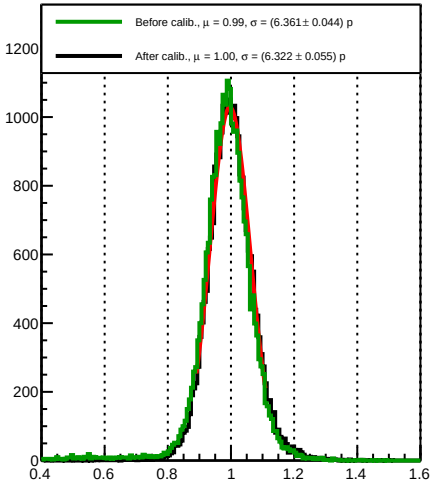
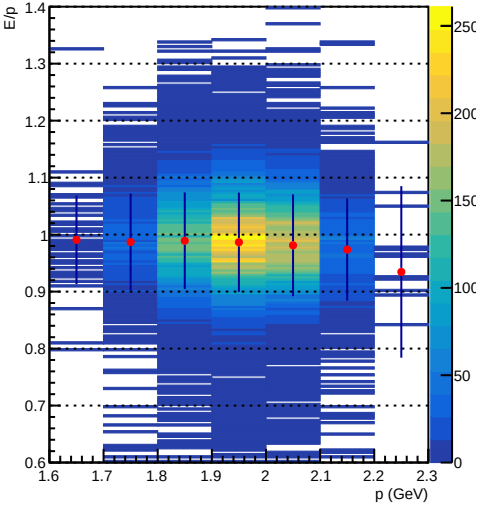
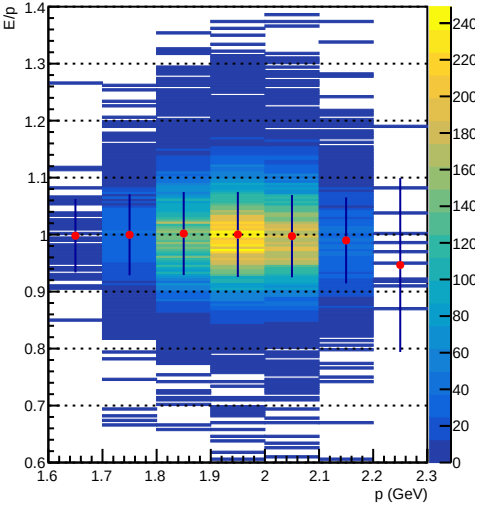
E/p (el. cut)



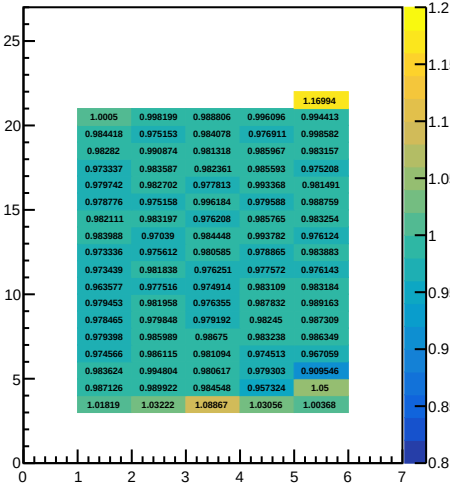
E/p vs p (el. cut)



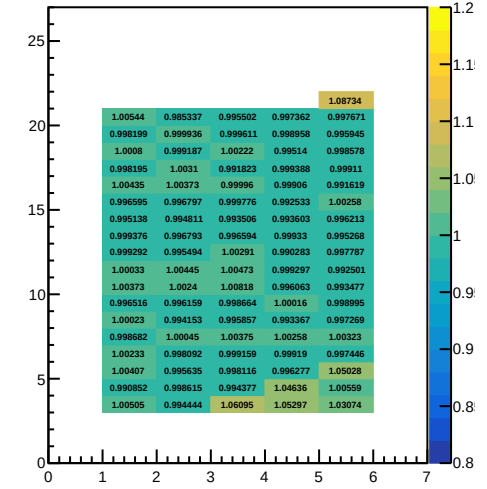
E/p vs p | After Calib. (el. cut)



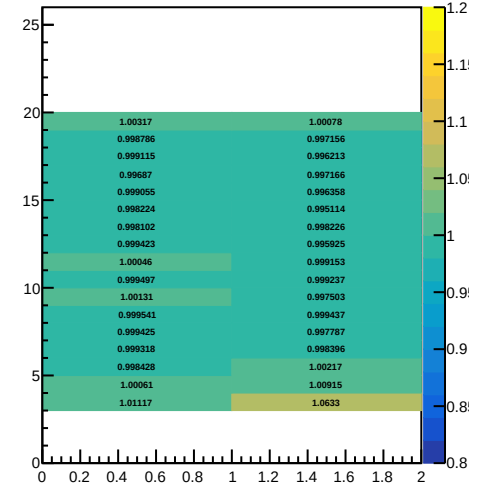
E/p per SH block (el. cut)



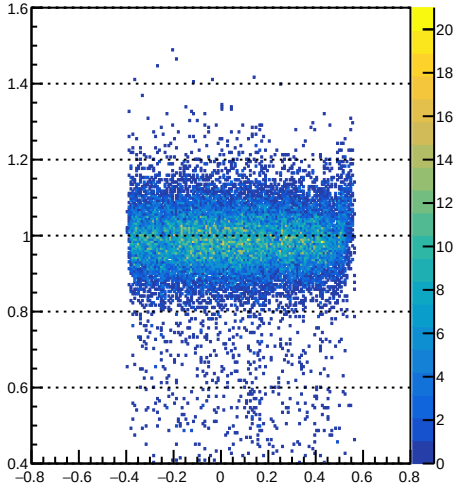
E/p per SH block | After Calib. (el. cut)



