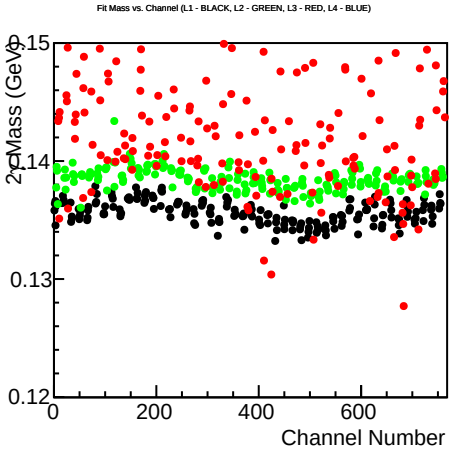
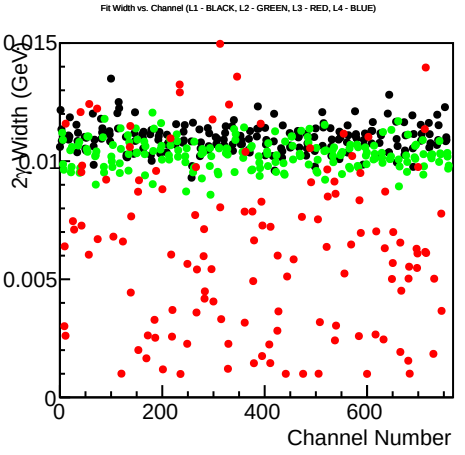
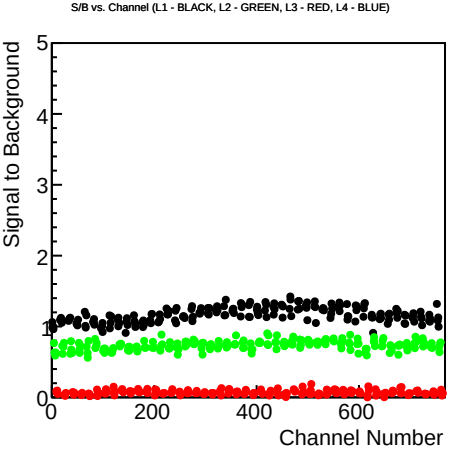
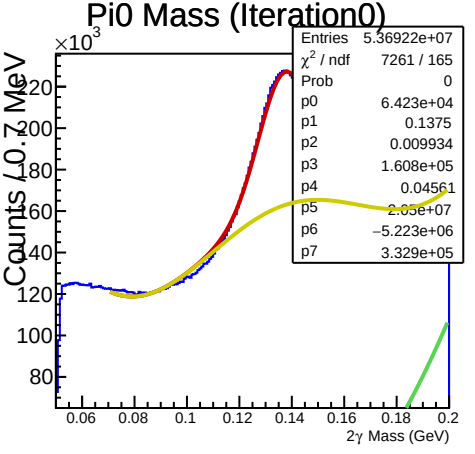
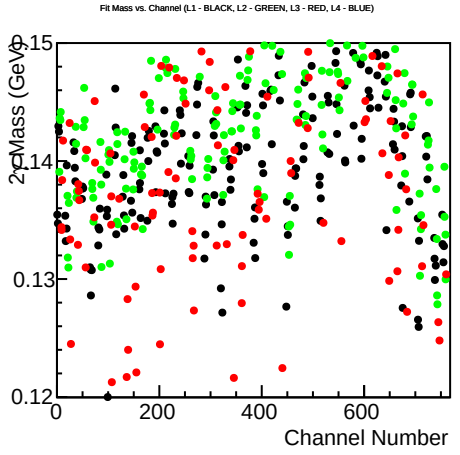
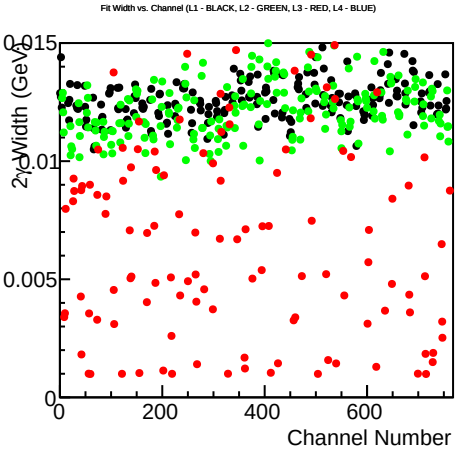

Fit Mass vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Mass (GeV)
0.15
0.14
0.13
0.12
0
200
400
600
Channel Number

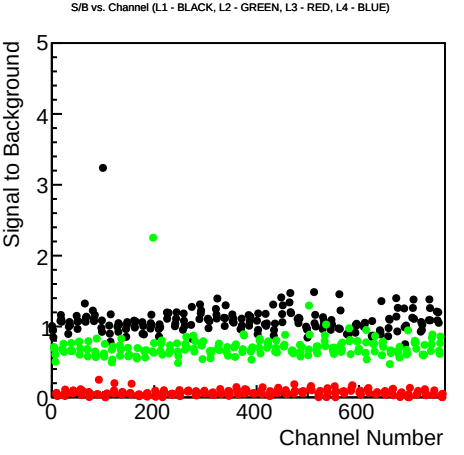

Fit Width vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Width (GeV)
0.015
0.01
0.005
0
0
200
400
600
Channel Number

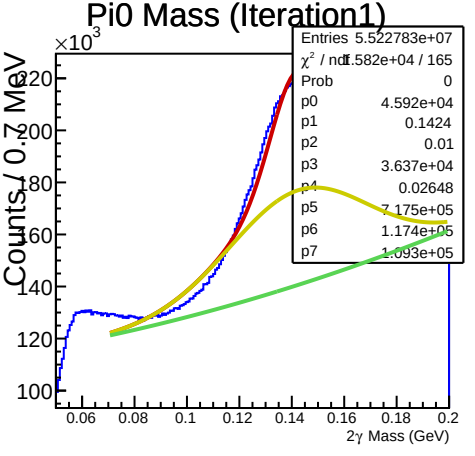

S/B vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
Signal to Background
5
4
3
2
1
0
0
200
400
600
Channel Number

