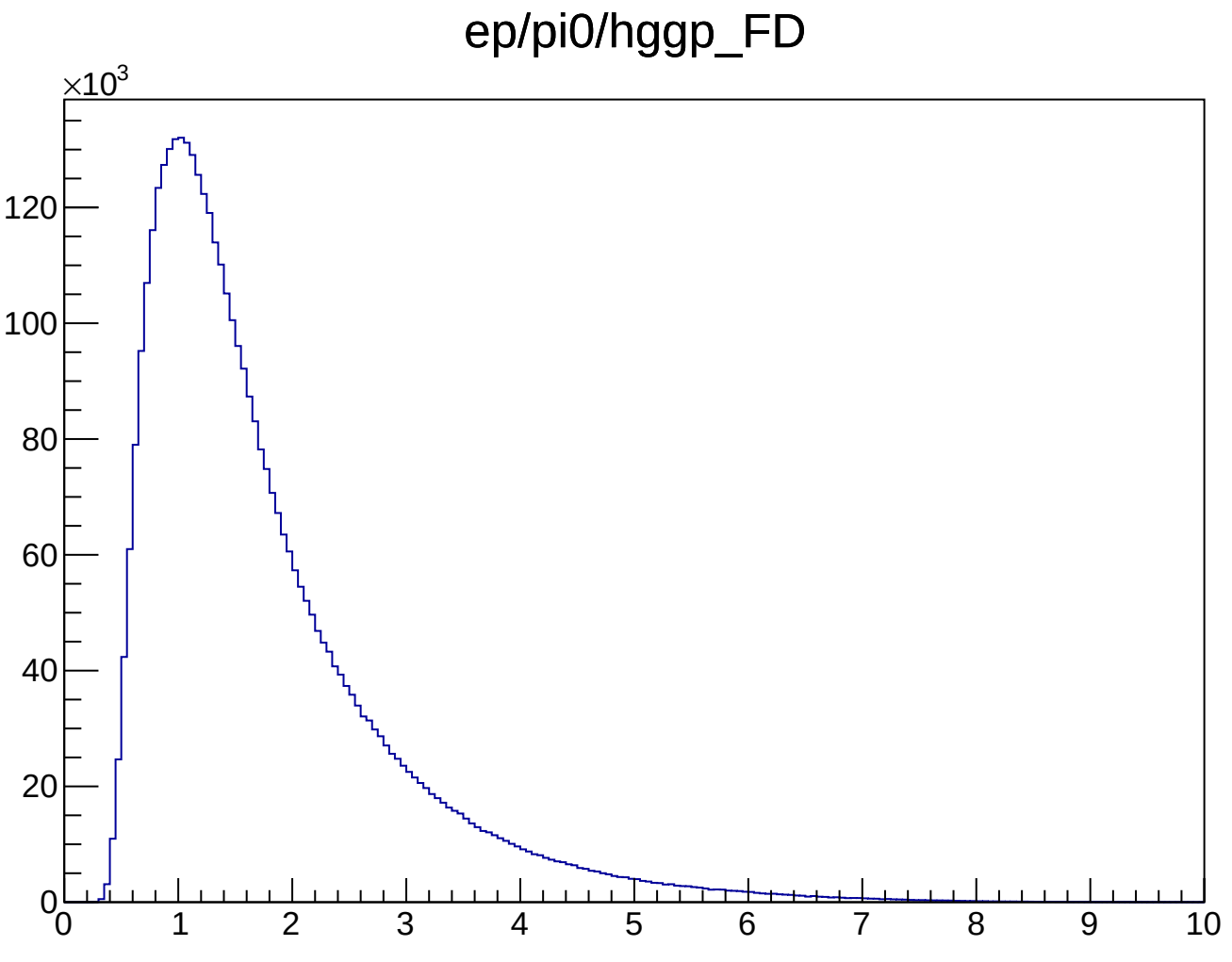
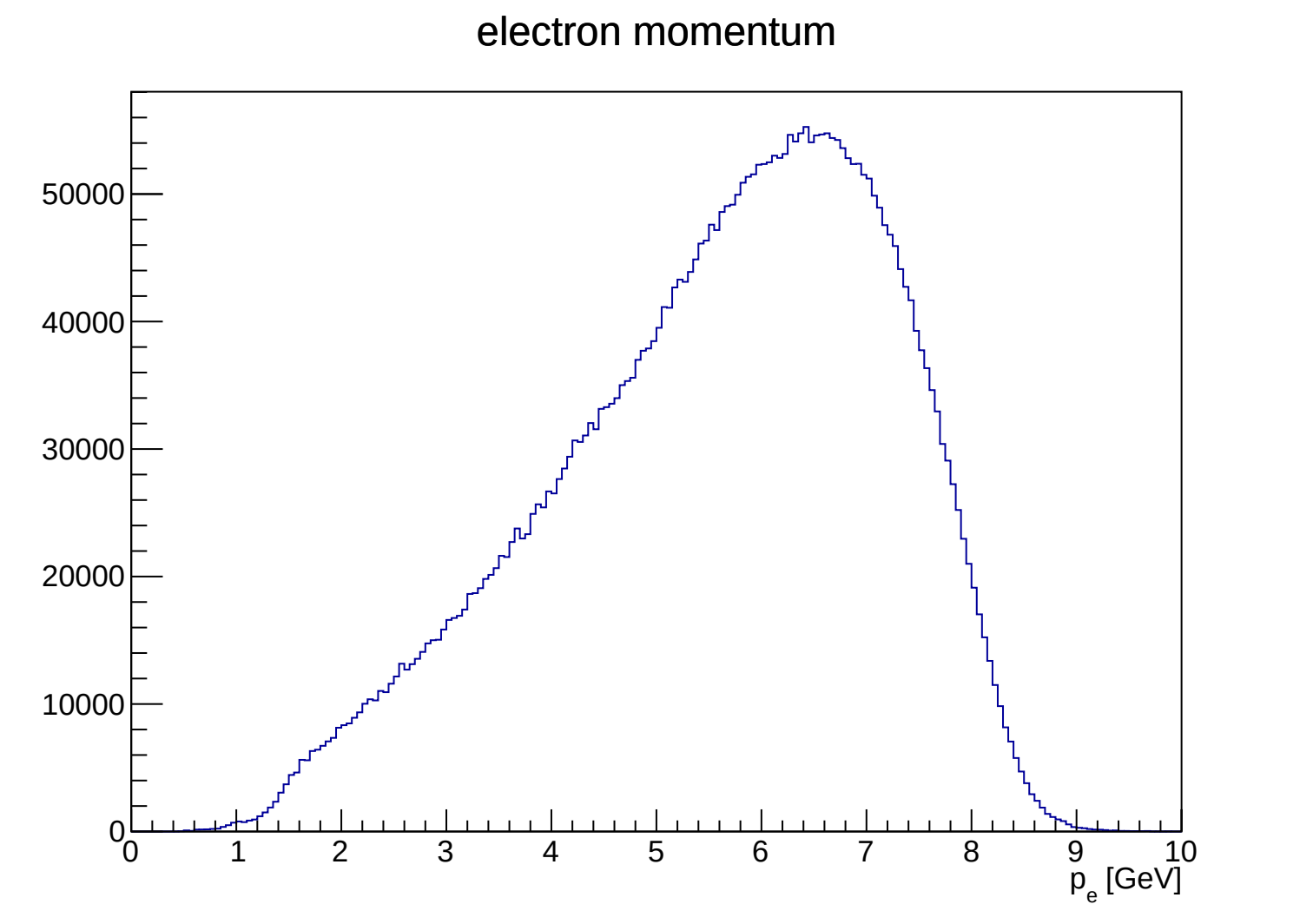
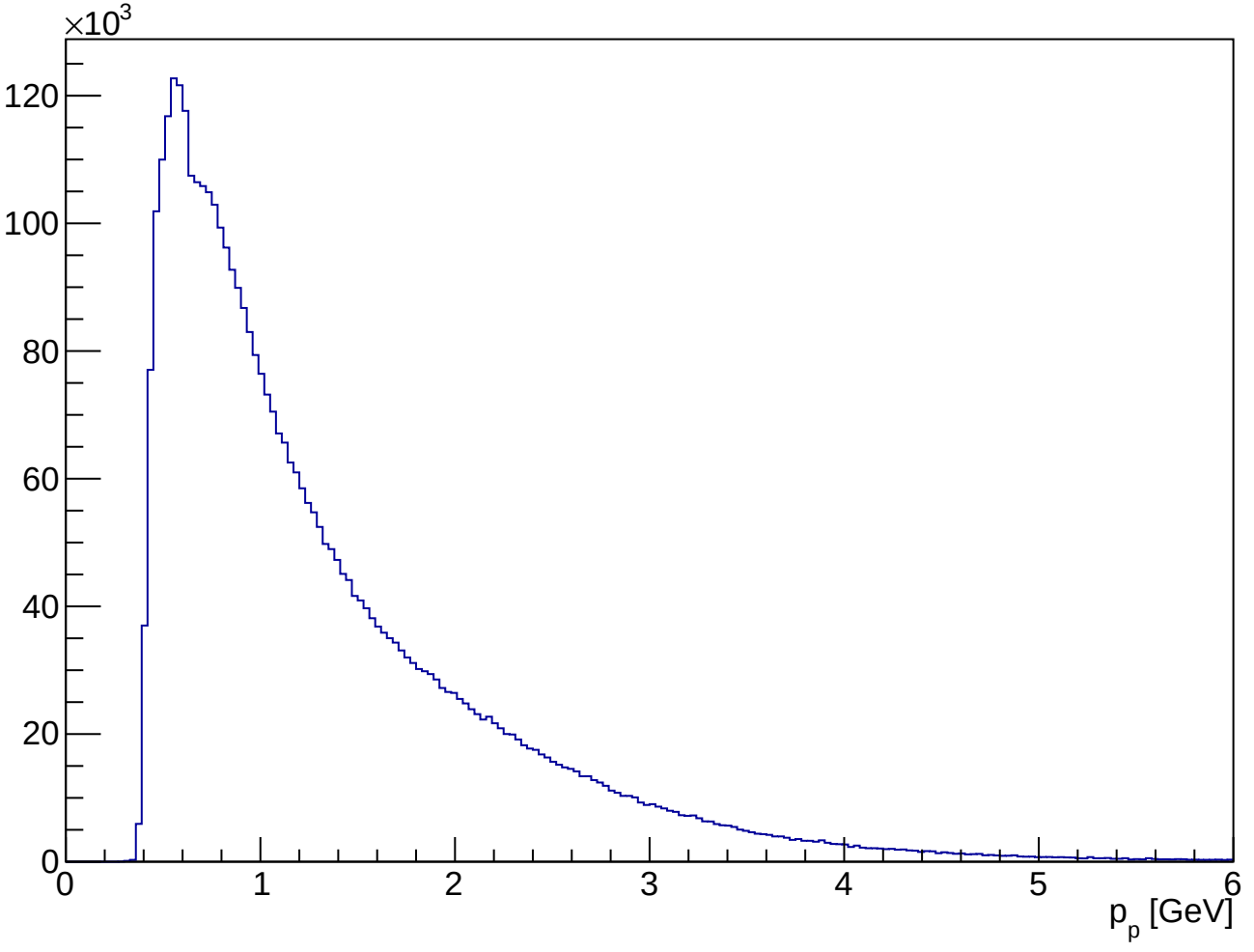
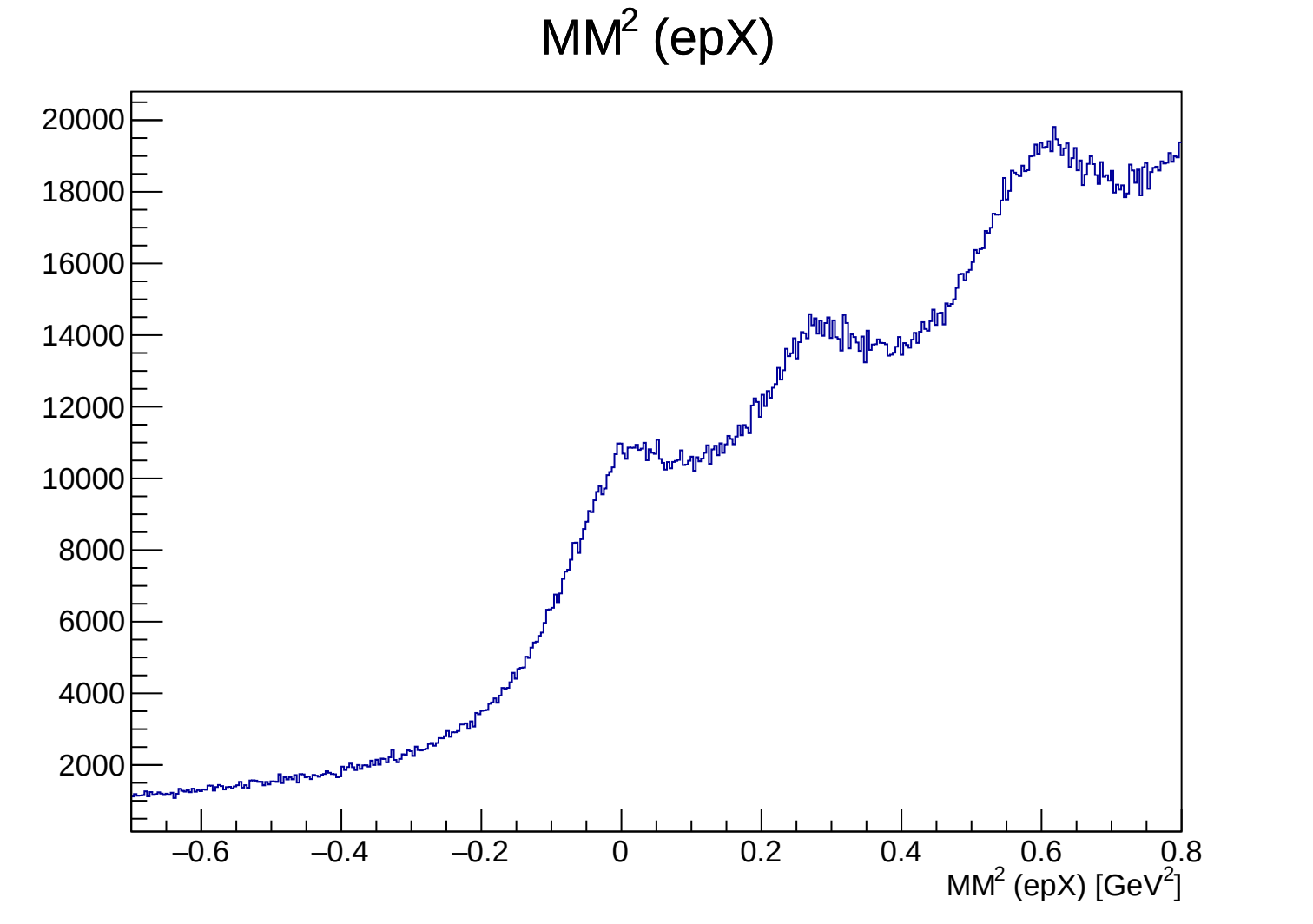
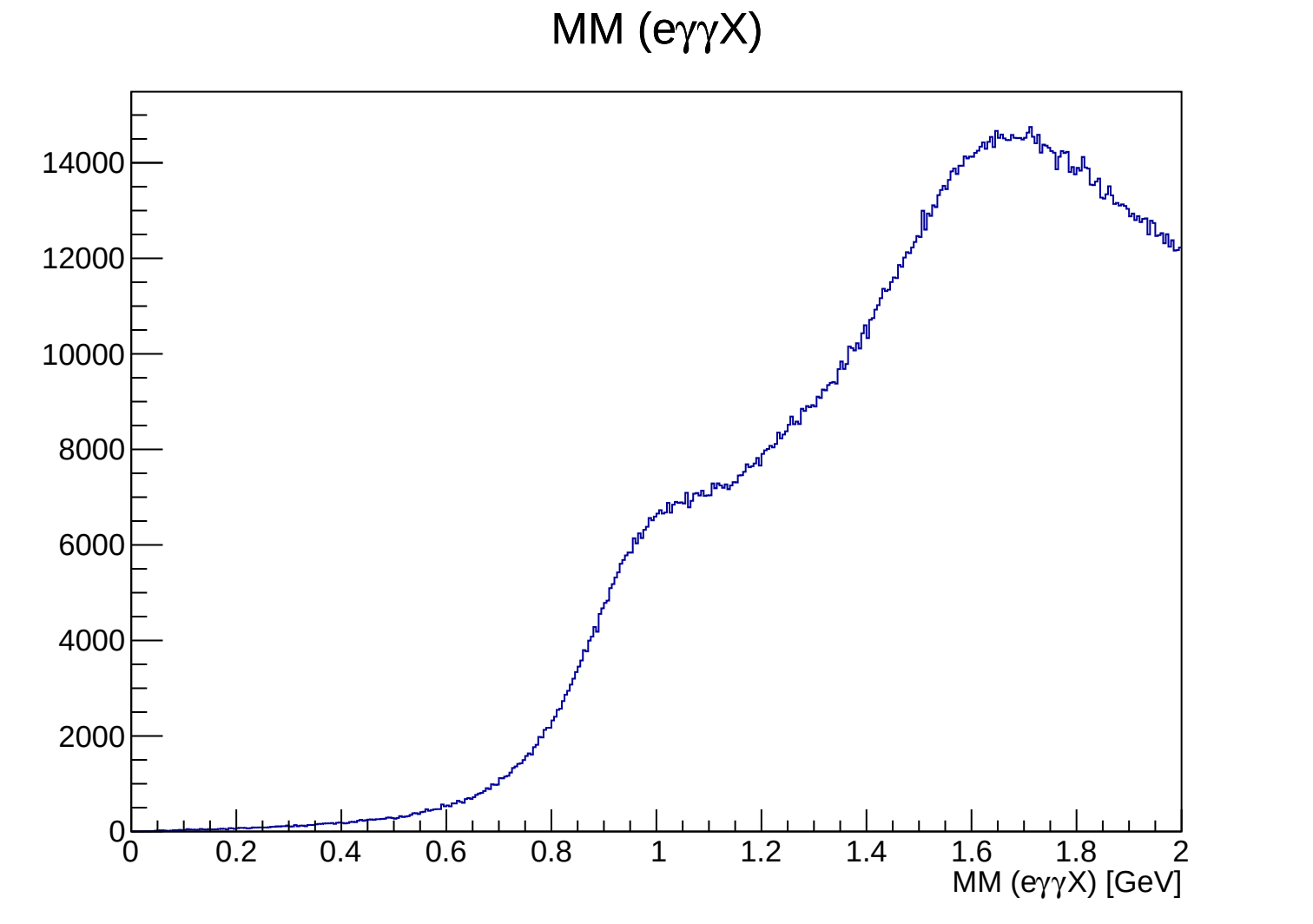
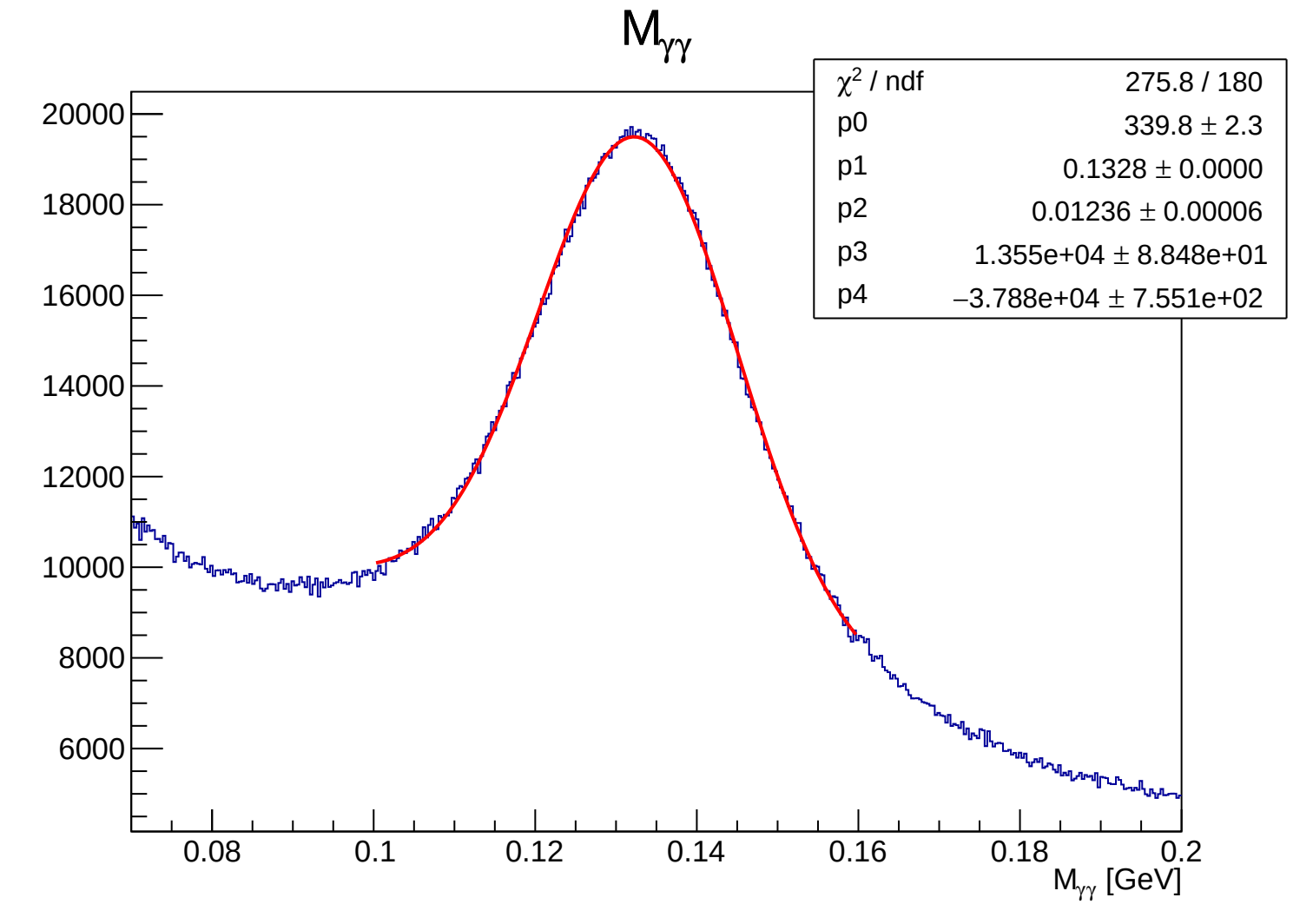

