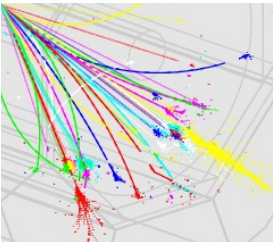
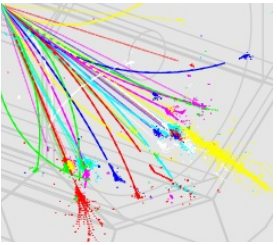


# $^{55}$Fe Scans

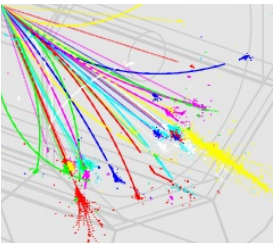
## RAL 10.11.2008

M. Stanitzki

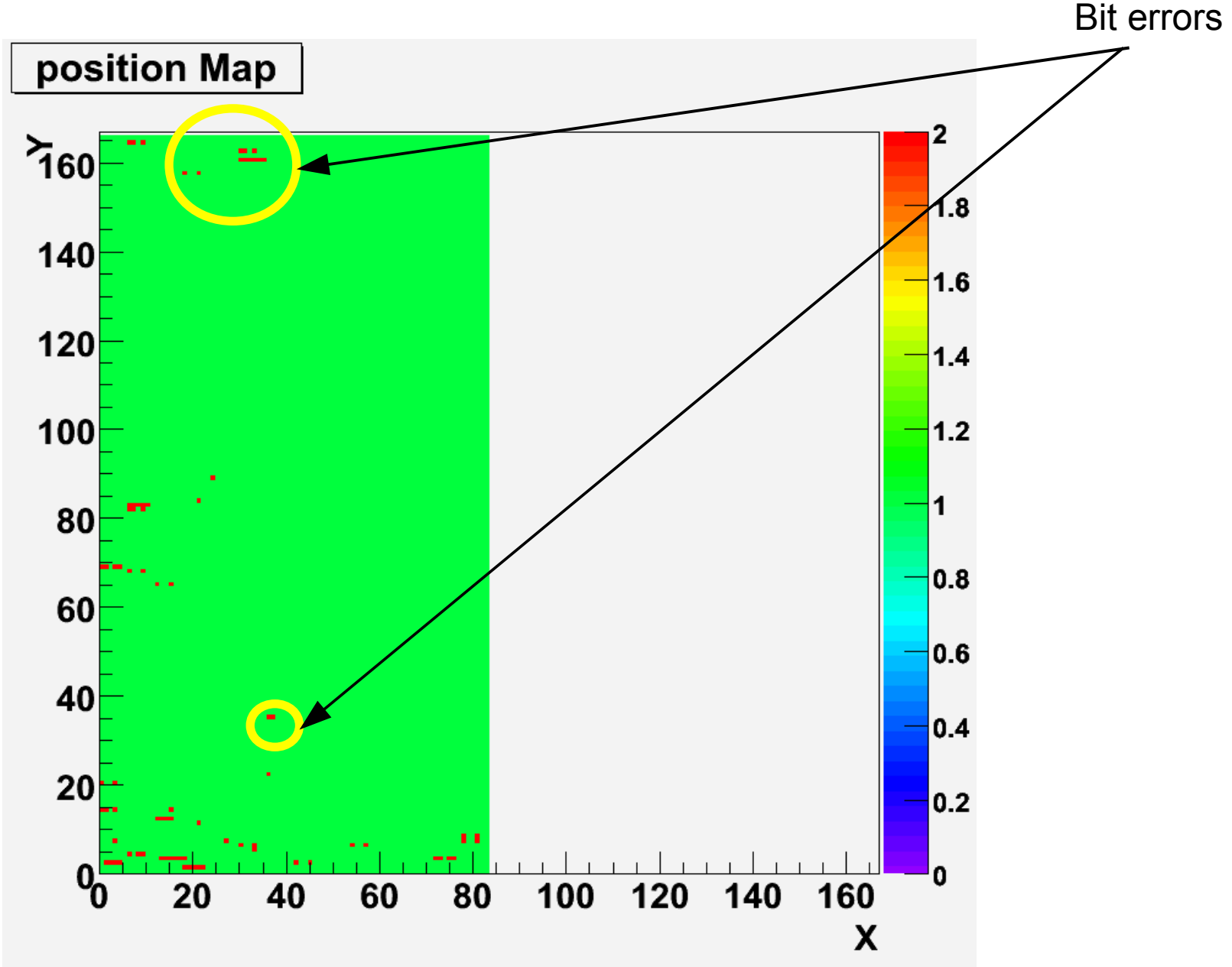


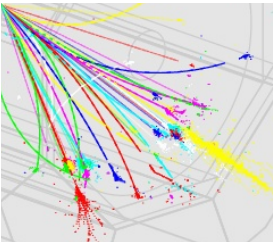
# Status

- Sensor 13
  - Scanned all  14112 Pixels
  - in segments of 84 pixels
  - Decent sample
- Results are quite stable
  - Some fits failed ...
  - select only pixels with “good fit”
- After glow a problem for the fitter ...

