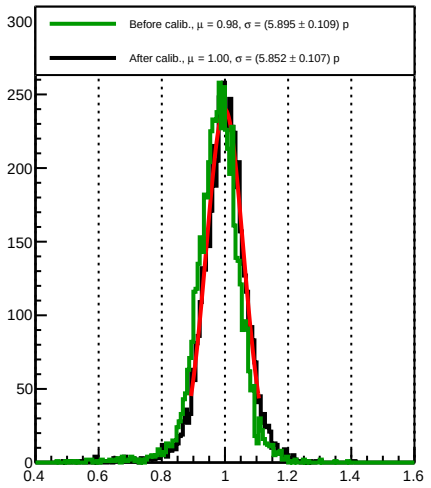
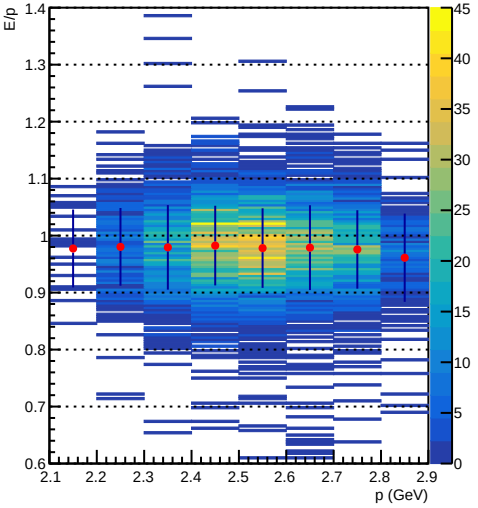
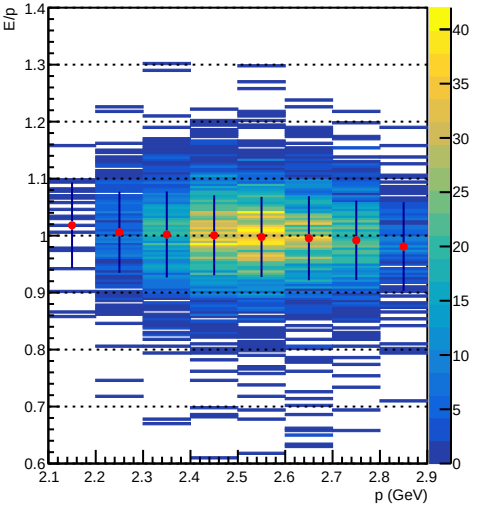
E/p (el. cut)



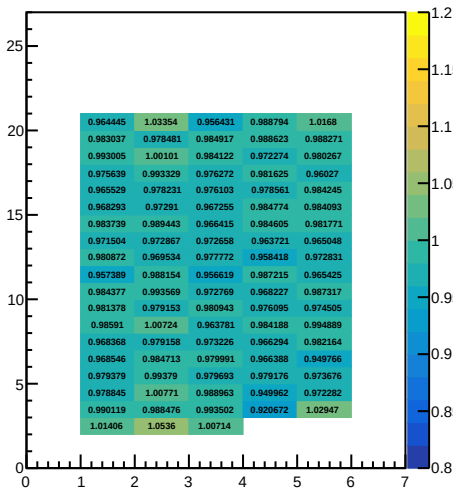
E/p vs p (el. cut)



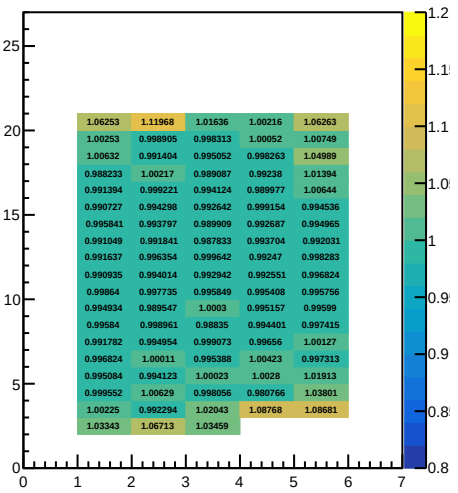
E/p vs p | After Calib. (el. cut)



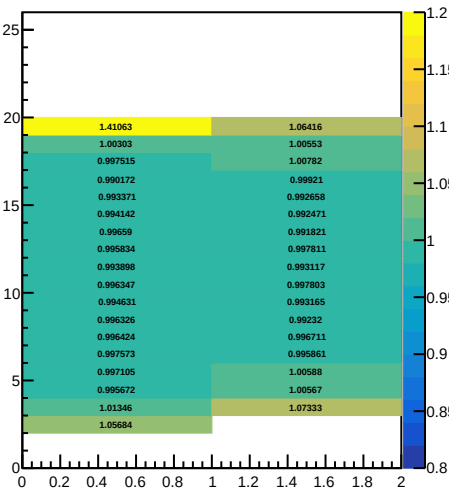
E/p per SH block (el. cut)



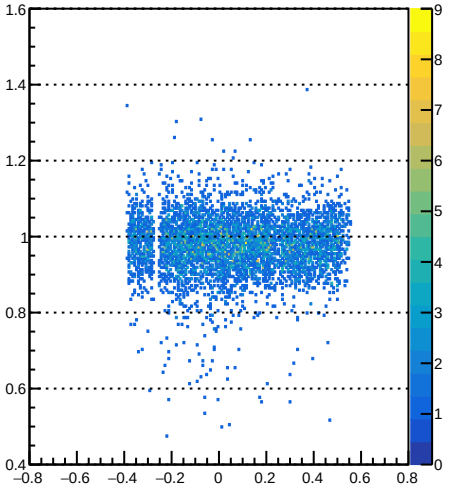
E/p per SH block | After Calib. (el. cut)