ep/pi0/hggp_FD
×10^3
120
100
80
60
40
20
0
0
1
2
3
4
5
6
7
8
9
10

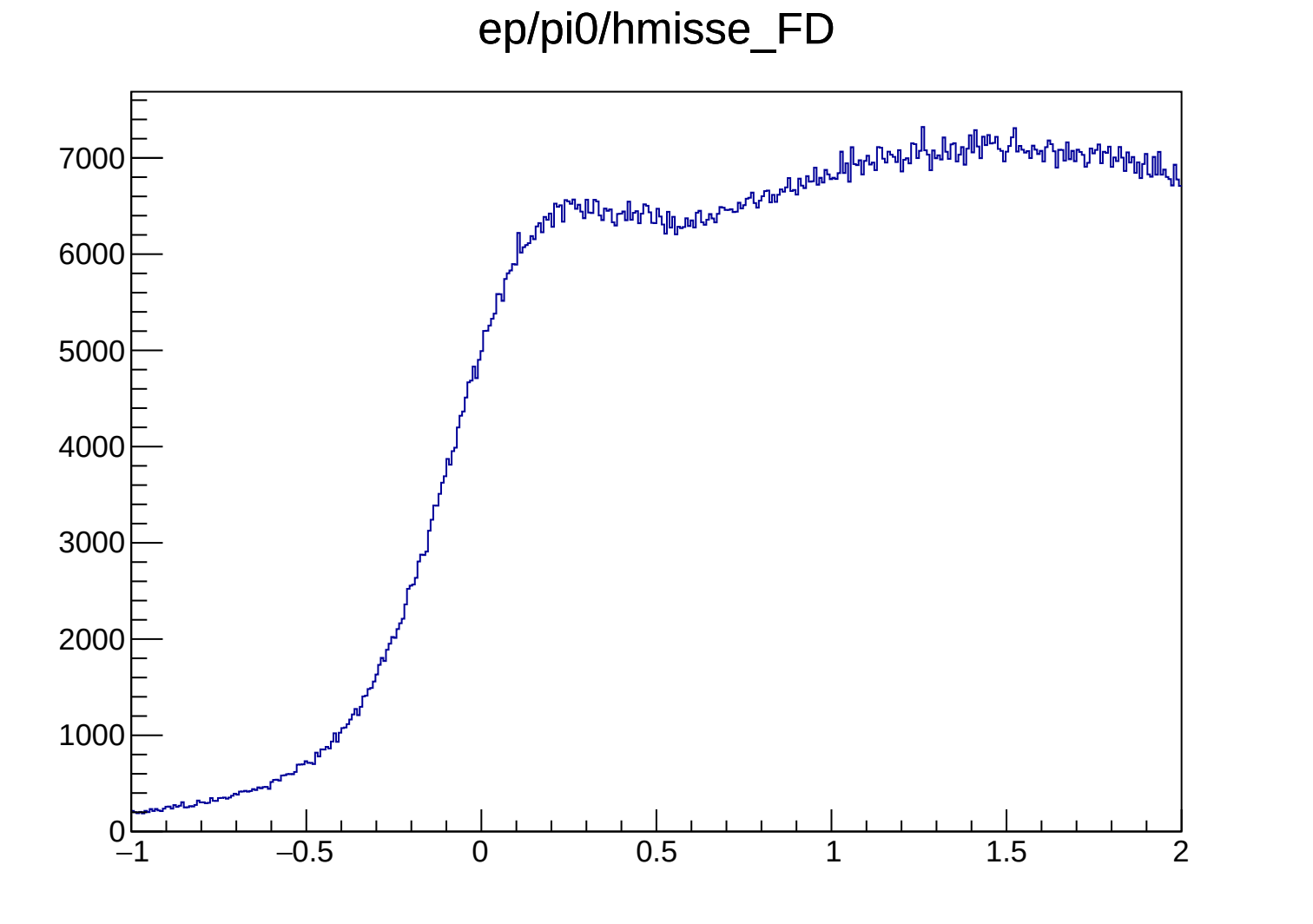

electron momentum
50000
40000
30000
20000
10000
0
0
1
2
3
4
5
6
7
8
9
10
p_e [GeV]