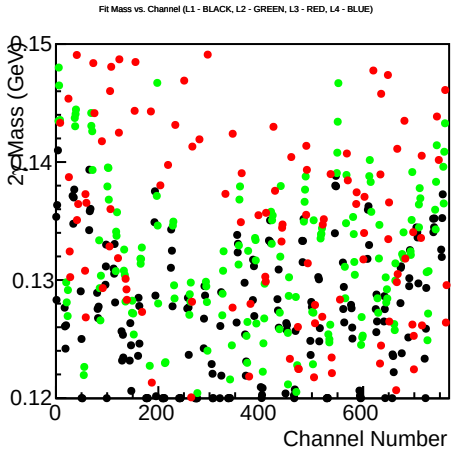

Pi0 Mass (Iteration0)
Counts /0.7 MeV
×10³
220
200
180
160
140
120
100
80
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
2γ Mass (GeV)
Entries 5.36922e+07
χ² / ndf 7261 / 165
Prob 0
p0 6.423e+04
p1 0.1375
p2 0.009934
p3 1.608e+05
p4 0.04561
p5 2.03e+07
p6 −5.223e+06
p7 3.329e+05

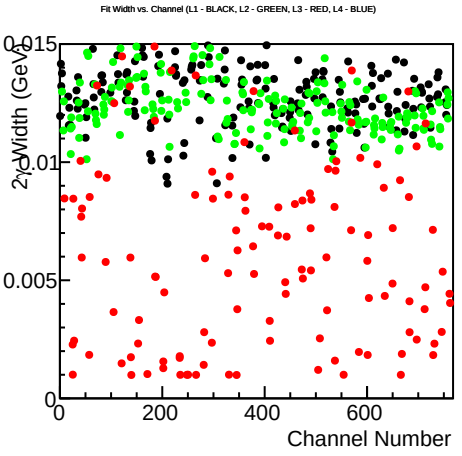

Fit Mass vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Mass (GeV)
0.15
0.14
0.13
0.12
0
200
400
600
Channel Number

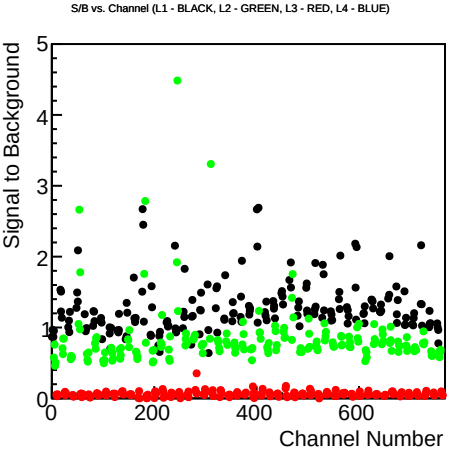

Fit Width vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Width (GeV)
0.015
0.01
0.005
0
200
400
600
Channel Number

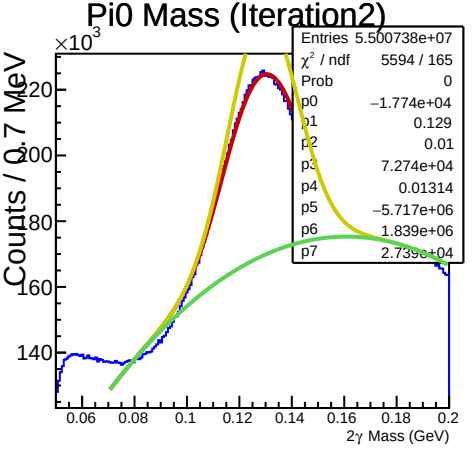

S/B vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
Signal to Background
5
4
3
2
1
0
200
400
600
Channel Number

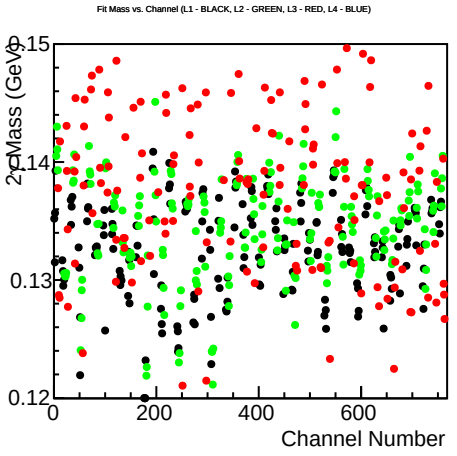

Pi0 Mass (Iteration1)
×10³
Counts / 0.7 MeV
220
200
180
160
140
120
100
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
2γ Mass (GeV)
Entries 5.522783e+07
χ² / ndf 1.582e+04 / 165
Prob 0
p0 4.592e+04
p1 0.1424
p2 0.01
p3 3.637e+04
p4 0.02648
p5 7.175e+05
p6 1.174e+05
p7 1.093e+05

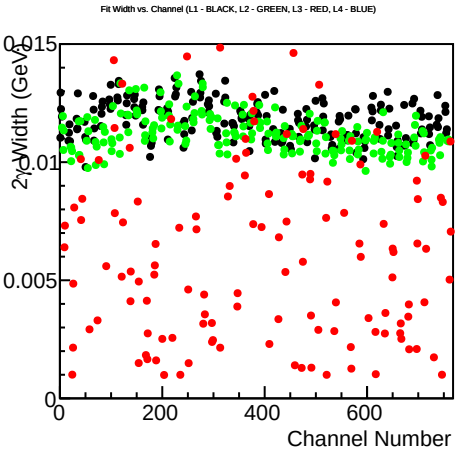

Fit Mass vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Mass (GeV)
0.15
0.14
0.13
0.12
0
200
400
600
Channel Number

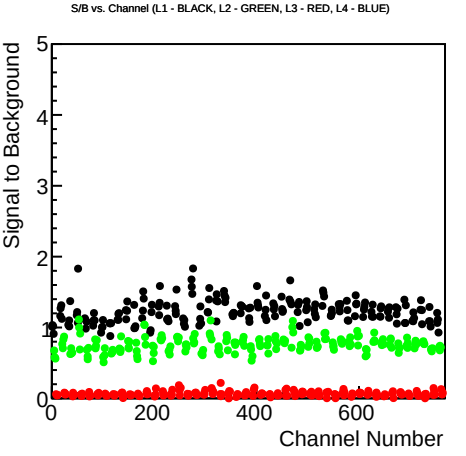

Fit Width vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Width (GeV)
0.015
0.01
0.005
0
200
400
600
Channel Number

