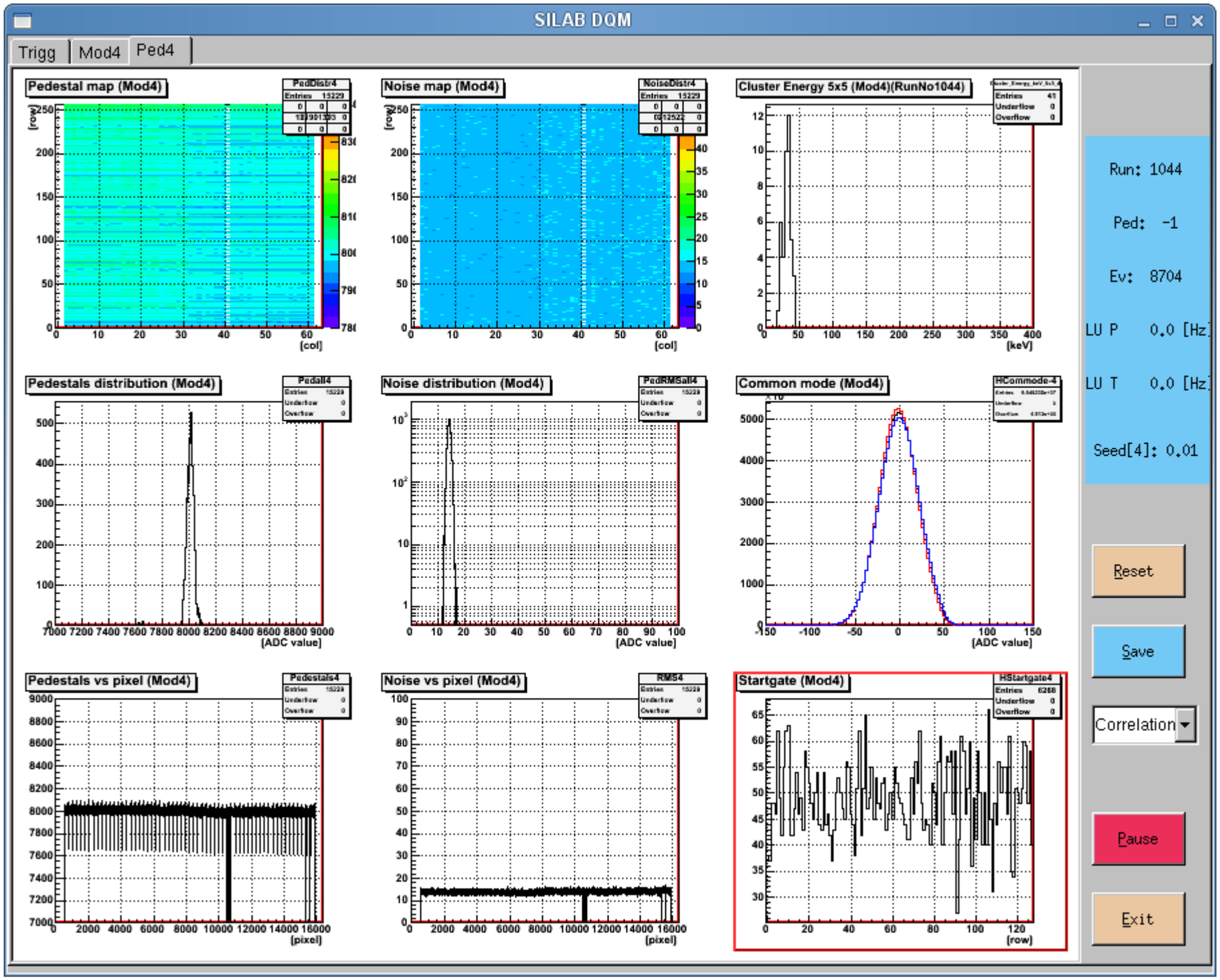
MATRIX H3.0.20

Jevgenij Visniakov

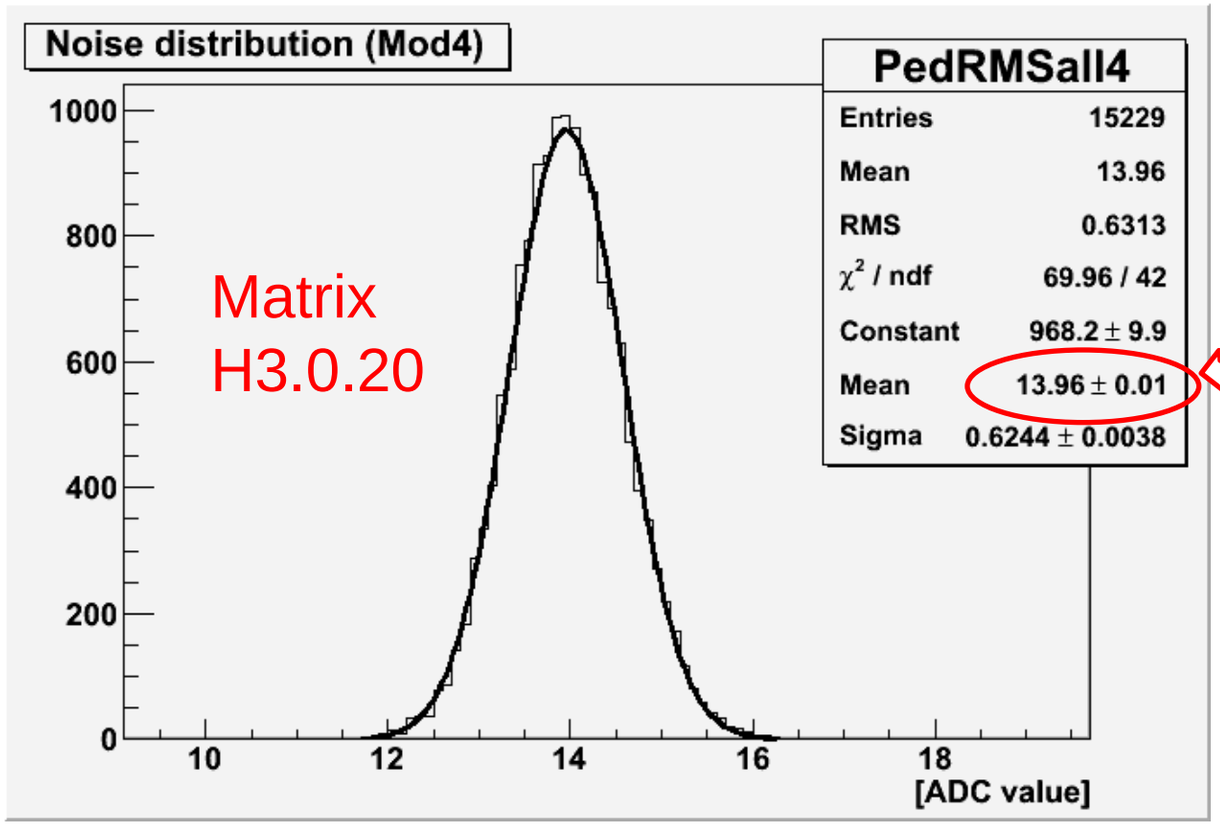
Run1044

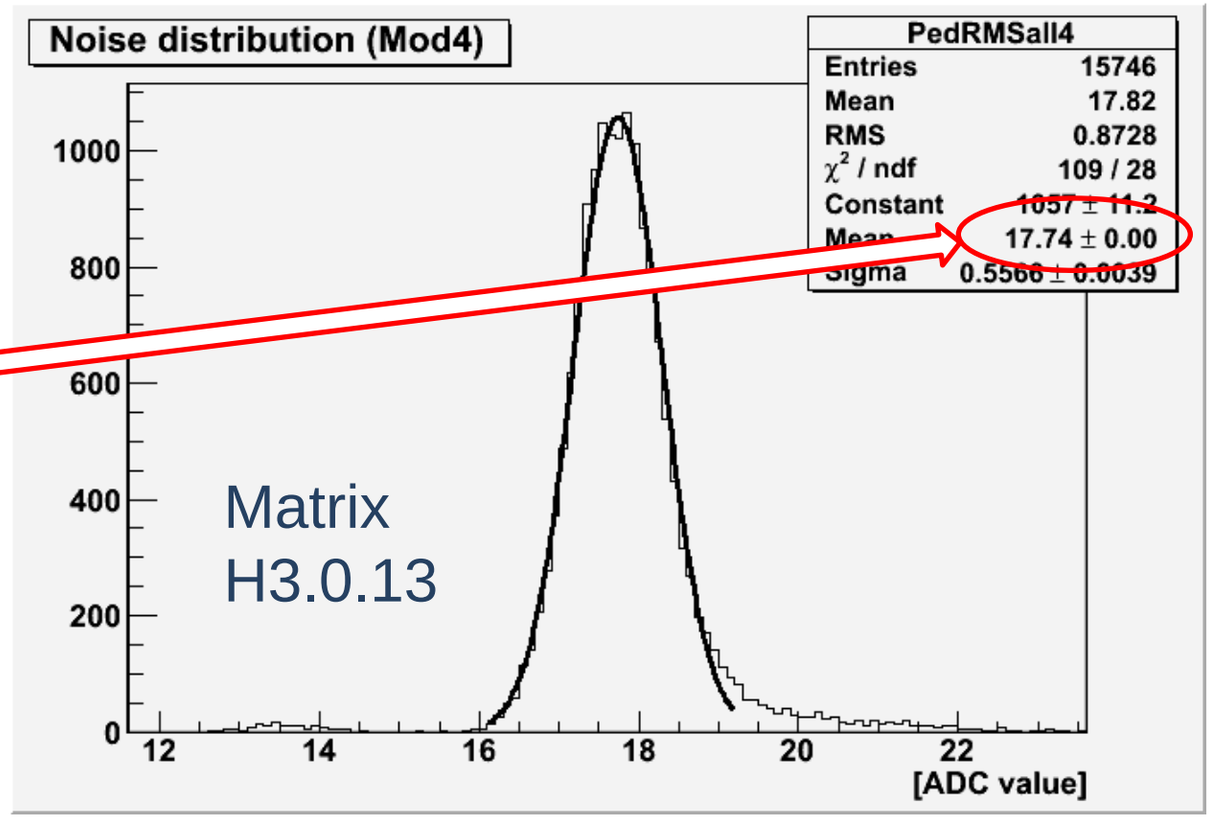