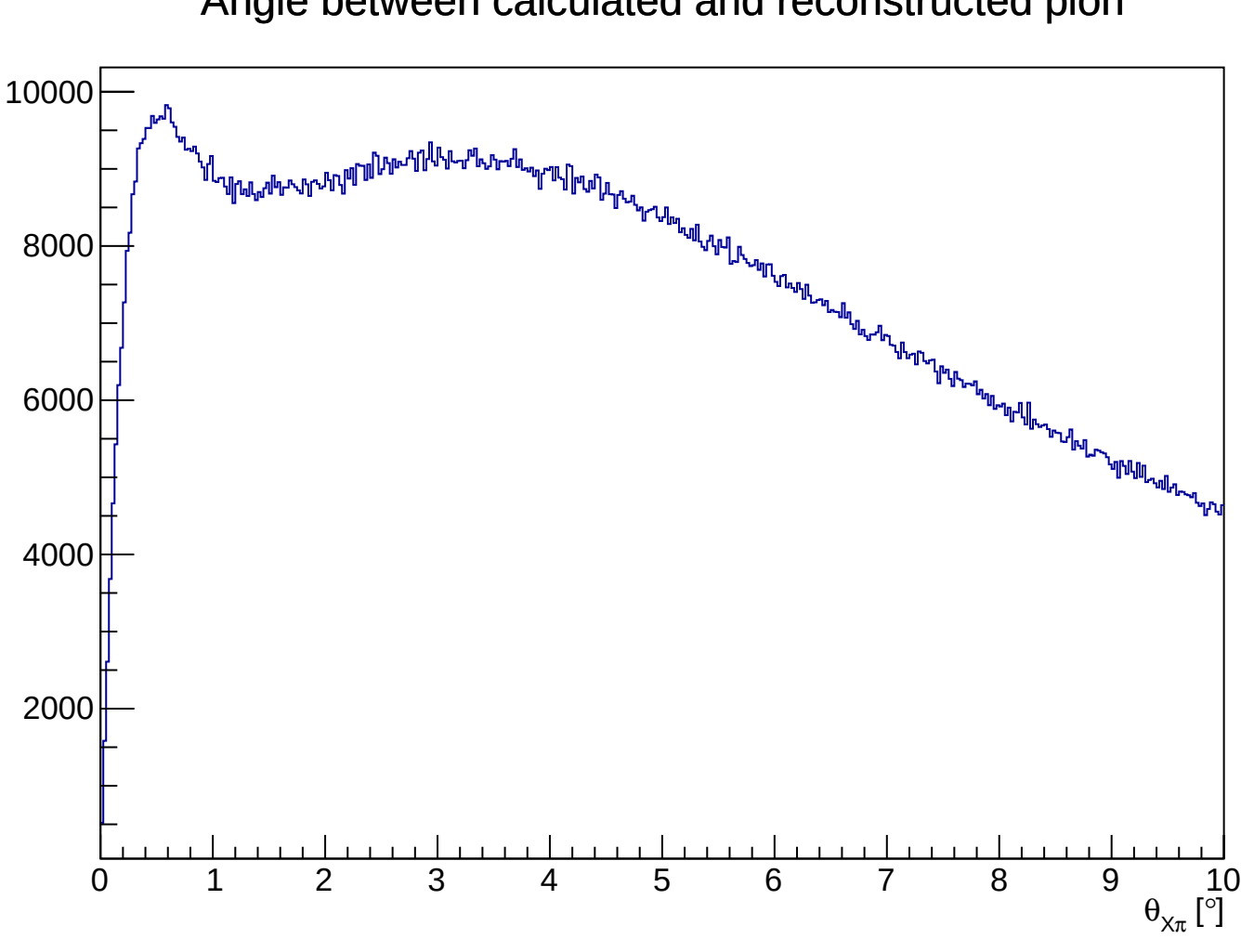

proton momentum
×10^3
120
100
80
60
40
20
0
0
1
2
3
4
5
6
p_p [GeV]

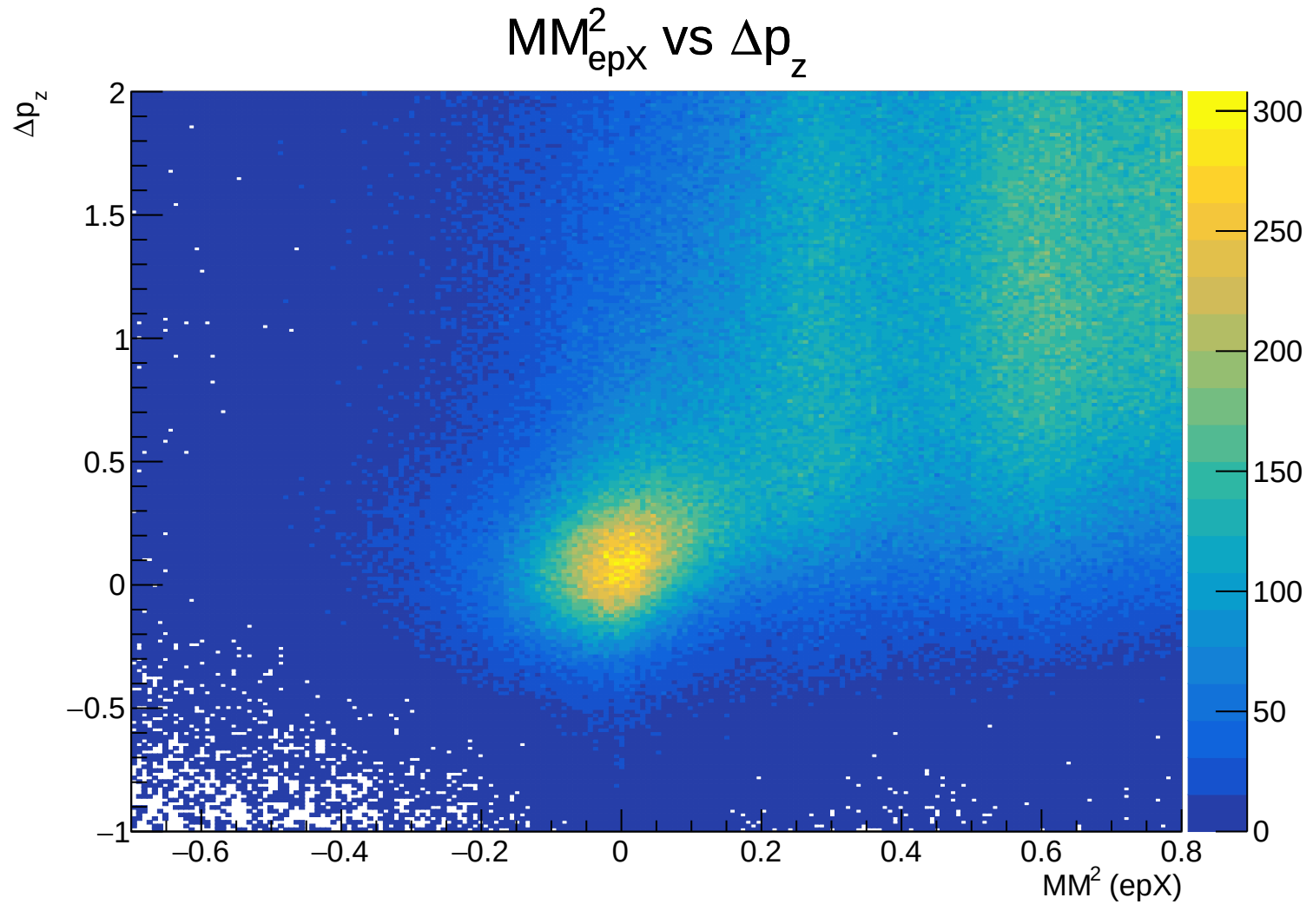

MM^2 (epX)
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
MM^2 (epX) [GeV^2]

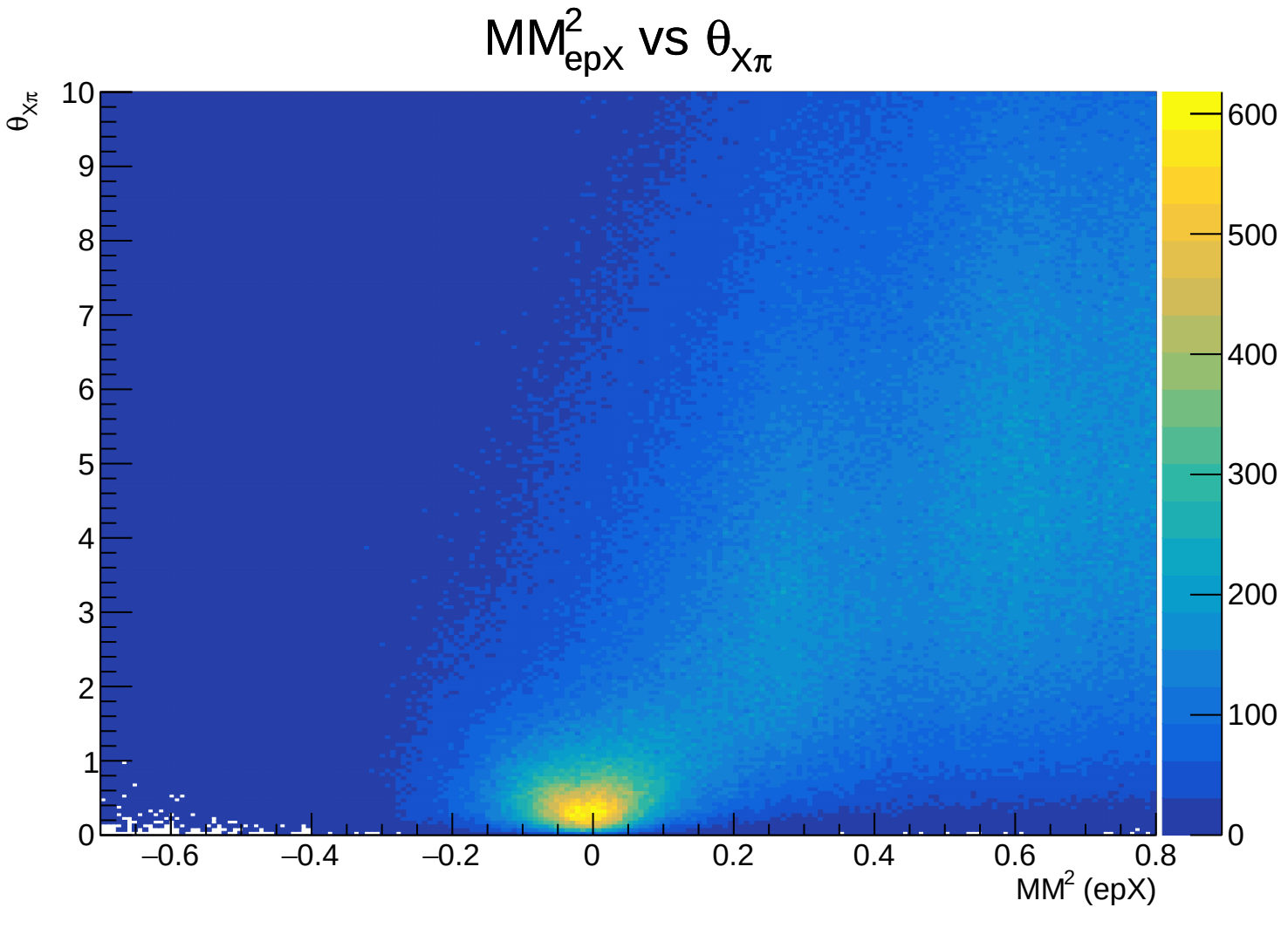

MM (eγγX)
14000
12000
10000
8000
6000
4000
2000
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
MM (eγγX) [GeV]

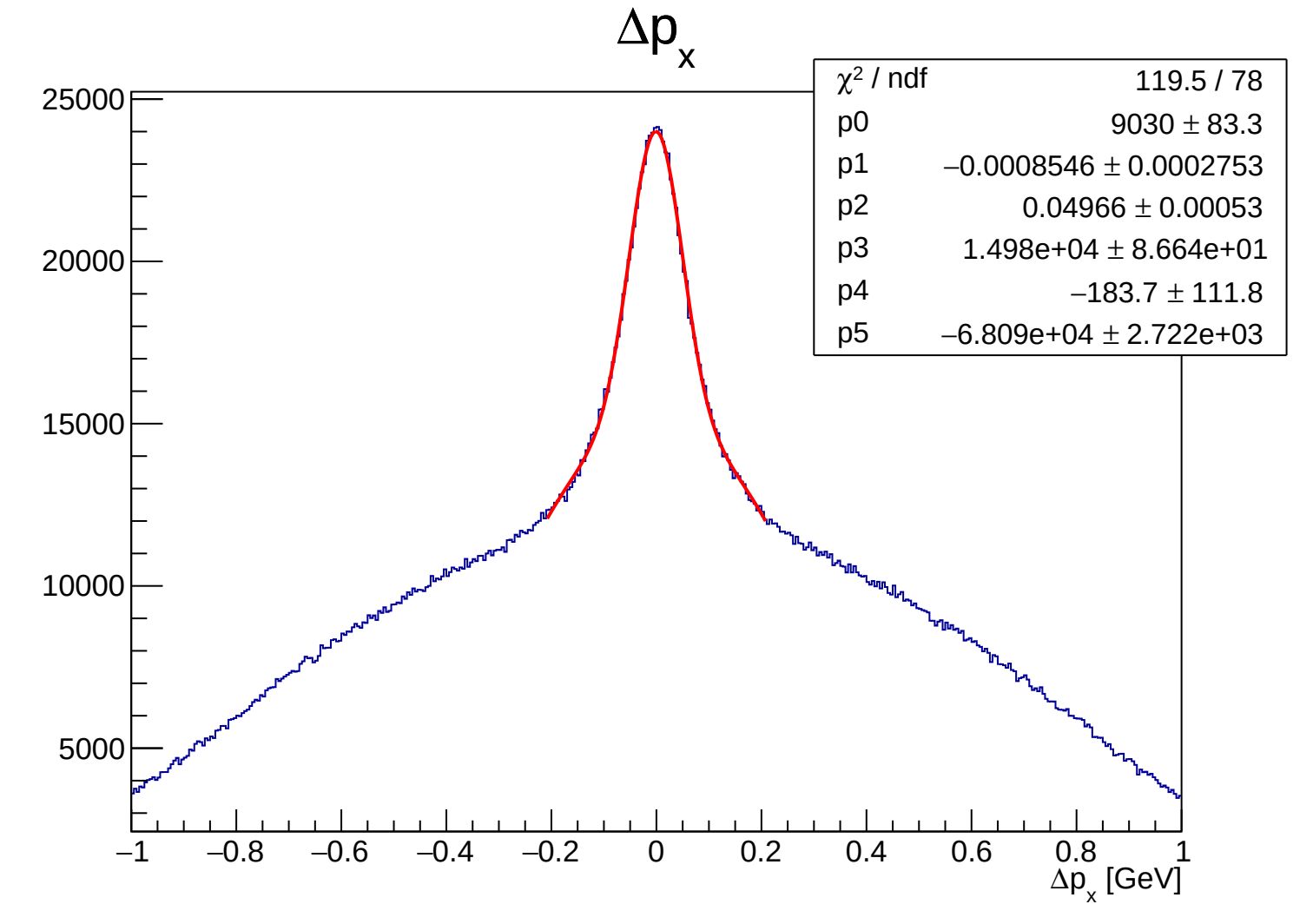

$M_{\gamma\gamma}$
χ^2 / ndf 275.8 / 180
p0 339.8 ± 2.3
p1 0.1328 ± 0.0000
p2 0.01236 ± 0.00006
p3 1.355e+04 ± 8.848e+01
p4 −3.788e+04 ± 7.551e+02
20000
18000
16000
14000
12000
10000
8000
6000
0.08
0.1
0.12
0.14
0.16
0.18
0.2
$M_{\gamma\gamma}$ [GeV]