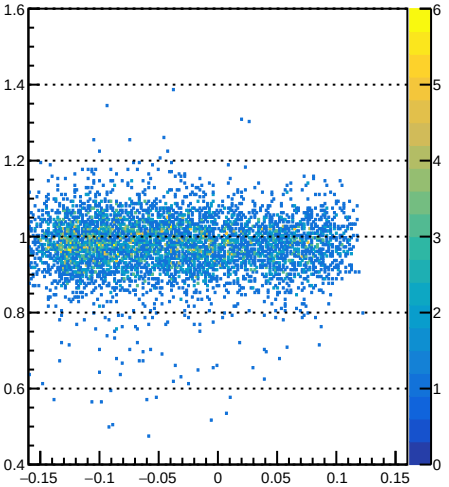
E/p per PS block | After Calib. (el. cut)



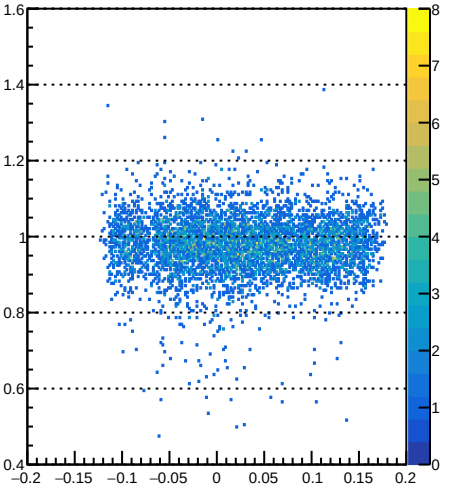
E/p vs Track x (el. cut)



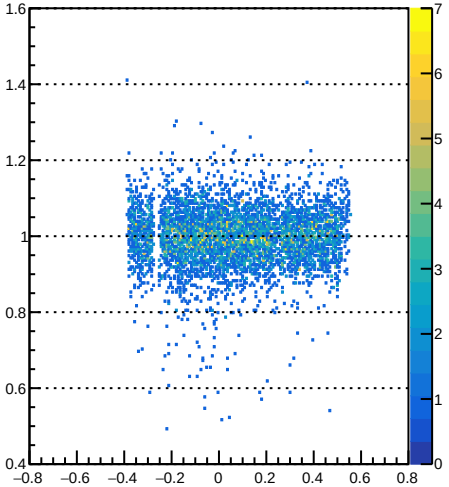
E/p vs Track y (el. cut)



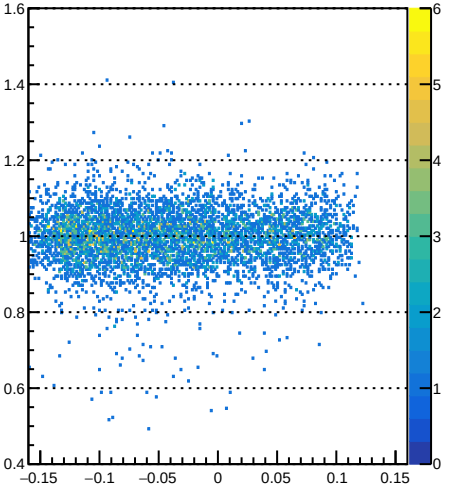
E/p vs Track theta (el. cut)



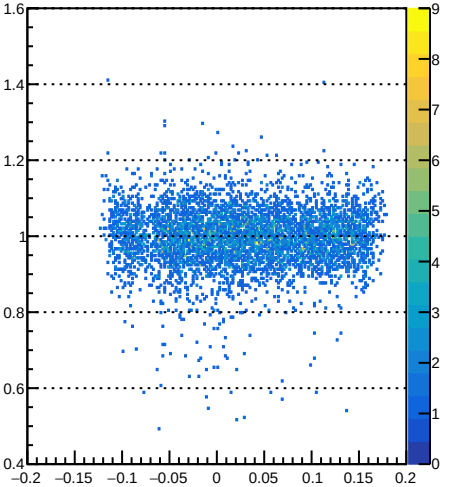
E/p vs Track x | After Calib. (el. cut)



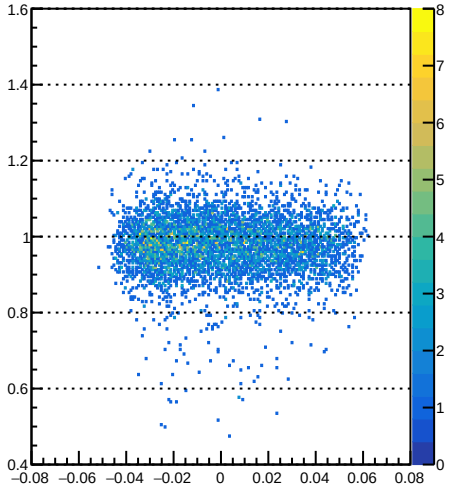
E/p vs Track y | After Calib. (el. cut)



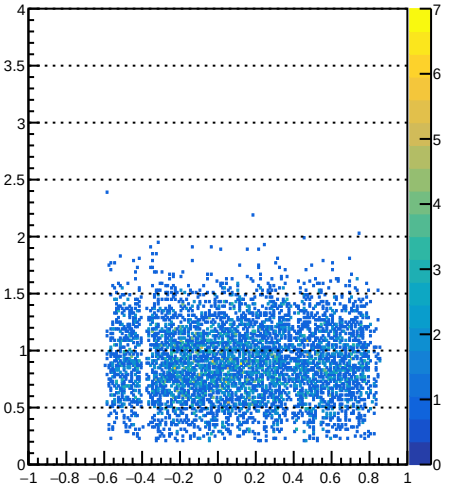
E/p vs Track theta | After Calib. (el. cut)