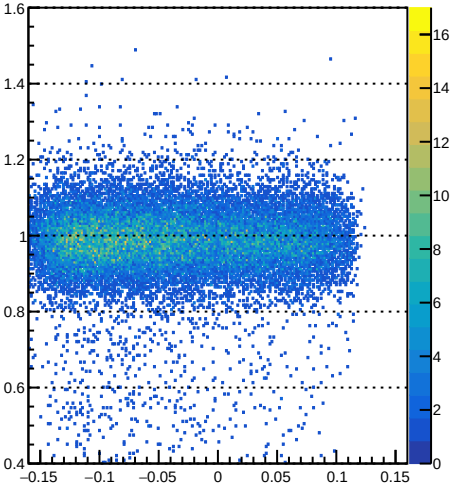
E/p per PS block | After Calib. (el. cut)



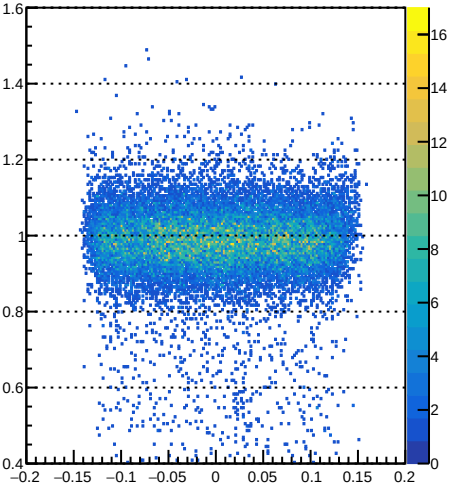
E/p vs Track x (el. cut)



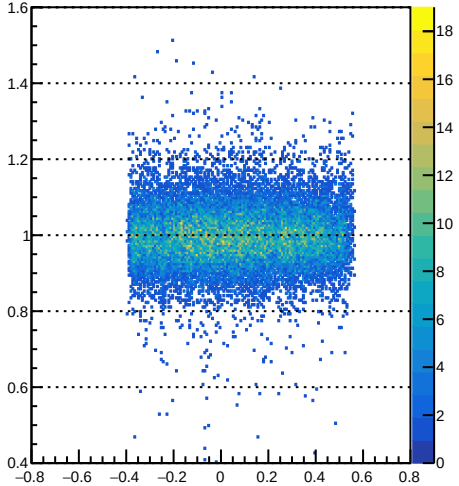
E/p vs Track y (el. cut)



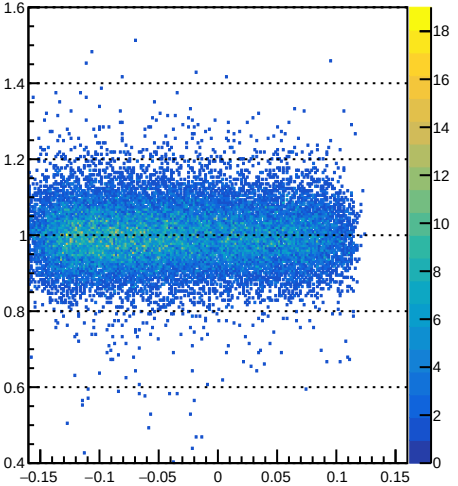
E/p vs Track theta (el. cut)



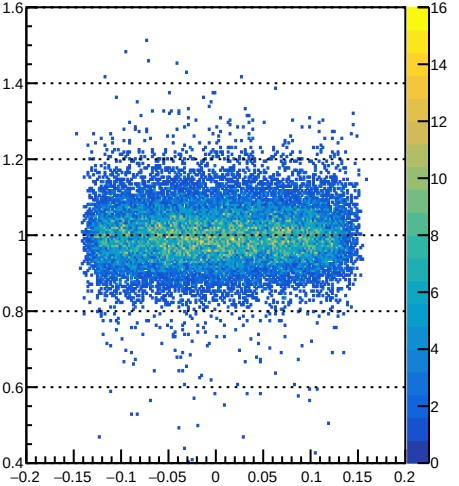
E/p vs Track x | After Calib. (el. cut)



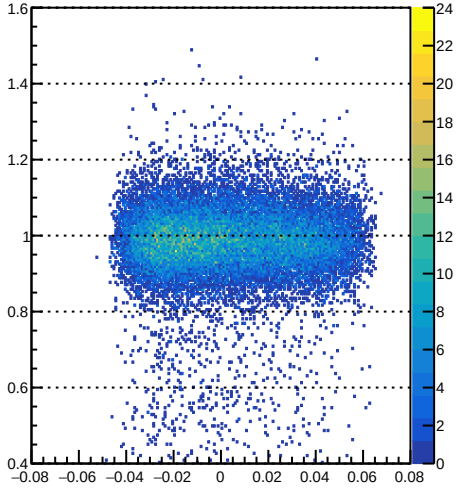
E/p vs Track y | After Calib. (el. cut)