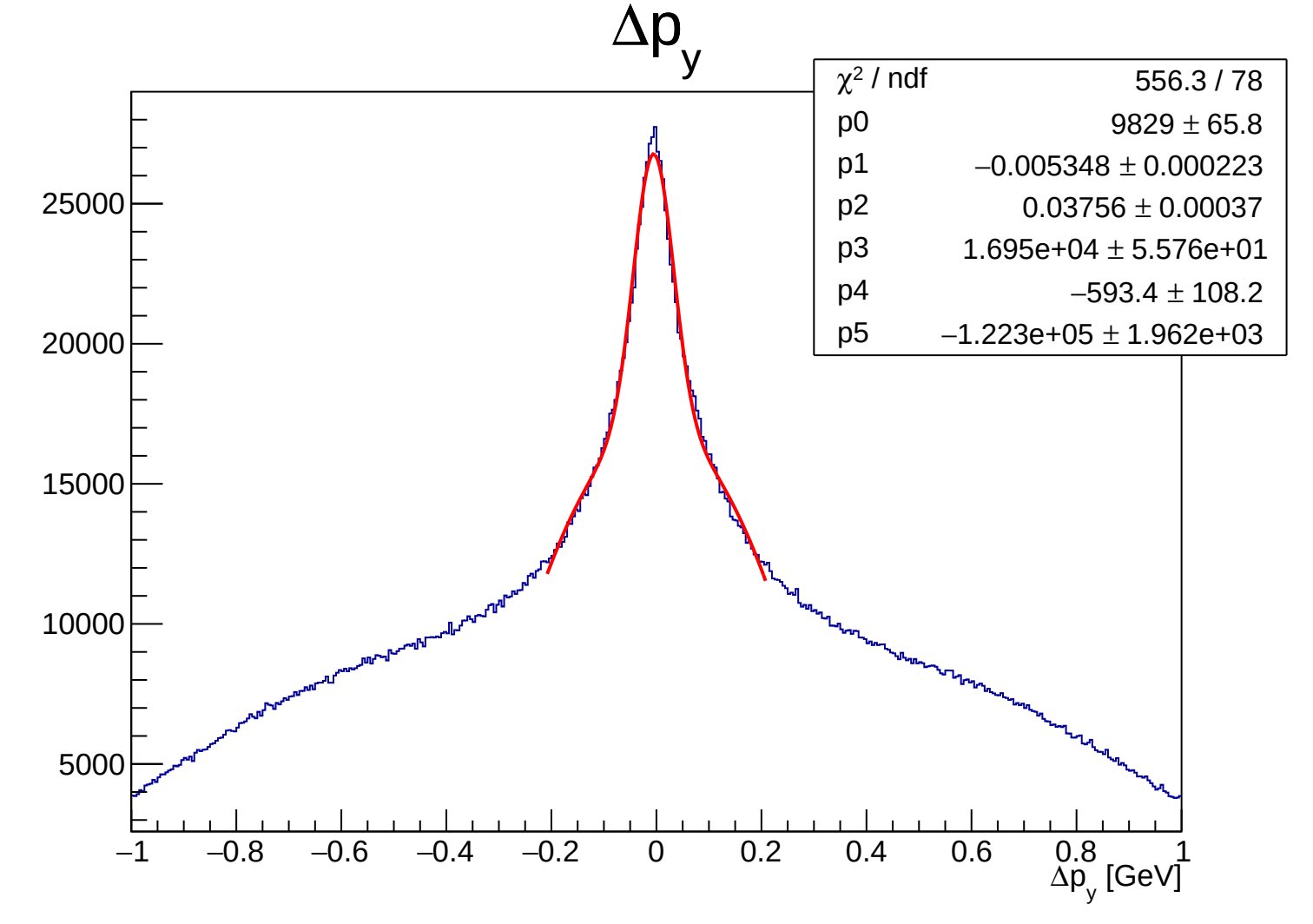

ep/pi0/hmisse_FD
7000
6000
5000
4000
3000
2000
1000
0
–1
–0.5
0
0.5
1
1.5
2

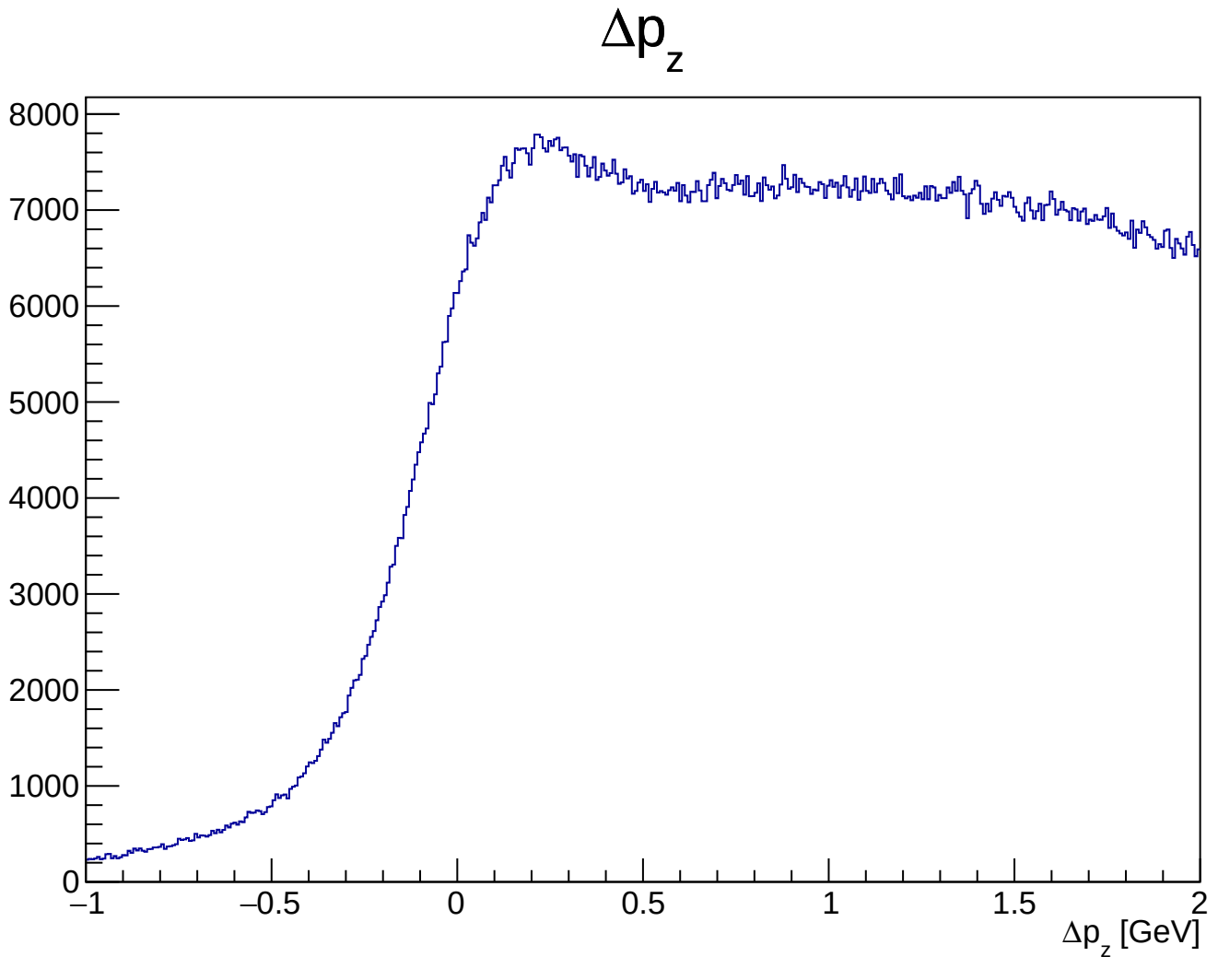

Angle between calculated and reconstructed pion
10000
8000
6000
4000
2000
0
1
2
3
4
5
6
7
8
9
10
θXπ [°]

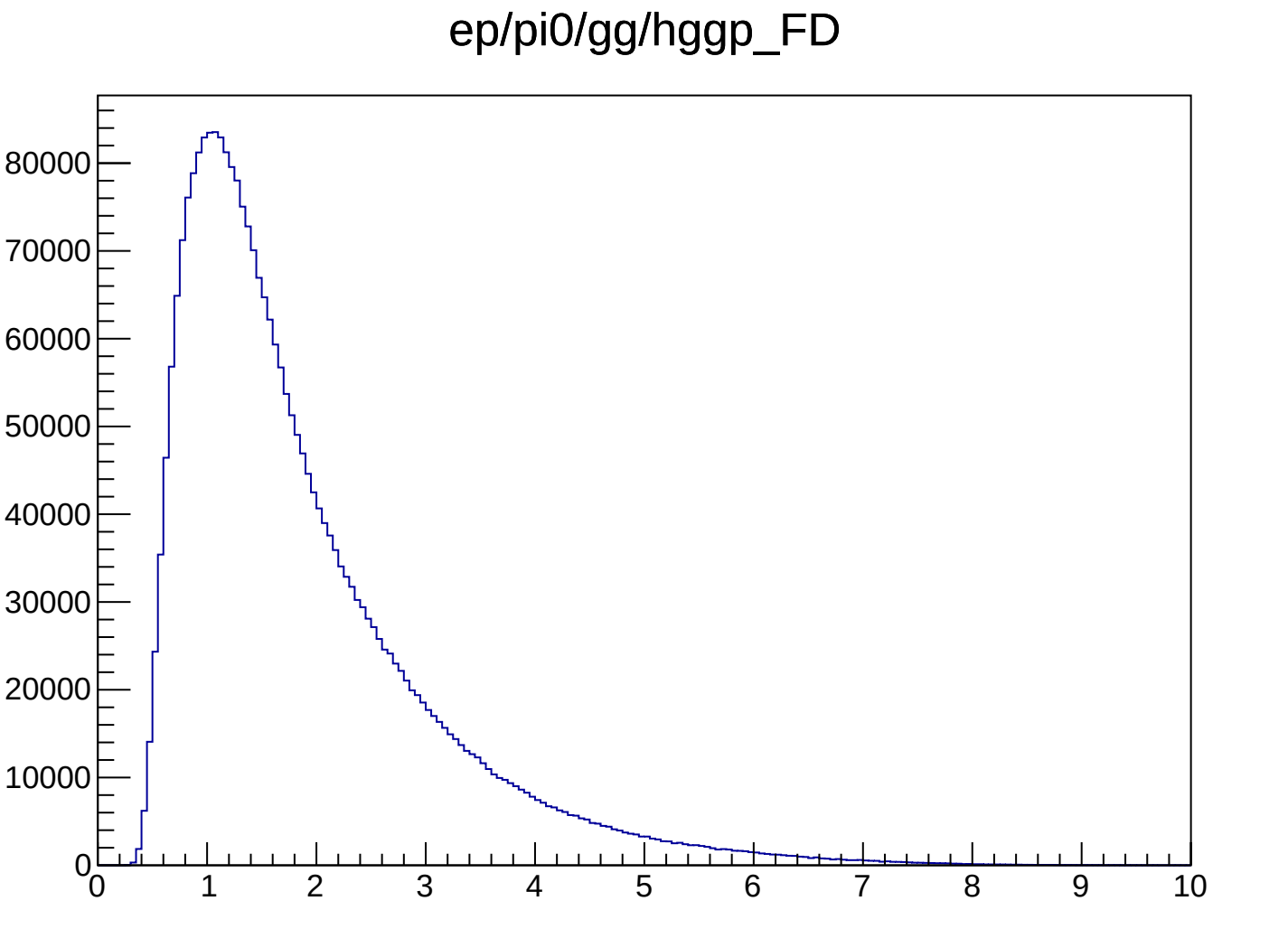

MM^2_{epX} vs Δp_z
Δp_z
2
1.5
1
0.5
0
−0.5
−1
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
MM^2 (epX)
300
250
200
150
100
50
0