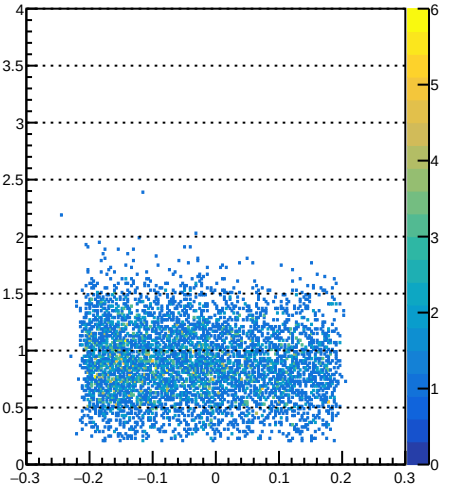
E/p vs Track phi (el. cut)



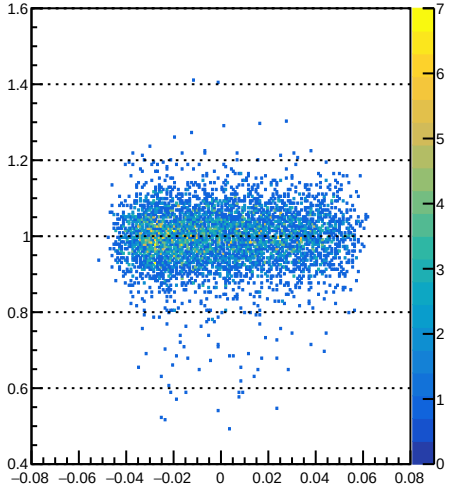
PS energy vs Track x (proj. at PS) (el. cut)



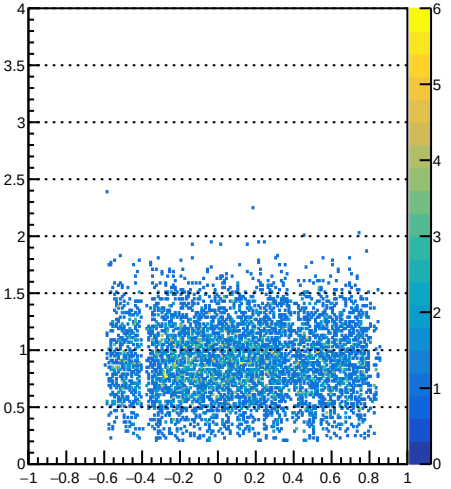
PS energy vs Track y (el. cut) (proj. at PS)



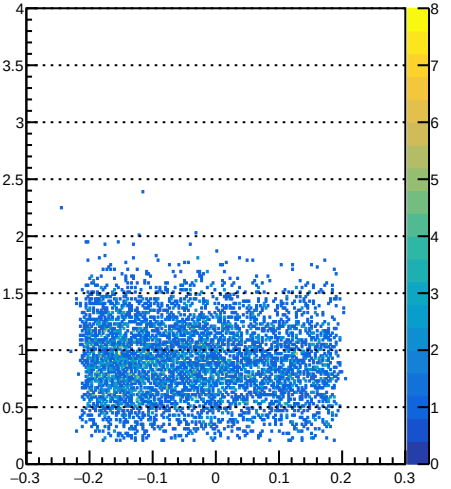
E/p vs Track phi | After Calib. (el. cut)

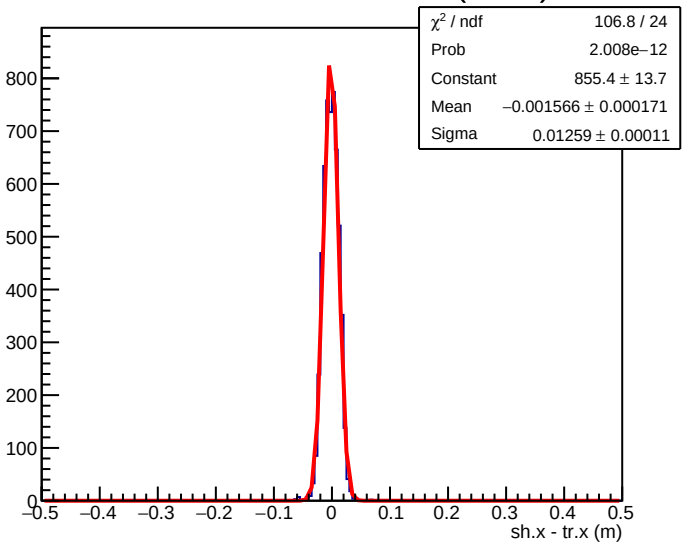


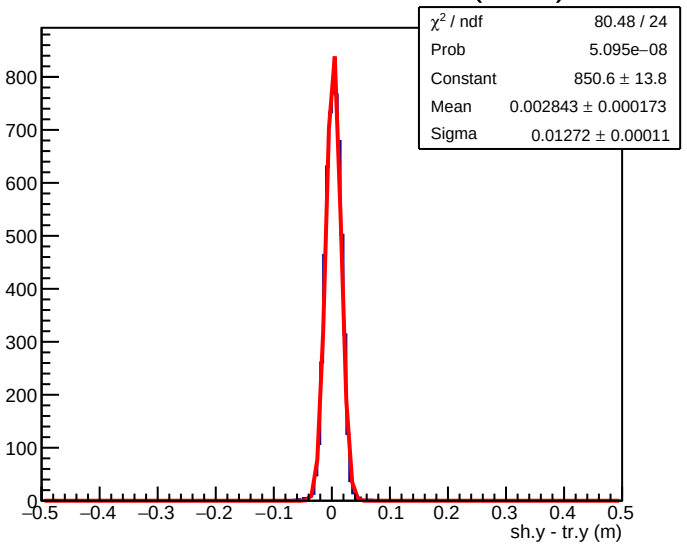
PS energy vs Track x (proj. at PS) | After Calib. (el. cut)