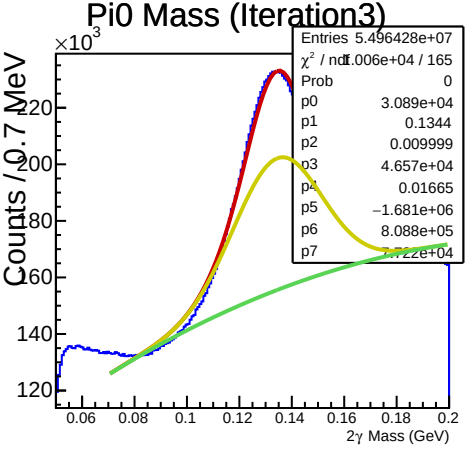

S/B vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
Signal to Background
5
4
3
2
1
0
200
400
600
Channel Number

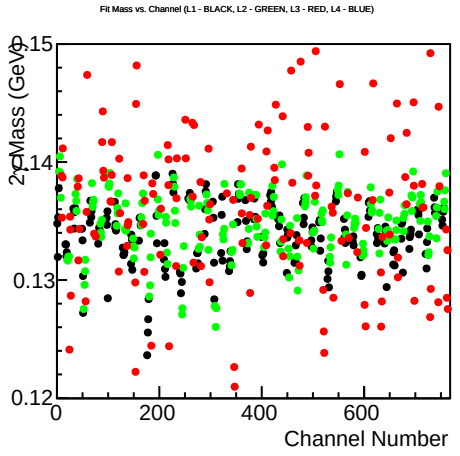

Pi0 Mass (Iteration2)
×10³
Counts / 0.7 MeV
220
200
180
160
140
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
2γ Mass (GeV)
Entries 5.500738e+07
χ² / ndf 5594 / 165
Prob 0
p0 −1.774e+04
p1 0.129
p2 0.01
p3 7.274e+04
p4 0.01314
p5 −5.717e+06
p6 1.839e+06
p7 2.739e+04

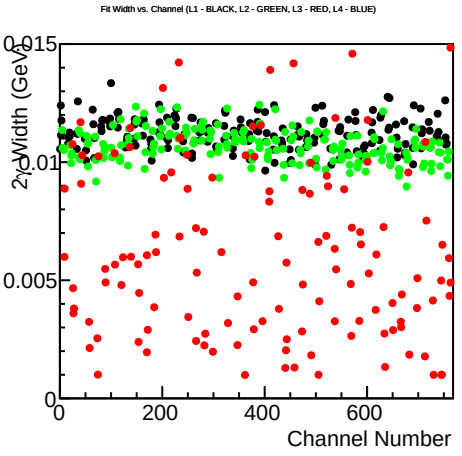

Fit Mass vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Mass (GeV)
0.15
0.14
0.13
0.12
0
200
400
600
Channel Number

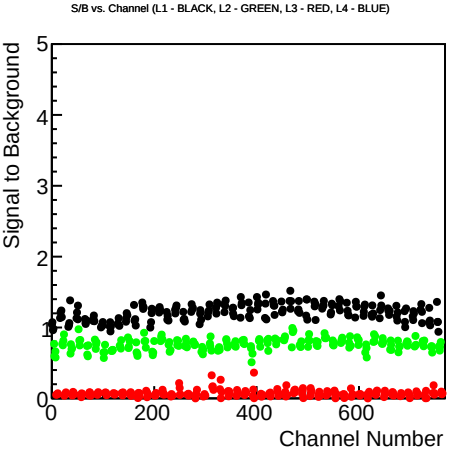

Fit Width vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Width (GeV)
0.015
0.01
0.005
0
200
400
600
Channel Number

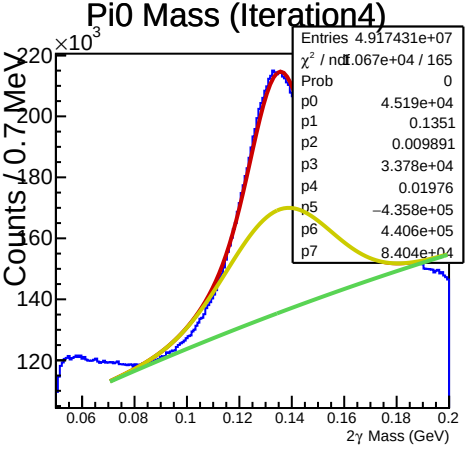

S/B vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
Signal to Background
5
4
3
2
1
0
200
400
600
Channel Number

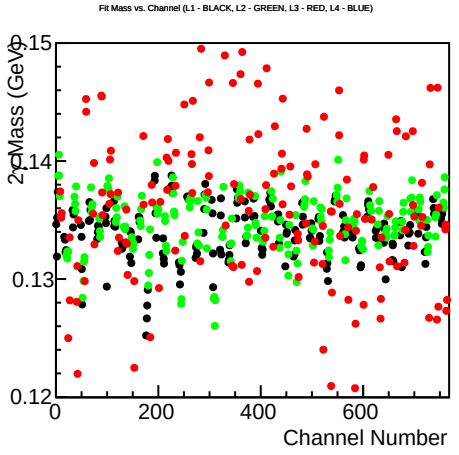

Pi0 Mass (Iteration3)
×10³
Counts / 0.7 MeV
220
200
180
160
140
120
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
2γ Mass (GeV)
Entries 5.496428e+07
χ² / ndf 1.006e+04 / 165
Prob 0
p0 3.089e+04
p1 0.1344
p2 0.009999
p3 4.657e+04
p4 0.01665
p5 −1.681e+06
p6 8.088e+05
p7 7.722e+04

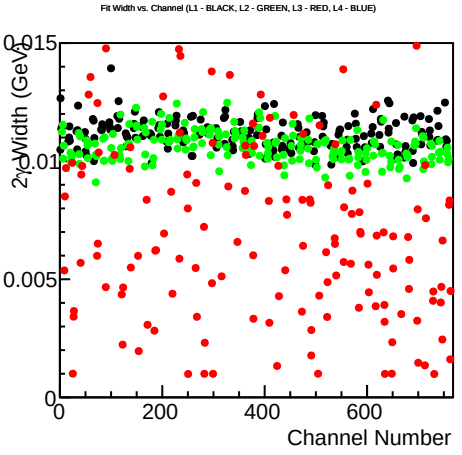

Fit Mass vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Mass (GeV)
0.15
0.14
0.13
0.12
0
200
400
600
Channel Number