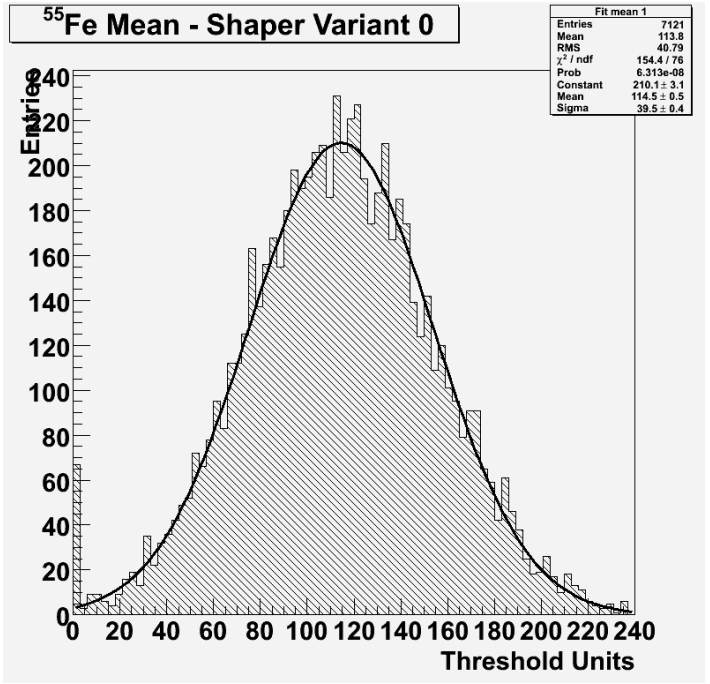


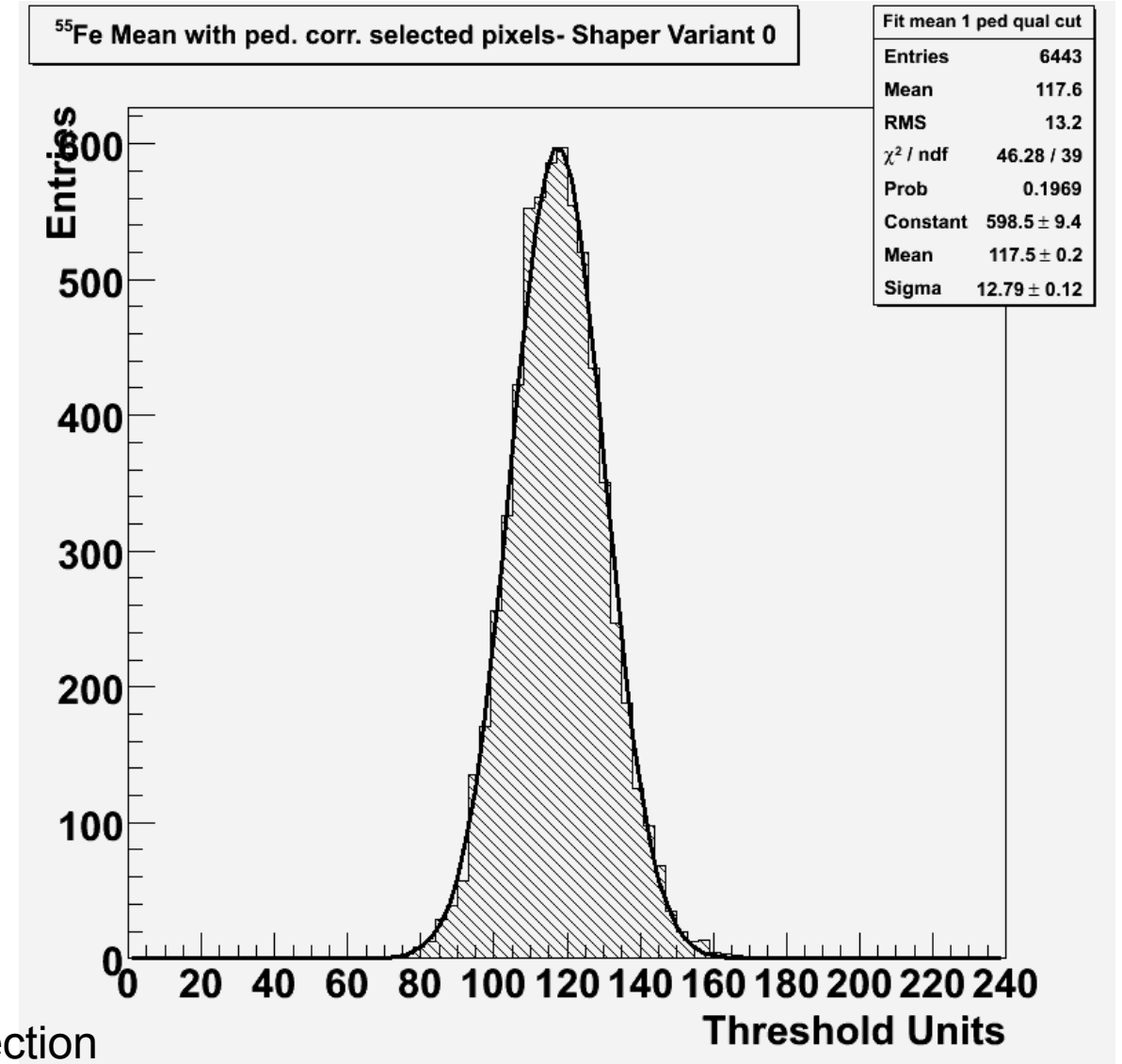
# The scanned area



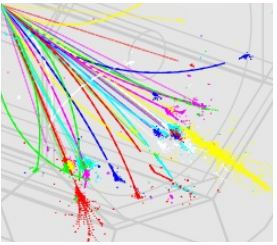


# Quad 0

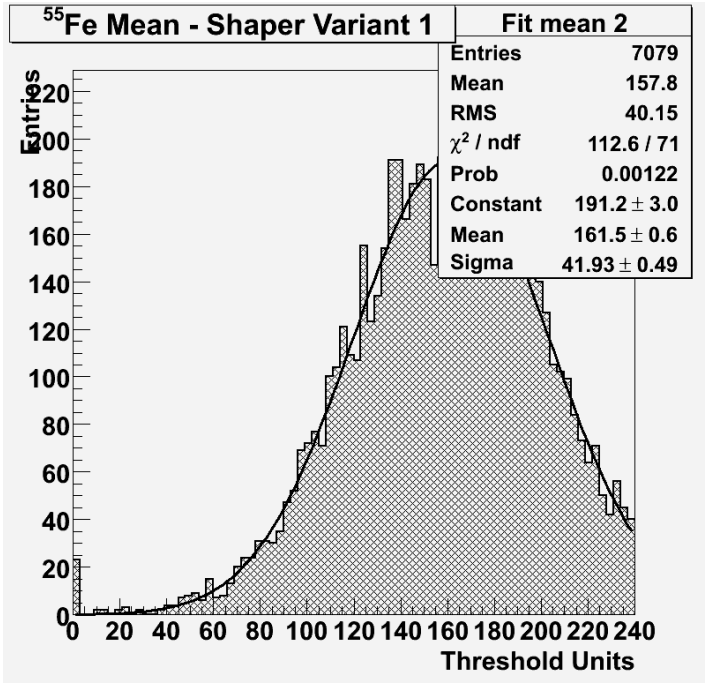


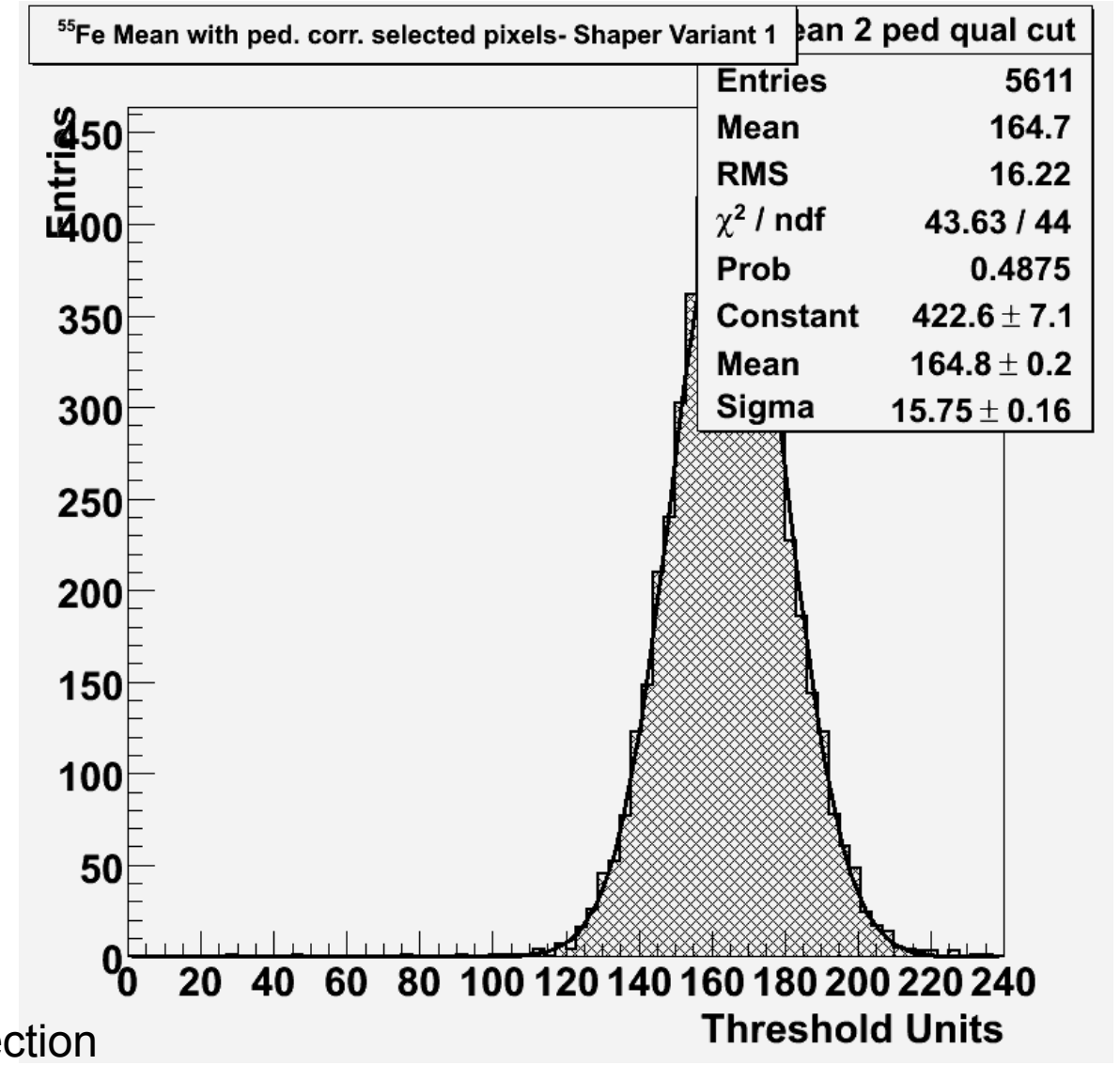




Pedestal correction
Quality selection

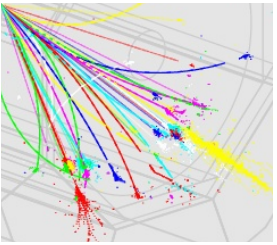