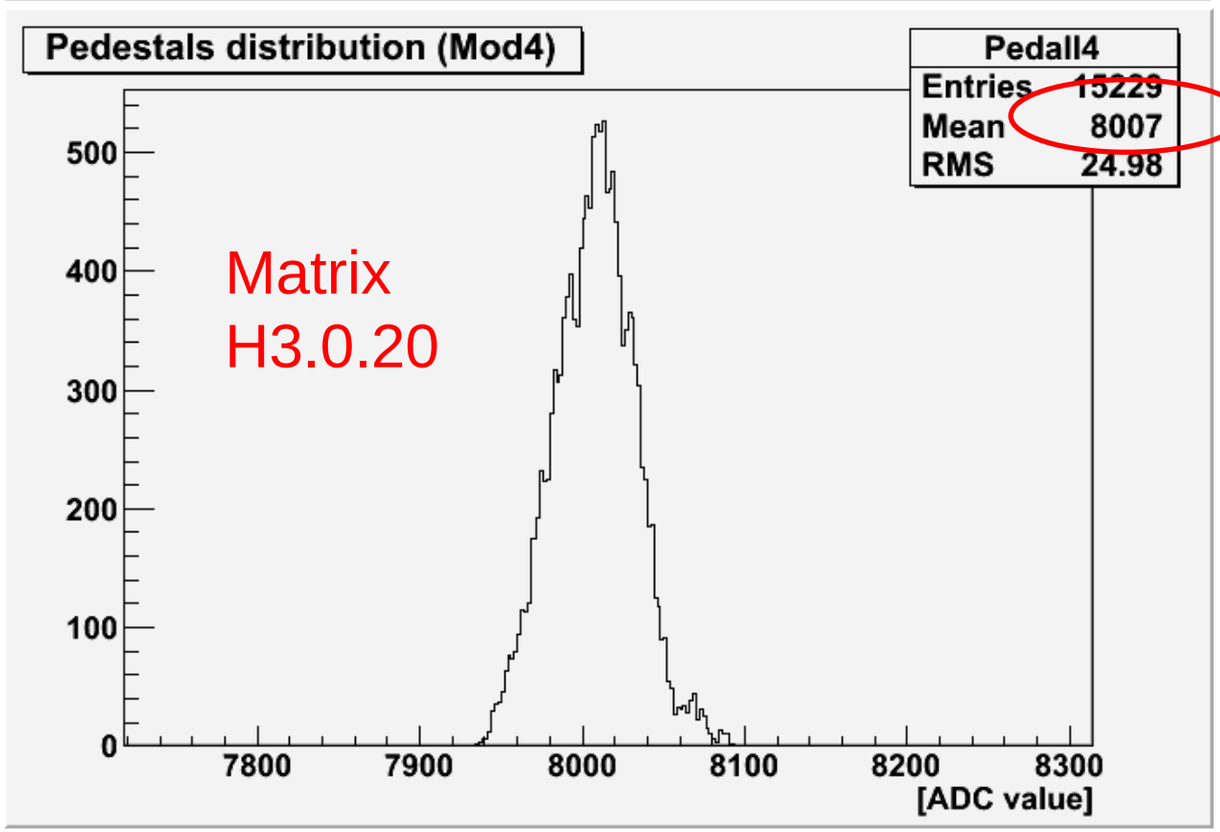
Run 1044 to calculate clean pedestals for further runs.

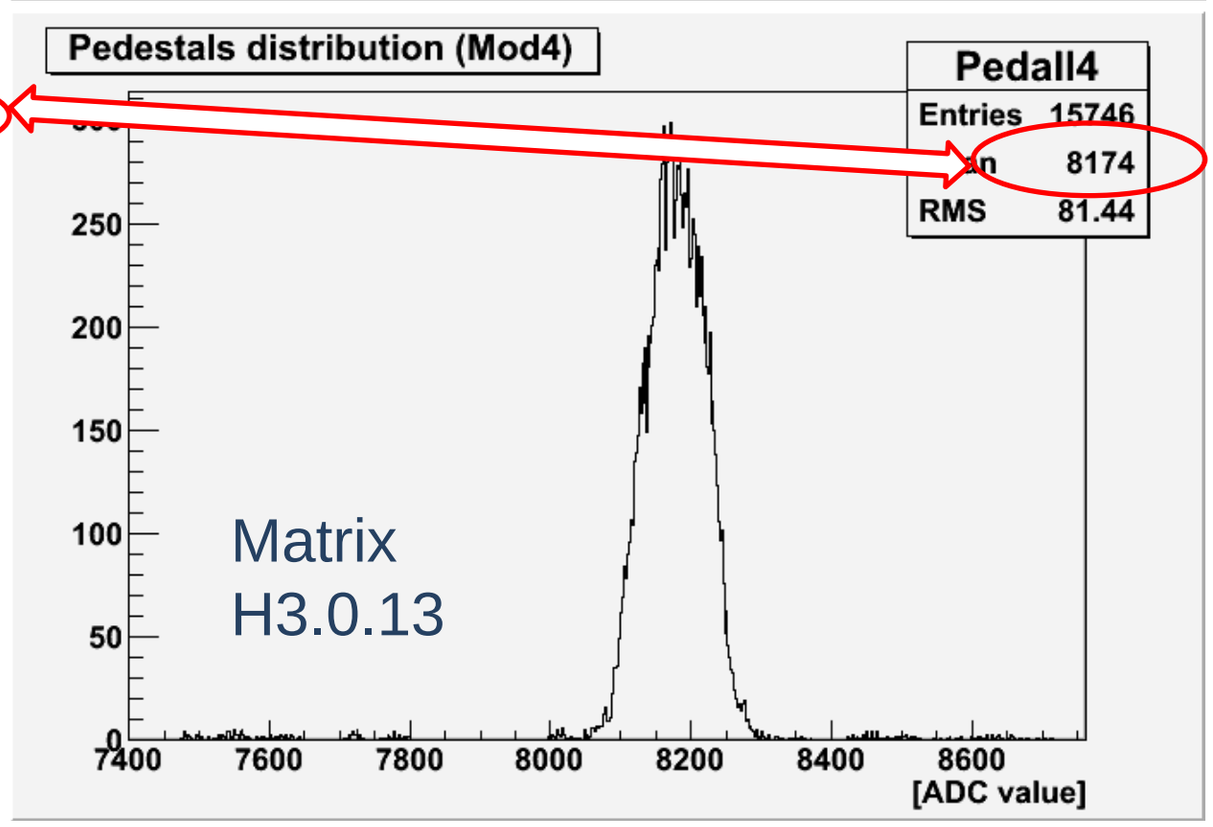
Events number: 8704
Run time: ~ 4 min.