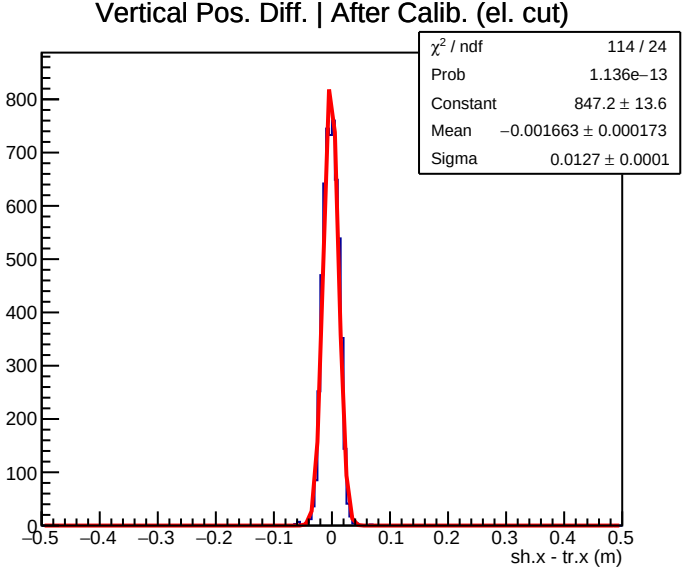


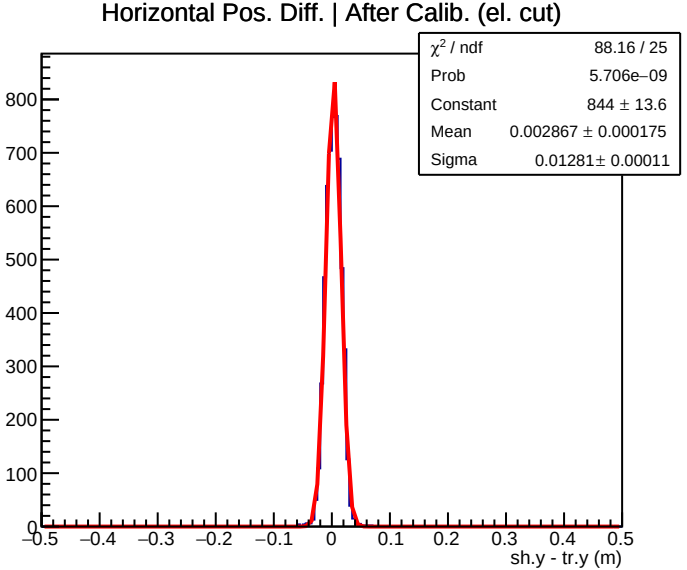
PS energy vs Track y (proj. at PS) | After Calib. (el. cut)

