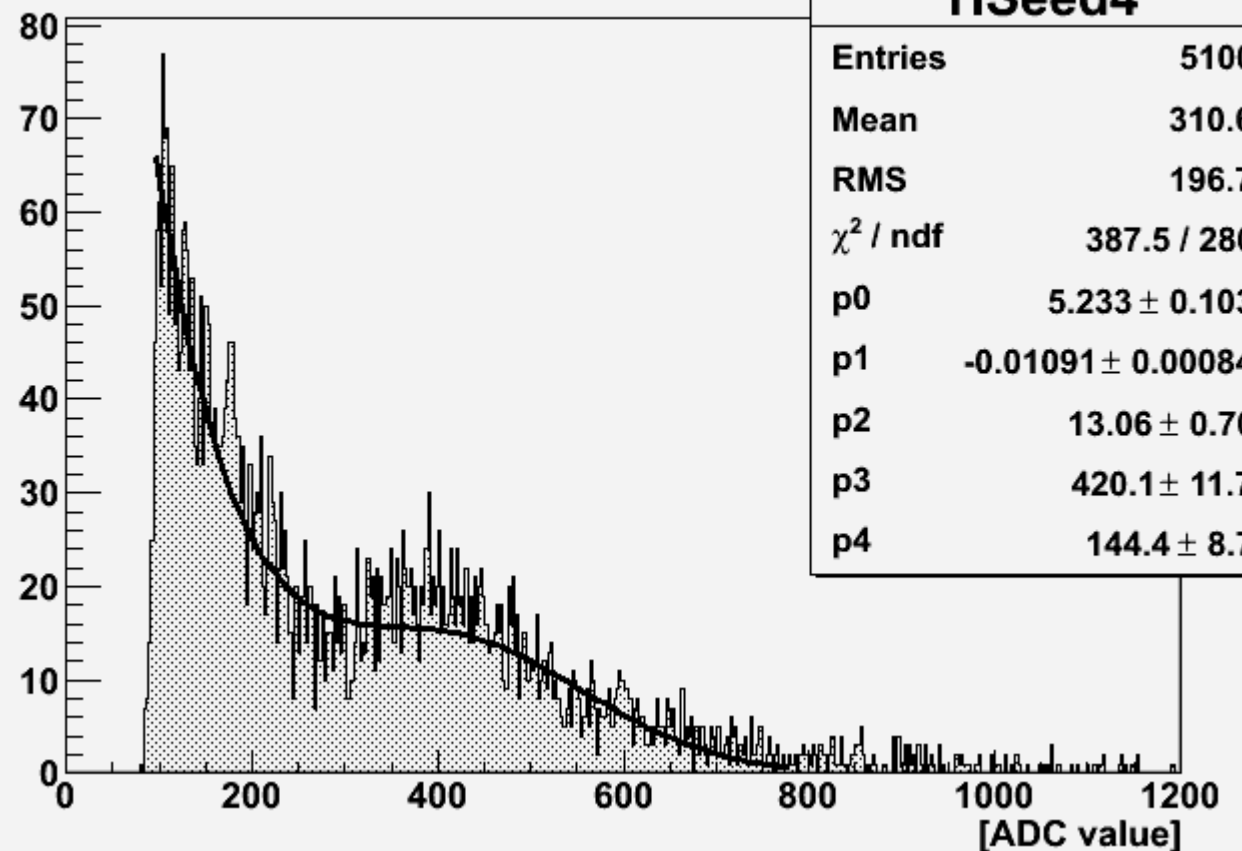


HSeed4	
Entries	5100
Mean	310.6
RMS	196.7
χ^2 / ndf	398.8 / 305
p3	15.52 ± 0.49
p4	400.6 ± 4.7
p5	149.7 ± 5.2