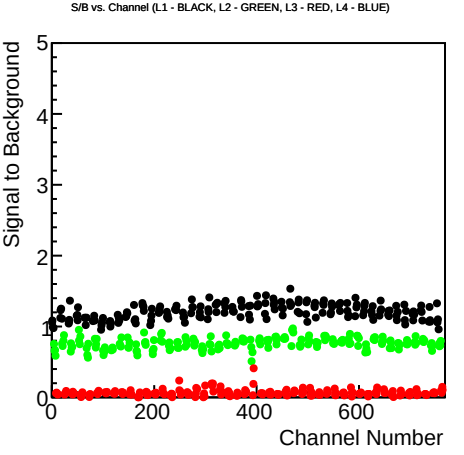

Fit Width vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Width (GeV)
0.015
0.01
0.005
0
200
400
600
Channel Number

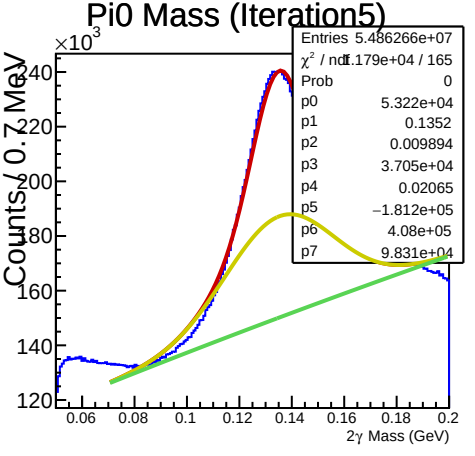

S/B vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
Signal to Background
5
4
3
2
1
0
200
400
600
Channel Number

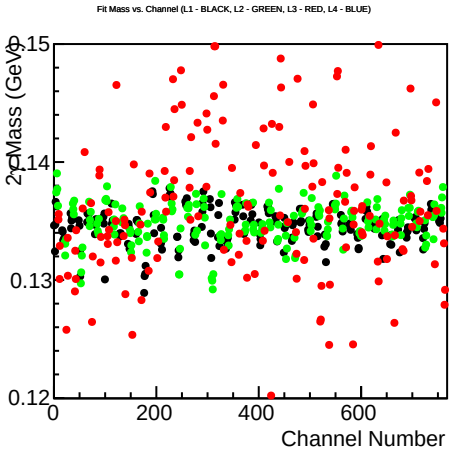

Pi0 Mass (Iteration4)
×10³
Counts / 0.7 MeV
220
200
180
160
140
120
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
2γ Mass (GeV)
Entries 4.917431e+07
χ² / ndf 1.067e+04 / 165
Prob 0
p0 4.519e+04
p1 0.1351
p2 0.009891
p3 3.378e+04
p4 0.01976
p5 −4.358e+05
p6 4.406e+05
p7 8.404e+04

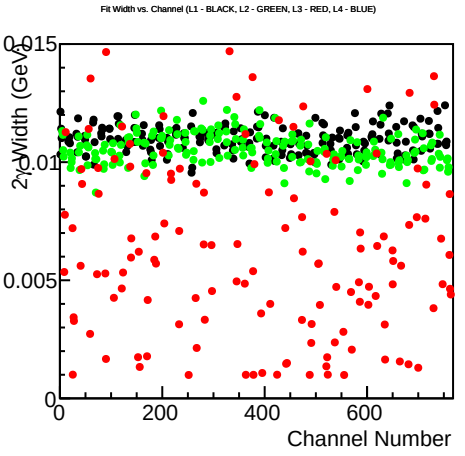

Fit Mass vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Mass (GeV)
0.15
0.14
0.13
0.12
0
200
400
600
Channel Number

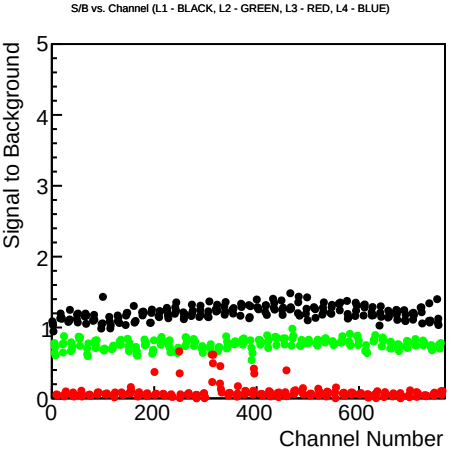

Fit Width vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Width (GeV)
0.015
0.01
0.005
0
200
400
600
Channel Number

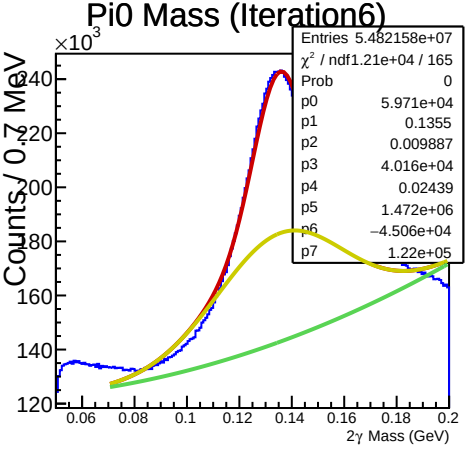

S/B vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
Signal to Background
5
4
3
2
1
0
200
400
600
Channel Number