Pedestals and noise distributions

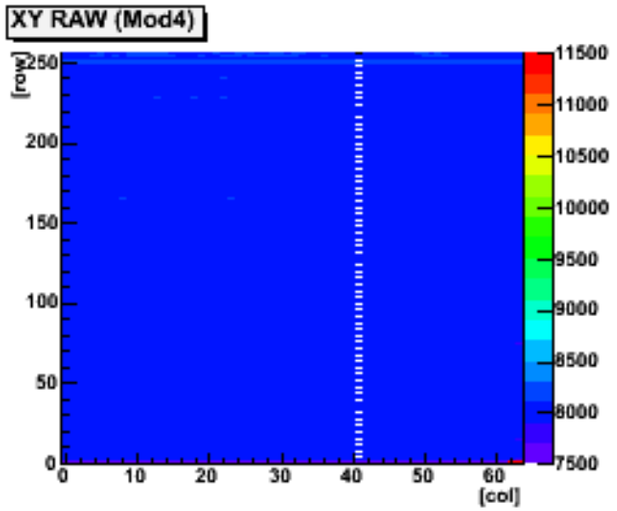


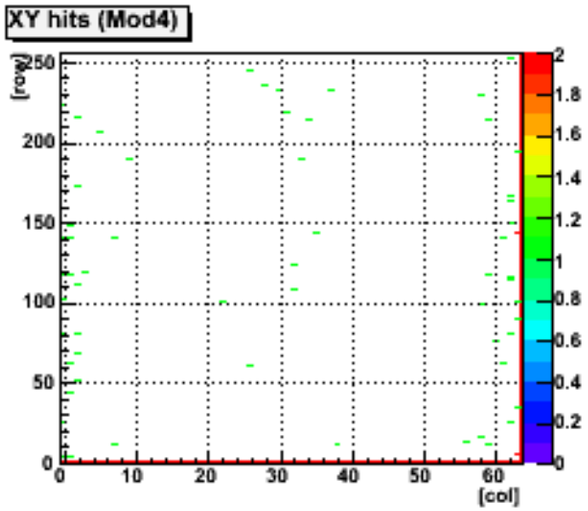


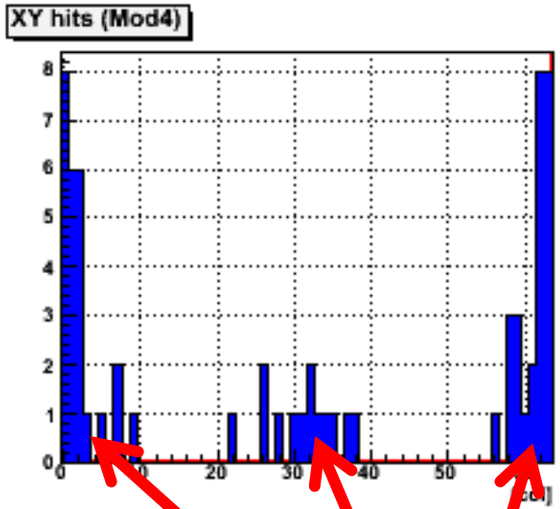


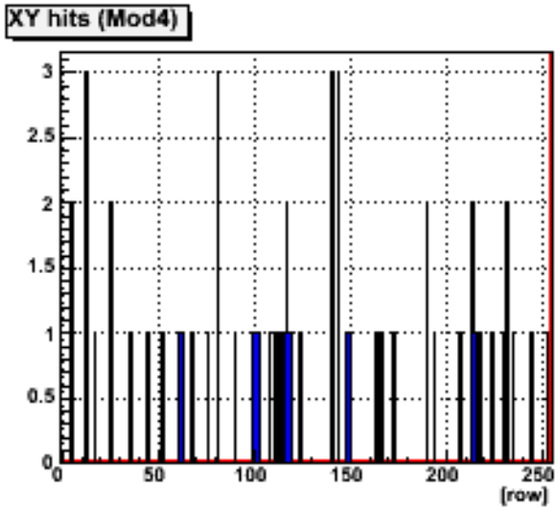


Longer run without a source









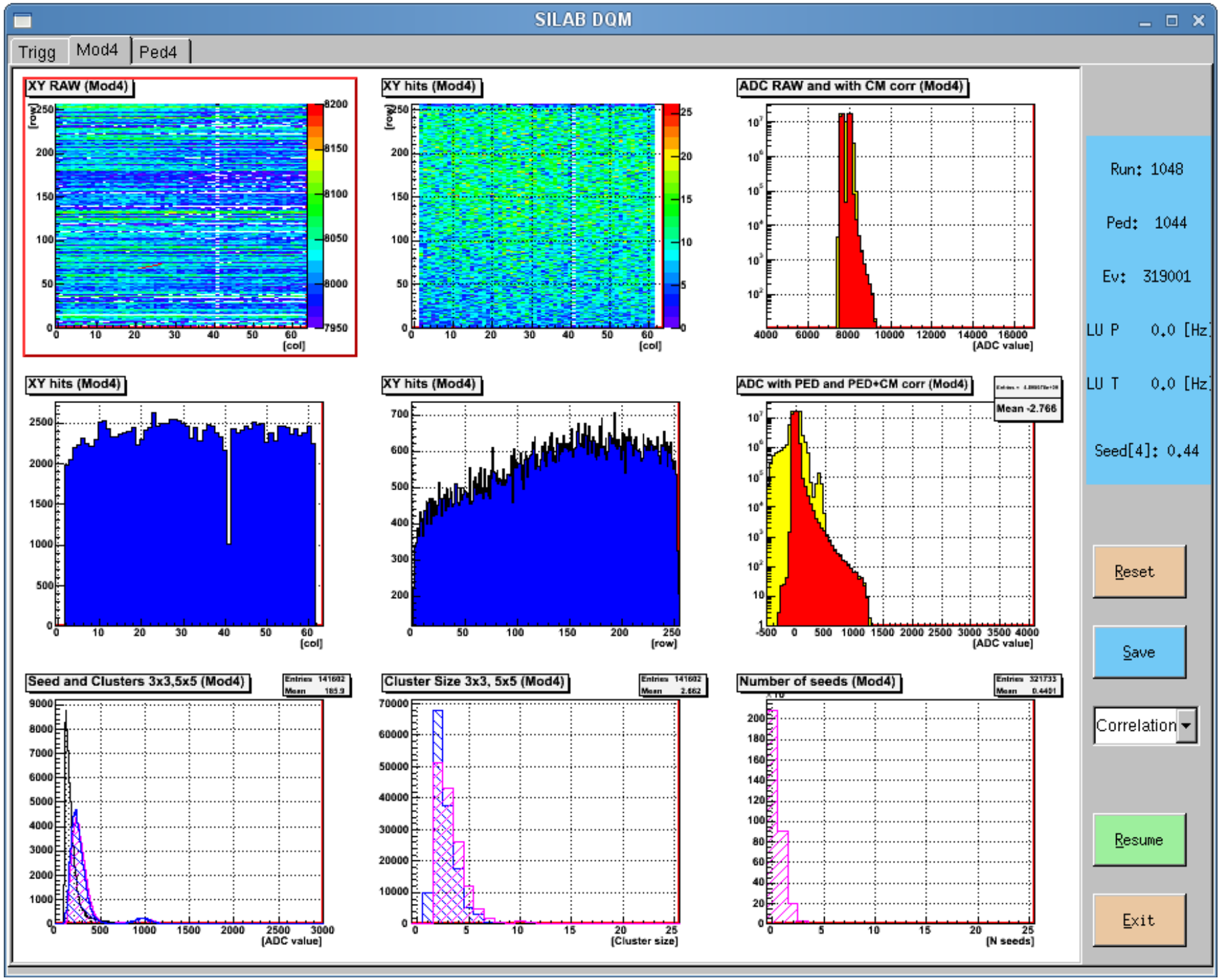
Noisy pixels.

Longer run to evaluate noisy pixels.

Events number: 49901
Run time: ~ 15 min.