# Quad 1

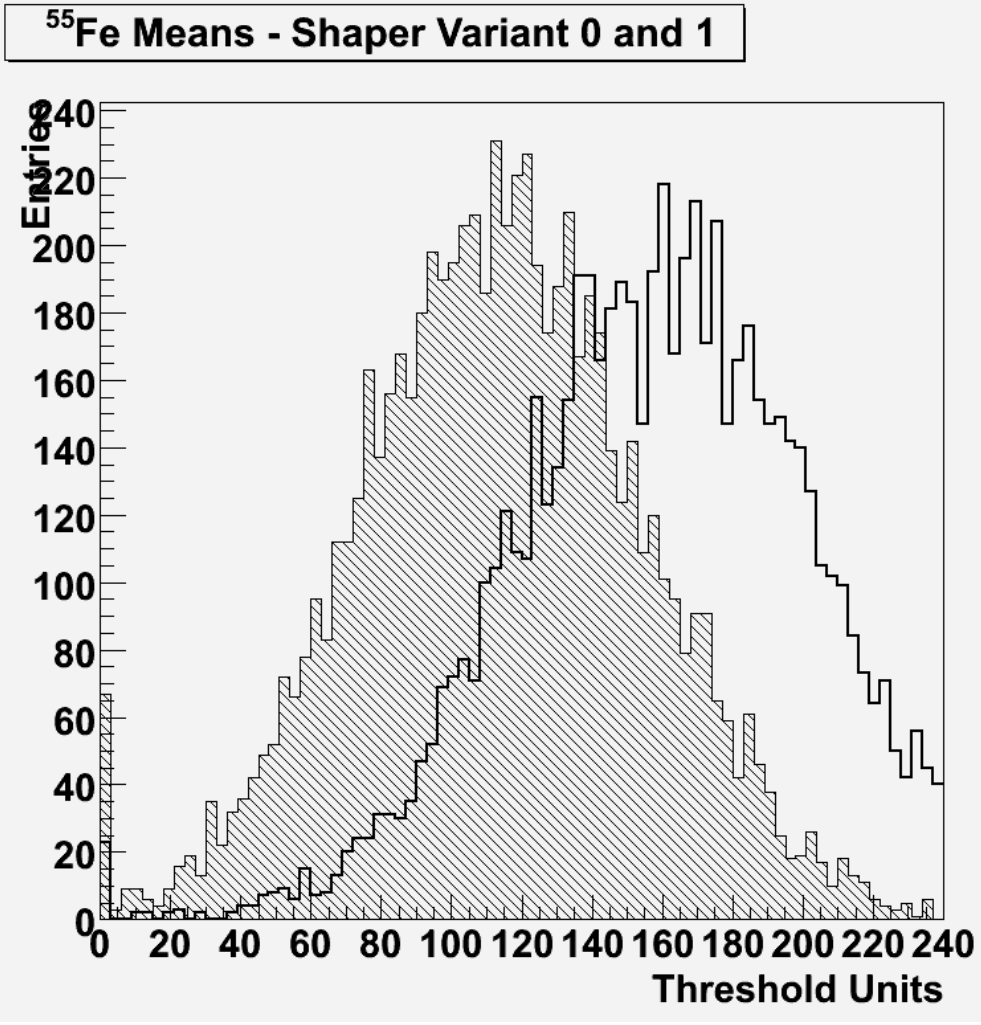


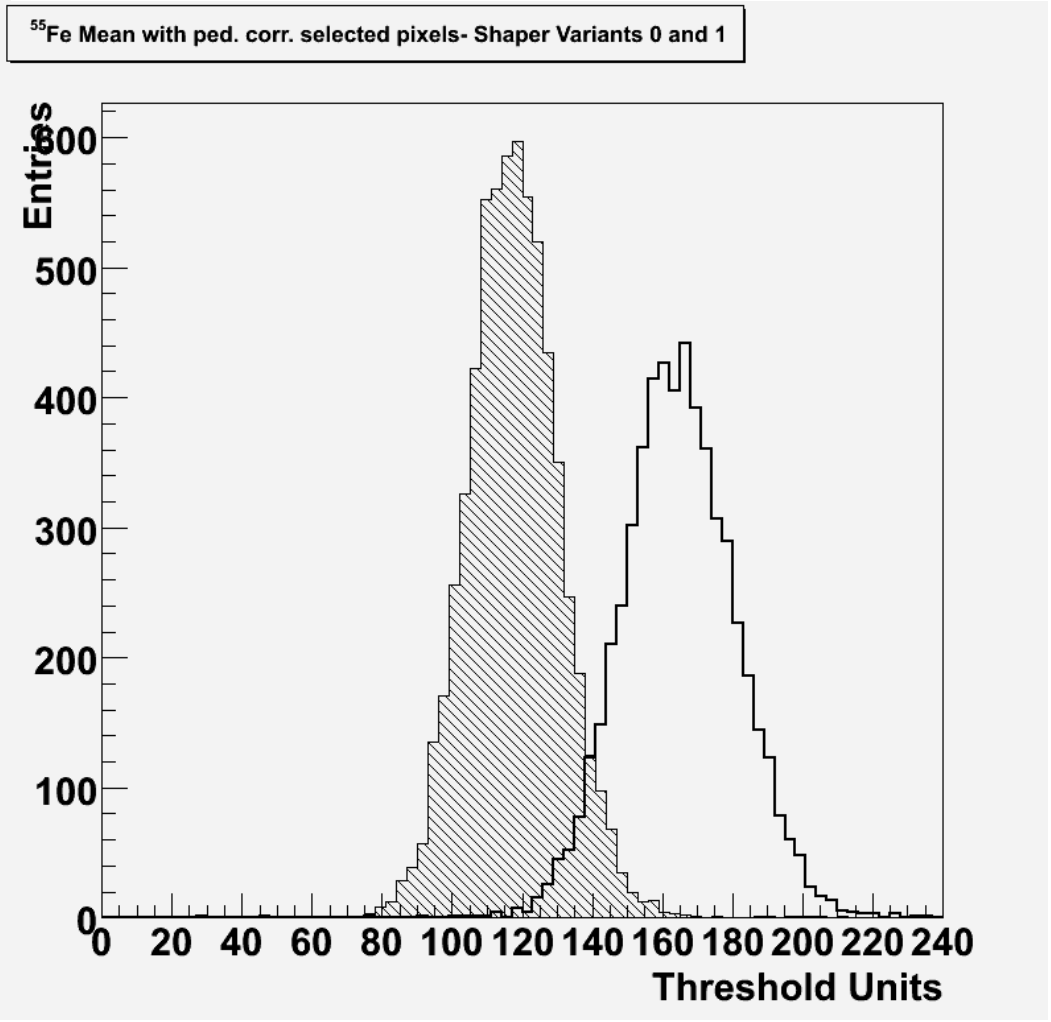



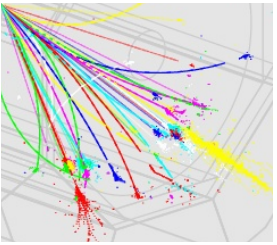

Pedestal correction
Quality selection



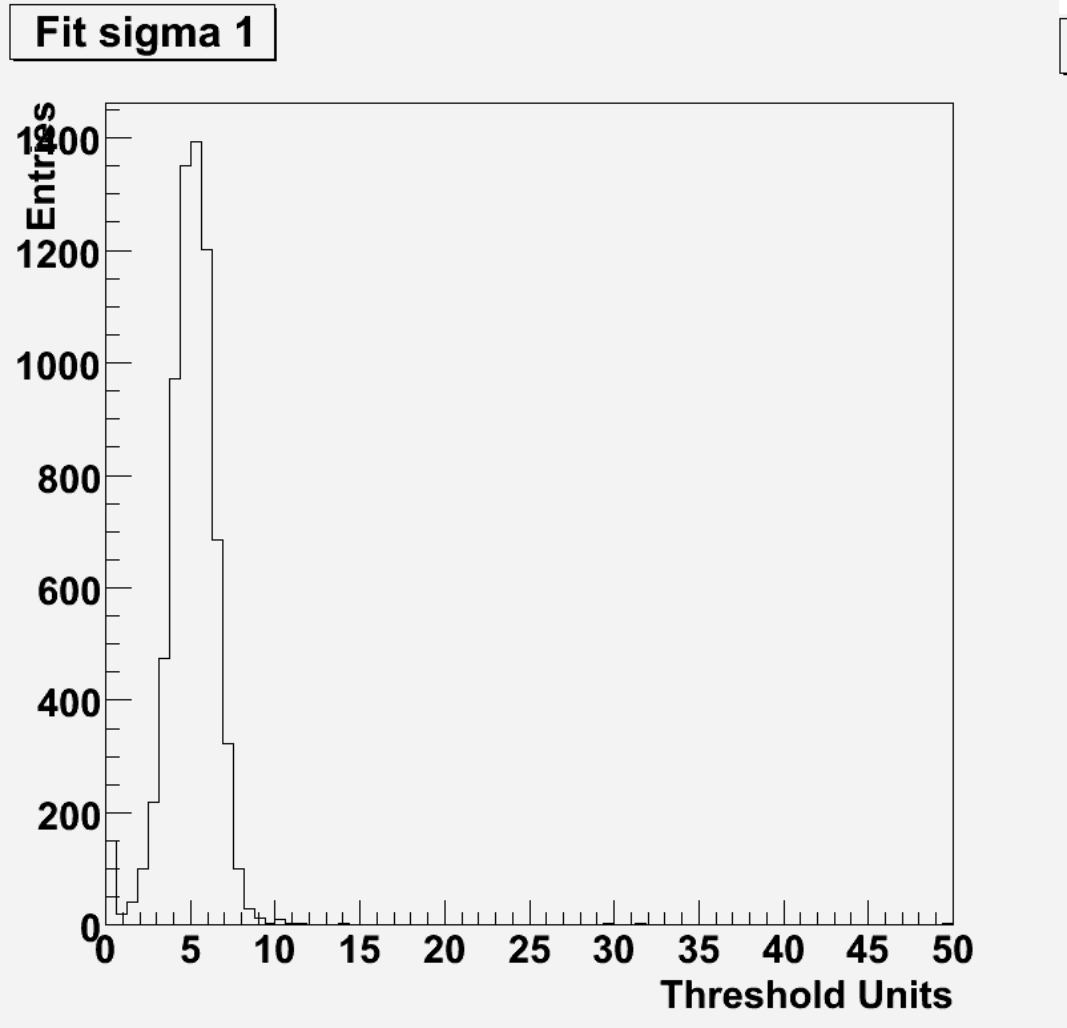
# Both next to each other ...

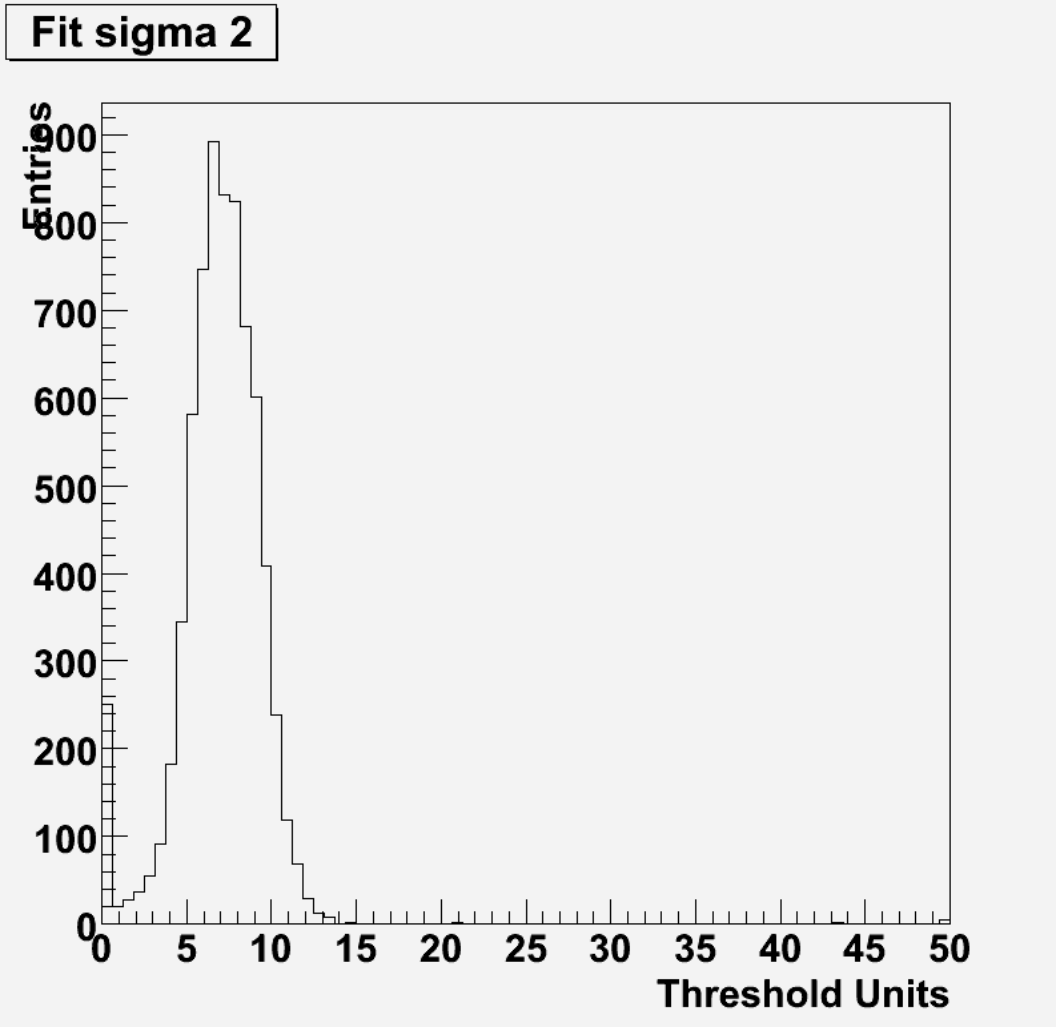


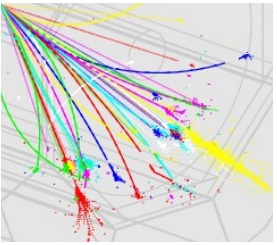