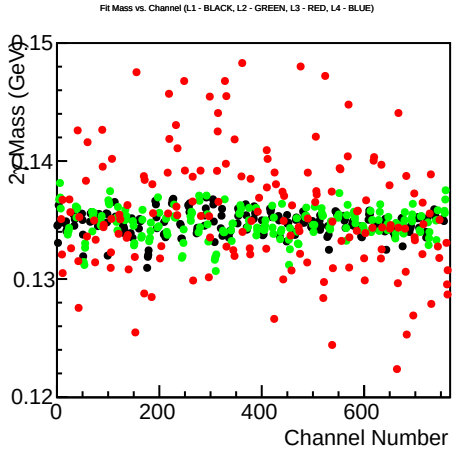

Pi0 Mass (Iteration5)
×10³
Counts / 0.7 MeV
240
220
200
180
160
140
120
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
2γ Mass (GeV)
Entries 5.486266e+07
χ² / ndf 1.179e+04 / 165
Prob 0
p0 5.322e+04
p1 0.1352
p2 0.009894
p3 3.705e+04
p4 0.02065
p5 −1.812e+05
p6 4.08e+05
p7 9.831e+04

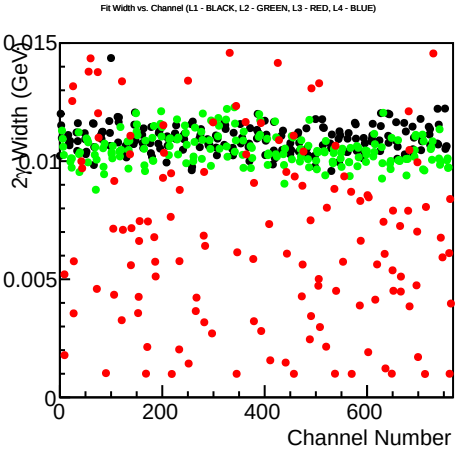

Fit Mass vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Mass (GeV)
0.15
0.14
0.13
0.12
0
200
400
600
Channel Number

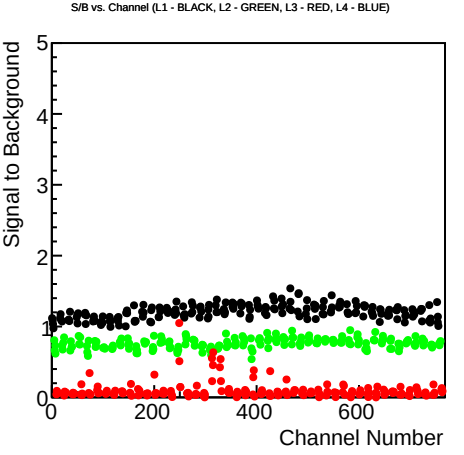

Fit Width vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Width (GeV)
0.015
0.01
0.005
0
200
400
600
Channel Number

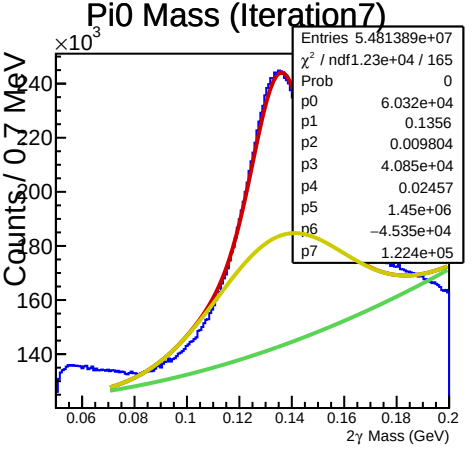

S/B vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
Signal to Background
5
4
3
2
1
0
200
400
600
Channel Number


Pi0 Mass (Iteration6)
×10³
Counts / 0.7 MeV
240
220
200
180
160
140
120
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
2γ Mass (GeV)
Entries 5.482158e+07
χ² / ndf1.21e+04 / 165
Prob 0
p0 5.971e+04
p1 0.1355
p2 0.009887
p3 4.016e+04
p4 0.02439
p5 1.472e+06
p6 −4.506e+04
p7 1.22e+05

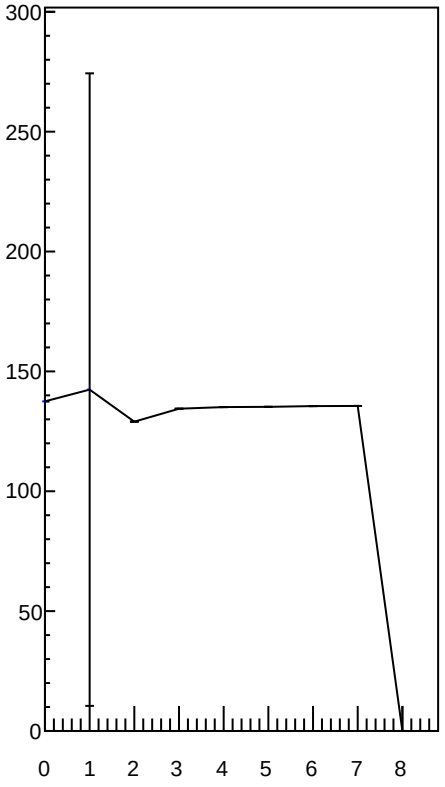

Fit Mass vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Mass (GeV)
0.15
0.14
0.13
0.12
0
200
400
600
Channel Number


Fit Width vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
2γ Width (GeV)
0.015
0.01
0.005
0
200
400
600
Channel Number

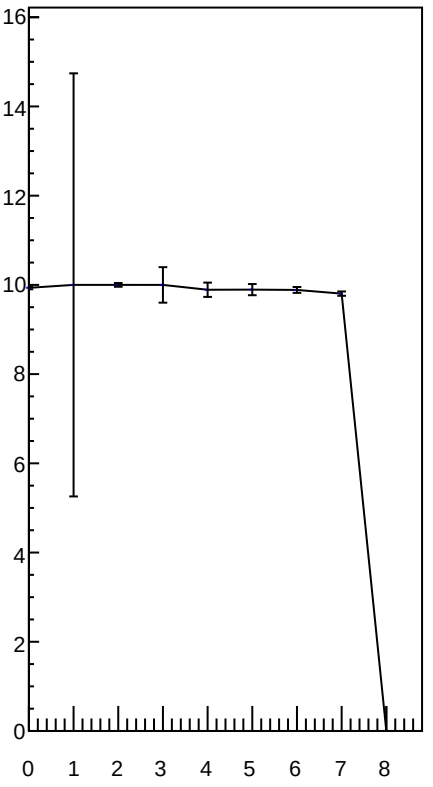

S/B vs. Channel (L1 - BLACK, L2 - GREEN, L3 - RED, L4 - BLUE)
Signal to Background
5
4
3
2
1
0
200
400
600
Channel Number