4 columns were removed:
Column 0, 1, 63, 64

Long run with the source



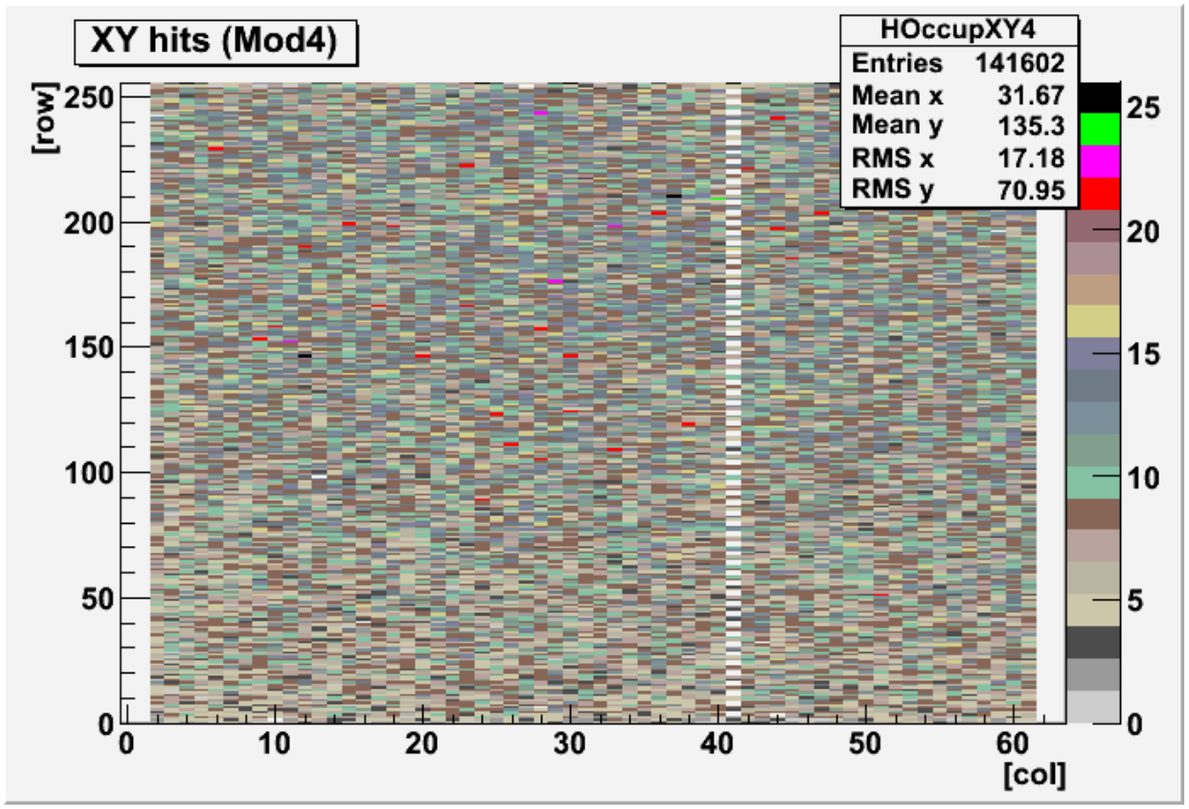
Run 1048
Source – Am241

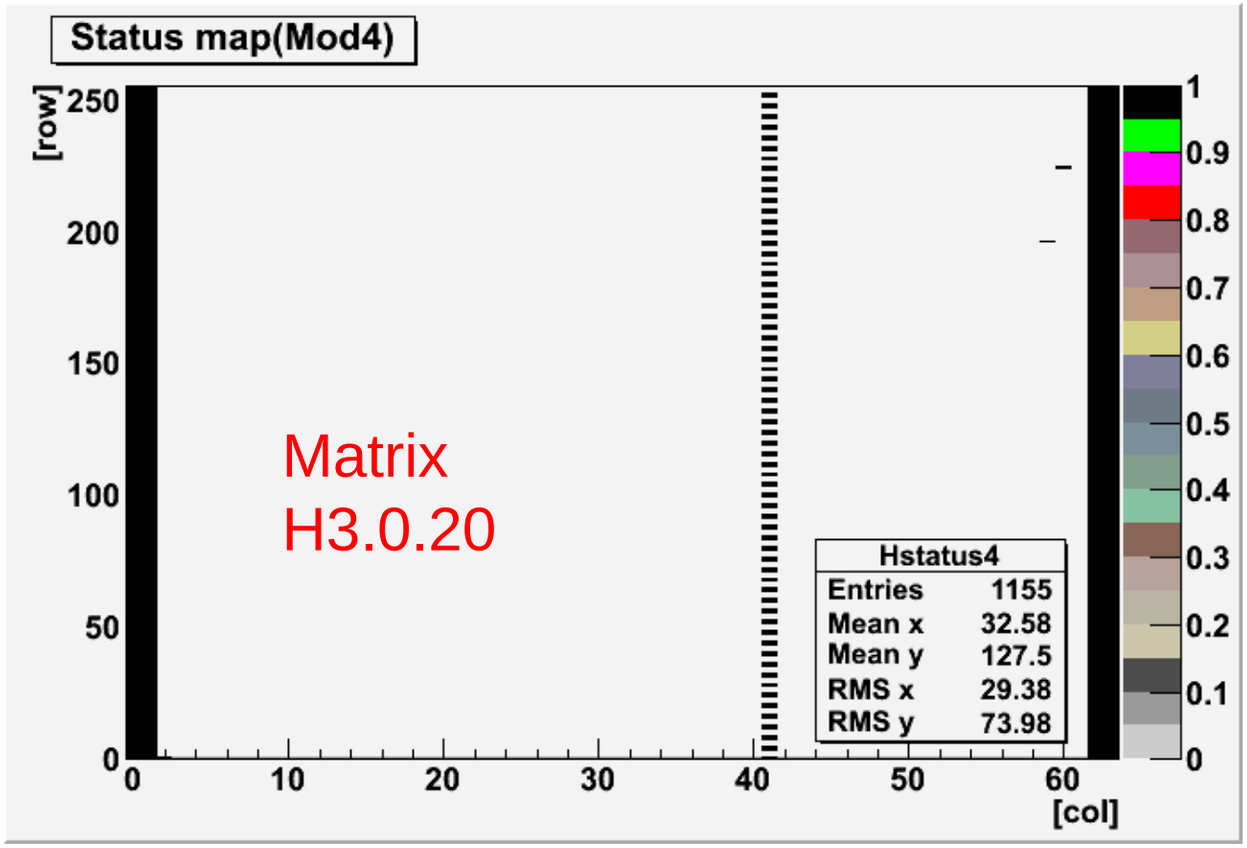
Events number: 319001
Run time: 60 min.

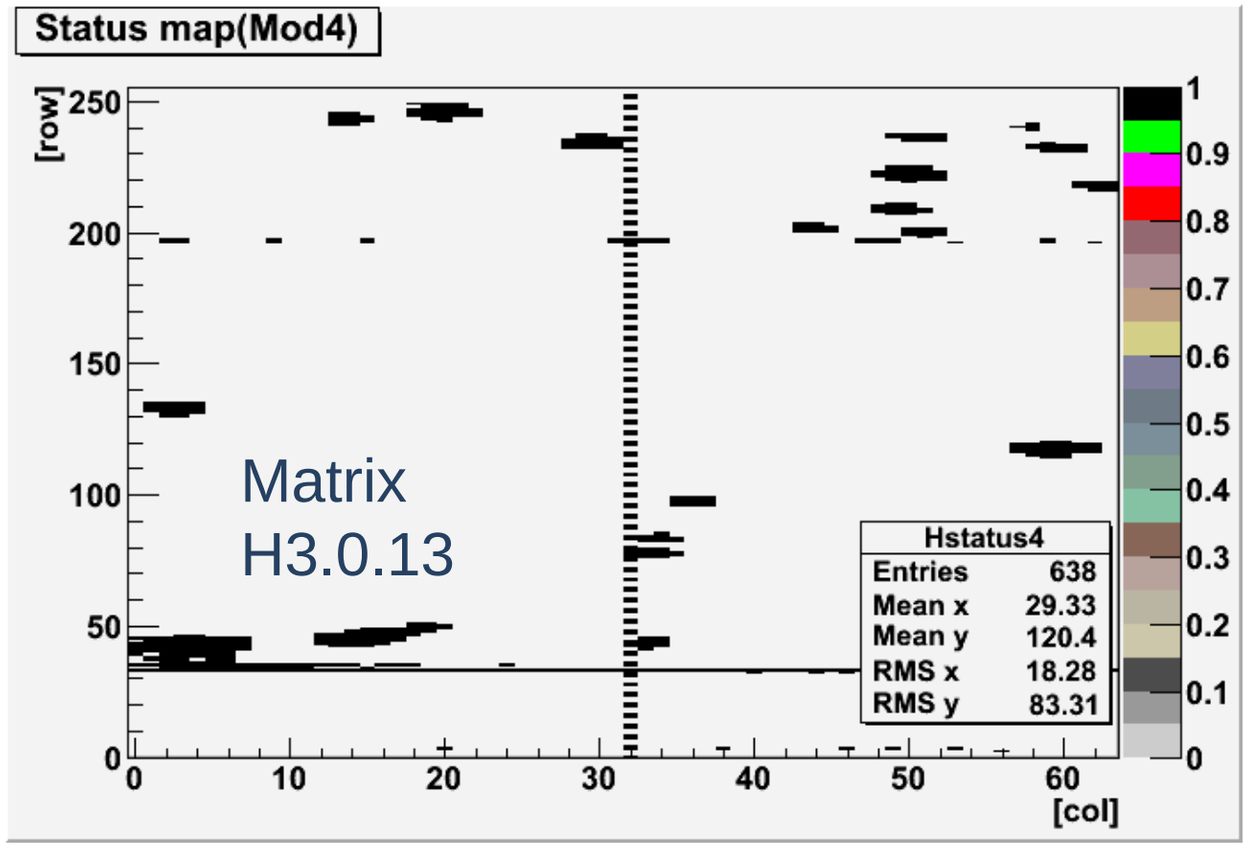
Applied pedestals – 1044

Run1048-000.dat
Run1048-001.dat
Run1048-002.dat
Run1048-003.dat
Run1048-004.dat
Run1048-005.dat
Total amount of data – 11.2GB