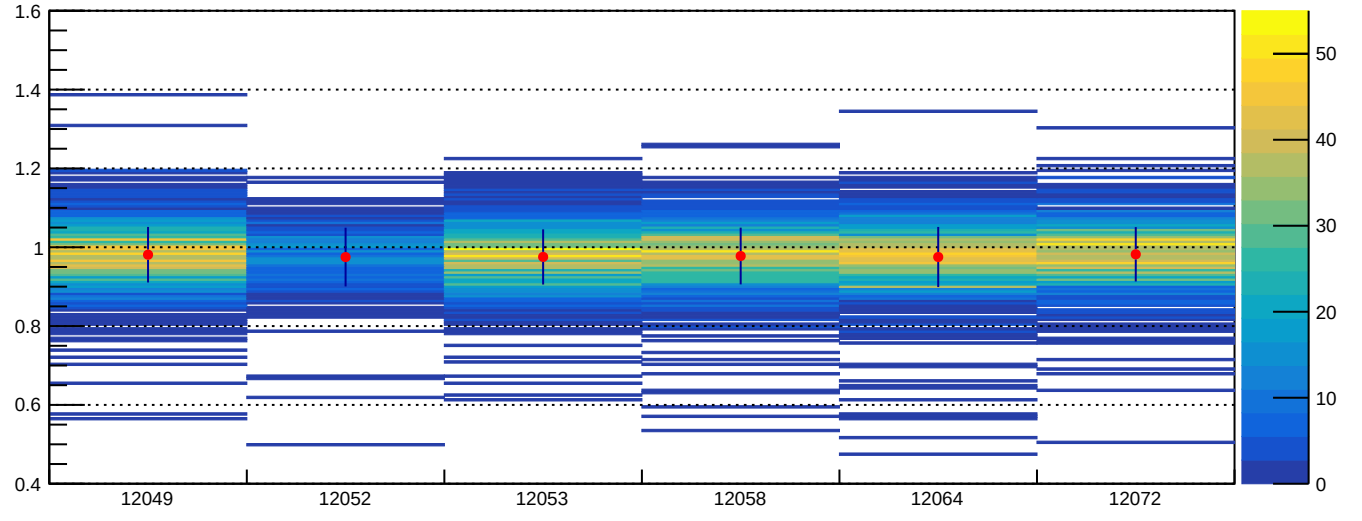


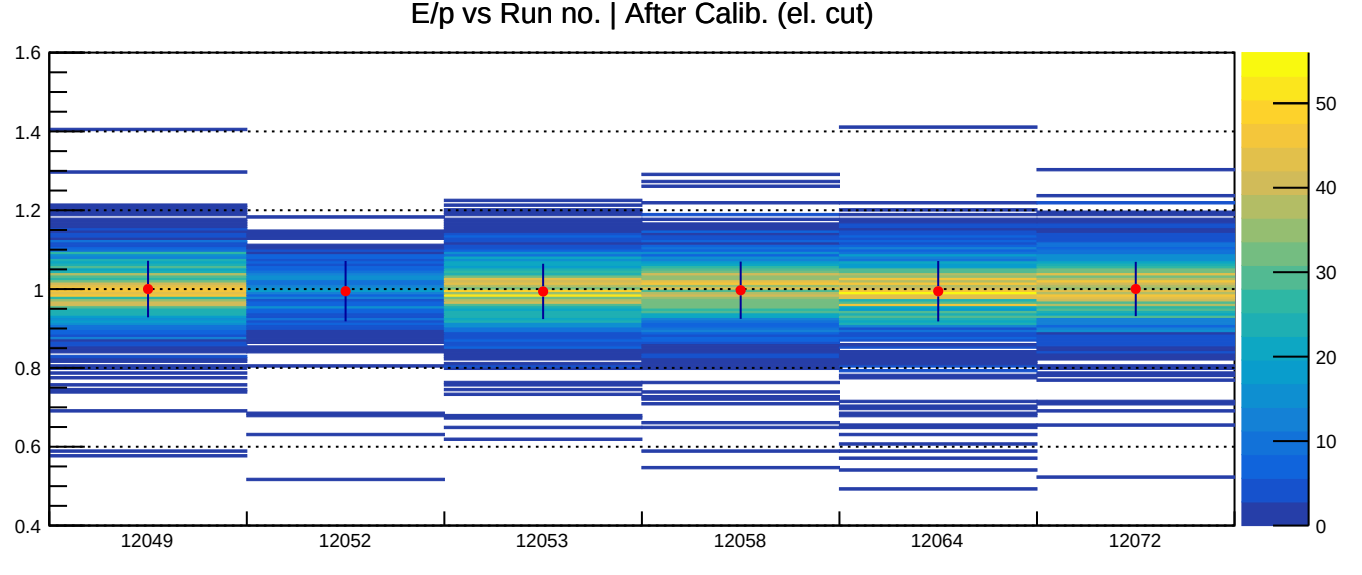

Vertical Position Difference (el. cut)
χ² / ndf 106.8 / 24
Prob 2.008e−12
Constant 855.4 ± 13.7
Mean −0.001566 ± 0.000171
Sigma 0.01259 ± 0.00011
sh.x - tr.x (m)


Horizontal Position Difference (el. cut)
χ² / ndf 80.48 / 24
Prob 5.095e−08
Constant 850.6 ± 13.8
Mean 0.002843 ± 0.000173
Sigma 0.01272 ± 0.00011
sh.y - tr.y (m)

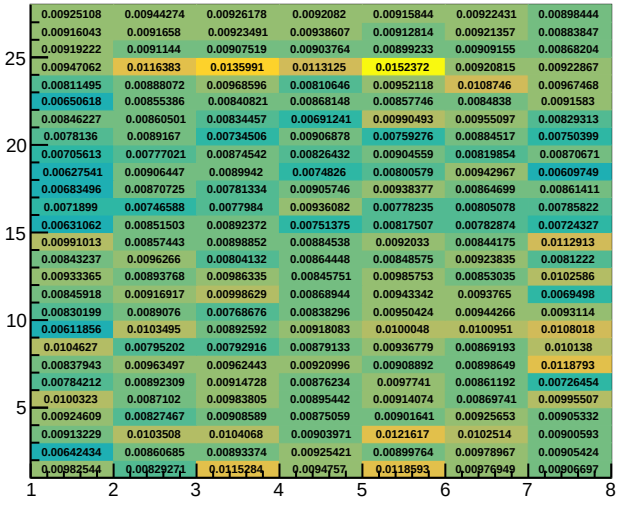

Vertical Pos. Diff. | After Calib. (el. cut)
χ² / ndf 114 / 24
Prob 1.136e−13
Constant 847.2 ± 13.6
Mean −0.001663 ± 0.000173
Sigma 0.0127 ± 0.0001
sh.x - tr.x (m)


Horizontal Pos. Diff. | After Calib. (el. cut)
χ² / ndf 88.16 / 25
Prob 5.706e−09
Constant 844 ± 13.6
Mean 0.002867 ± 0.000175
Sigma 0.01281± 0.00011
sh.y - tr.y (m)

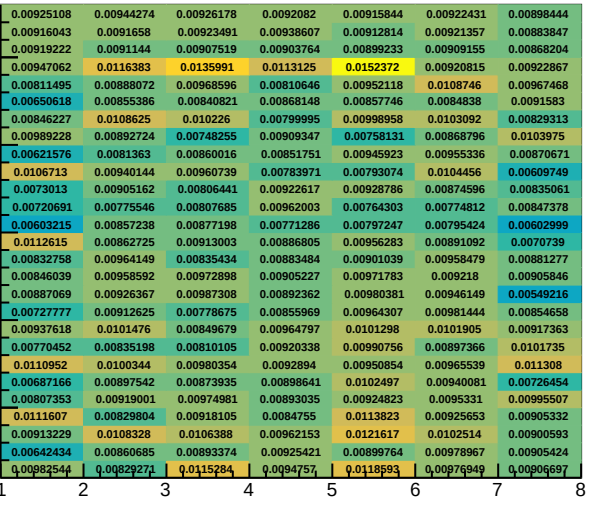

E/p vs Run no. (el. cut)
1.6
1.4
1.2
1
0.8
0.6
0.4
12049
12052
12053
12058
12064
12072
50
40
30
20
10
0


E/p vs Run no. | After Calib. (el. cut)
1.6
1.4
1.2
1
0.8
0.6
0.4
12049
12052
12053
12058
12064
12072
50
40
30
20
10
0