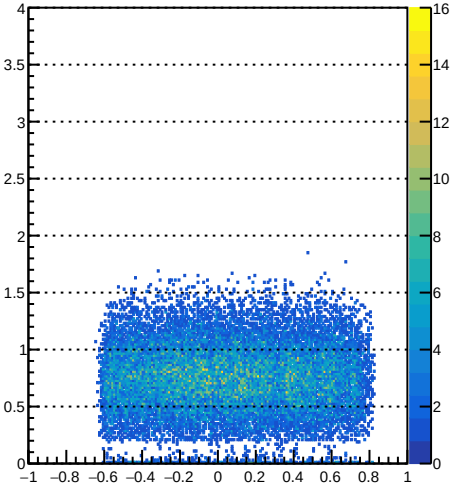
E/p vs Track theta | After Calib. (el. cut)



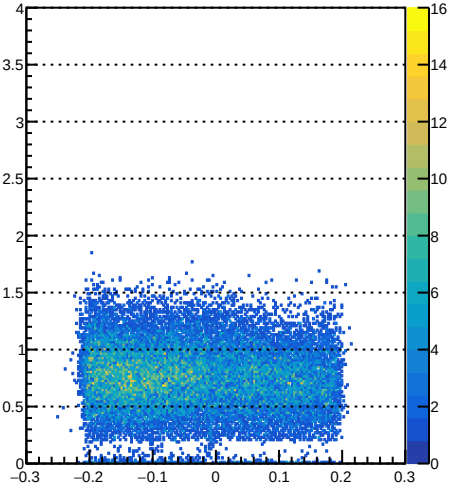
E/p vs Track phi (el. cut)



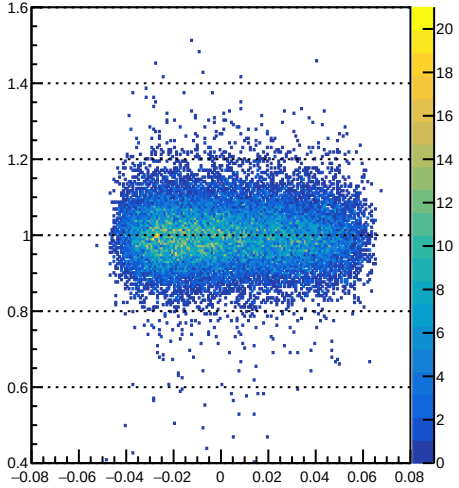
PS energy vs Track x (proj. at PS) (el. cut)



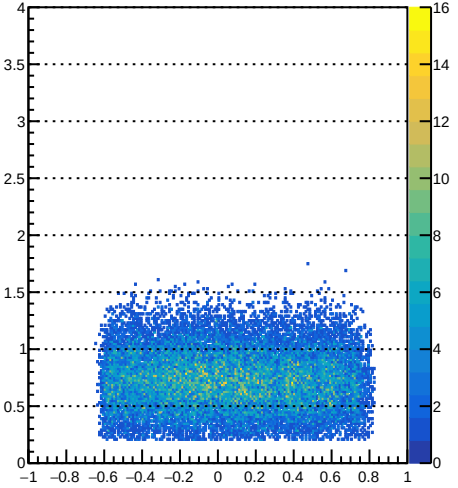
PS energy vs Track y (el. cut) (proj. at PS)



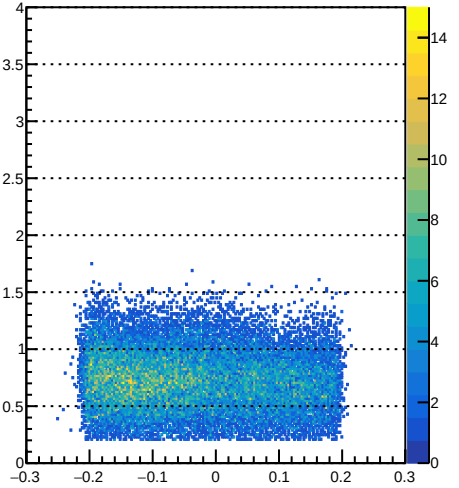
E/p vs Track phi | After Calib. (el. cut)