# Signal width



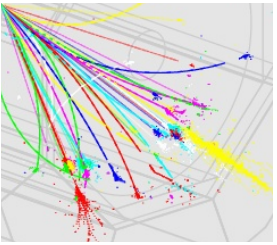





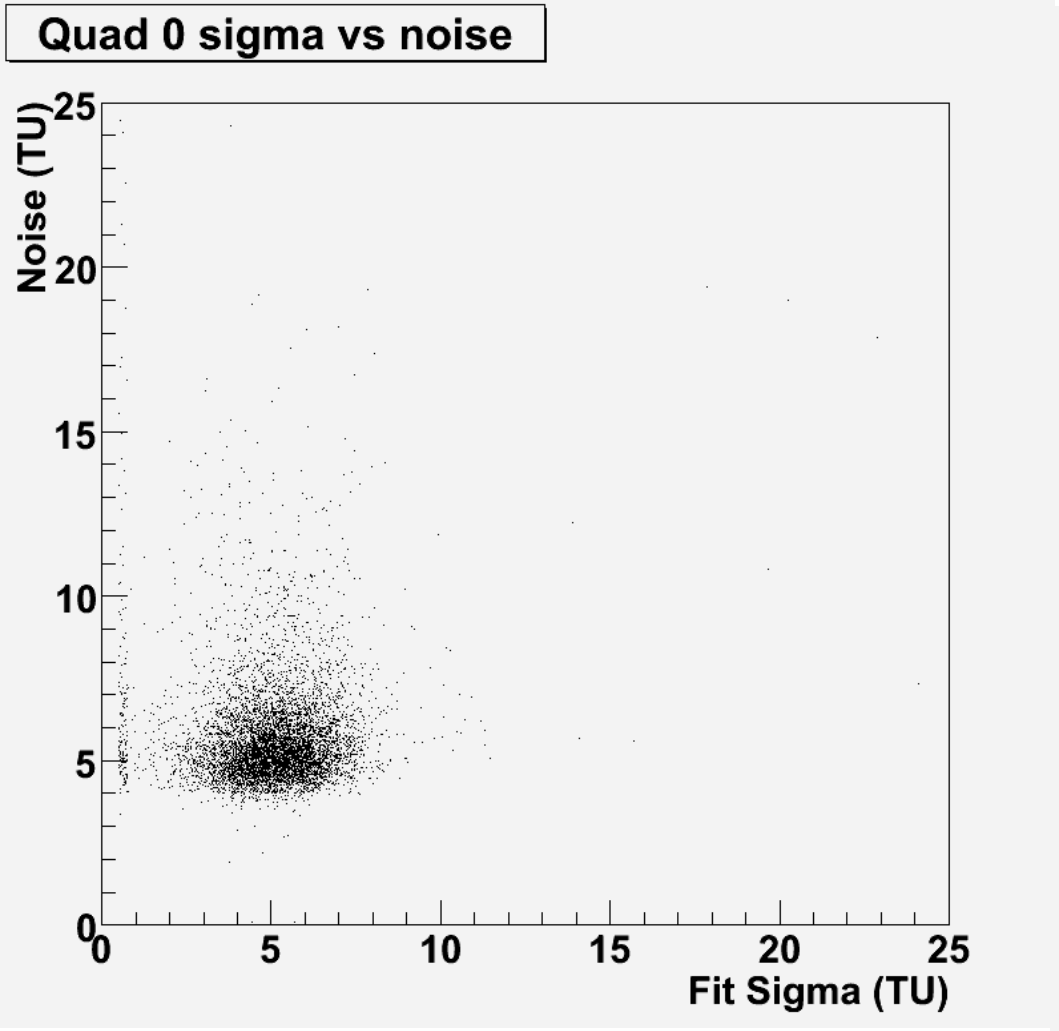
# Fit results

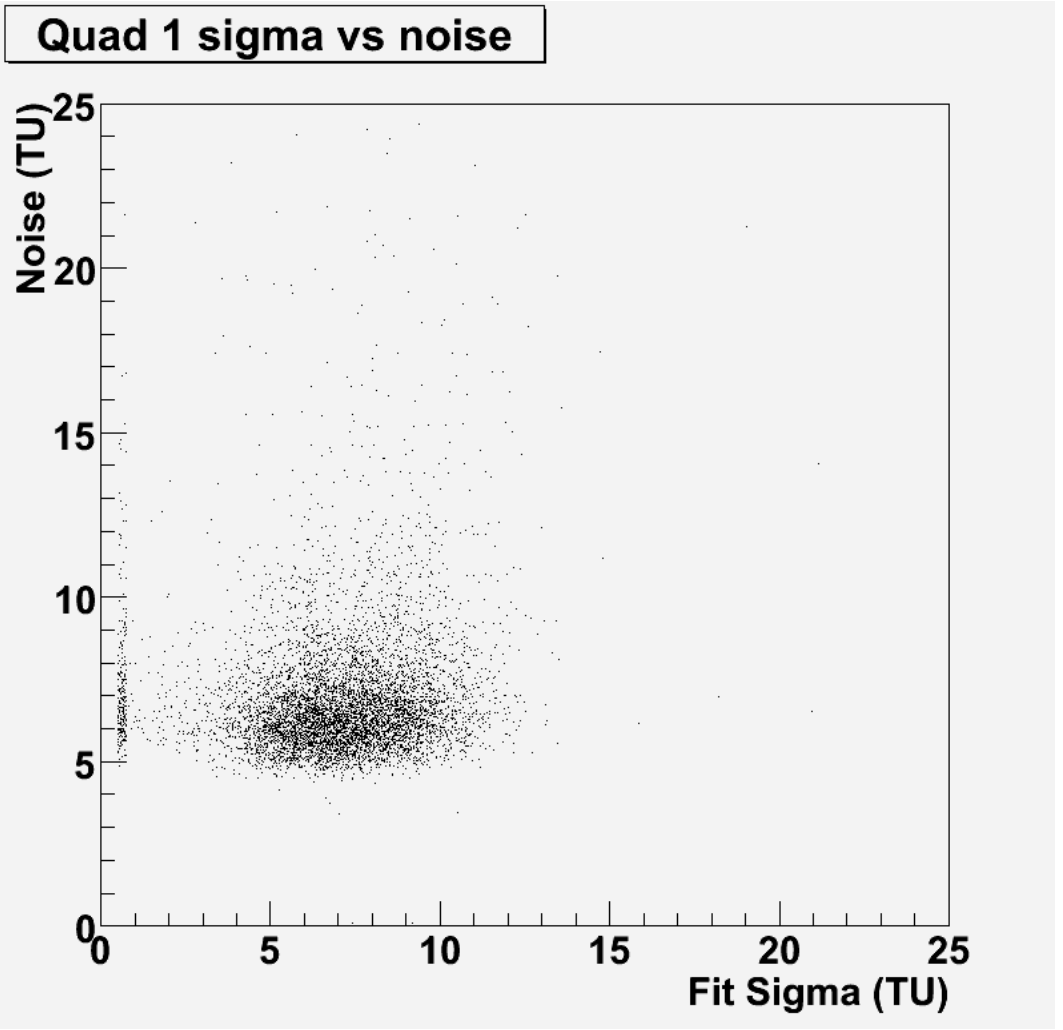
| | 55 Fe Mean | 55 Fe Sigma |
|---|---|---|
| **Quad0** | 117.5 ± 12.79 TU | 5.12 ± 1.21 TU |
| **Quad1** | 164.8 ± 15.75 TU | 7.25 ± 1.89 TU |