Matrix is covered 2.4 mm of Al

Gauss approximation for 1st peak

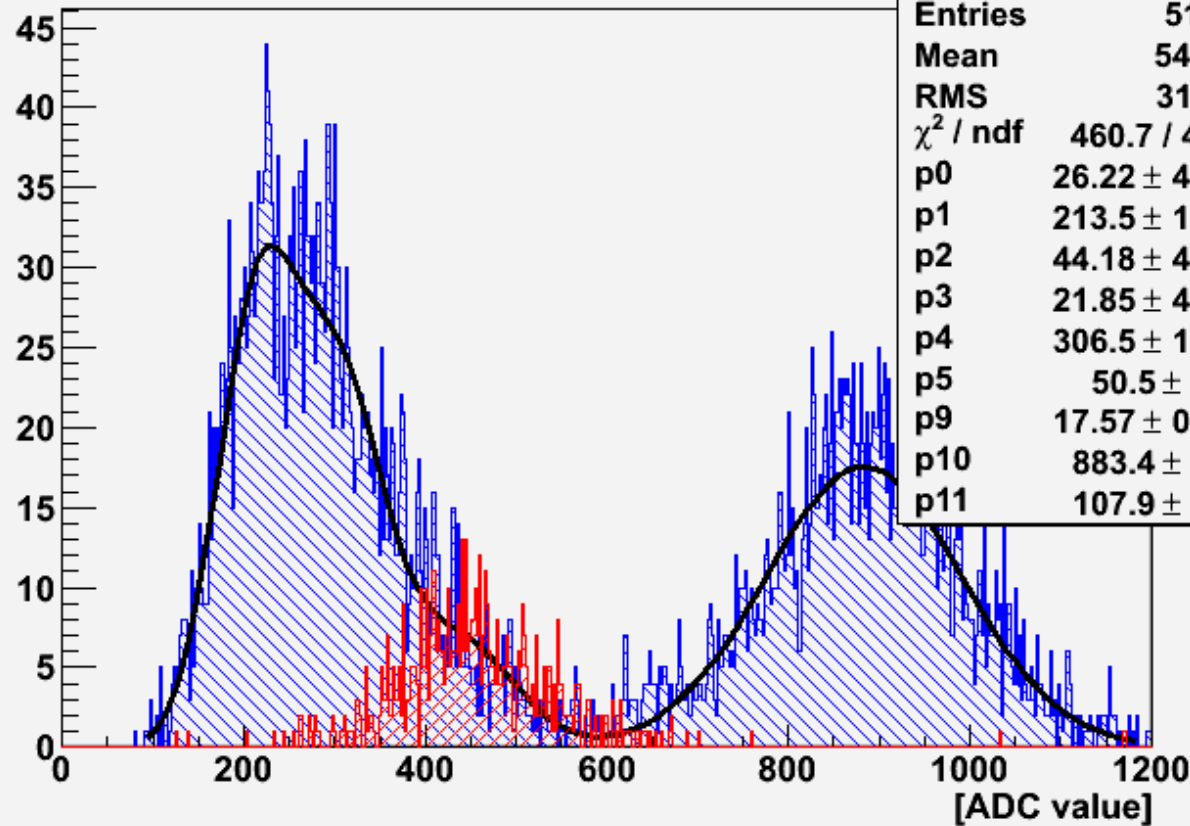
Seed and Clusters 3x3,5x5 (Mod4)



HSeed4	
Entries	5100
Mean	310.6
RMS	196.7
χ^2 / ndf	387.5 / 280
p0	5.233 ± 0.103
p1	-0.01091 ± 0.00084
p2	13.06 ± 0.70
p3	420.1 ± 11.7
p4	144.4 ± 8.7

Exponential approximation for 1st peak

Cluster 3x3 (Mod4)



Type	Energy	Percentage
Gamma	59.5 keV	35.9
Gamma	26.3 keV	2.4
Gamma	13.9 keV	42

$3^{\text{rd}} / 1^{\text{st}} = 4.28$
 $3^{\text{rd}} / 2^{\text{nd}} = 2.26$

For 3x3 cluster:

$3^{\text{rd}} / 1^{\text{st}} = 4.13$

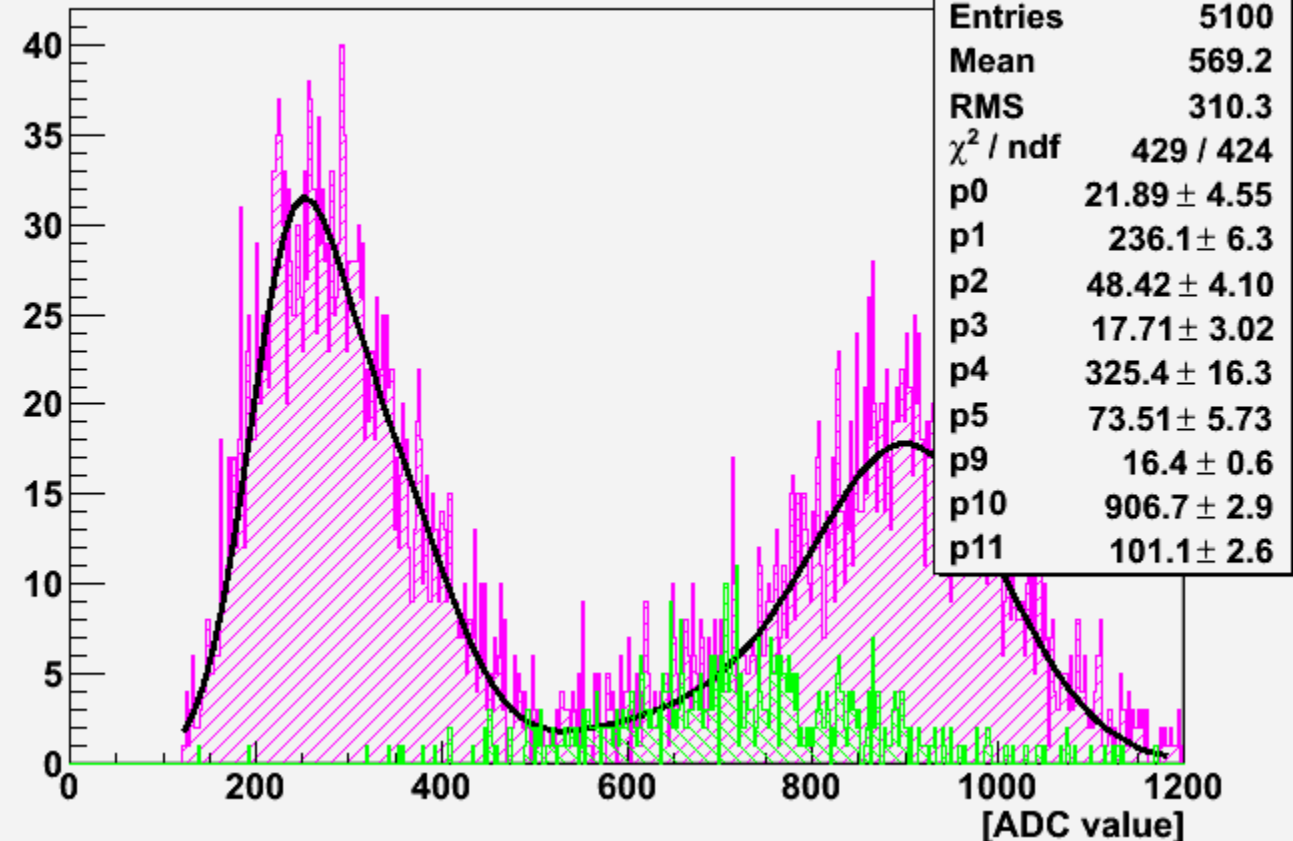