Pi0 Mass (Iteration7)
×10³
Counts / 0.7 MeV
240
220
200
180
160
140
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
2γ Mass (GeV)
Entries 5.481389e+07
χ² / ndf 1.23e+04 / 165
Prob 0
p0 6.032e+04
p1 0.1356
p2 0.009804
p3 4.085e+04
p4 0.02457
p5 1.45e+06
p6 −4.535e+04
p7 1.224e+05

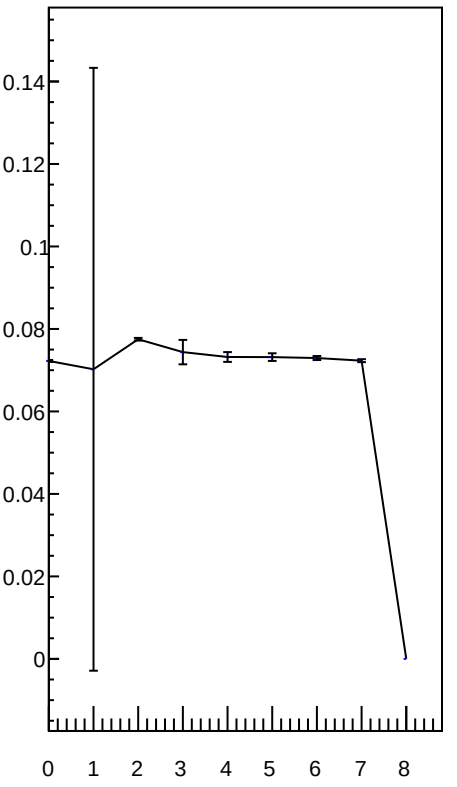
2γ fit mean vs. Iteration

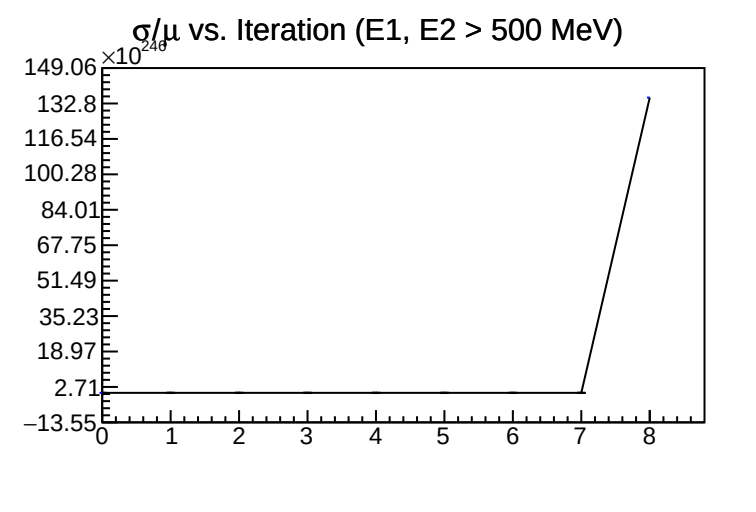


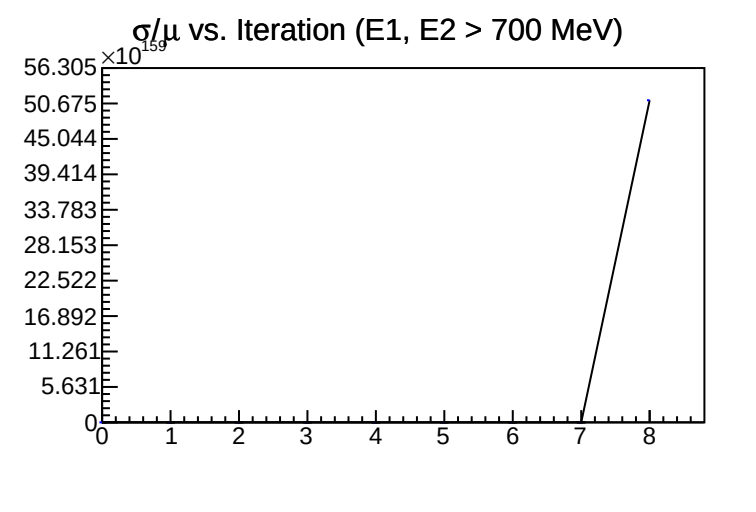
2γ fit sigma vs. Iteration

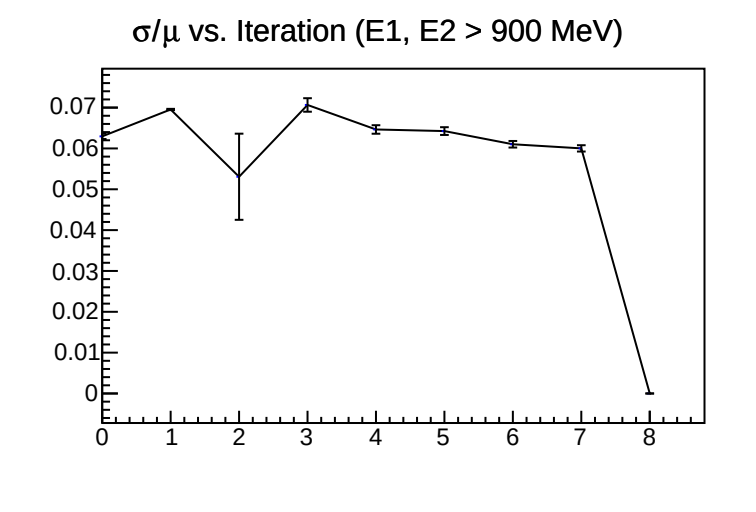


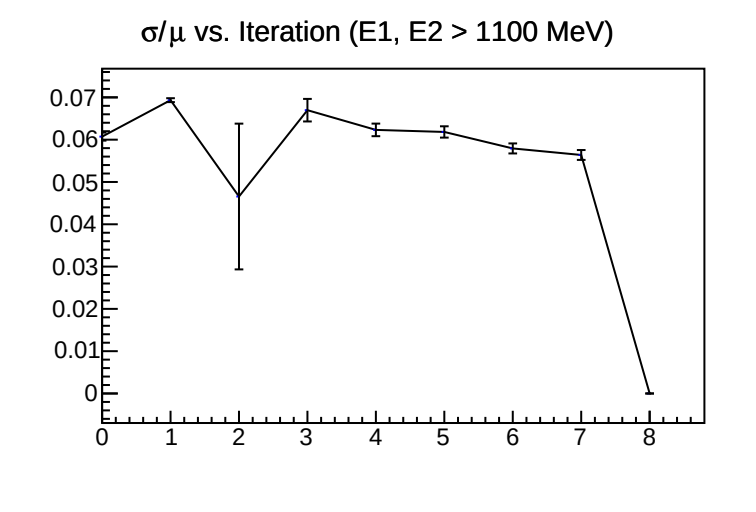
2γ fit sigma over mean vs. Iteration

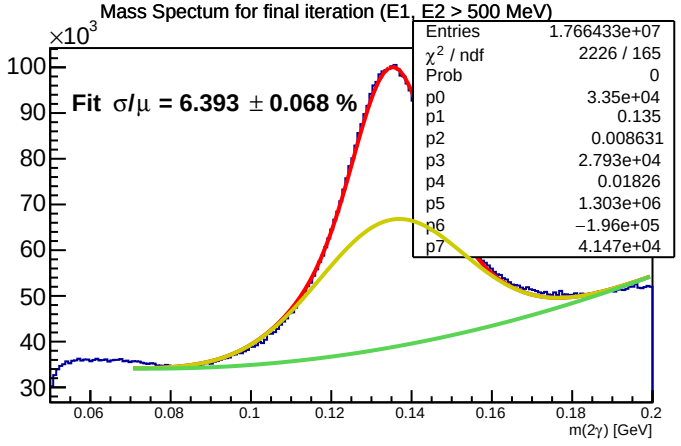