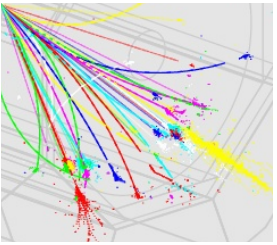
| | electron/TU | Gain variation | Sigma in electrons |
|---|---|---|---|
| Quad0 | 13.79 | 10.9 % | |
| Quad1 | 10.46 | 9.6 % | |



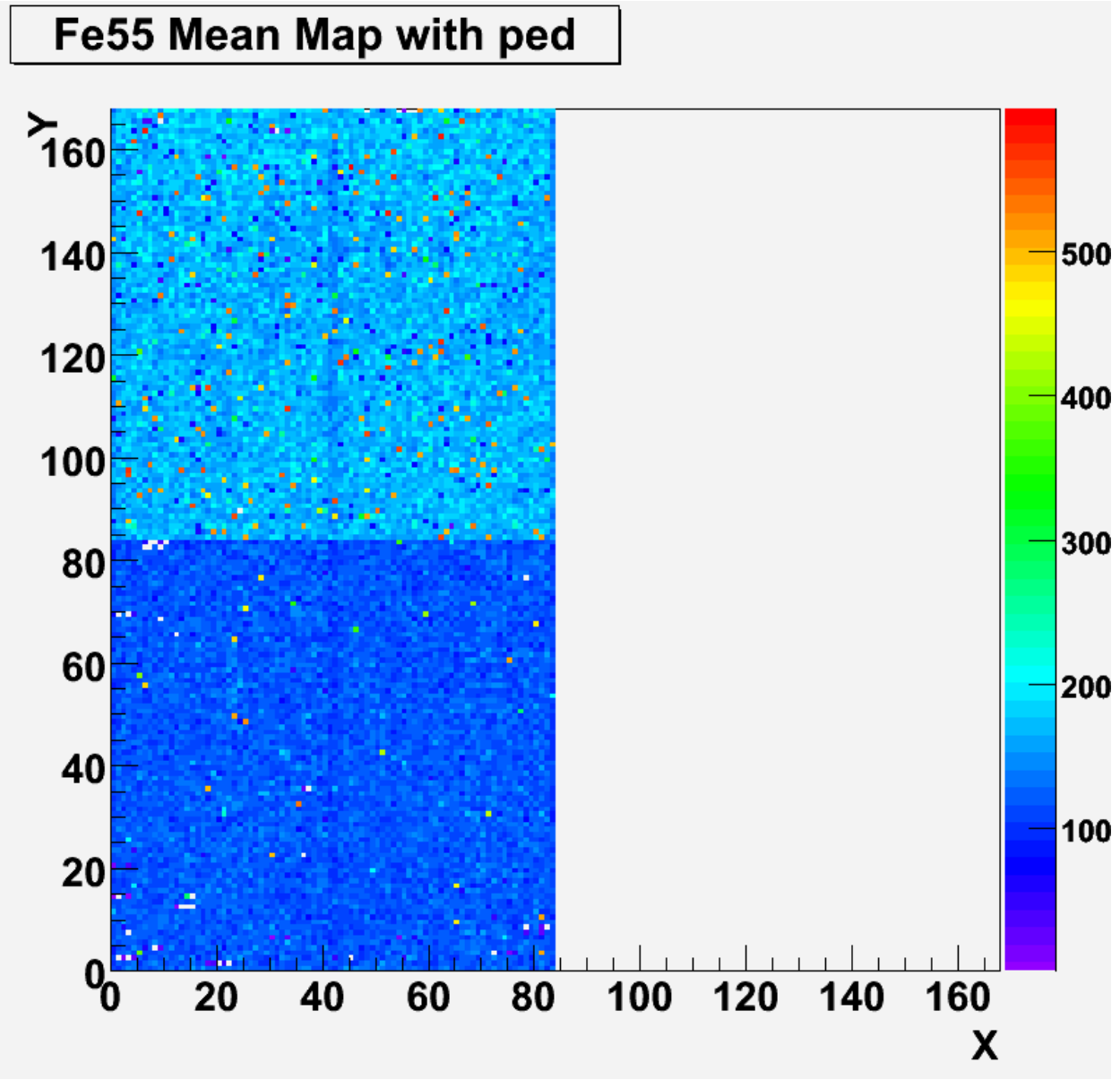
# Cross checks

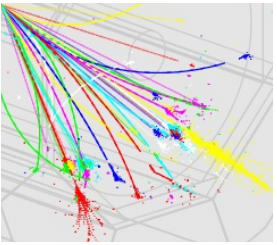


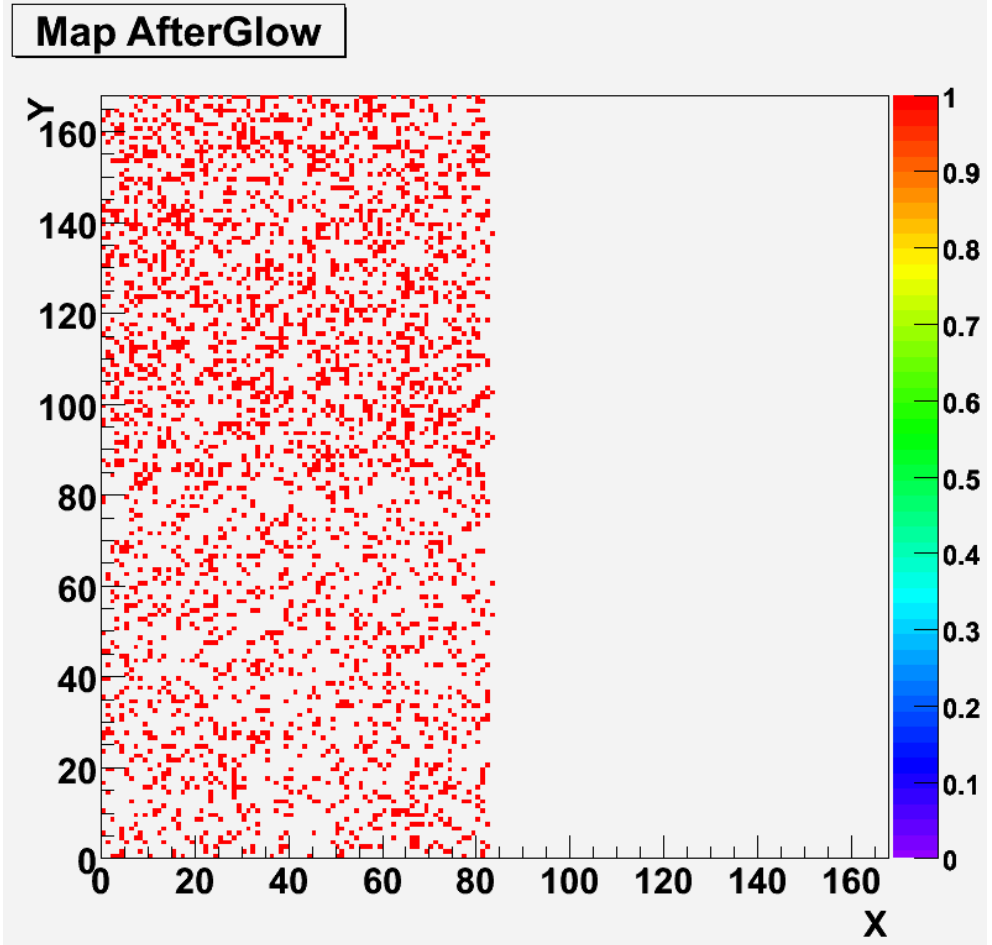


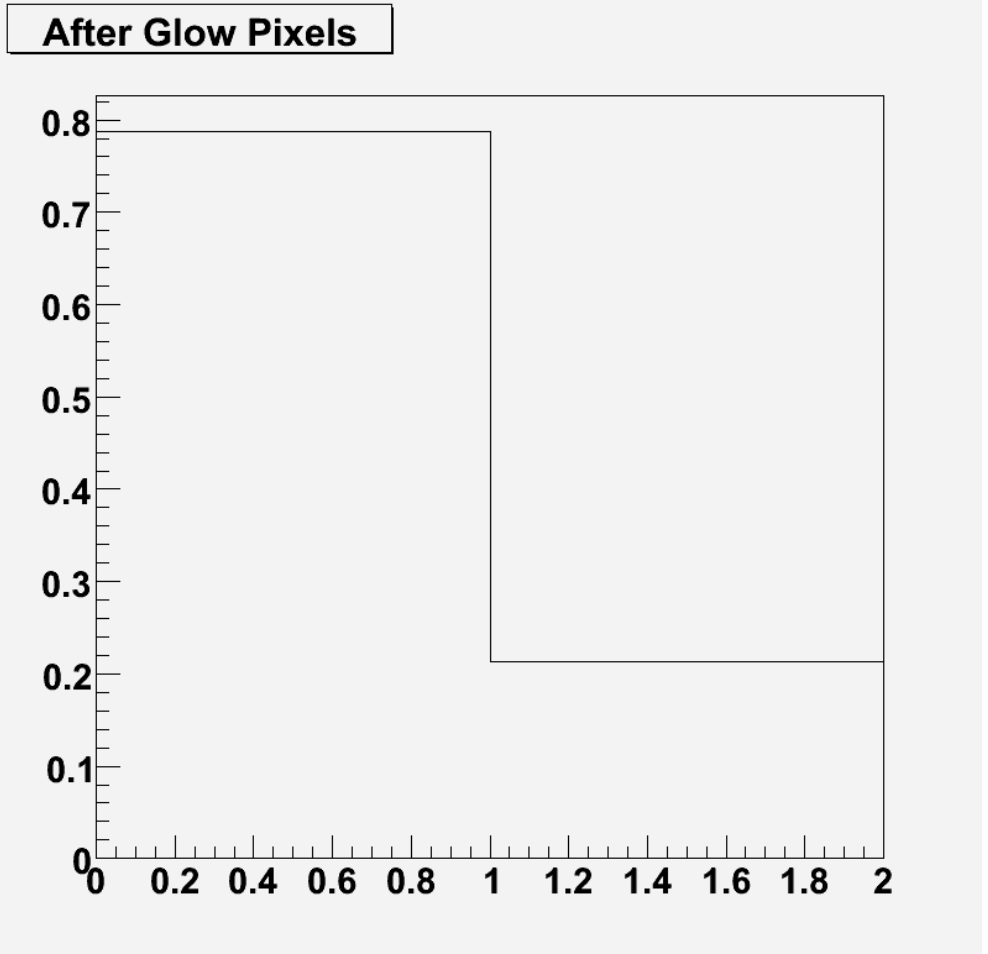
# Means with pedestals



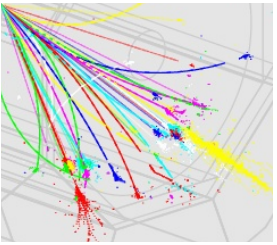


# Afterglow



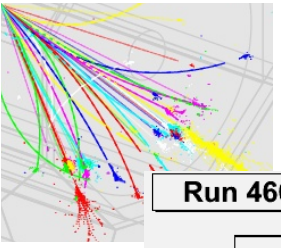




22 % of pixels show afterglow
17 % in Quad0, 28 % in quad 1

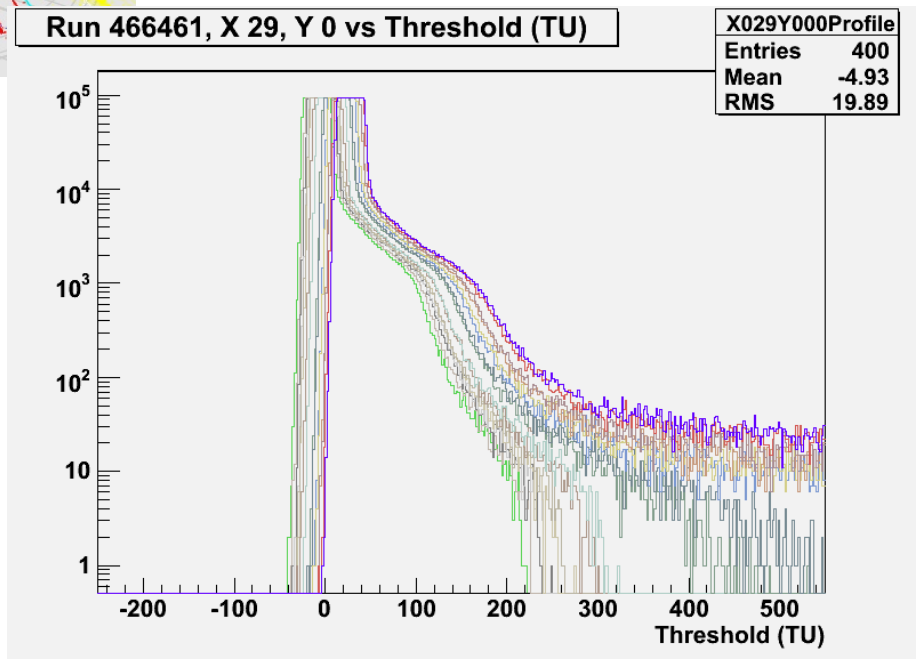


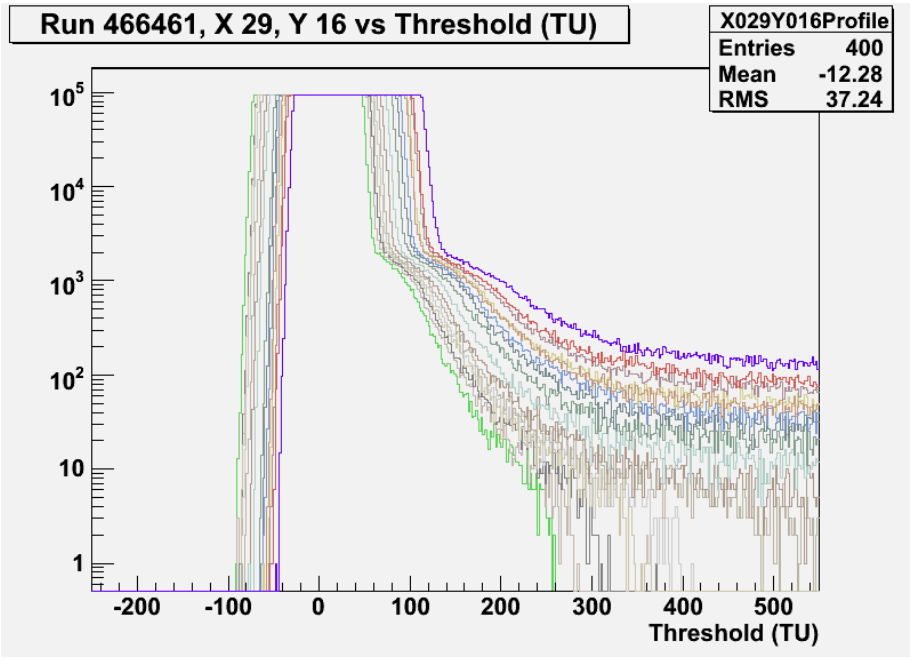
# Trim studies

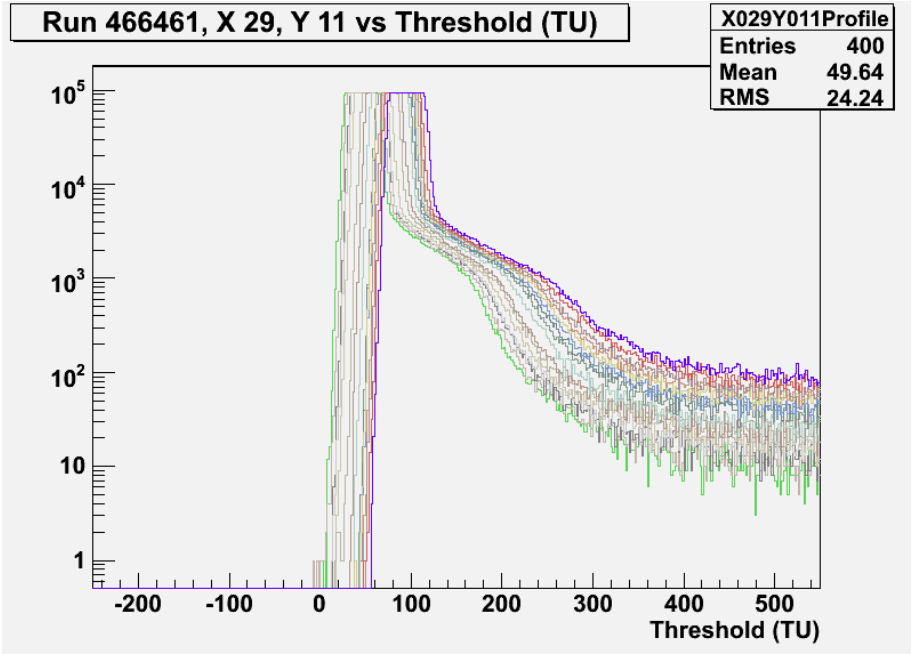
- Run 84 pixel
  - in quad0 and quad1
- Scan trims from 0 to 15
  - measure trim linearity with signal
  - study after glow