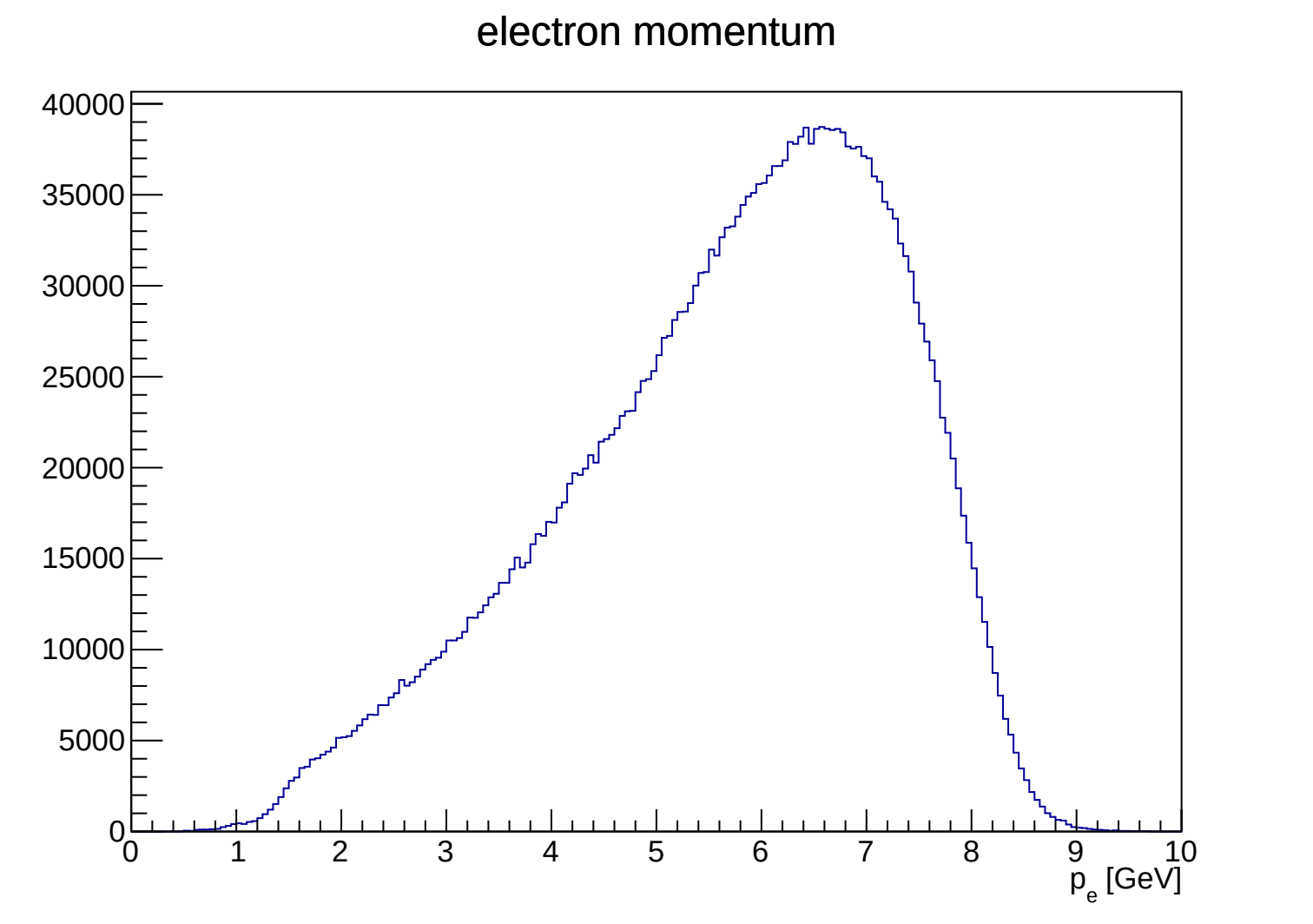

MM²epX vs θXπ
θXπ
10
9
8
7
6
5
4
3
2
1
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
MM² (epX)
600
500
400
300
200
100
0

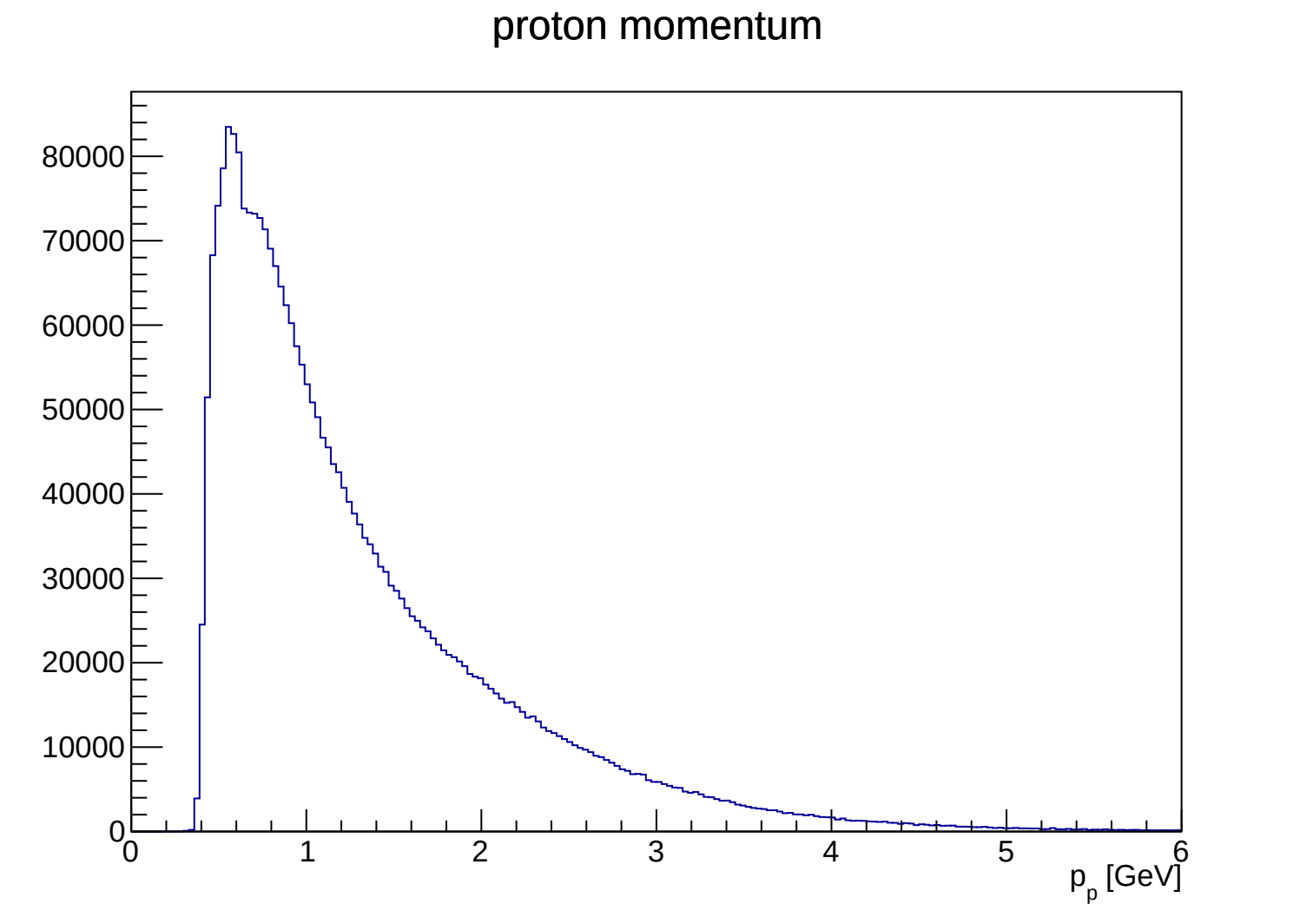

Δp_x
χ^2 / ndf 119.5 / 78
p0 9030 ± 83.3
p1 –0.0008546 ± 0.0002753
p2 0.04966 ± 0.00053
p3 1.498e+04 ± 8.664e+01
p4 –183.7 ± 111.8
p5 –6.809e+04 ± 2.722e+03
25000
20000
15000
10000
5000
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_x [GeV]

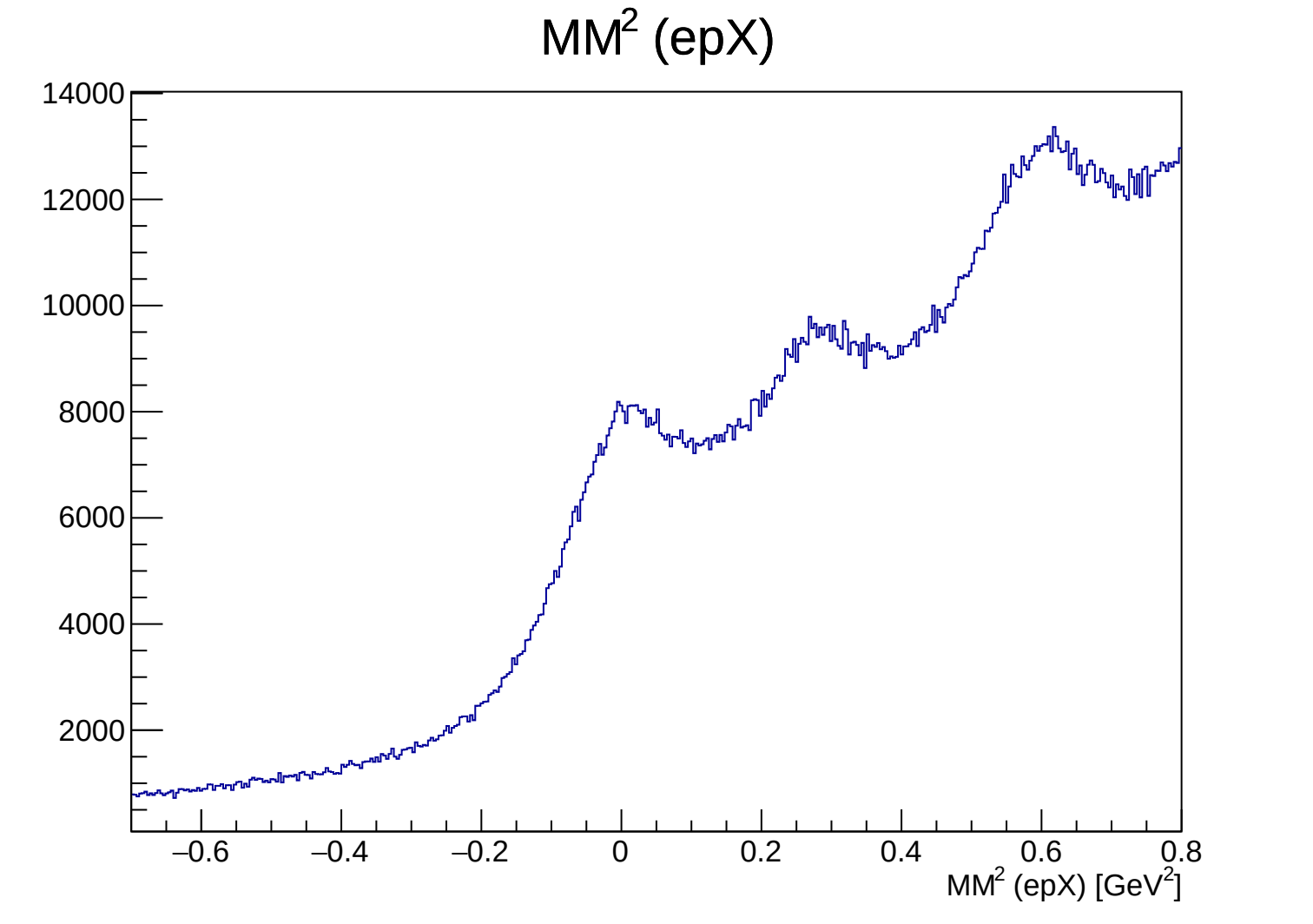

Δp_y
χ^2 / ndf 556.3 / 78
p0 9829 ± 65.8
p1 –0.005348 ± 0.000223
p2 0.03756 ± 0.00037
p3 1.695e+04 ± 5.576e+01
p4 –593.4 ± 108.2
p5 –1.223e+05 ± 1.962e+03
25000
20000
15000
10000
5000
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_y [GeV]

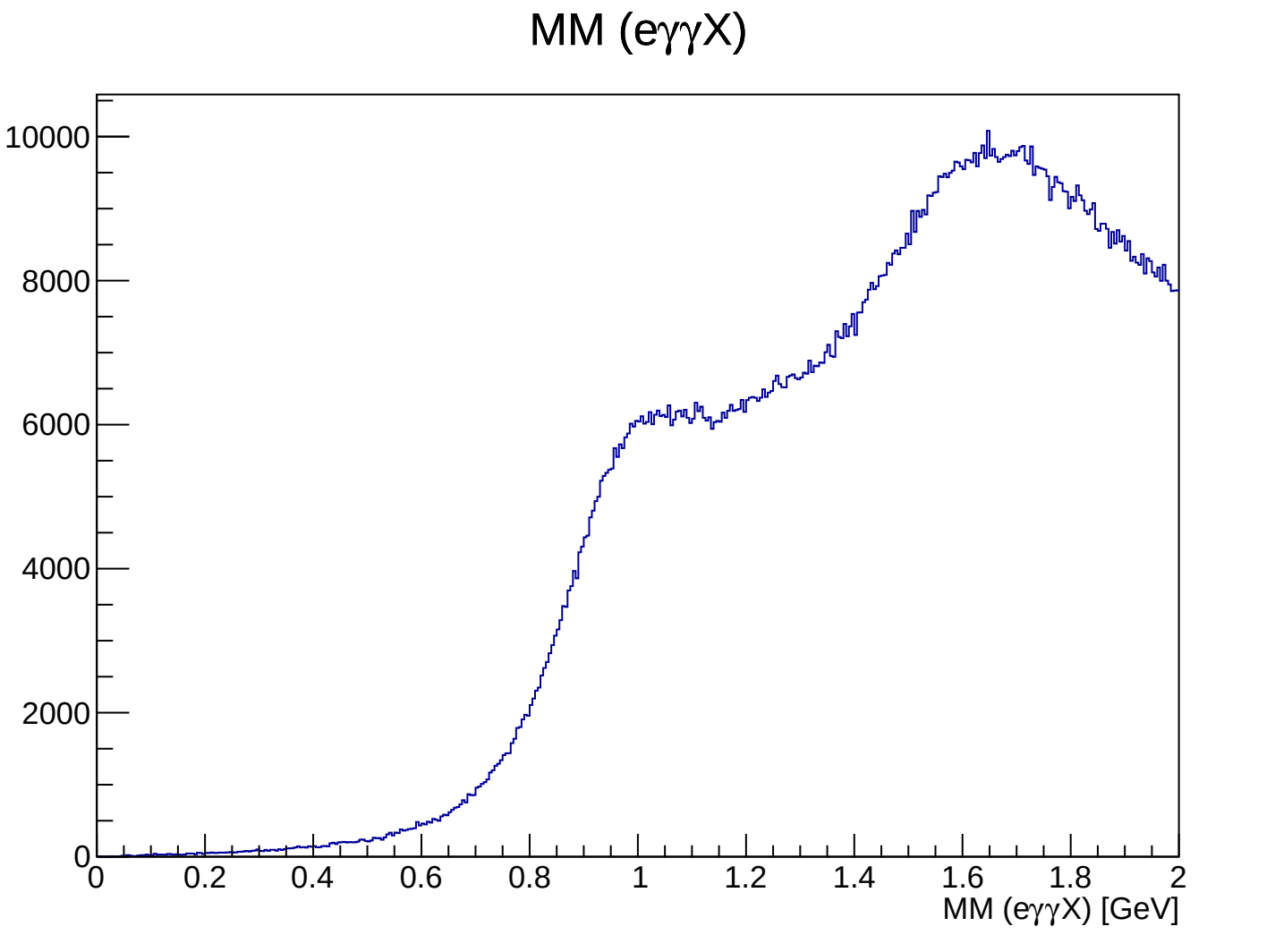

Δp_z
8000
7000
6000
5000
4000
3000
2000
1000
0
–1
–0.5
0
0.5
1
1.5
2
Δp_z [GeV]