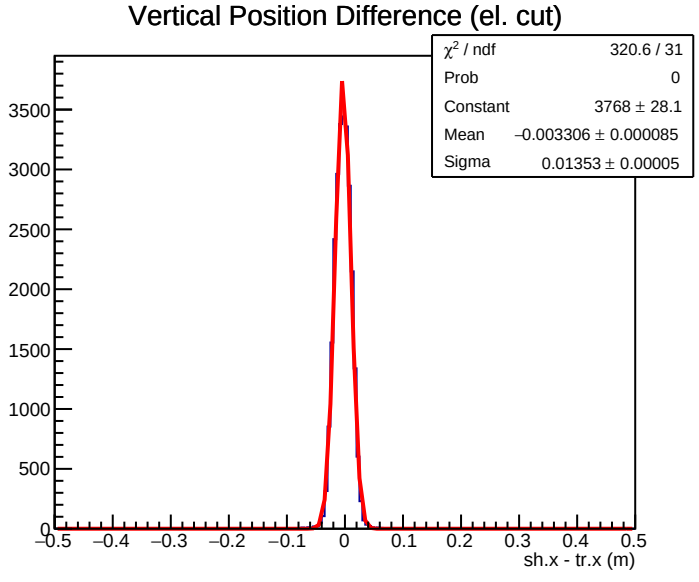


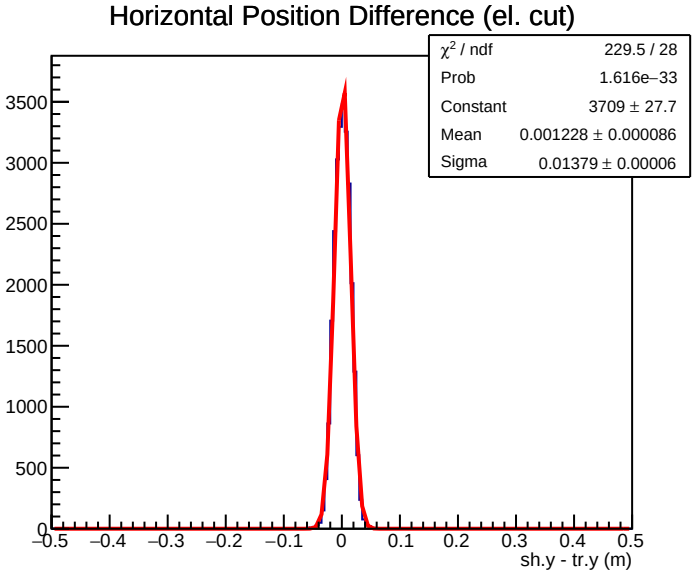
PS energy vs Track x (proj. at PS) | After Calib. (el. cut)

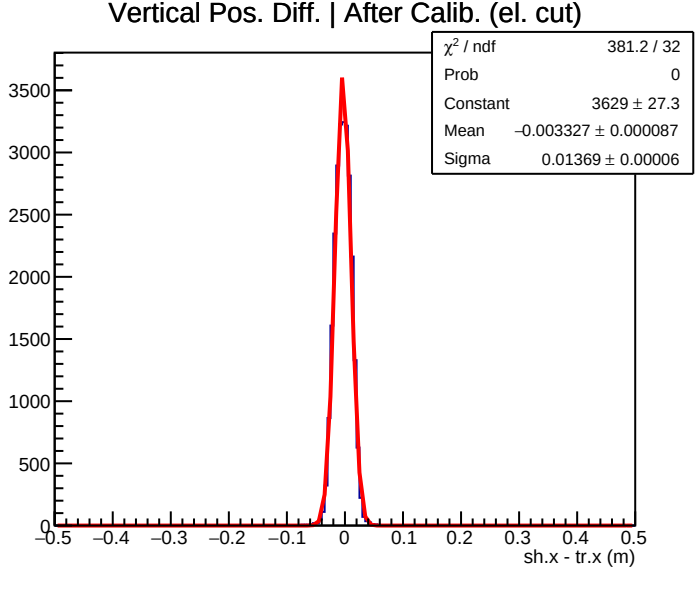


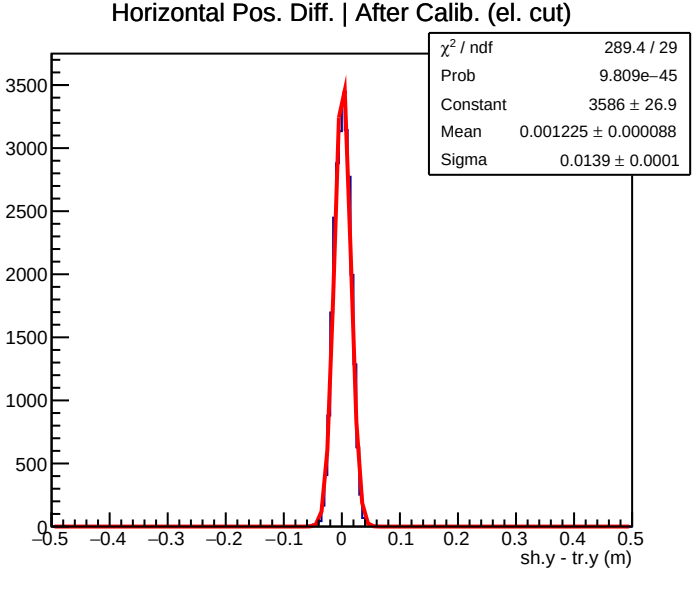
PS energy vs Track y (proj. at PS) | After Calib. (el. cut)