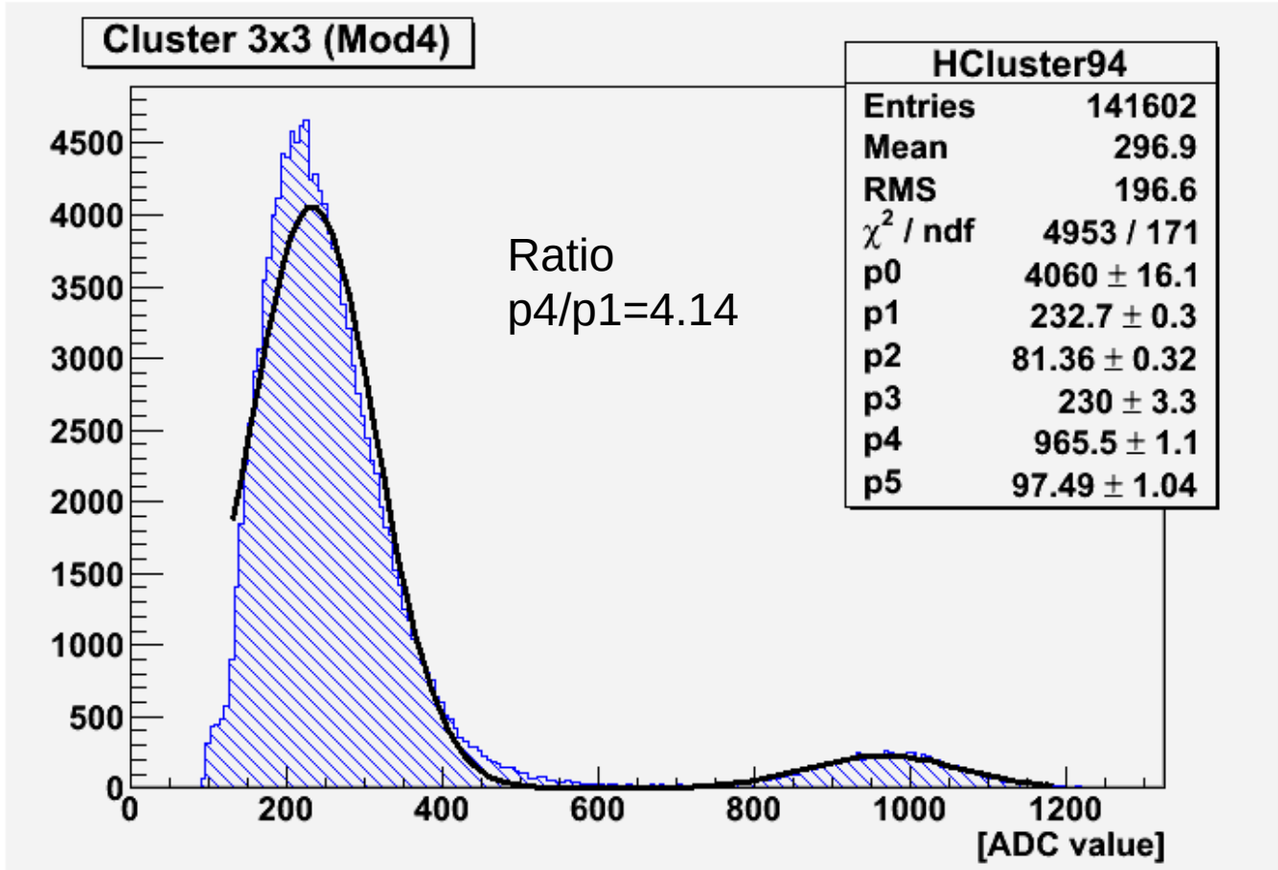
XY hits & Status map

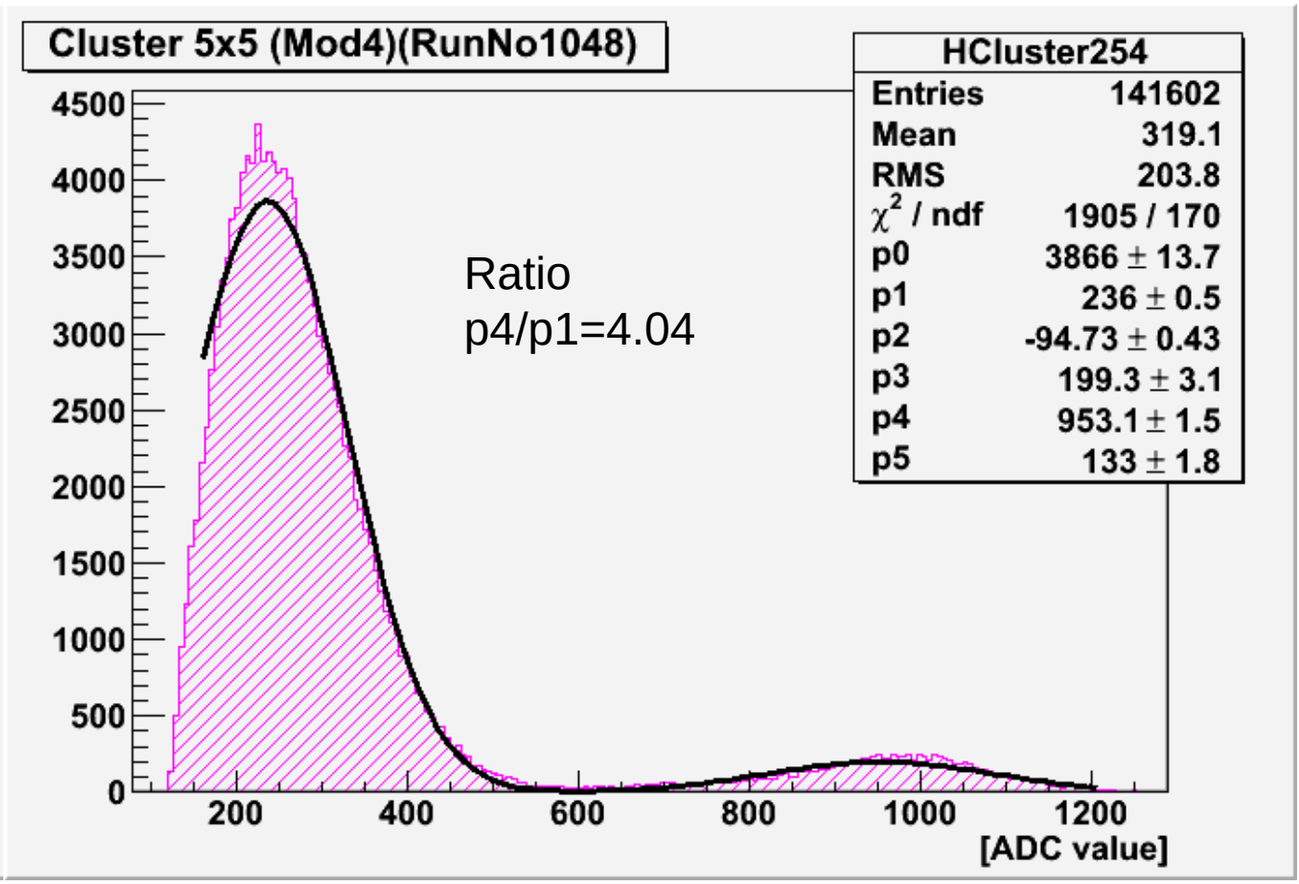


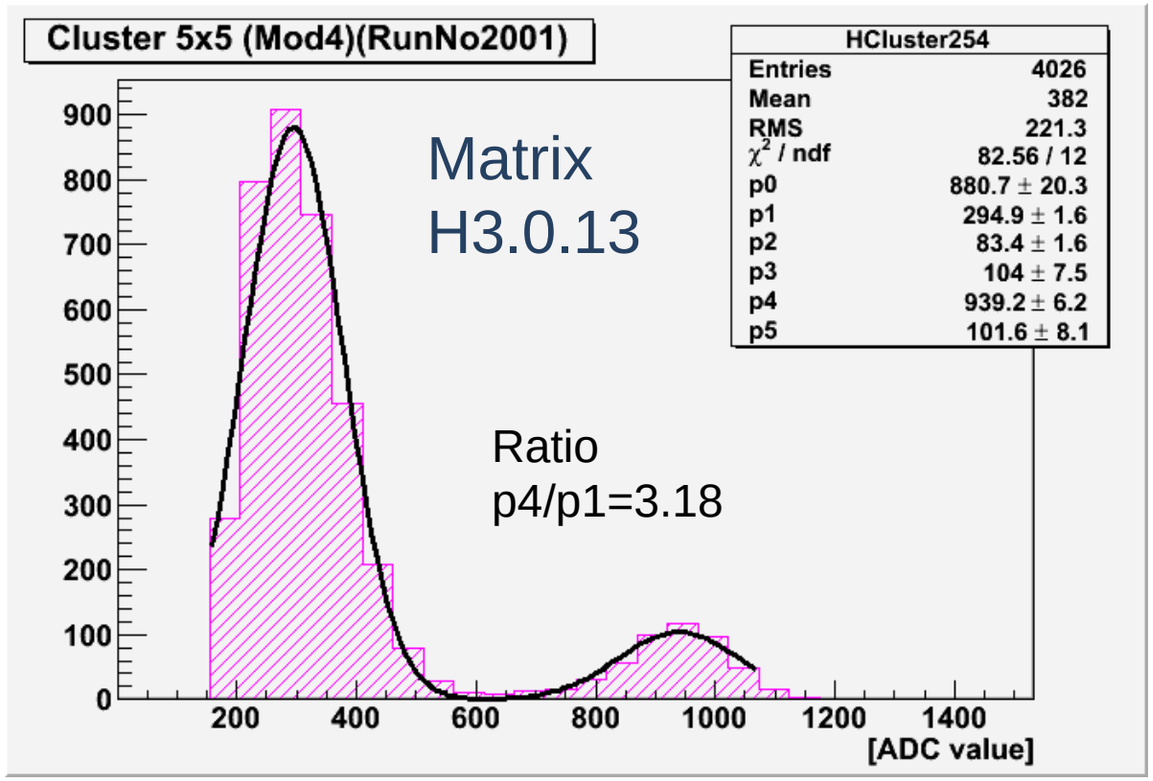




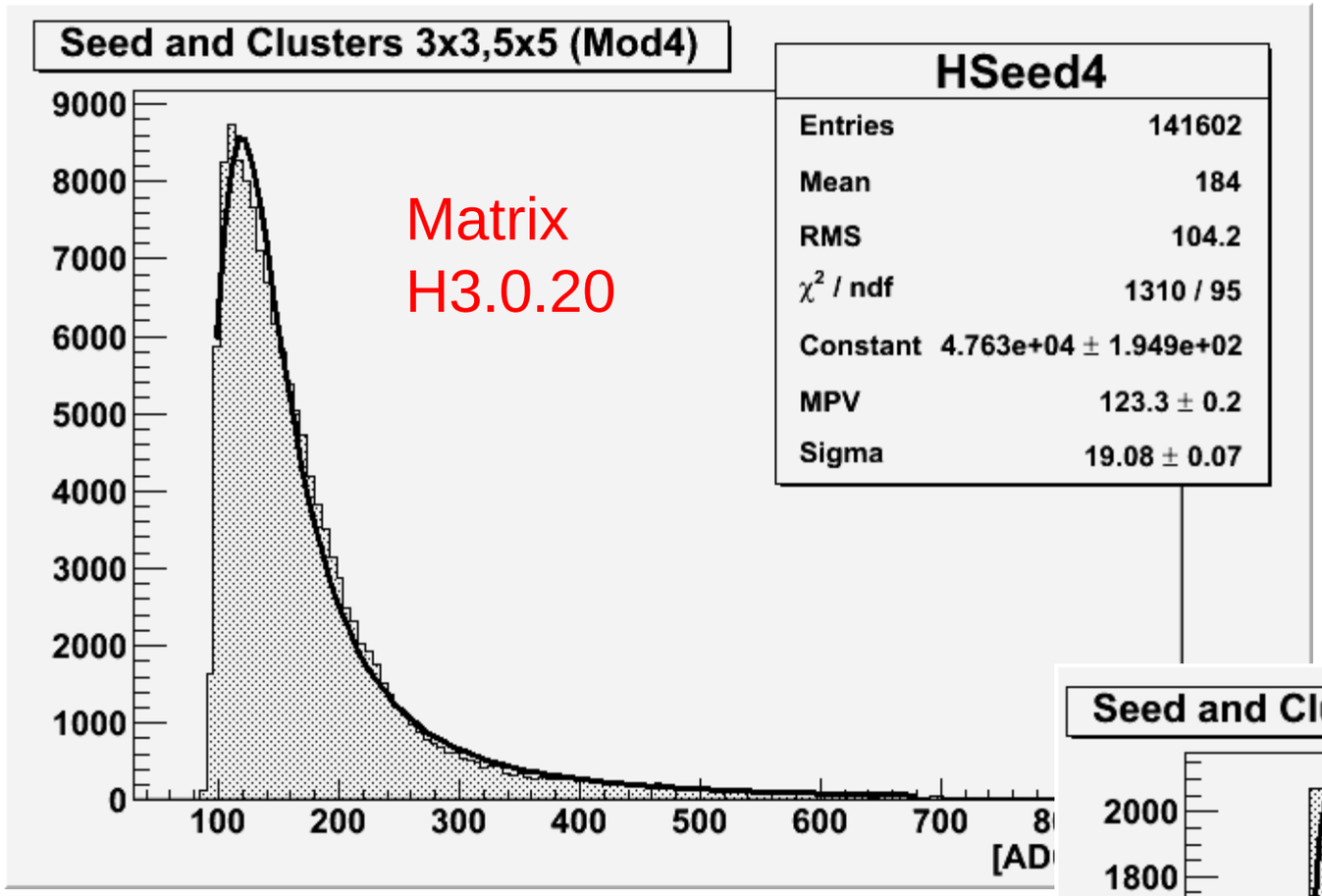
Clusters


Cluster 3x3 (Mod4)
HCluster94
Entries 141602
Mean 296.9
RMS 196.6
χ^2 / ndf 4953 / 171
p0 4060 ± 16.1
p1 232.7 ± 0.3
p2 81.36 ± 0.32