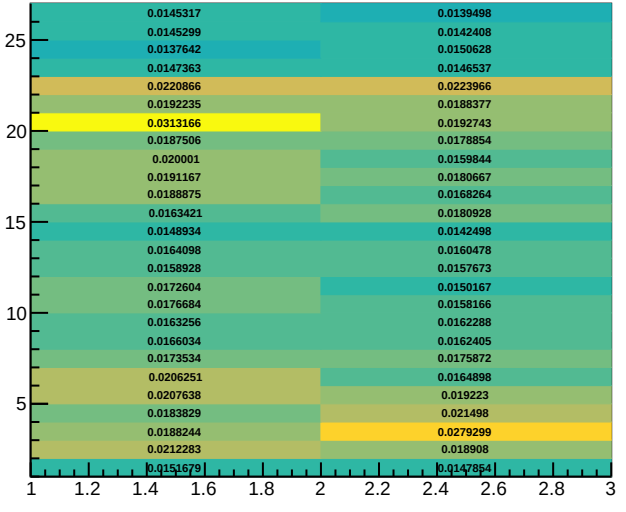
Old ADC Gain Coefficients | SH



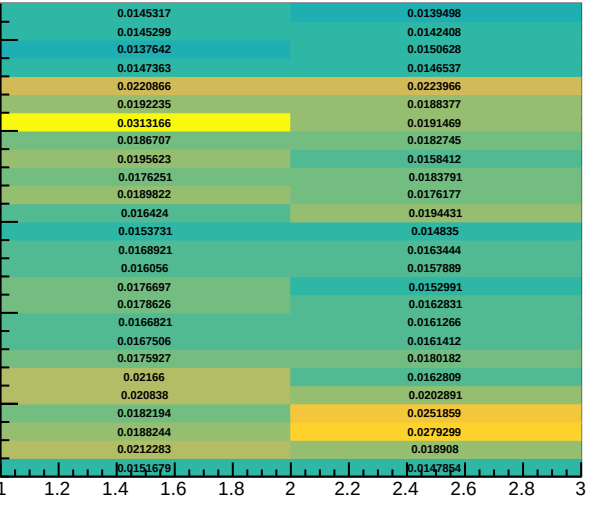
New ADC Gain Coefficients | SH

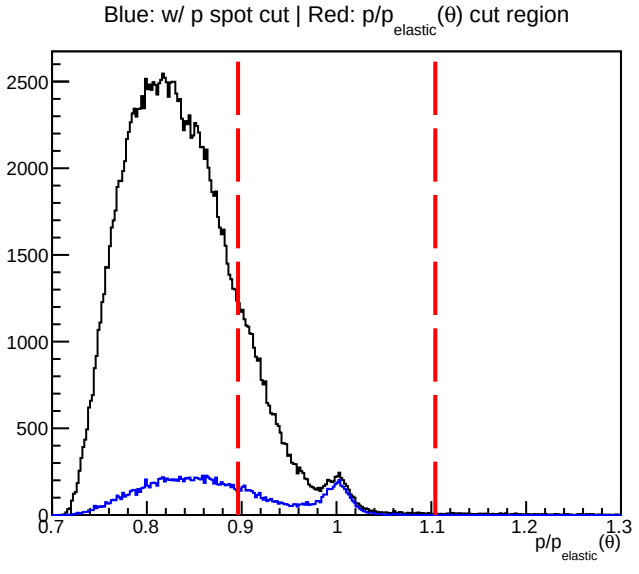


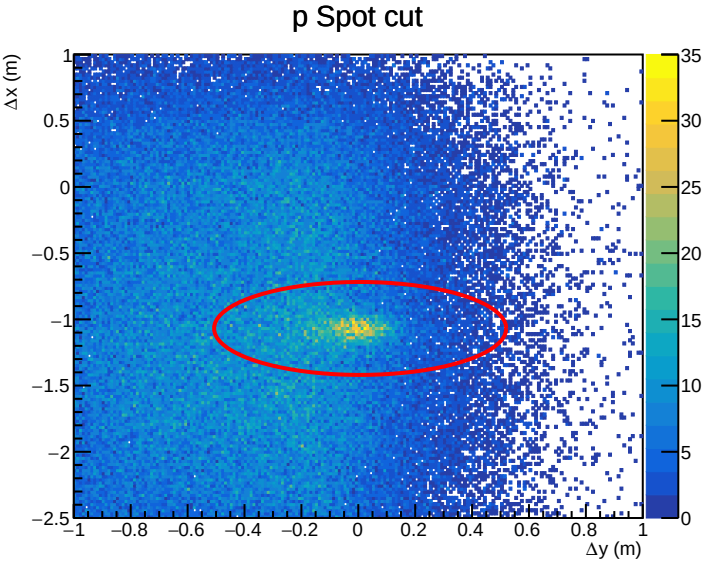
Old ADC Gain Coefficients | PS