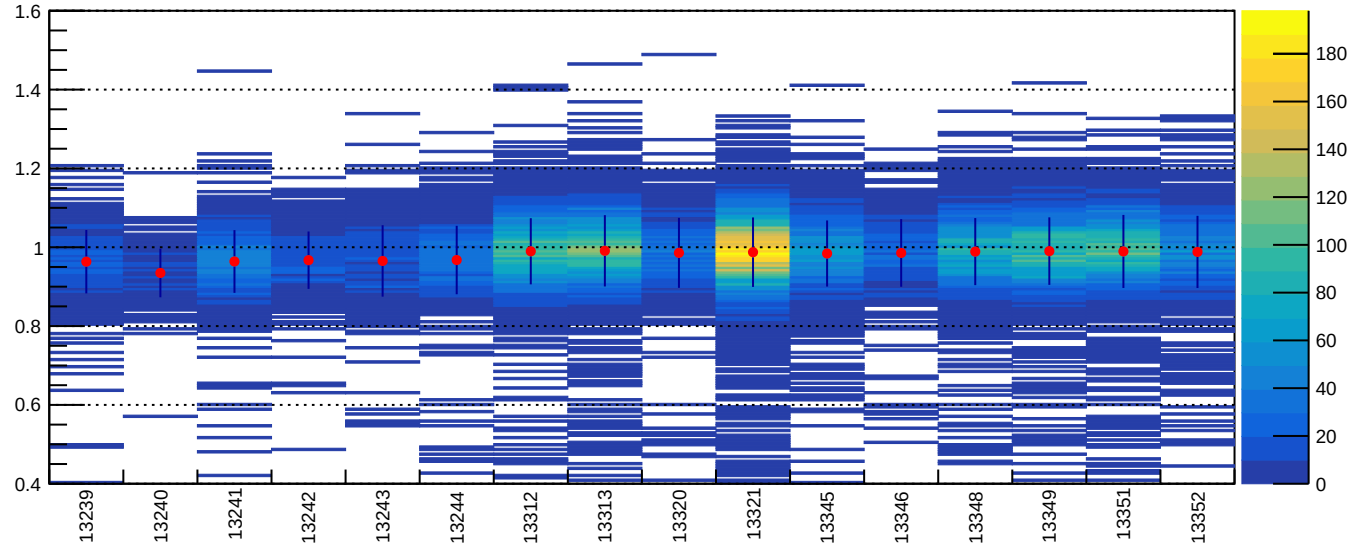


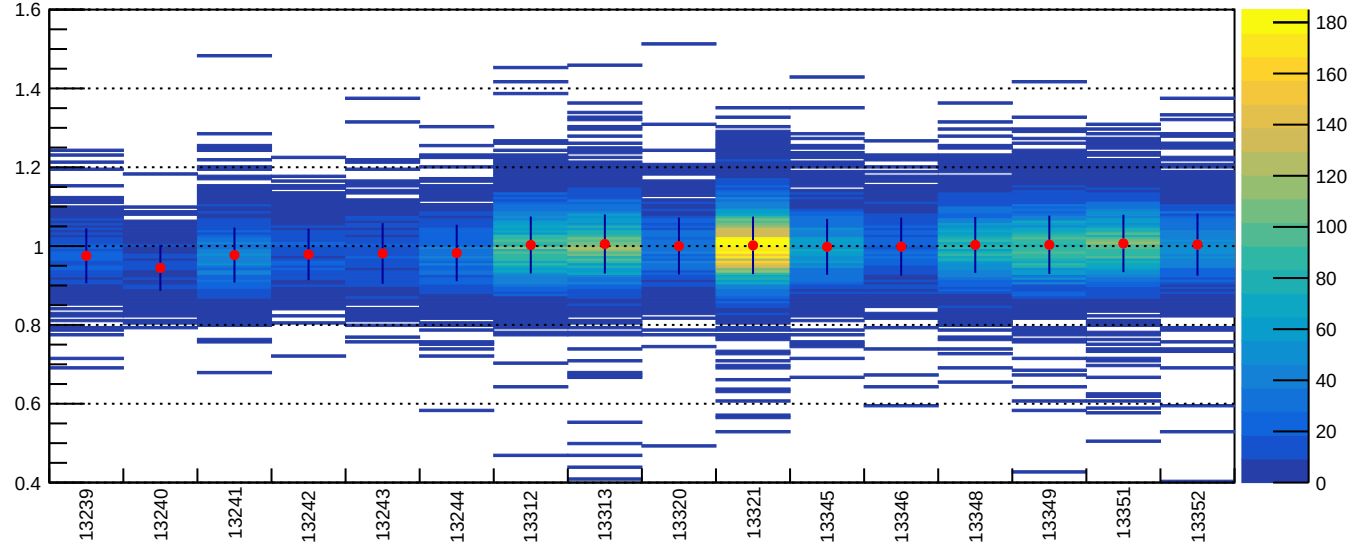

Vertical Position Difference (el. cut)
χ² / ndf 320.6 / 31
Prob 0
Constant 3768 ± 28.1
Mean −0.003306 ± 0.000085
Sigma 0.01353 ± 0.00005
sh.x - tr.x (m)


Horizontal Position Difference (el. cut)
χ² / ndf 229.5 / 28
Prob 1.616e−33
Constant 3709 ± 27.7
Mean 0.001228 ± 0.000086
Sigma 0.01379 ± 0.00006
sh.y - tr.y (m)

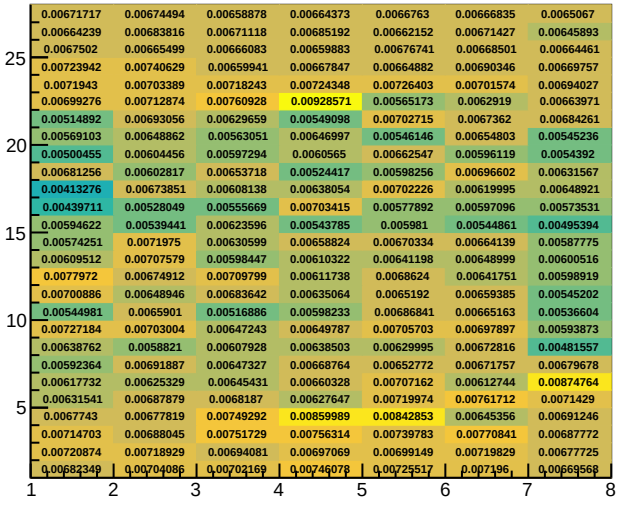

Vertical Pos. Diff. | After Calib. (el. cut)
χ² / ndf 381.2 / 32
Prob 0
Constant 3629 ± 27.3
Mean −0.003327 ± 0.000087
Sigma 0.01369 ± 0.00006
sh.x - tr.x (m)


Horizontal Pos. Diff. | After Calib. (el. cut)
χ² / ndf 289.4 / 29
Prob 9.809e−45
Constant 3586 ± 26.9
Mean 0.001225 ± 0.000088
Sigma 0.0139 ± 0.0001
sh.y - tr.y (m)