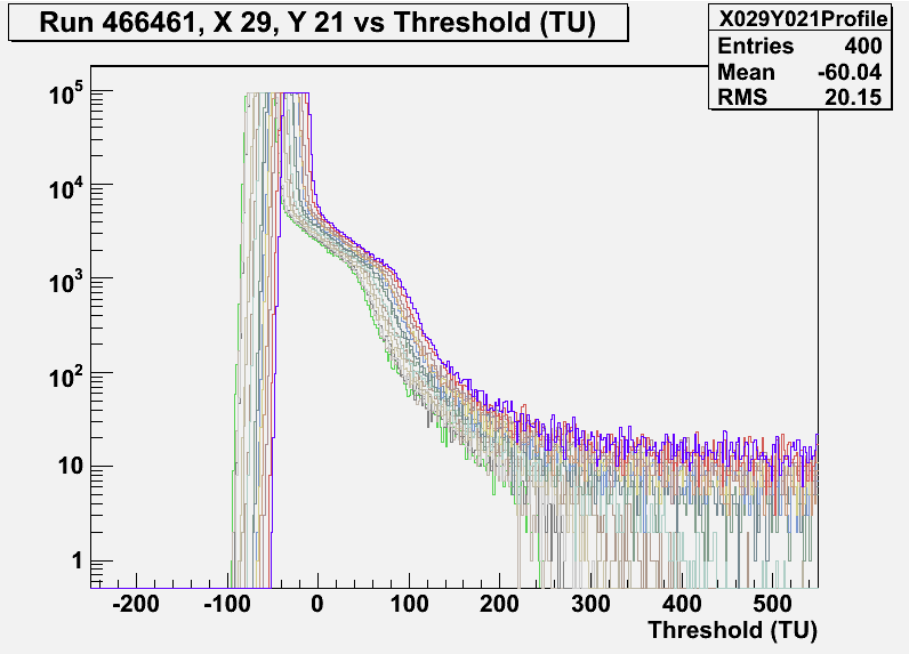


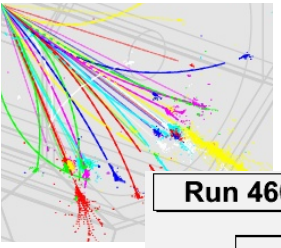
# individual pixels quad 0



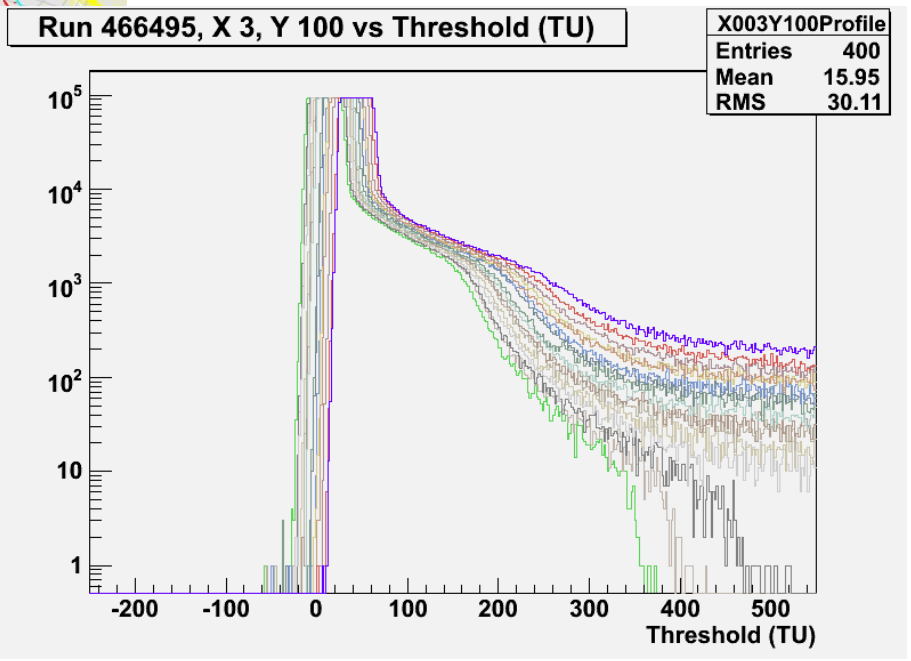



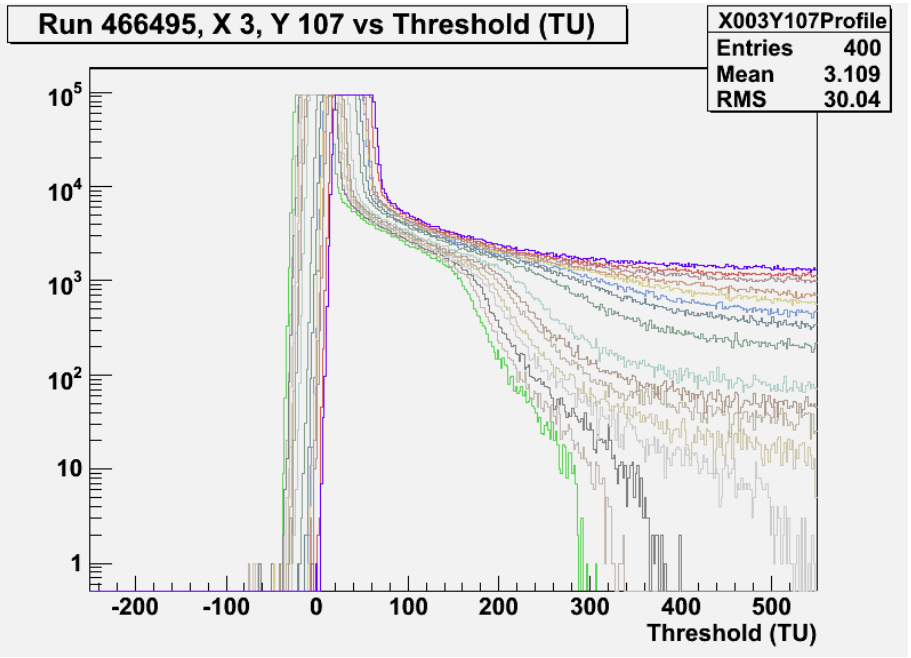



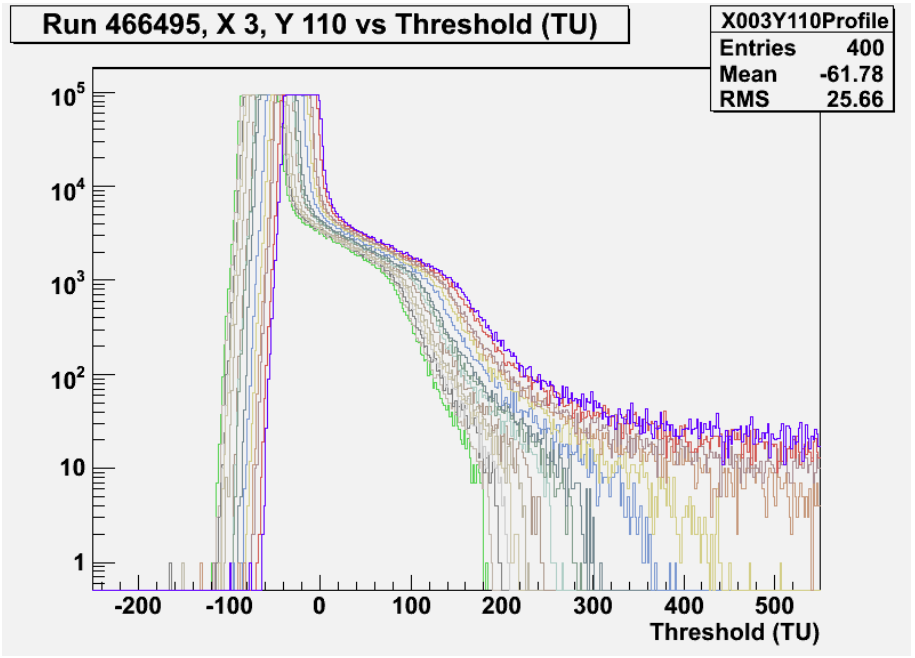



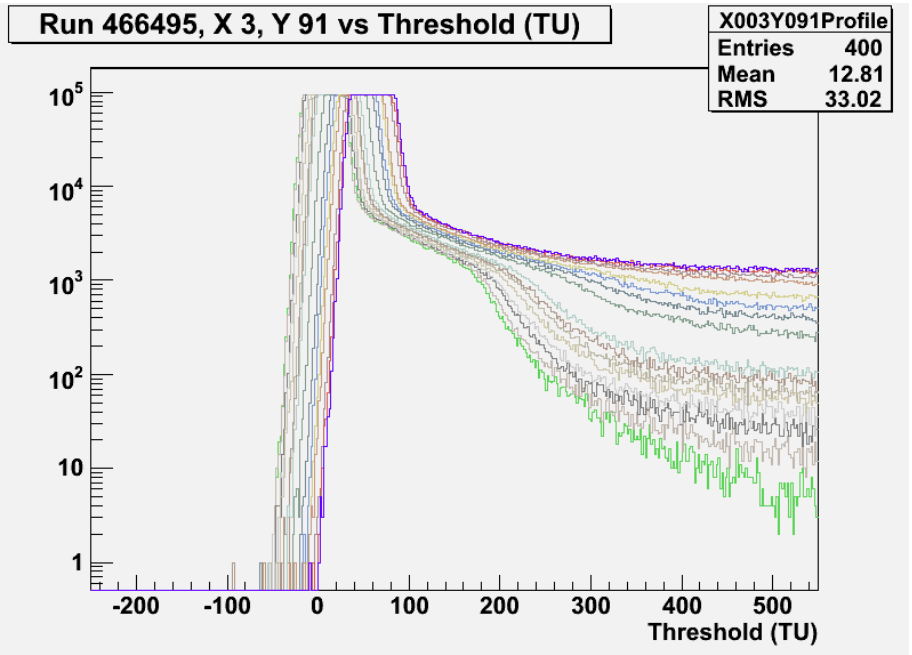


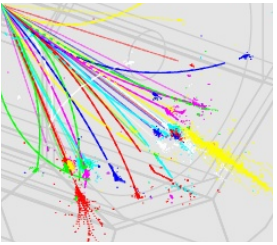
# individual pixels quad 1



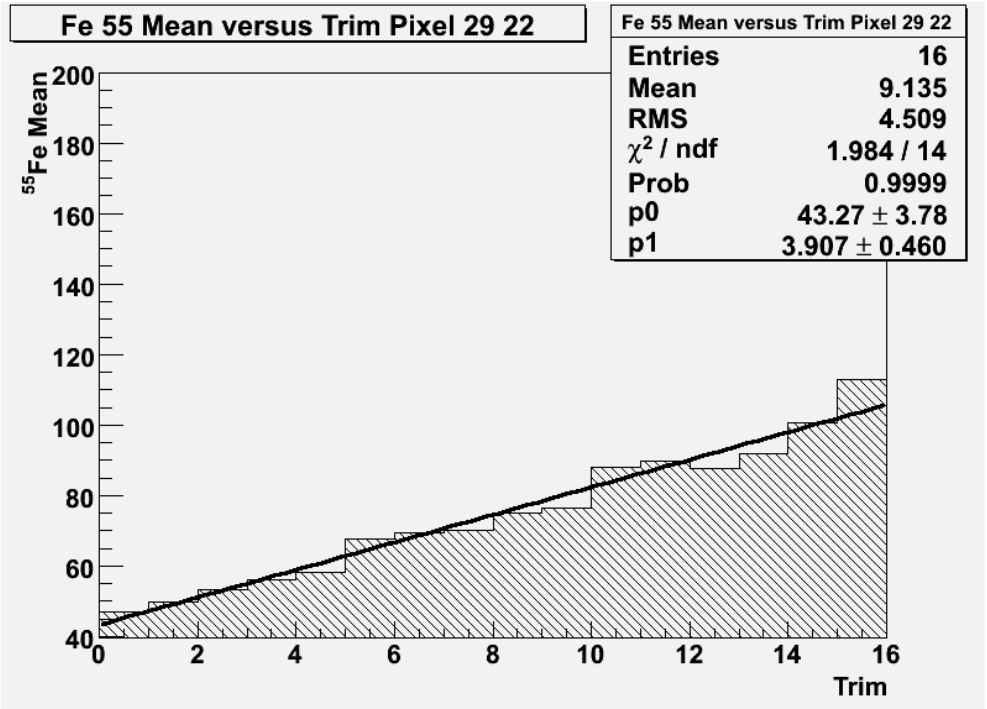



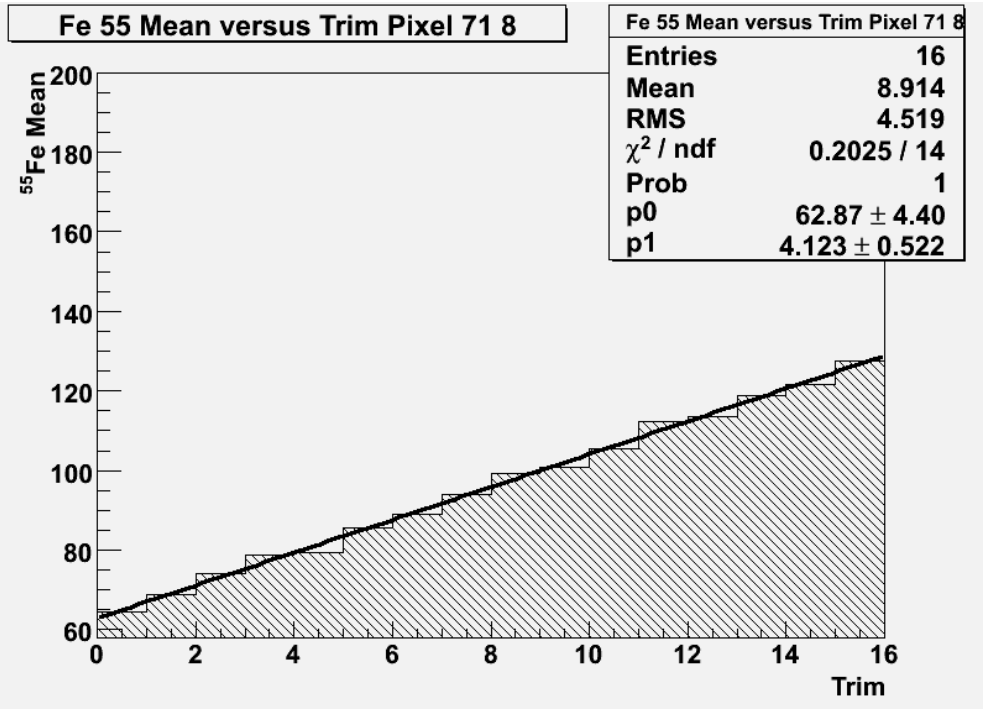



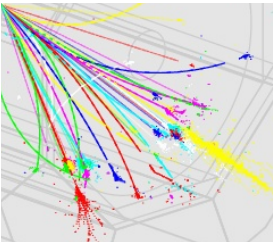





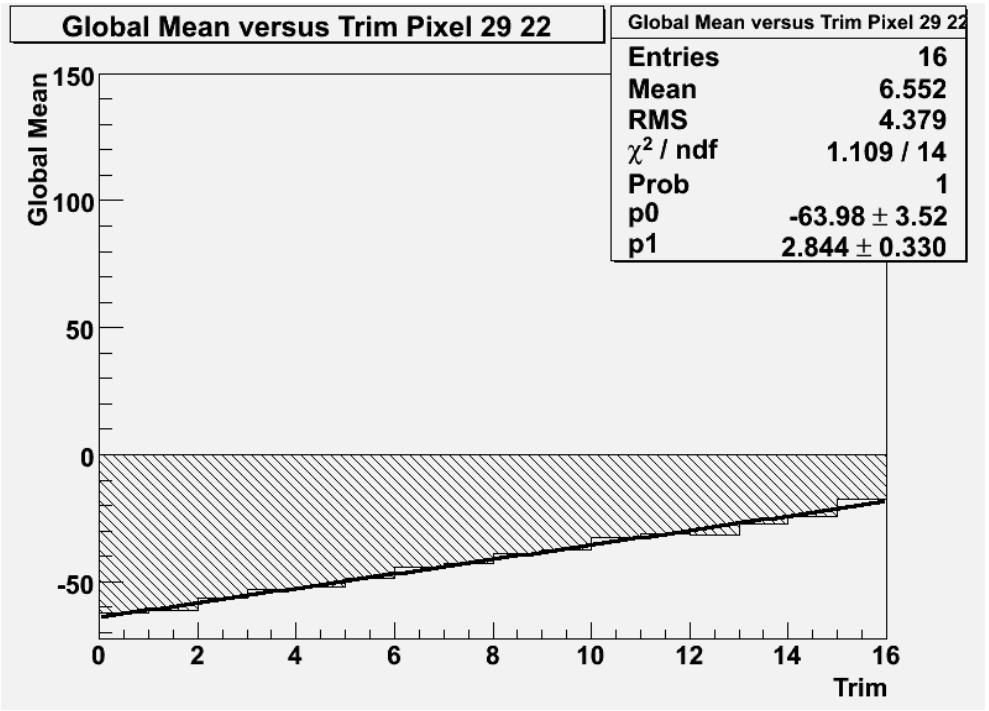
# trim linearity in quad 0

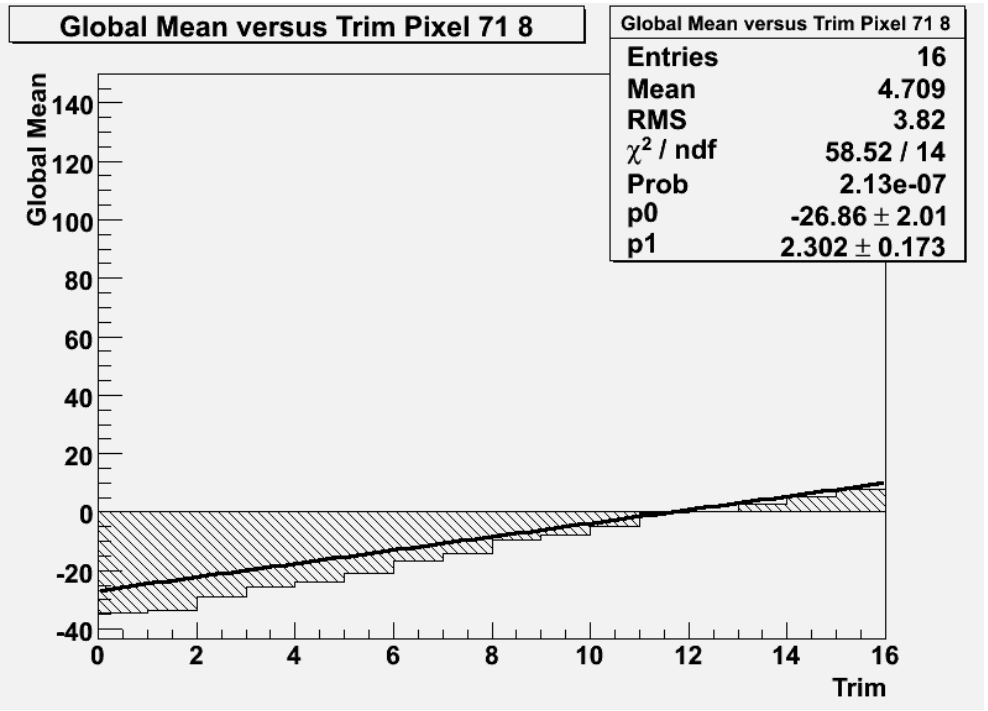