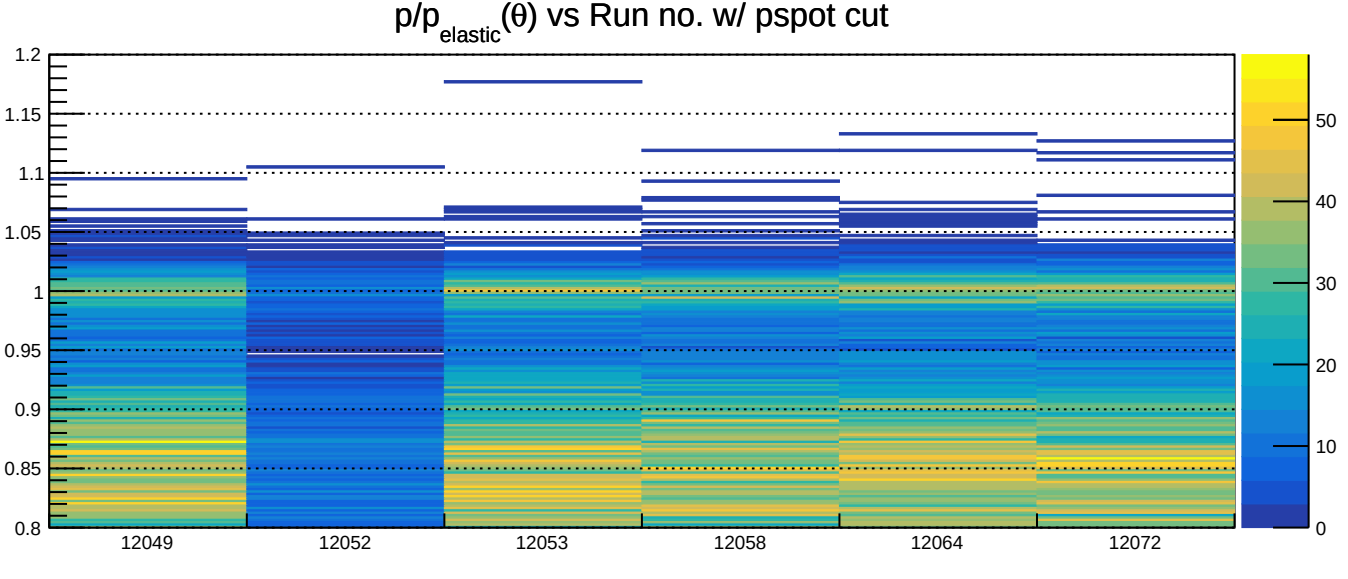


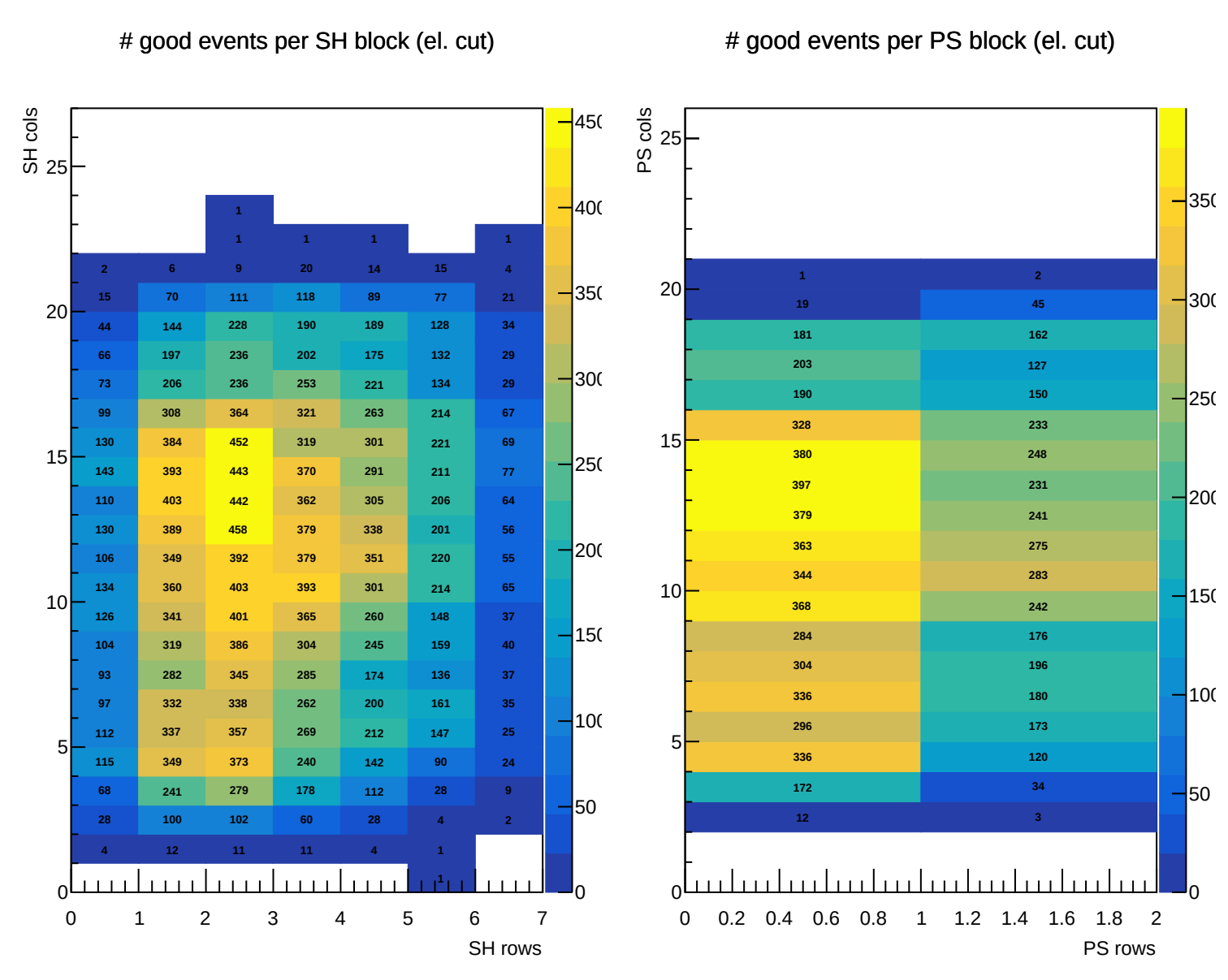
New ADC Gain Coefficients | PS



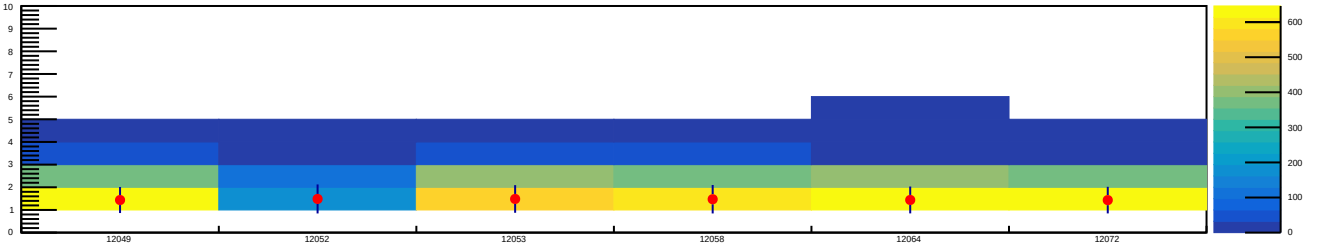

Blue: w/ p spot cut | Red: p/p_elastic(θ) cut region
2500
2000
1500
1000
500
0
0.7
0.8
0.9
1
1.1
1.2
1.3
p/p_elastic(θ)