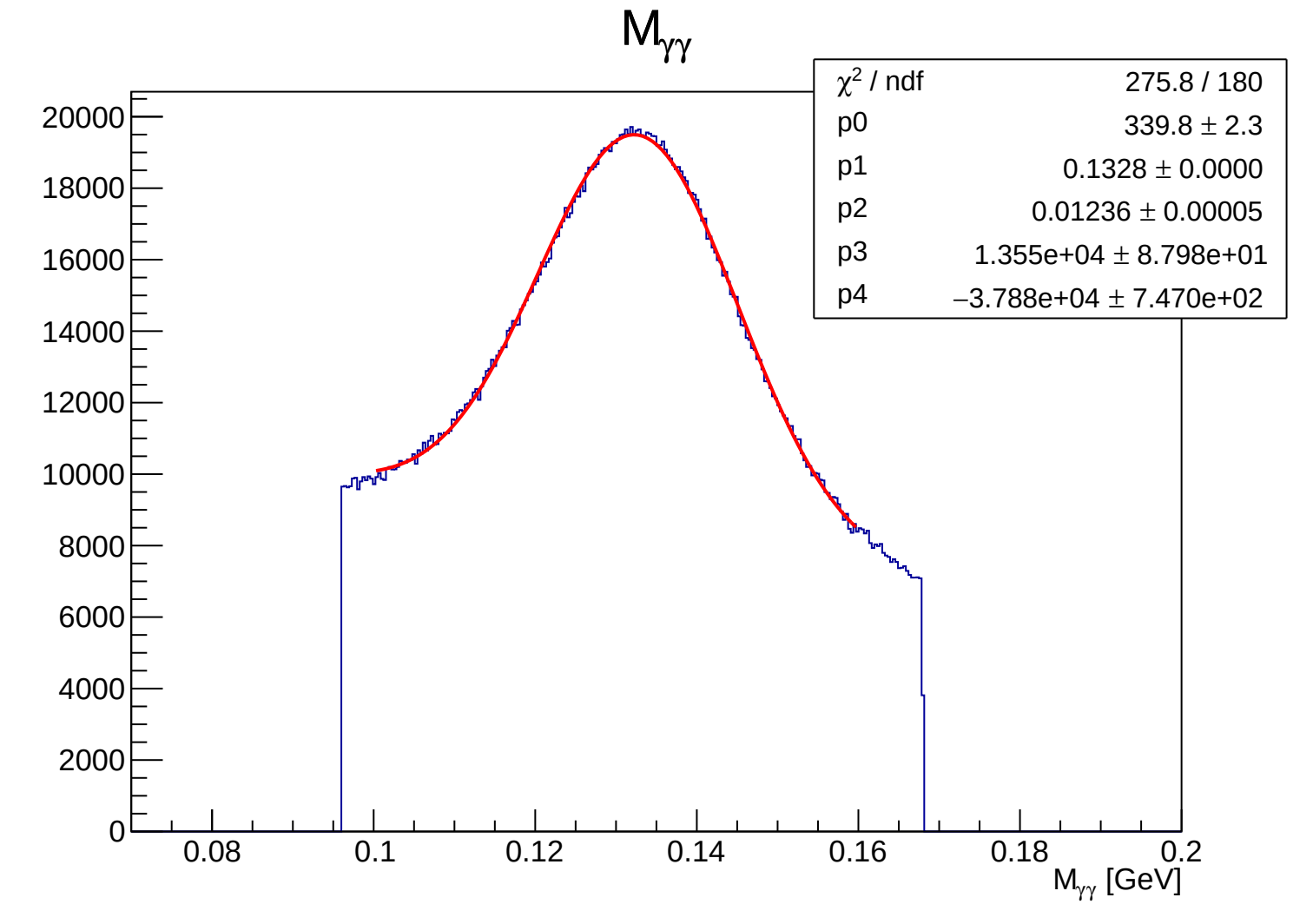

ep/pi0/gg/hggp_FD
80000
70000
60000
50000
40000
30000
20000
10000
0
0
1
2
3
4
5
6
7
8
9
10

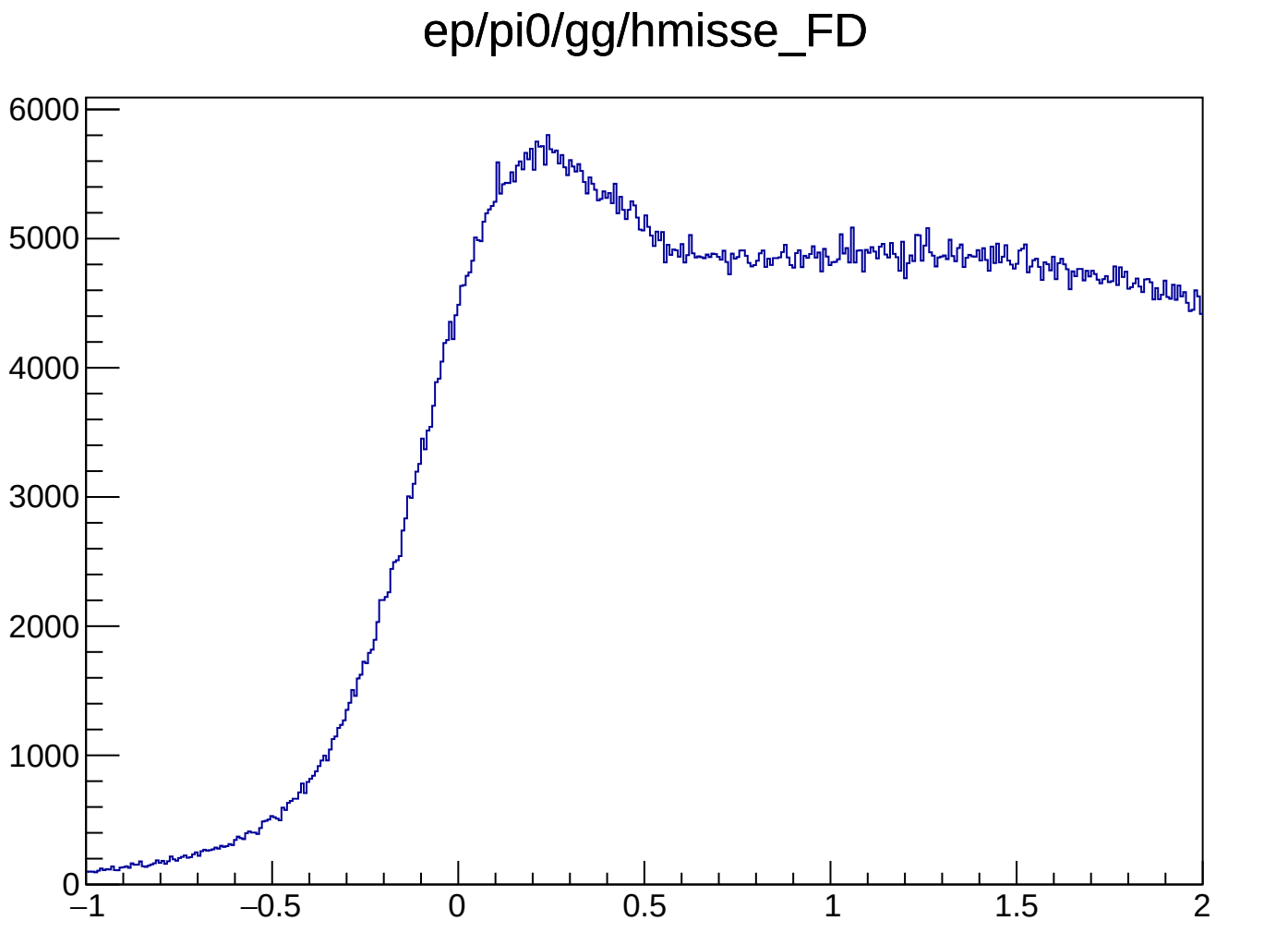

electron momentum
40000
35000
30000
25000
20000
15000
10000
5000
0
0
1
2
3
4
5
6
7
8
9
10
p_e [GeV]

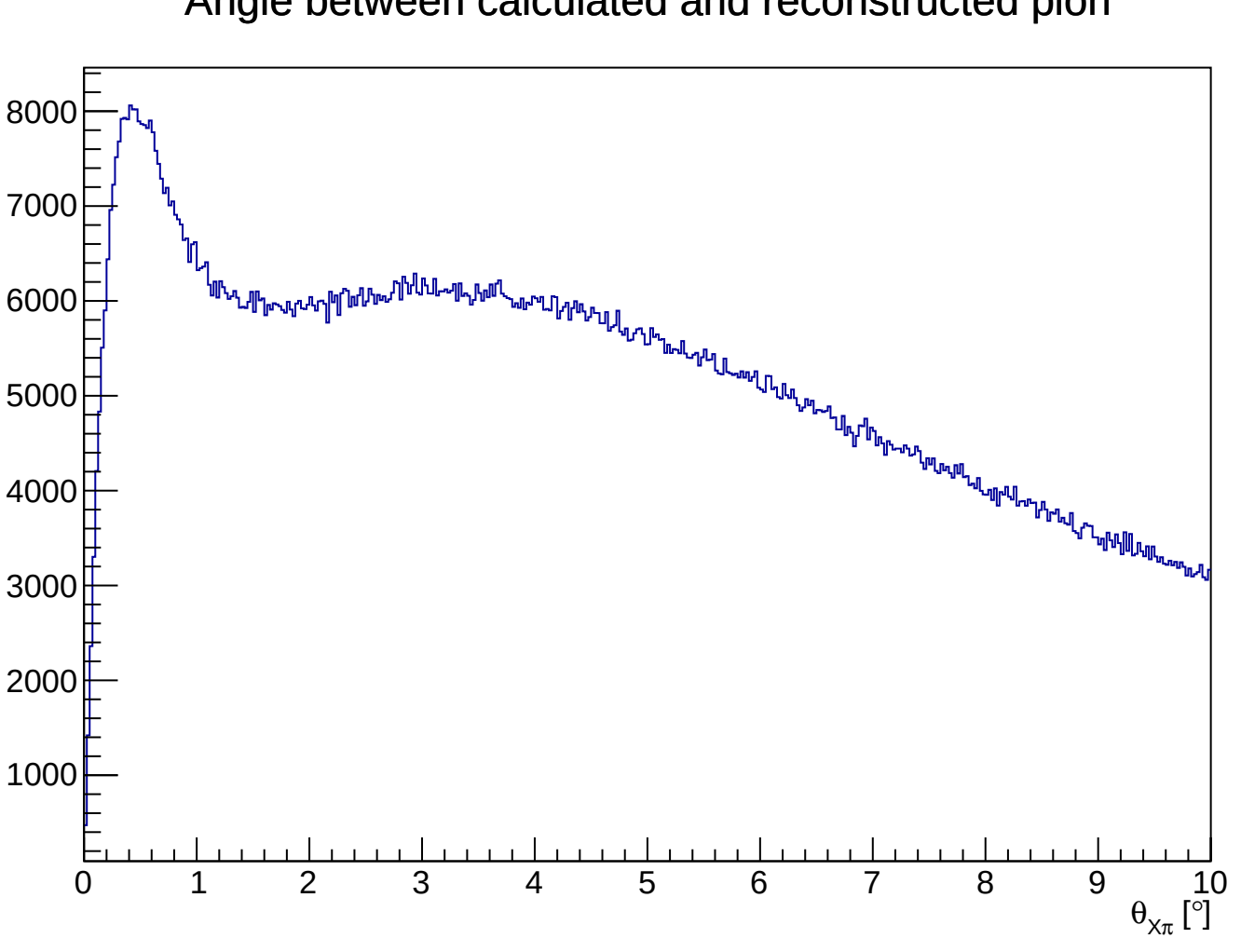

proton momentum
80000
70000
60000
50000
40000
30000
20000
10000
0
0
1
2
3
4
5
6
p_p [GeV]