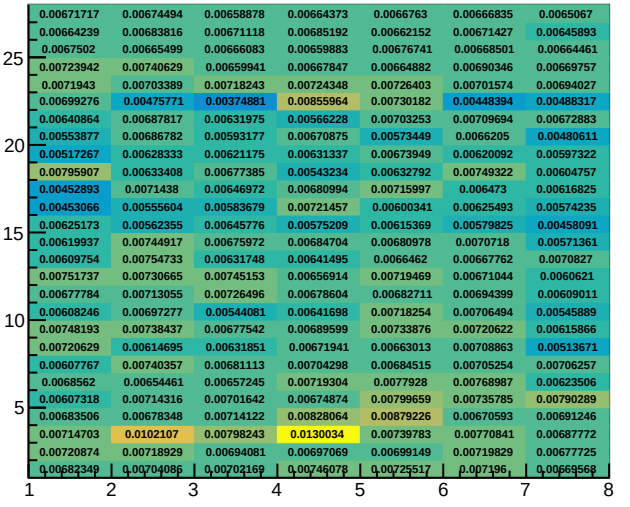

E/p vs Run no. (el. cut)
1.6
1.4
1.2
1
0.8
0.6
0.4
13239
13240
13241
13242
13243
13244
13312
13313
13320
13321
13345
13346
13348
13349
13351
13352
180
160
140
120
100
80
60
40
20
0


E/p vs Run no. | After Calib. (el. cut)
1.6
1.4
1.2
1
0.8
0.6
0.4
13239
13240
13241
13242
13243
13244
13312
13313
13320
13321
13345
13346
13348
13349
13351
13352
180
160
140
120
100
80
60
40
20
0