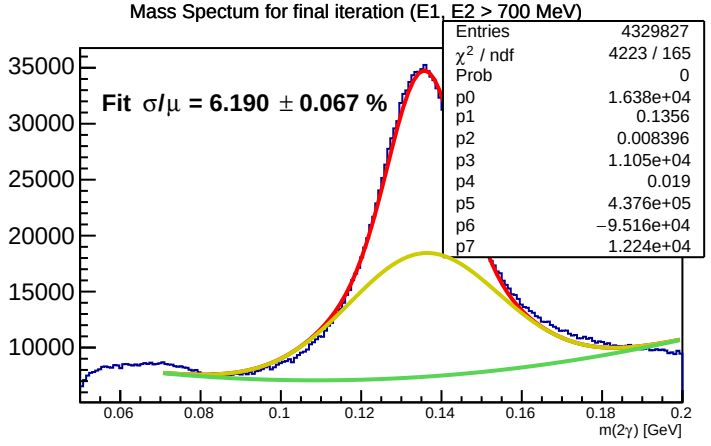

σ/μ vs. Iteration (E1, E2 > 500 MeV)
×10^240
149.06
132.8
116.54
100.28
84.01
67.75
51.49
35.23
18.97
2.71
−13.55
0 1 2 3 4 5 6 7 8

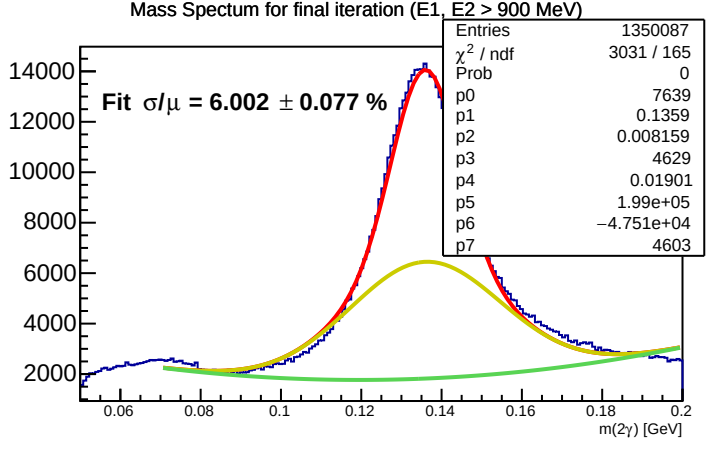

σ/μ vs. Iteration (E1, E2 > 700 MeV)
×10^159
56.305
50.675
45.044
39.414
33.783
28.153
22.522
16.892
11.261
5.631
0
0 1 2 3 4 5 6 7 8

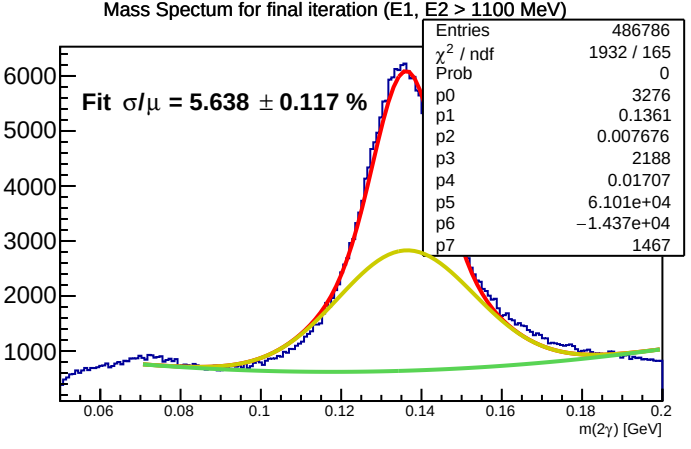

σ/μ vs. Iteration (E1, E2 > 900 MeV)
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0 1 2 3 4 5 6 7 8

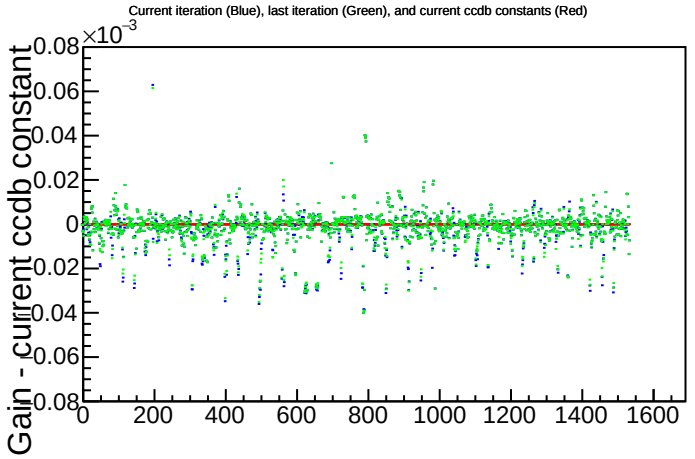

σ/μ vs. Iteration (E1, E2 > 1100 MeV)
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0 1 2 3 4 5 6 7 8