$3^{\text{rd}} / 2^{\text{nd}} = 2.88$

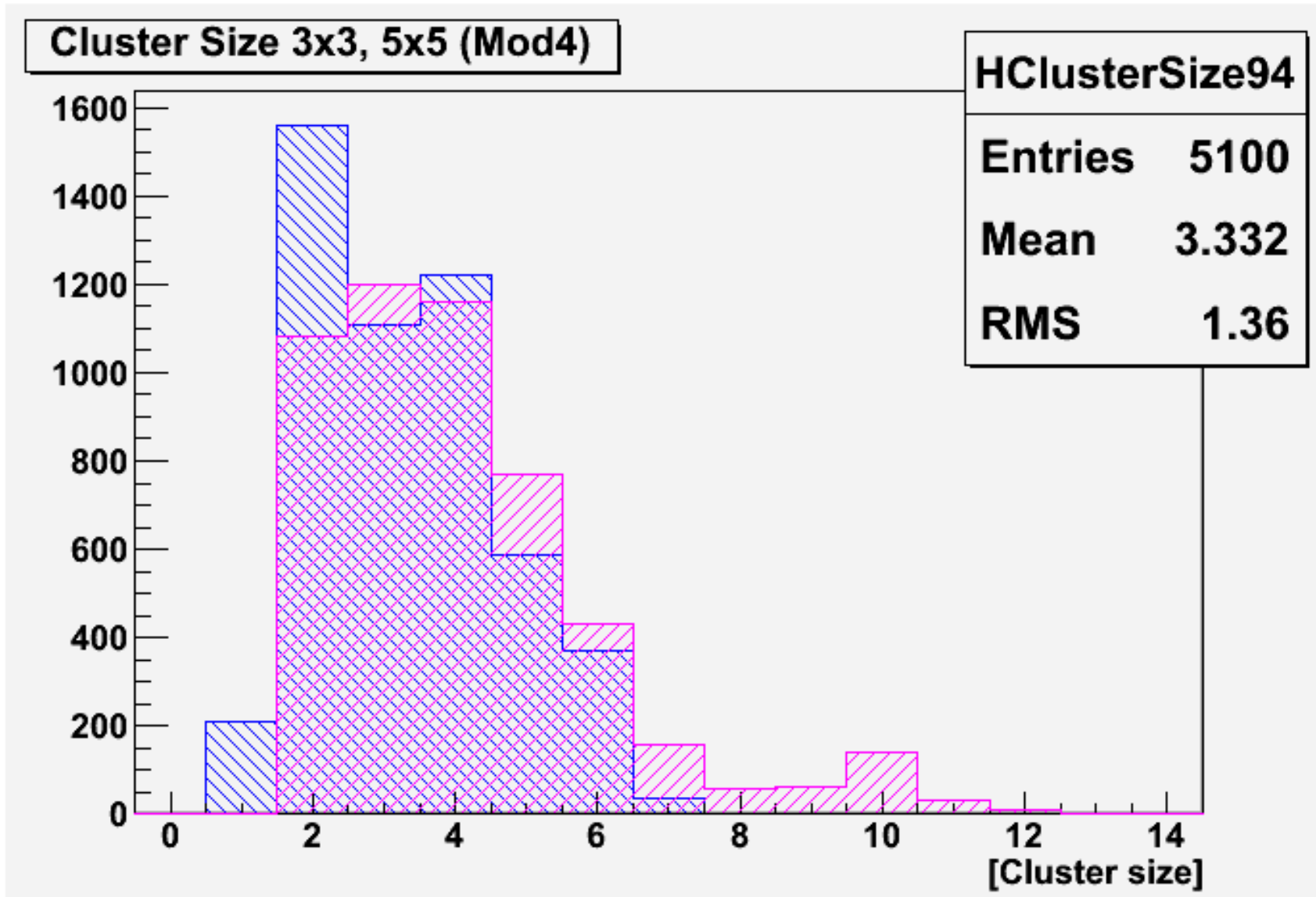
For 5x5 cluster:

$3^{\text{rd}} / 1^{\text{st}} = 3.84$

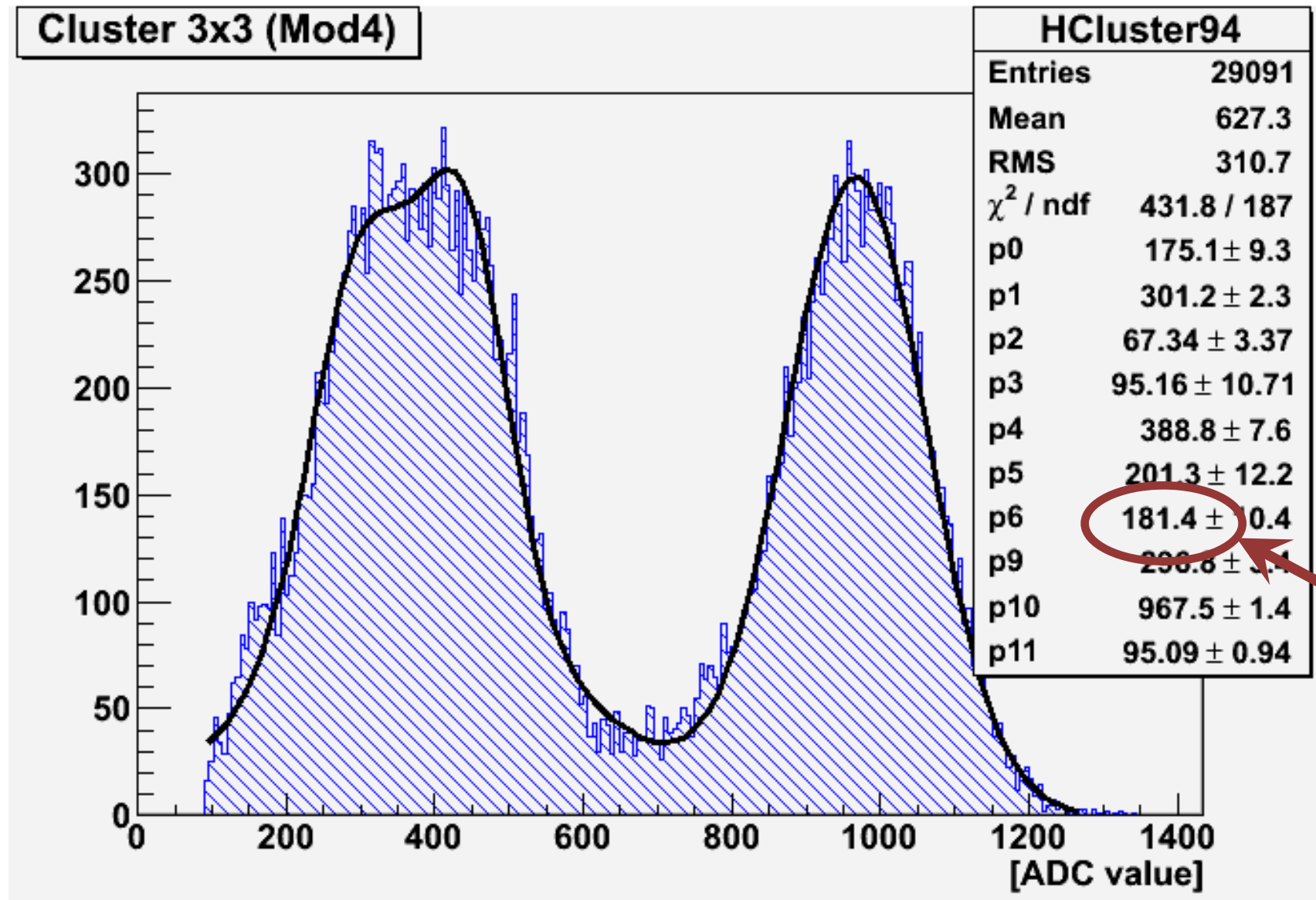
$3^{\text{rd}} / 2^{\text{nd}} = 2.78$

Cluster 5x5 (Mod4)(RunNo1075)





Matrix is covered 3.6 mm of Al
Run for 4 hours



Noise peak amplitude

1. Very low activity of the source, we can't achieve high SN ratio;
2. To run the laser... still.