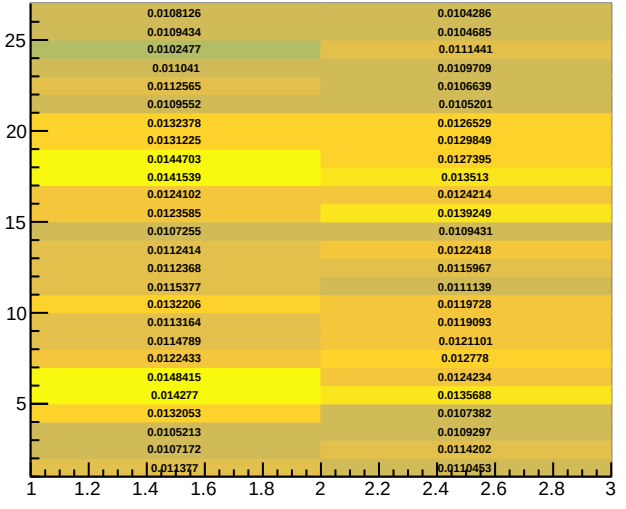
Old ADC Gain Coefficients | SH



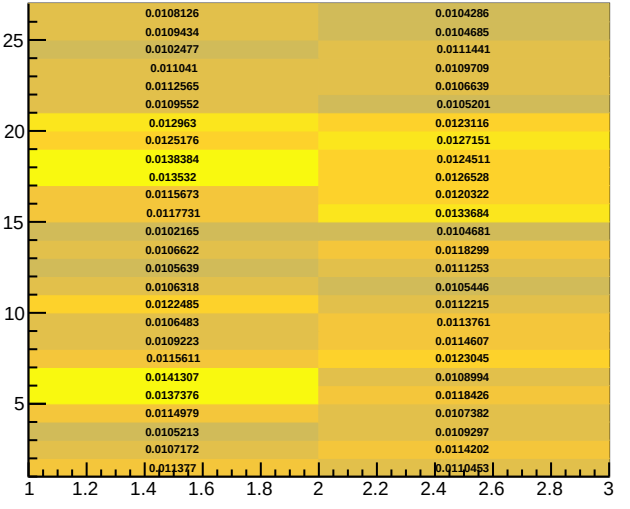
New ADC Gain Coefficients | SH

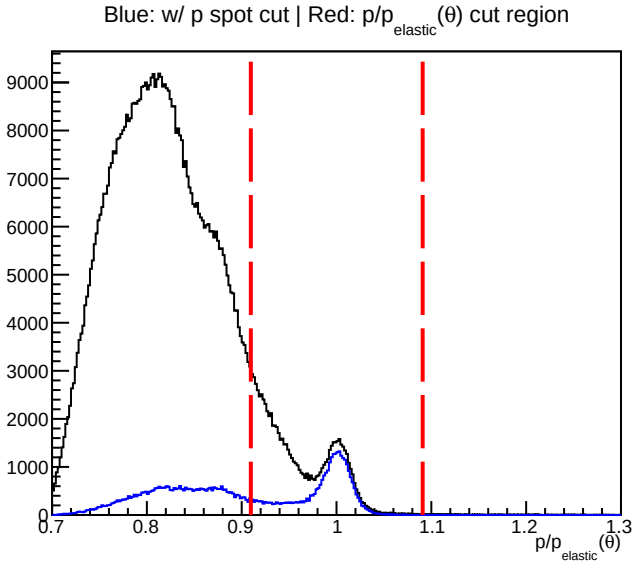


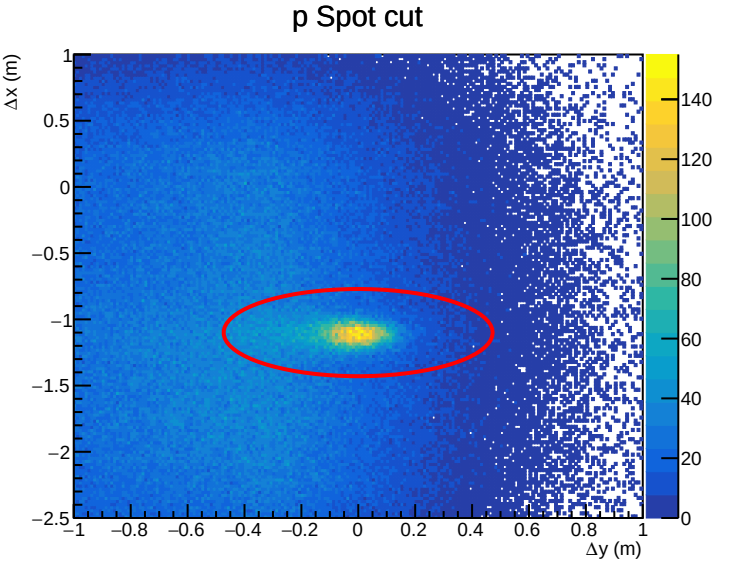
Old ADC Gain Coefficients | PS

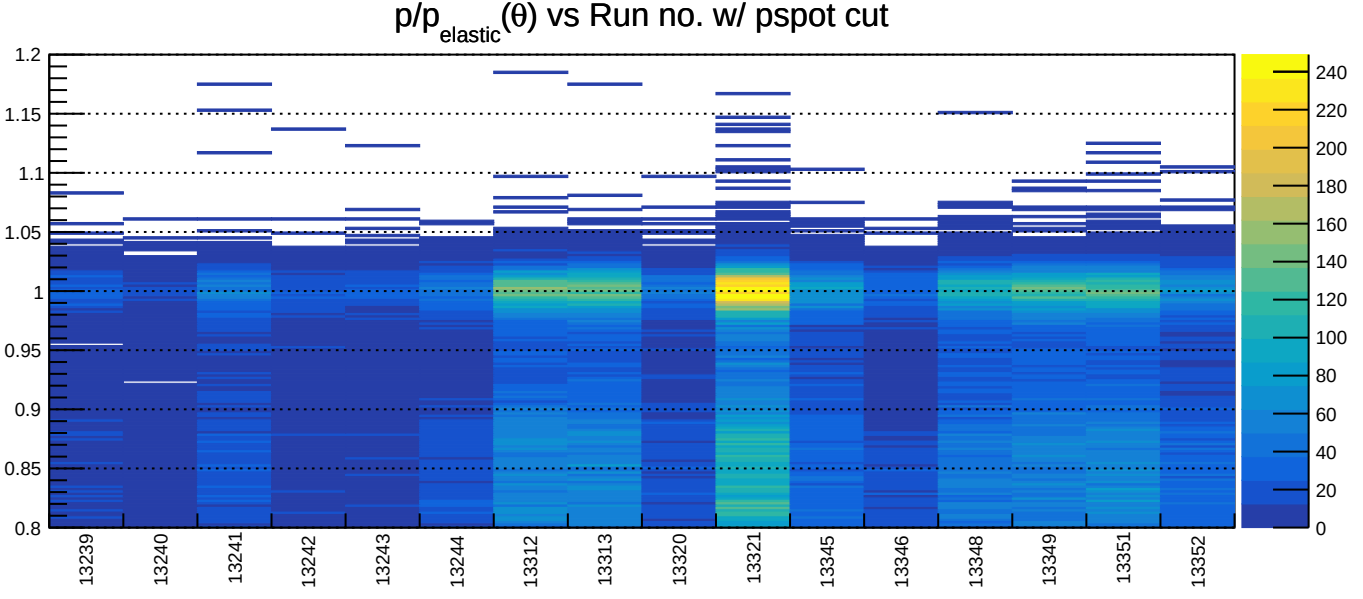


New ADC Gain Coefficients | PS

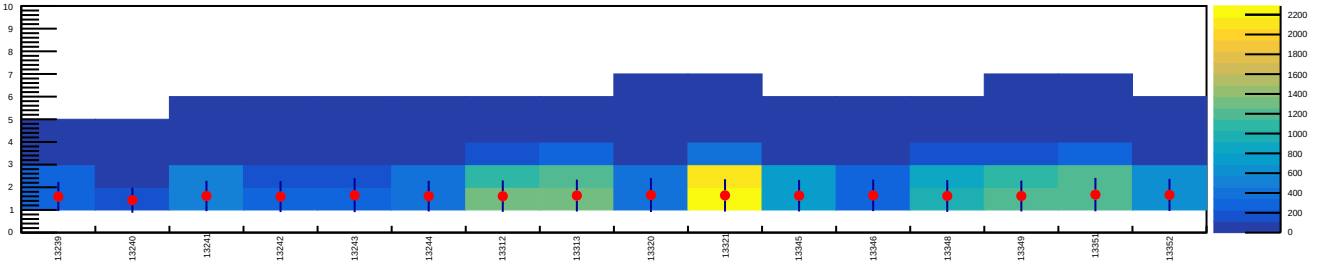



Blue: w/ p spot cut | Red: p/p_elastic(θ) cut region
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0.7
0.8
0.9
1
1.1
1.2
1.3
p/p_elastic(θ)