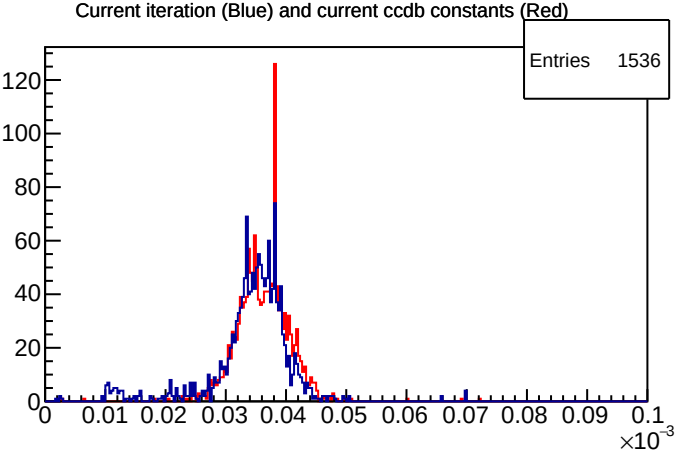

Mass Spectum for final iteration (E1, E2 > 500 MeV)
×10^3
Fit σ/μ = 6.393 ± 0.068 %
Entries 1.766433e+07
χ² / ndf 2226 / 165
Prob 0
p0 3.35e+04
p1 0.135
p2 0.008631
p3 2.793e+04
p4 0.01826
p5 1.303e+06
p6 −1.96e+05
p7 4.147e+04
m(2γ) [GeV]

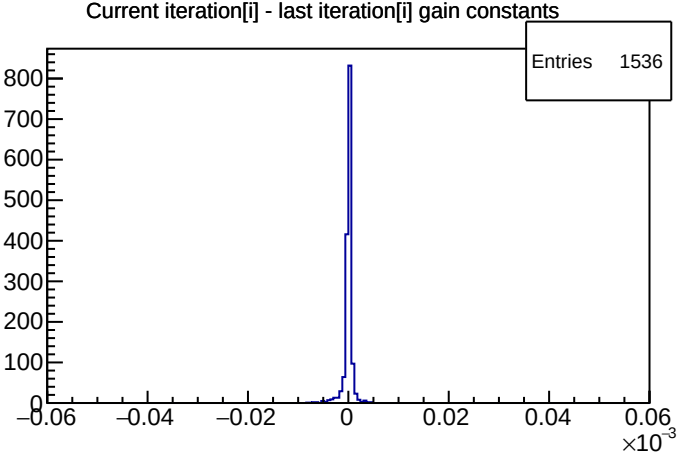

Mass Spectum for final iteration (E1, E2 > 700 MeV)
Fit σ/μ = 6.190 ± 0.067 %
Entries 4329827
χ² / ndf 4223 / 165
Prob 0
p0 1.638e+04
p1 0.1356
p2 0.008396
p3 1.105e+04
p4 0.019
p5 4.376e+05
p6 −9.516e+04
p7 1.224e+04
m(2γ) [GeV]

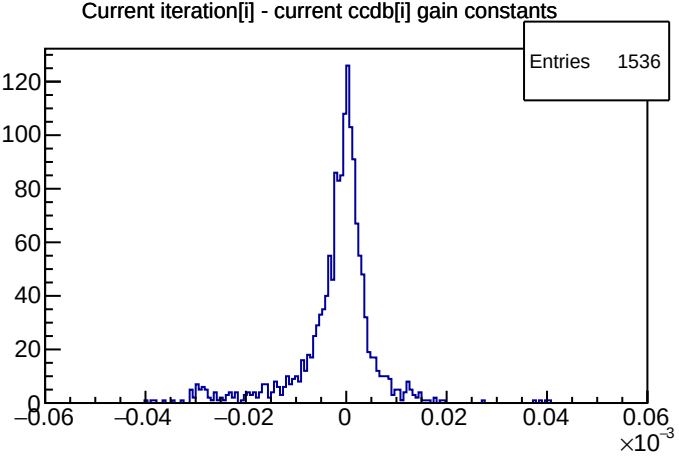

Mass Spectum for final iteration (E1, E2 > 900 MeV)
Fit σ/μ = 6.002 ± 0.077 %
Entries 1350087
χ² / ndf 3031 / 165
Prob 0
p0 7639
p1 0.1359
p2 0.008159
p3 4629
p4 0.01901
p5 1.99e+05
p6 −4.751e+04
p7 4603
m(2γ) [GeV]


Mass Spectum for final iteration (E1, E2 > 1100 MeV)
Fit σ/μ = 5.638 ± 0.117 %
Entries 486786
χ² / ndf 1932 / 165
Prob 0
p0 3276
p1 0.1361
p2 0.007676
p3 2188
p4 0.01707
p5 6.101e+04
p6 −1.437e+04
p7 1467
m(2γ) [GeV]


Current iteration (Blue), last iteration (Green), and current ccdb constants (Red)
Gain - current ccdb constant
×10⁻³
0.08
0.06
0.04
0.02
0
0.02
0.04
0.06
0.08
0
200
400
600
800
1000
1200
1400
1600


Current iteration (Blue) and current ccdb constants (Red)
Entries 1536
120
100
80
60
40
20
0
0
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.1
×10⁻³


Current iteration[i] - last iteration[i] gain constants
Entries 1536
800
700
600
500
400
300
200
100
0
−0.06
−0.04
−0.02
0
0.02
0.04
0.06
×10⁻³


Current iteration[i] - current ccdb[i] gain constants
Entries 1536
120
100
80
60
40
20
0
−0.06
−0.04
−0.02
0
0.02
0.04
0.06
×10⁻³