p3 230 ± 3.3
p4 965.5 ± 1.1
p5 97.49 ± 1.04
Ratio
p4/p1=4.14
[ADC value]

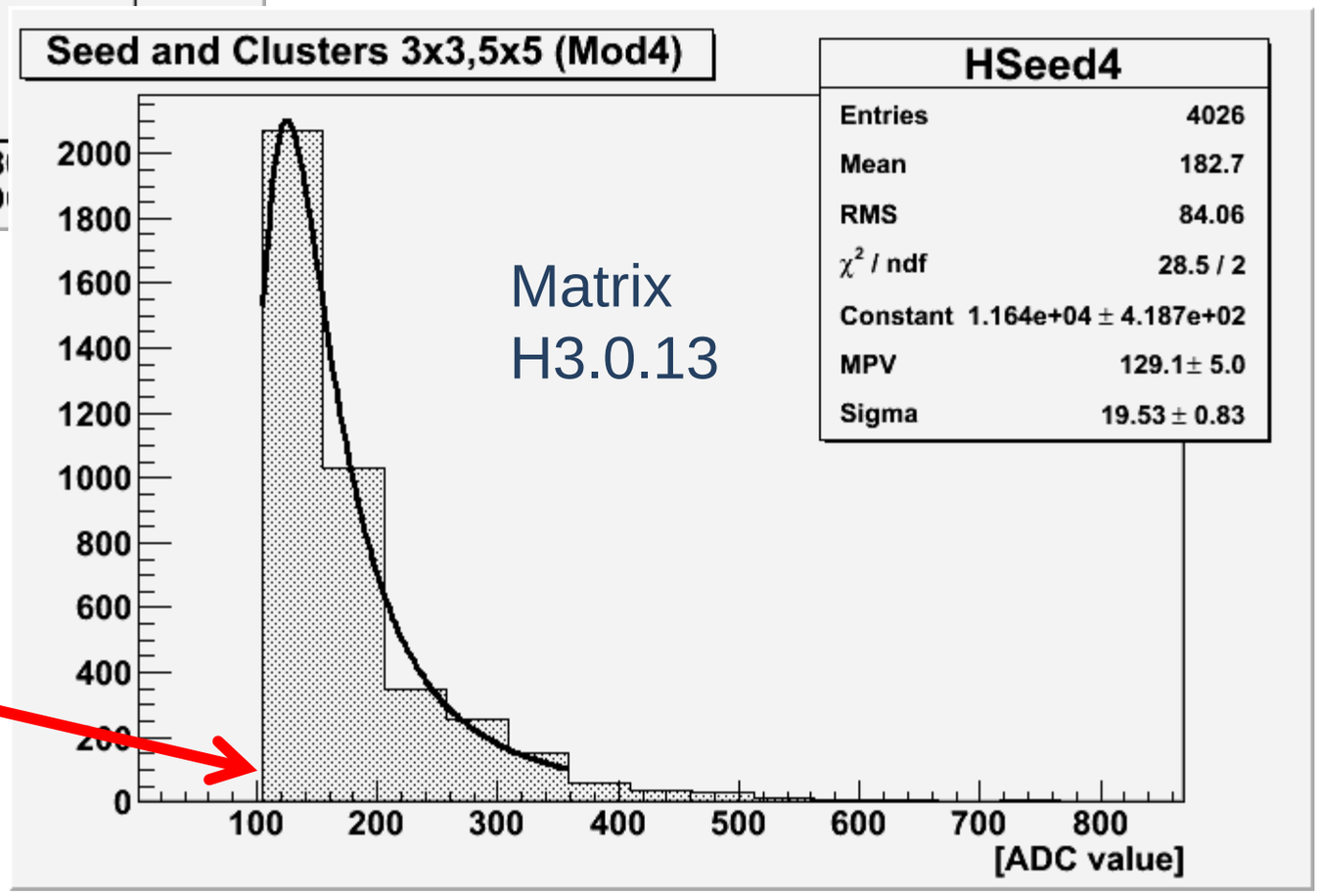

Cluster 5x5 (Mod4)(RunNo1048)
HCluster254
Entries 141602
Mean 319.1
RMS 203.8
χ^2 / ndf 1905 / 170
p0 3866 ± 13.7
p1 236 ± 0.5
p2 -94.73 ± 0.43
p3 199.3 ± 3.1
p4 953.1 ± 1.5
p5 133 ± 1.8
Ratio
p4/p1=4.04
[ADC value]