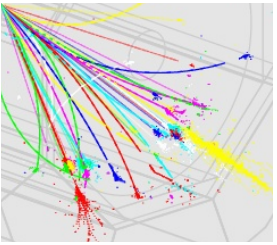





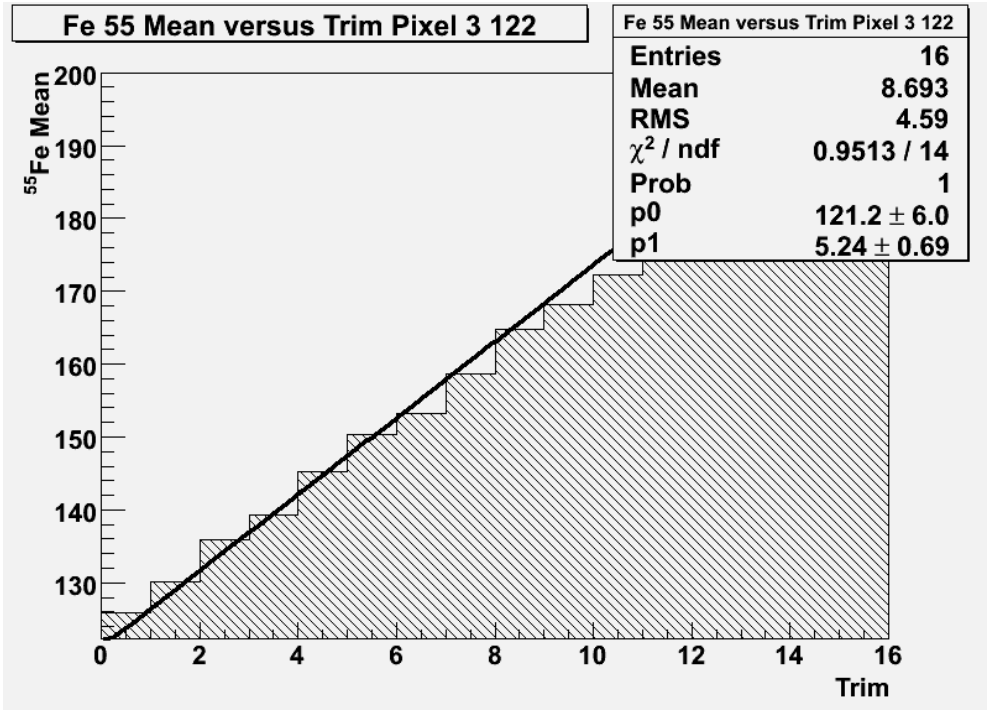
# Cross-check

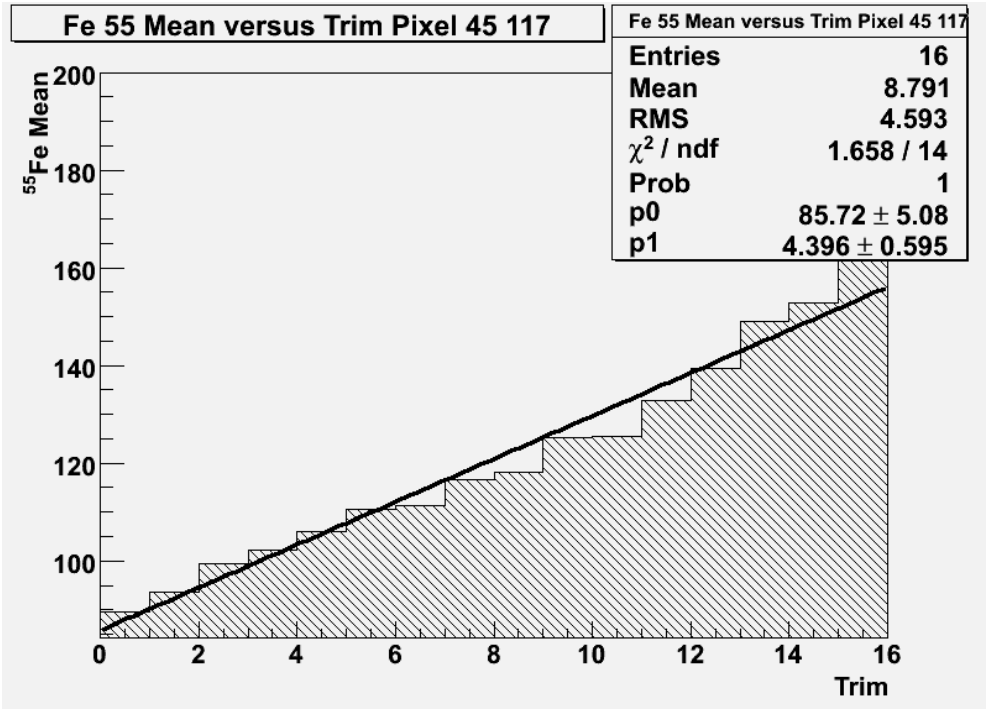

Global Mean versus Trim Pixel 29 22
Global Mean versus Trim Pixel 29 22
Entries 16
Mean 6.552
RMS 4.379
χ² / ndf 1.109 / 14
Prob 1
p0 -63.98 ± 3.52
p1 2.844 ± 0.330
Global Mean
Trim

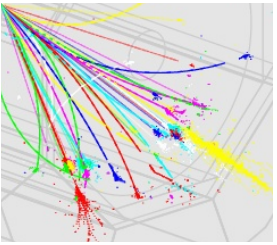

Global Mean versus Trim Pixel 71 8
Global Mean versus Trim Pixel 71 8
Entries 16
Mean 4.709
RMS 3.82
χ² / ndf 58.52 / 14
Prob 2.13e-07
p0 -26.86 ± 2.01
p1 2.302 ± 0.173
Global Mean
Trim