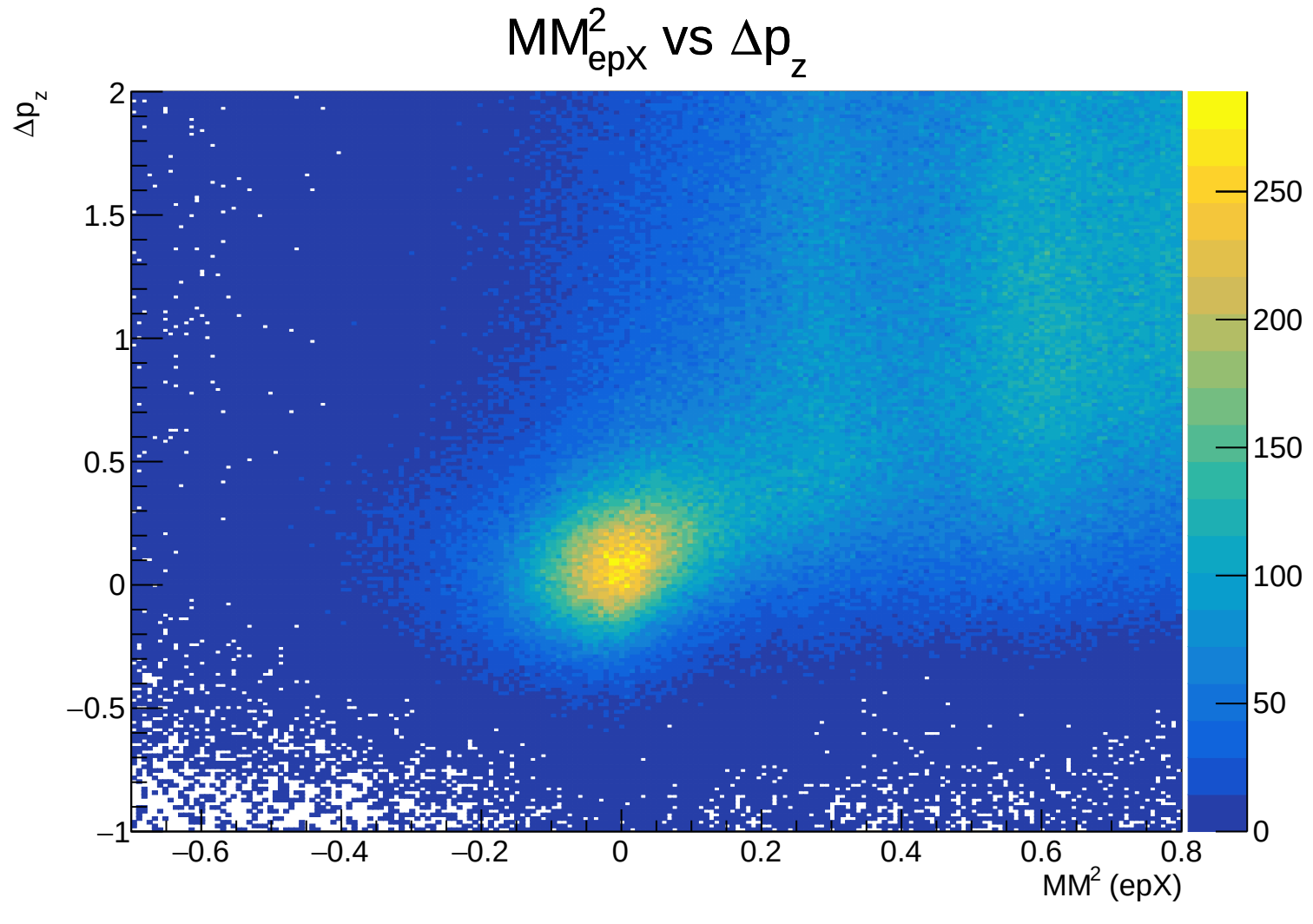

MM^2 (epX)
14000
12000
10000
8000
6000
4000
2000
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
MM^2 (epX) [GeV^2]

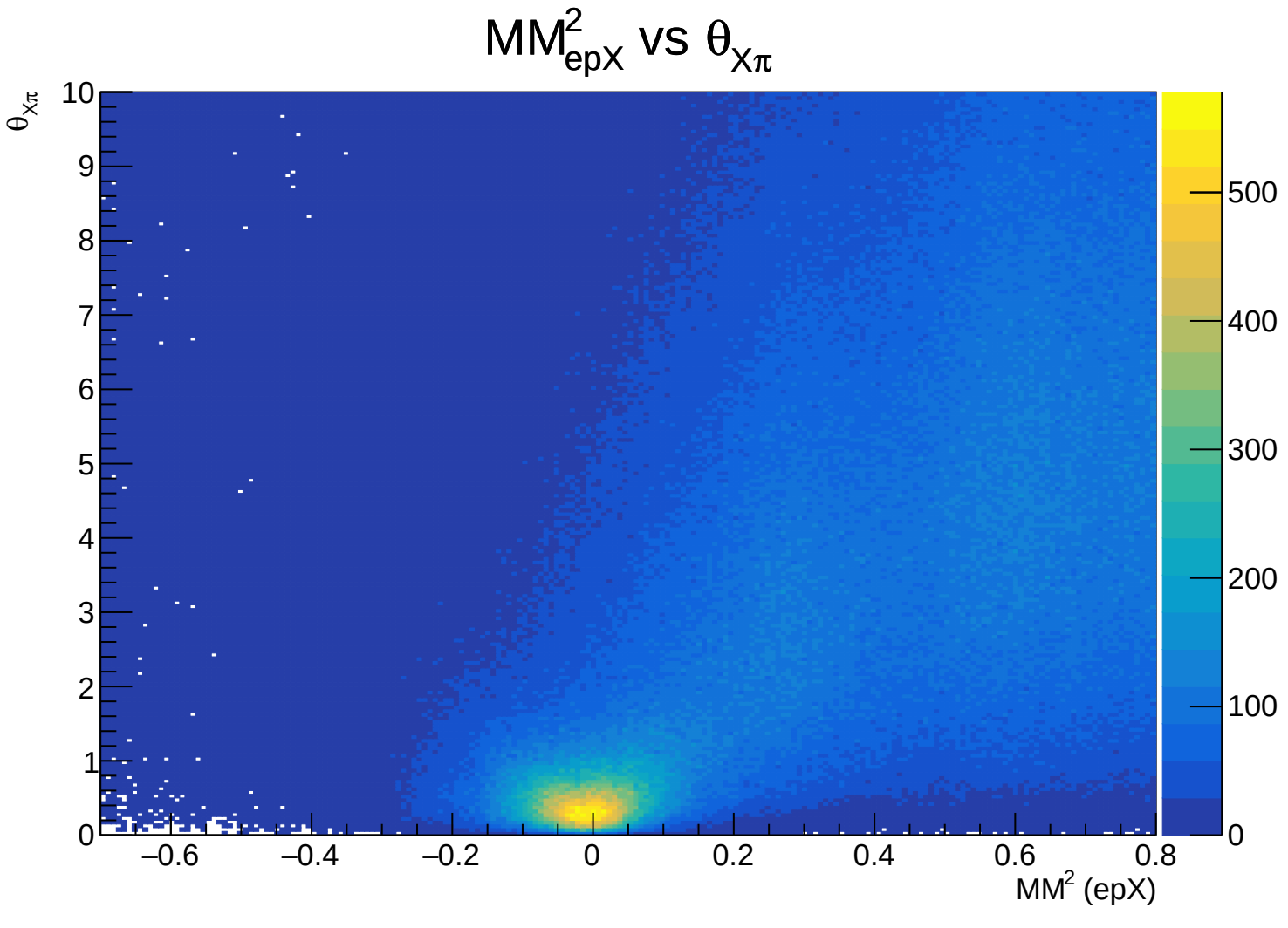

MM (eγγX)
10000
8000
6000
4000
2000
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
MM (eγγX) [GeV]

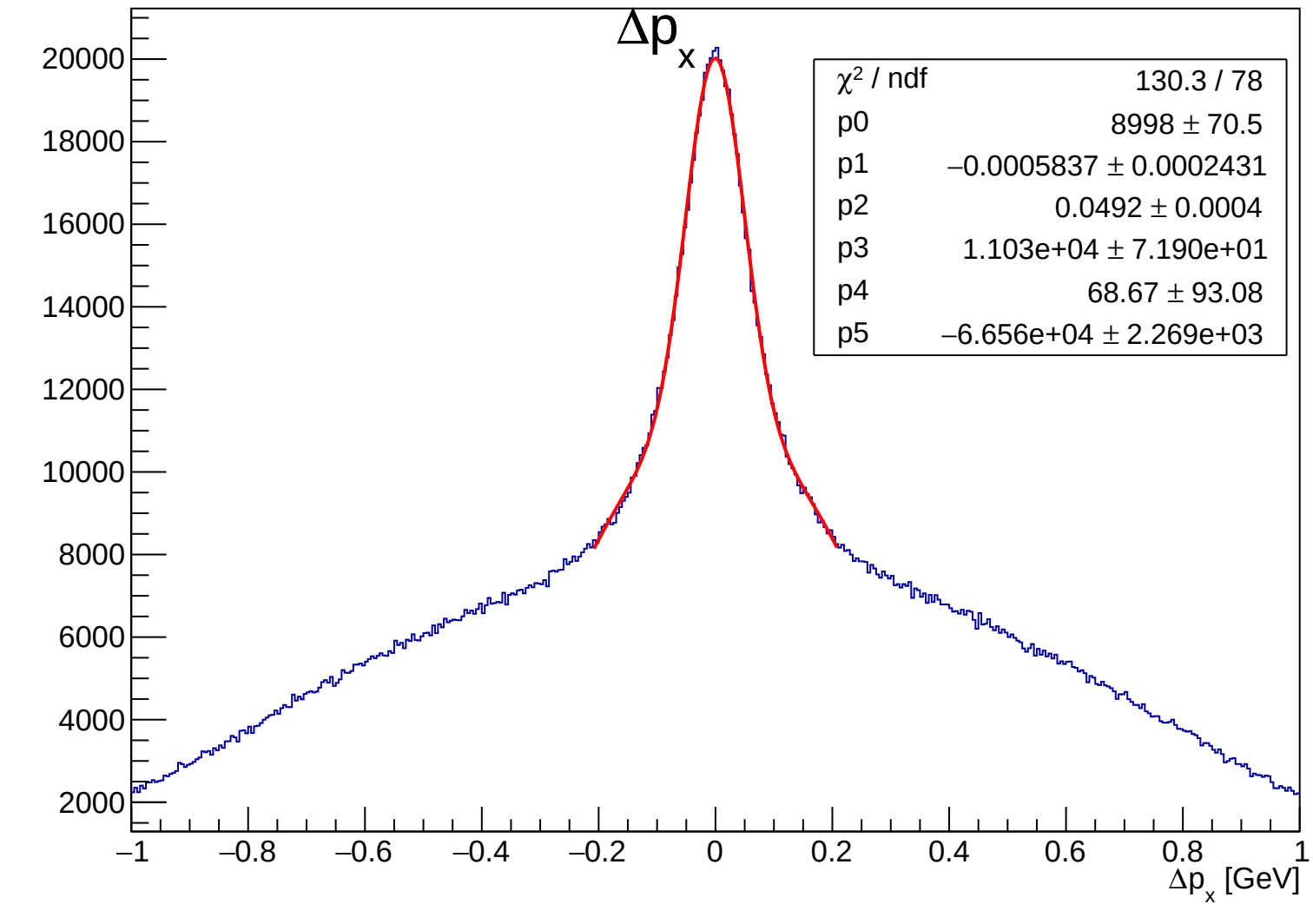

$M_{\gamma\gamma}$
χ^2 / ndf 275.8 / 180
p0 339.8 ± 2.3
p1 0.1328 ± 0.0000
p2 0.01236 ± 0.00005
p3 1.355e+04 ± 8.798e+01
p4 −3.788e+04 ± 7.470e+02
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0.08
0.1
0.12
0.14
0.16
0.18
0.2
$M_{\gamma\gamma}$ [GeV]