Cluster 5x5 (Mod4)(RunNo2001)
HCluster254
Entries 4026
Mean 382
RMS 221.3
χ^2 / ndf 82.56 / 12
p0 880.7 ± 20.3
p1 294.9 ± 1.6
p2 83.4 ± 1.6
p3 104 ± 7.5
p4 939.2 ± 6.2
p5 101.6 ± 8.1
Matrix
H3.0.13
Ratio
p4/p1=3.18
[ADC value]

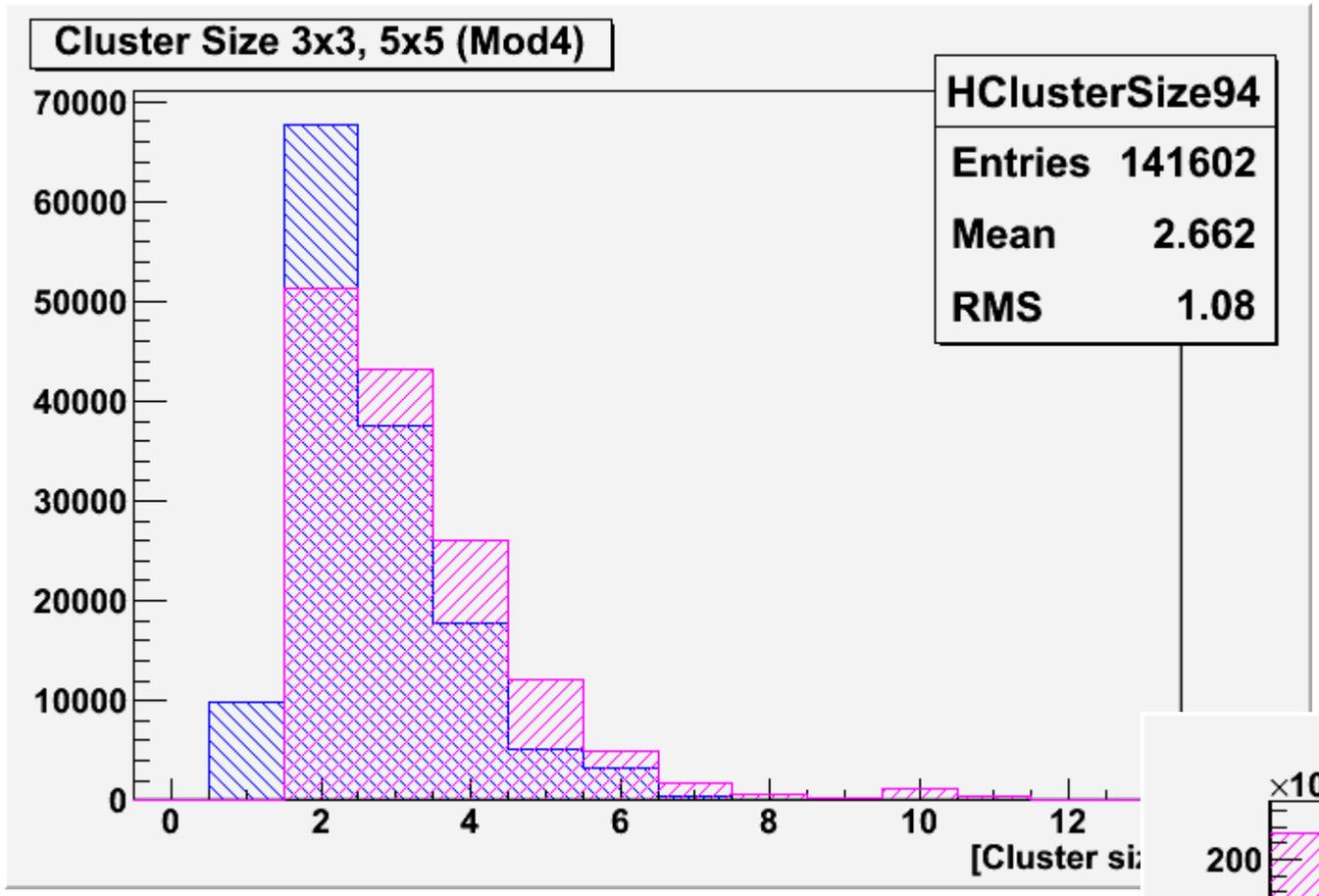
Seeds



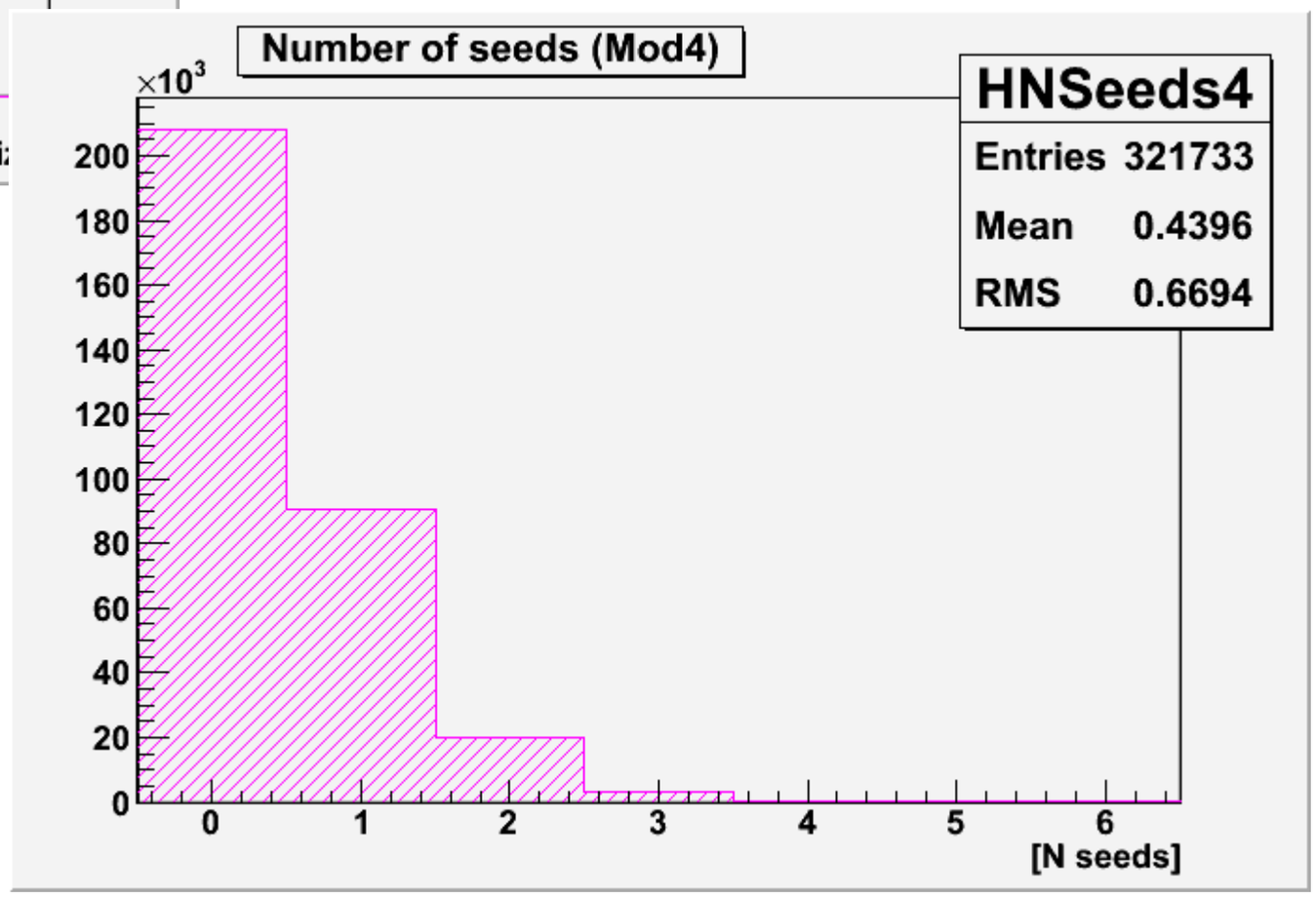
Cut more than 100 ADCes



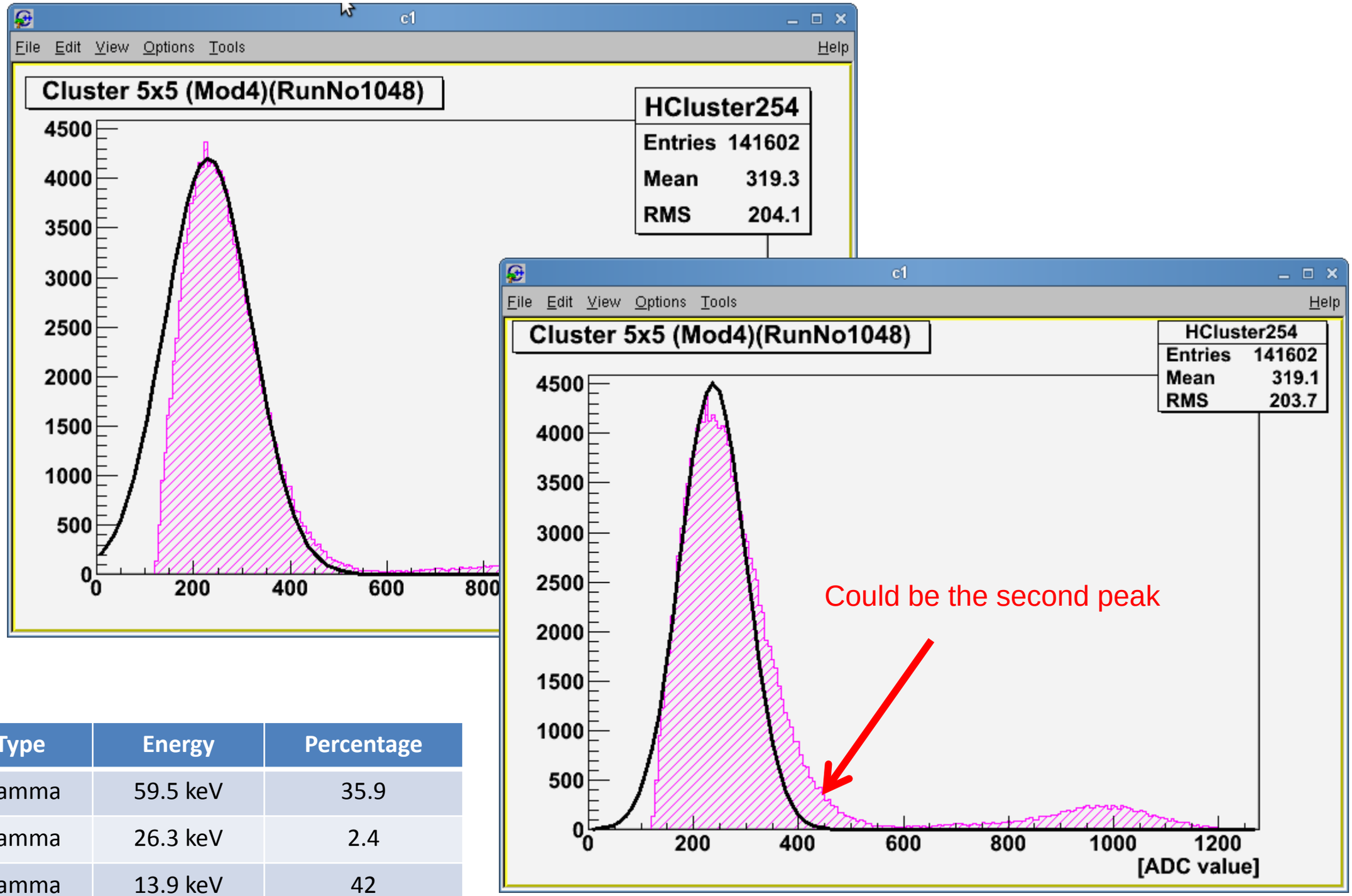