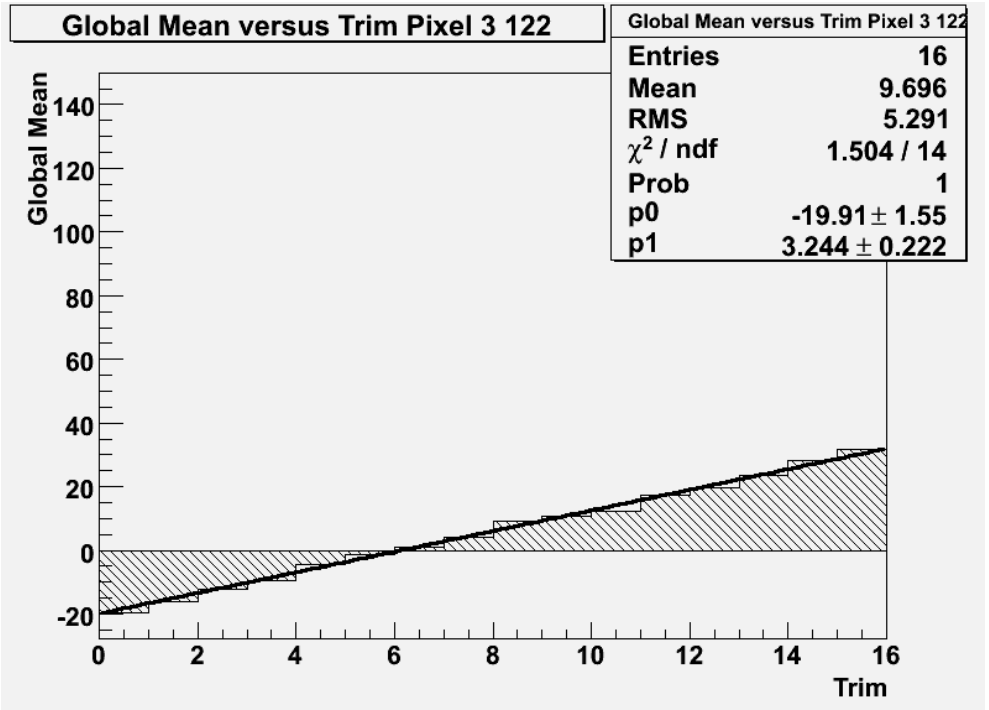
# trim linearity in quad 1

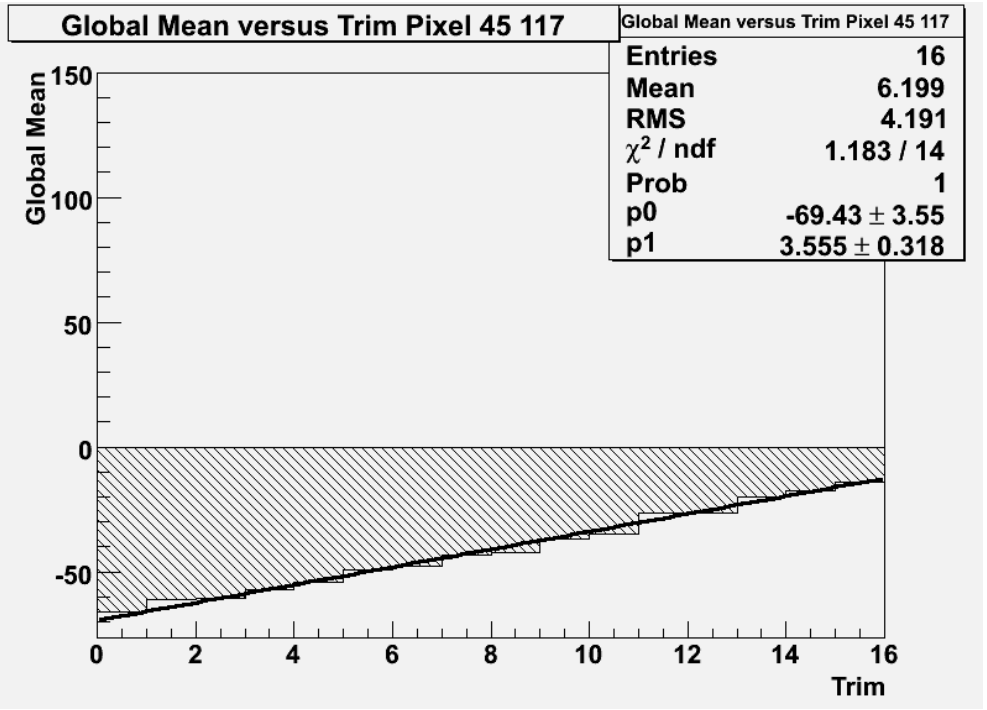


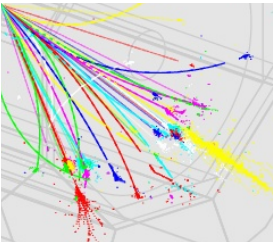





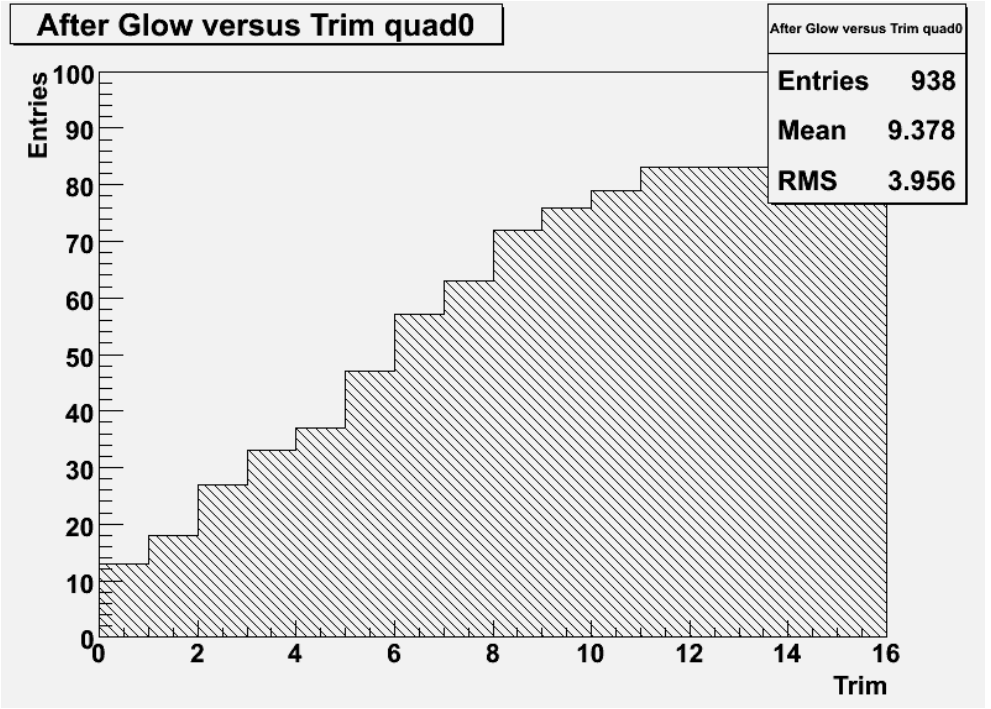
# Cross check

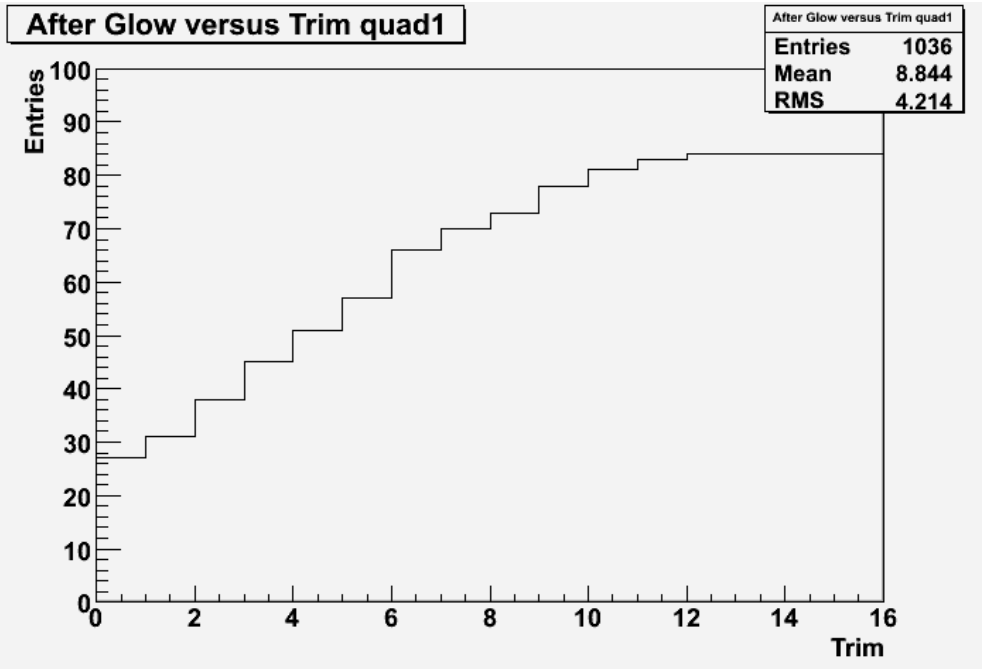

Global Mean versus Trim Pixel 3 122
Global Mean versus Trim Pixel 3 122
Entries 16
Mean 9.696
RMS 5.291
χ² / ndf 1.504 / 14
Prob 1
p0 -19.91 ± 1.55
p1 3.244 ± 0.222
Global Mean
Trim

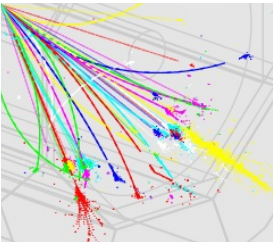

Global Mean versus Trim Pixel 45 117
Global Mean versus Trim Pixel 45 117
Entries 16
Mean 6.199
RMS 4.191
χ² / ndf 1.183 / 14
Prob 1
p0 -69.43 ± 3.55
p1 3.555 ± 0.318
Global Mean
Trim



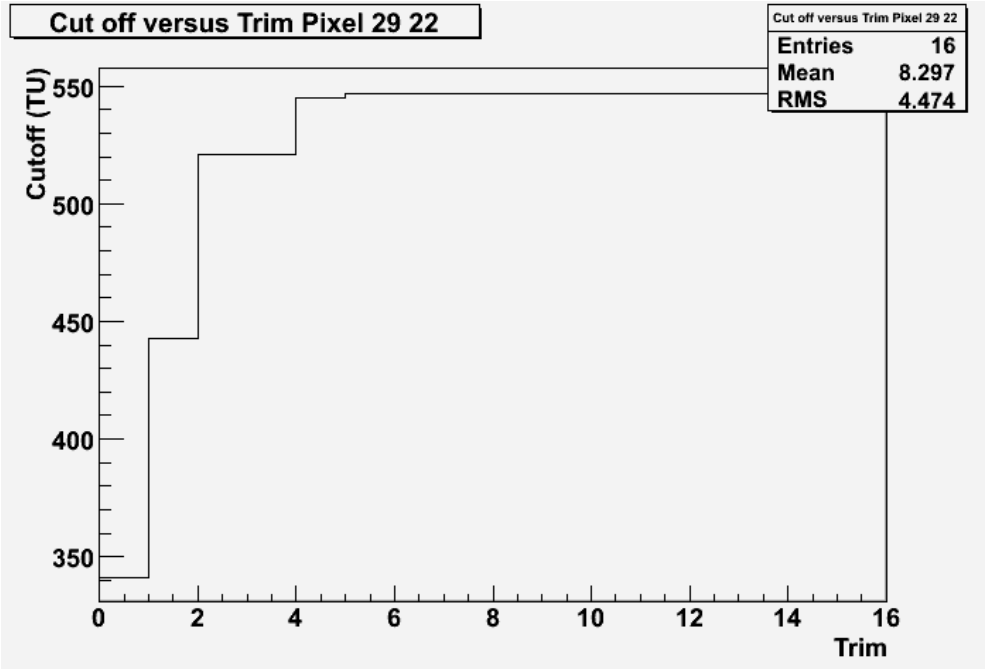
# Afterglow

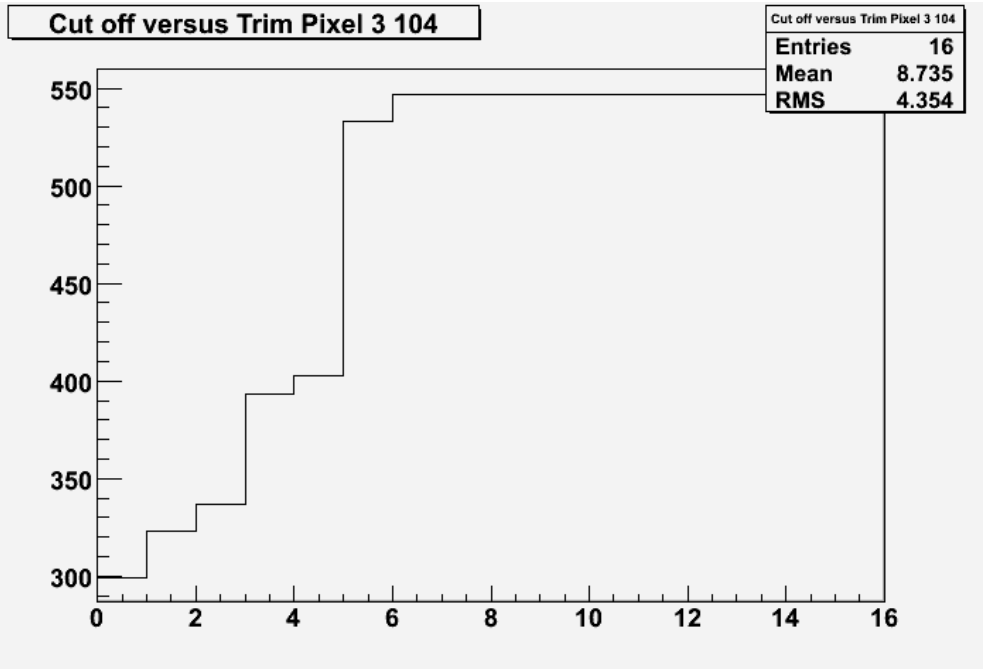

After Glow versus Trim quad0
After Glow versus Trim quad0
Entries 938
Mean 9.378
RMS 3.956
Entries
Trim


After Glow versus Trim quad1
After Glow versus Trim quad1
Entries 1036
Mean 8.844
RMS 4.214
Entries
Trim

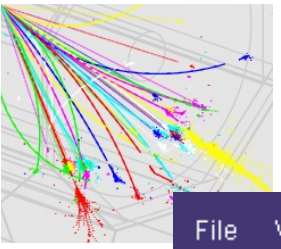


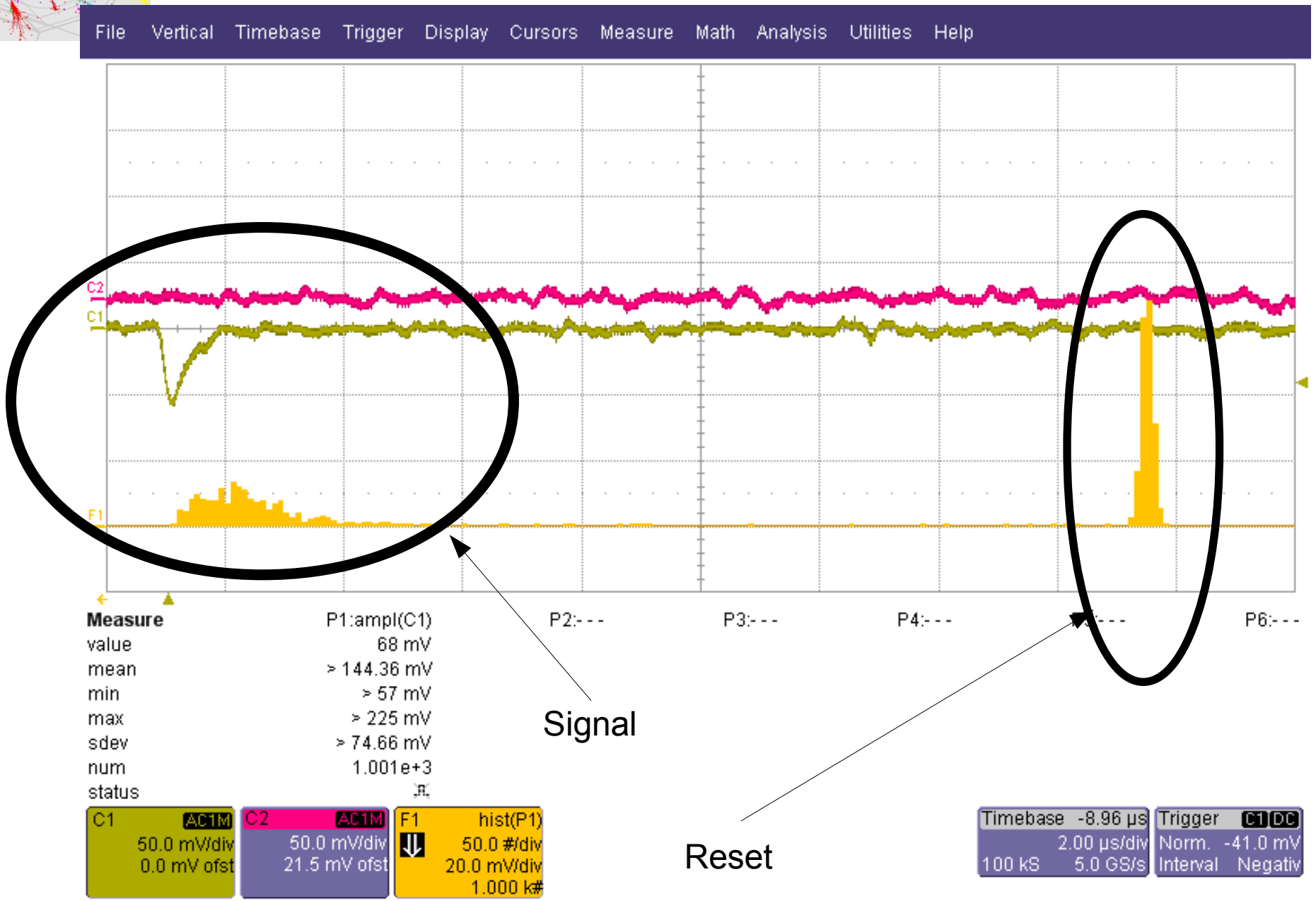
# Cut off behaviour



# TPAC 1.1






Signal

Reset