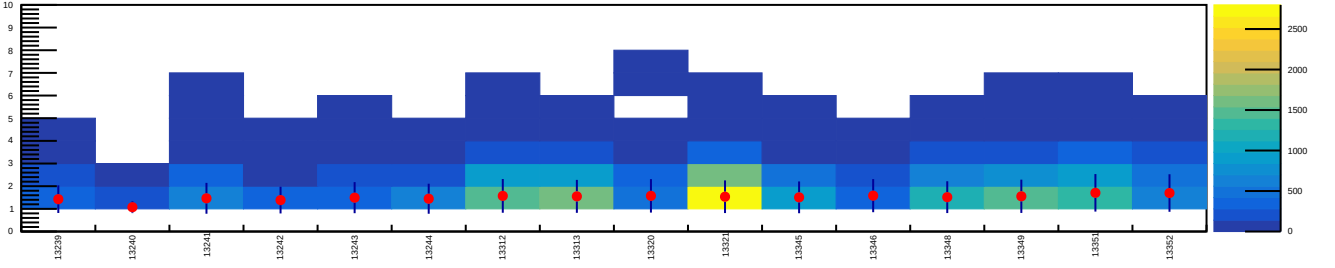

p Spot cut
Δx (m)
1
0.5
0
−0.5
−1
−1.5
−2
−2.5
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1
Δy (m)
140
120
100
80
60
40
20
0


p/p_elastic(θ) vs Run no. w/ pspot cut
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
240
220
200
180
160
140
120
100
80
60
40
20
0
13239
13240
13241
13242
13243
13244
13312
13313
13320
13321
13345
13346
13348
13349
13351
13352

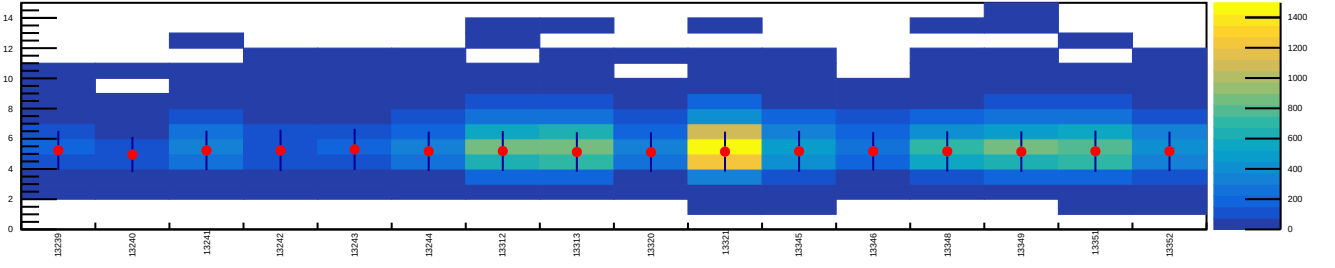
PS (best) cluster size vs Run no. (el. cut)



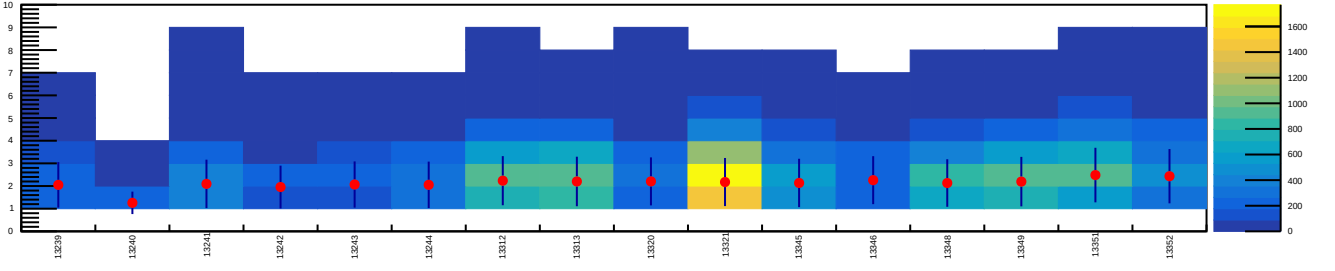
PS cluster multiplicity vs Run no. (el. cut)



SH (best) cluster size vs Run no. (el. cut)



SH cluster multiplicity vs Run no. (el. cut)



Date of creation: 12/8/2023

Configfile: BBCal_replay/macros/Combined_macros/cfg/sbs14-sbs70p.cfg

Total # events analyzed: 5136778, Preparing for replay pass: 2

E/p (before calib.) | μ = 0.99, σ = (6.361 $\pm$ 0.044) p

E/p (after calib.) | μ = 1.00, σ = (6.322 $\pm$ 0.055) p

Global cuts:

bb.tr.n==1, abs(bb.tr.vz[0])<0.08, bb.gem.track.nhits>3,
abs(bb.tr.r_x[0]-0.9*bb.tr.r_th[0]-0.035)<0.335,
PS cluster energy > 0.2 GeV
p_recon > 1.5 GeV/c

 # events passed global cuts: 719770

Elastic cuts:

$|p/p_{el}(\theta) - 1.000| \leq 6.0*0.015$

proton spot cut ranges:

Δx (m): Mean = -1.1000, 4.0σ = 0.0823
Δy (m): Mean = -0.0006, 5.0σ = 0.0946

 # events passed global & elastic cuts: 31840

Other cuts:

Minimum # events per block: 80 | Cluster hit threshold: 0.02 GeV (SH), 0.01 GeV (PS)
Cluster tmax cut: 10.0 ns (SH), 10.0 ns (PS) | Cluster energy fraction cut: 0.0 GeV (SH), 0.0 GeV (PS)

Various offsets:

Momentum fudge factor: 1.00, BBCAL cluster energy scale factor: 1.00

Macro processing time: CPU 424.6s | Real 929.7s