Cluster size and number of seeds



Blue – cluster 3x3
Red – cluster 5x5



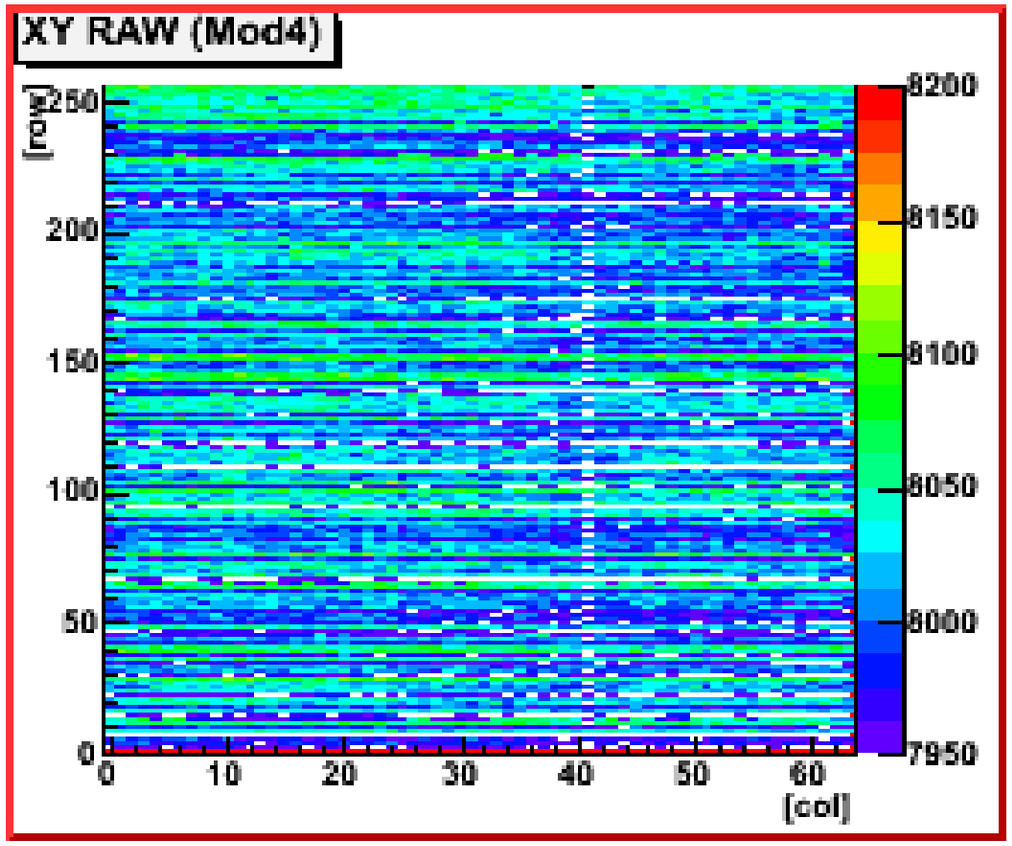
Three peaks?



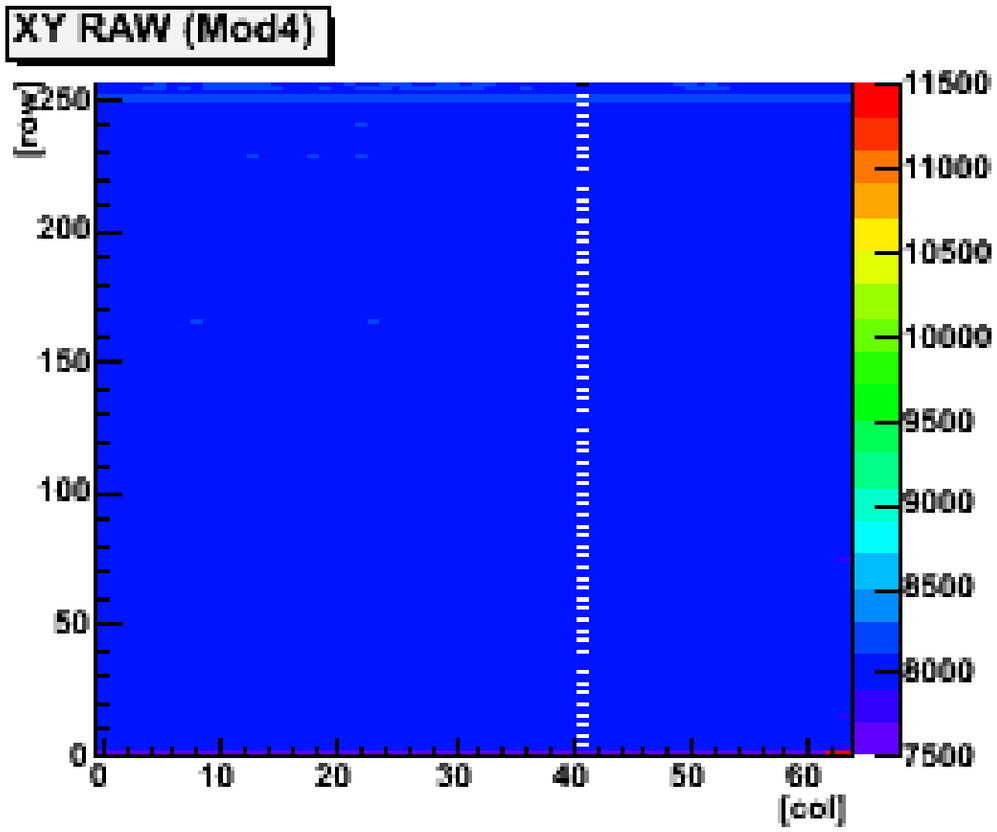
Type	Energy	Percentage
Gamma	59.5 keV	35.9
Gamma	26.3 keV	2.4
Gamma	13.9 keV	42

Raw data

Real raw data



Corrected raw data



Conclusions

1. We have 2 working matrixes;
2. Nescessary to make the run with the covered matrix;
3. To run the laser.