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)
35
30
25
20
15
10
5
0

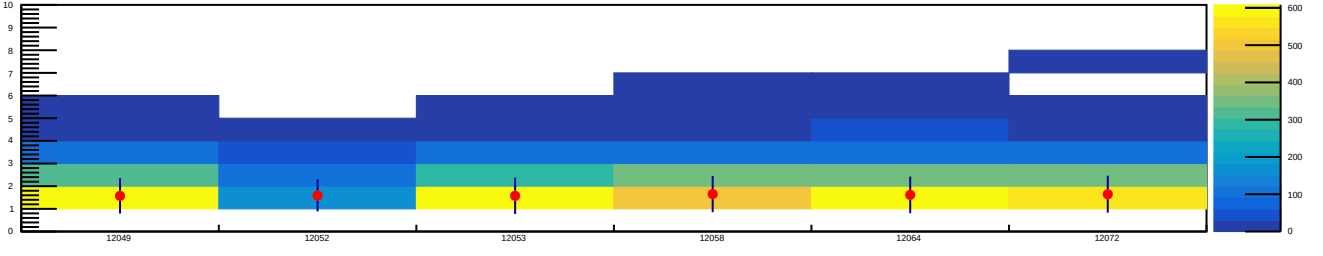

p/p_elastic(θ) vs Run no. w/ pspot cut
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
12049
12052
12053
12058
12064
12072
50
40
30
20
10
0


good events per SH block (el. cut)
SH cols
SH rows
good events per PS block (el. cut)
PS cols
PS rows

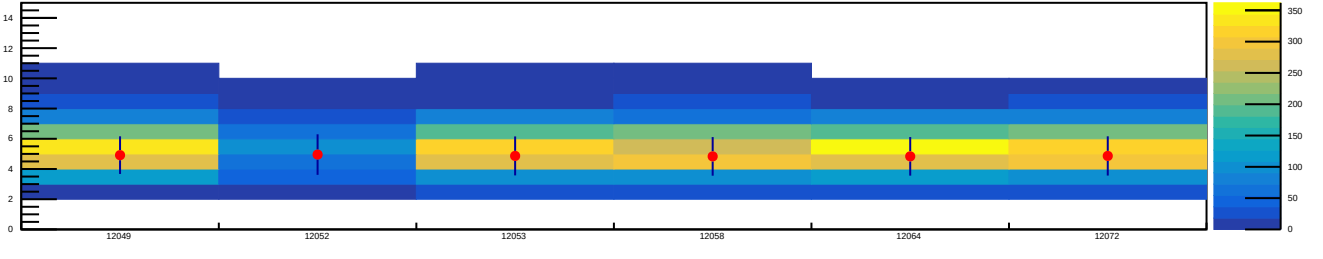
PS (best) cluster size vs Run no. (el. cut)



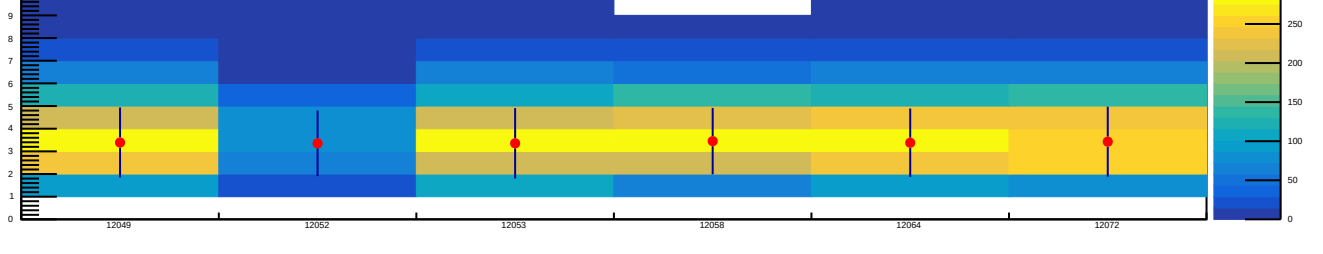
PS cluster multiplicity vs Run no. (el. cut)



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



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



Date of creation: 12/10/2023

Configfile: BBCal_replay/macros/Combined_macros/cfg/sbs7-sbs85p-set2.cfg

Total # events analyzed: 2477118, Preparing for replay pass: 2

E/p (before calib.) | μ = 0.98, σ = (5.895 $\pm$ 0.109) p

E/p (after calib.) | μ = 1.00, σ = (5.852 $\pm$ 0.107) 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]-0.005)<0.33,
PS cluster energy > 0.2 GeV
p_recon > 2.1 GeV/c

 # events passed global cuts: 186107

Elastic cuts:

$|p/p_{el}(\theta) - 1.000| \leq 8.0*0.013$

proton spot cut ranges:

Δx (m): Mean = -1.0686, 5.0σ = 0.0702
Δy (m): Mean = 0.0066, 6.0σ = 0.0856

 # events passed global & elastic cuts: 6716

Other cuts:

Minimum # events per block: 30 | 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 160.0s | Real 198.1s