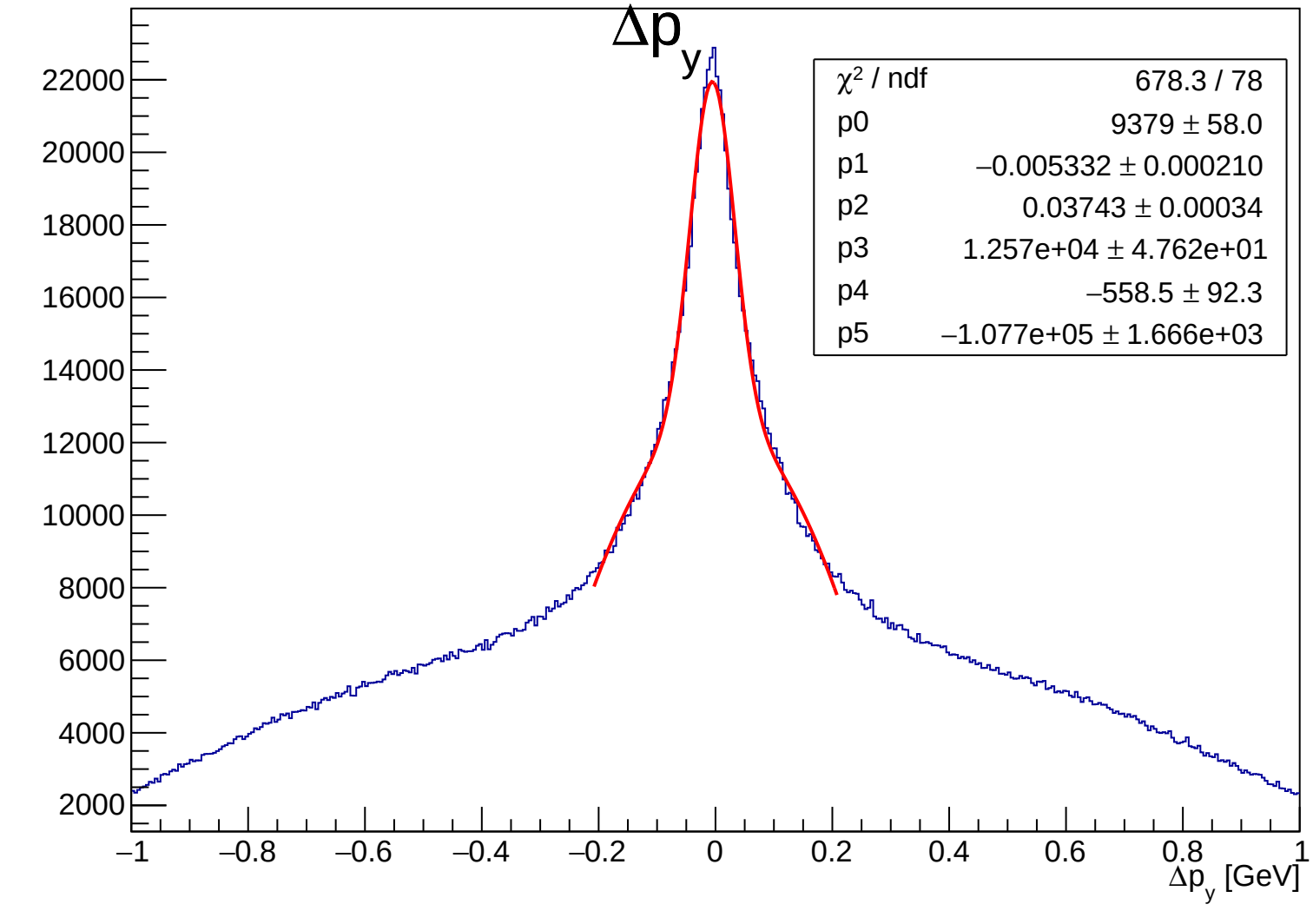

ep/pi0/gg/hmisse_FD
6000
5000
4000
3000
2000
1000
0
–1
–0.5
0
0.5
1
1.5
2

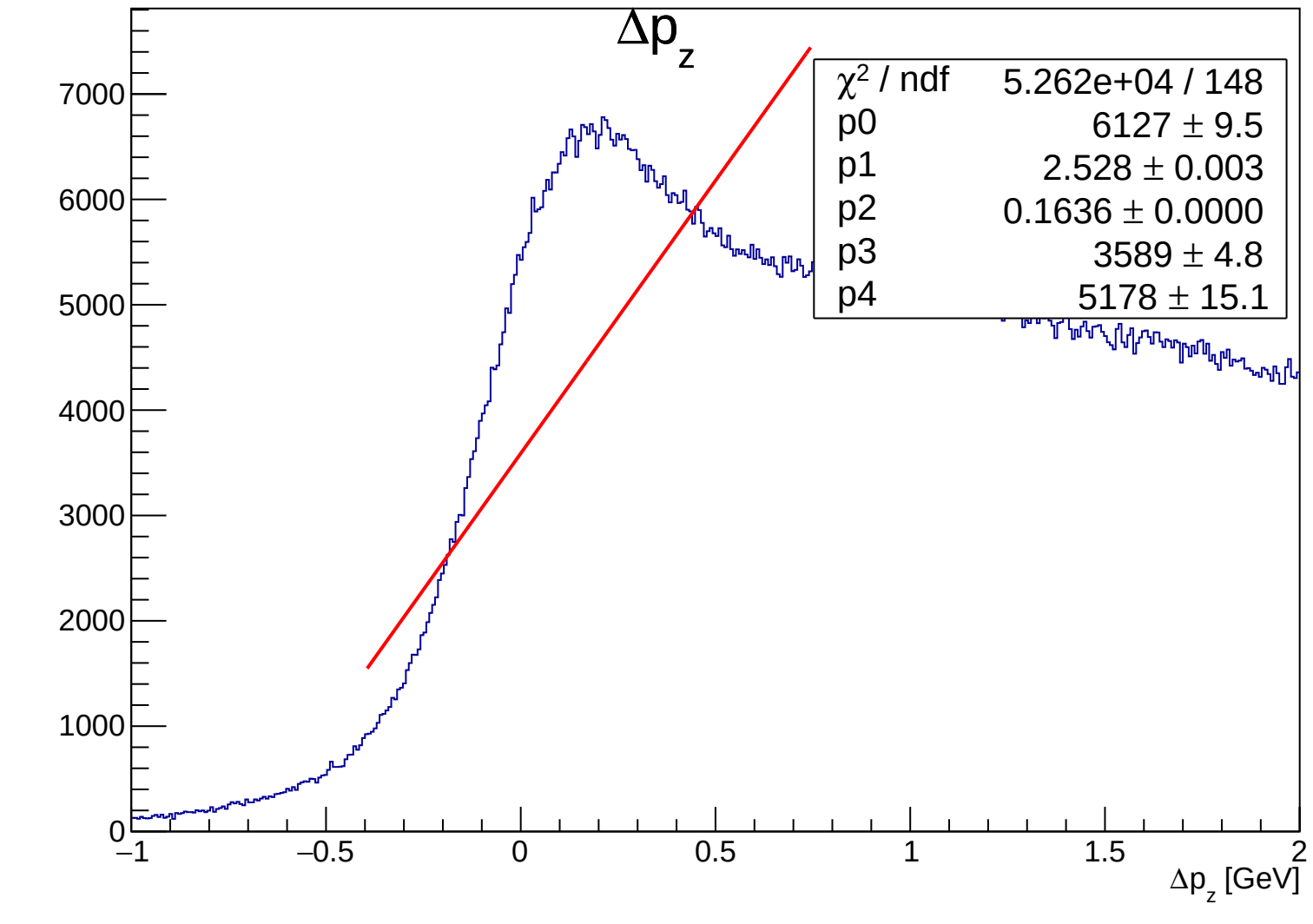

Angle between calculated and reconstructed pion
8000
7000
6000
5000
4000
3000
2000
1000
0
1
2
3
4
5
6
7
8
9
10
θXπ [°]

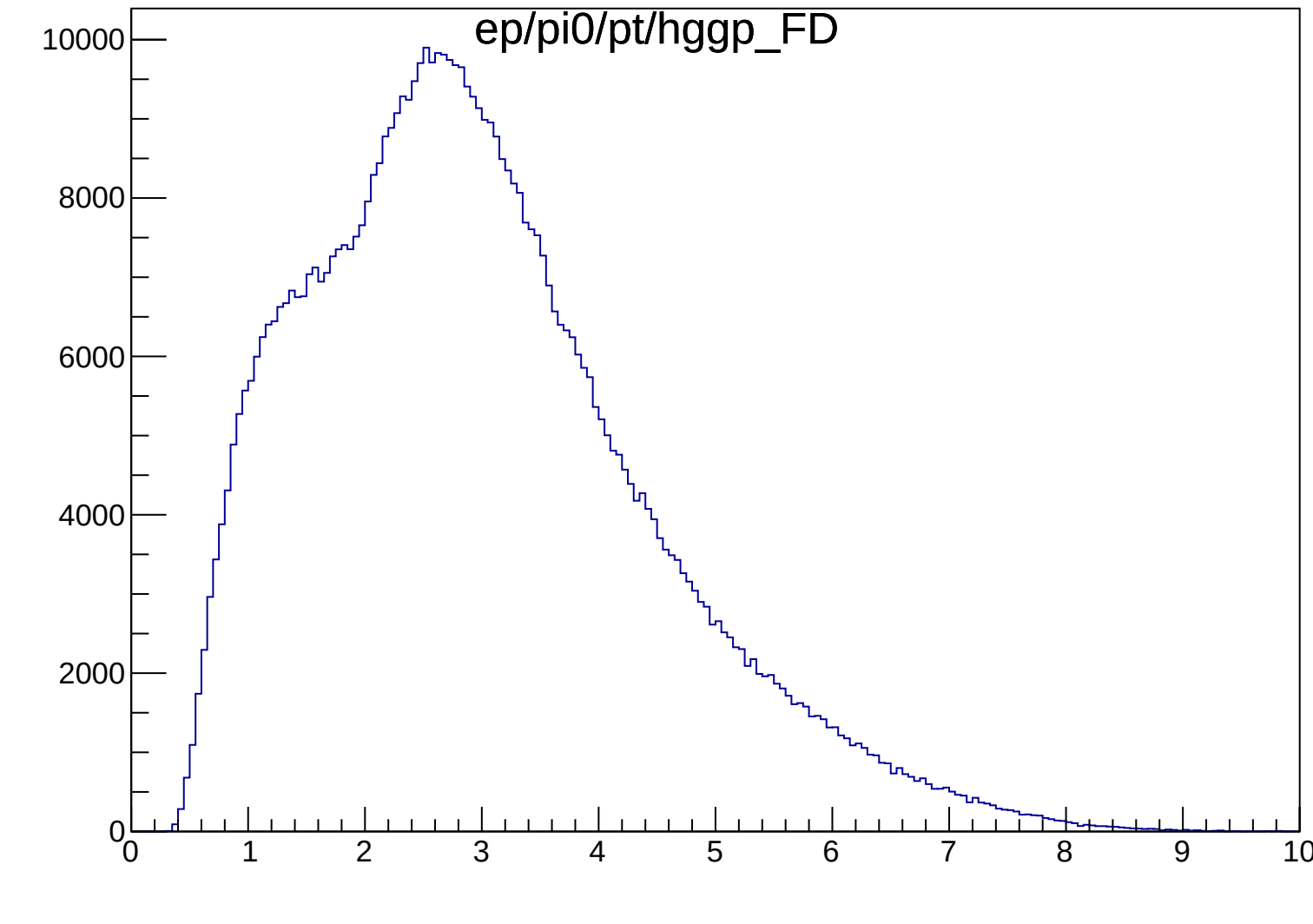

MM^2_{epX} vs Δp_z
Δp_z
2
1.5
1
0.5
0
−0.5
−1
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
MM^2 (epX)
250
200
150
100
50
0

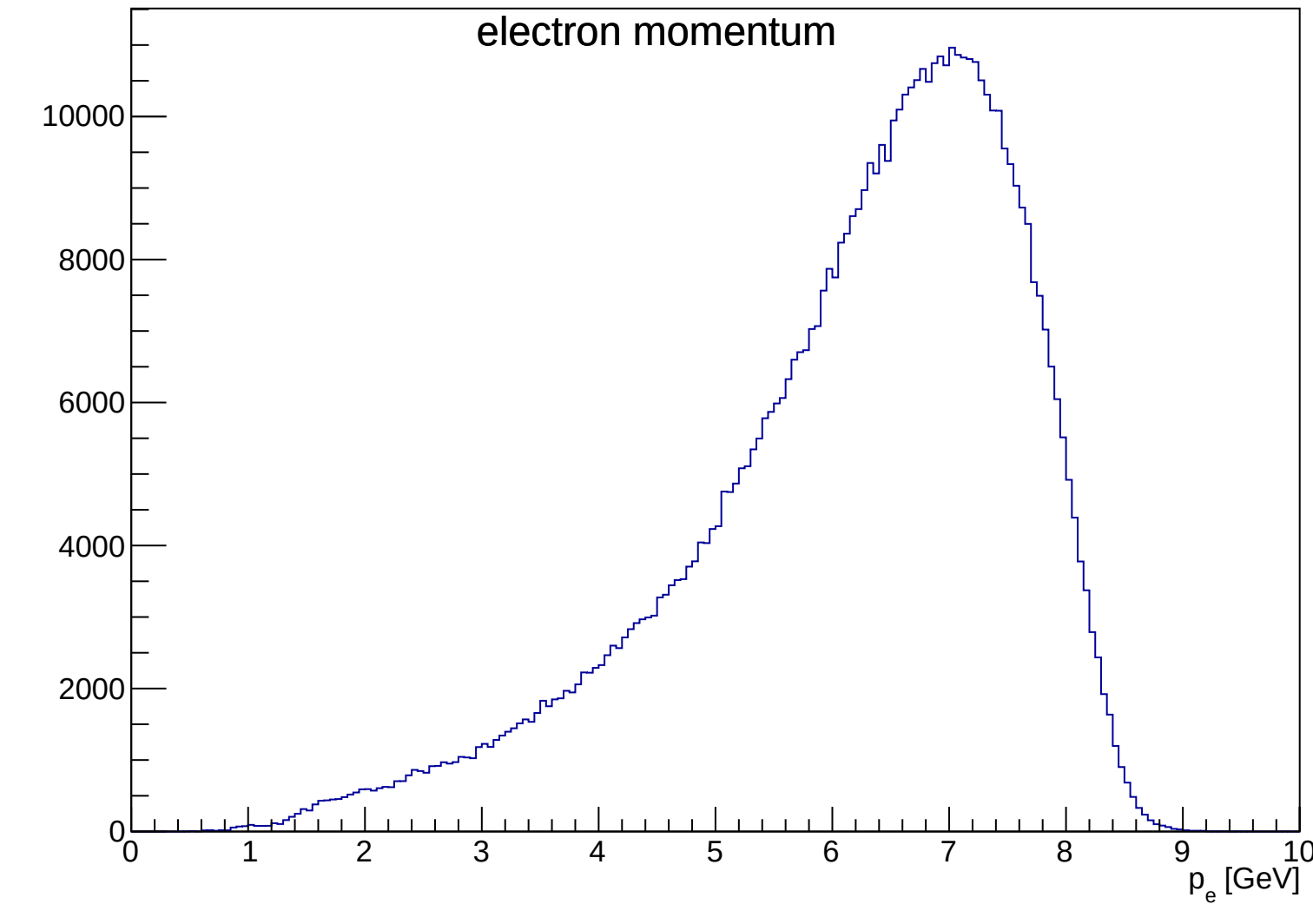

MM²epX vs θXπ
θXπ
10
9
8
7
6
5
4
3
2
1
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
MM² (epX)
500
400
300
200
100
0

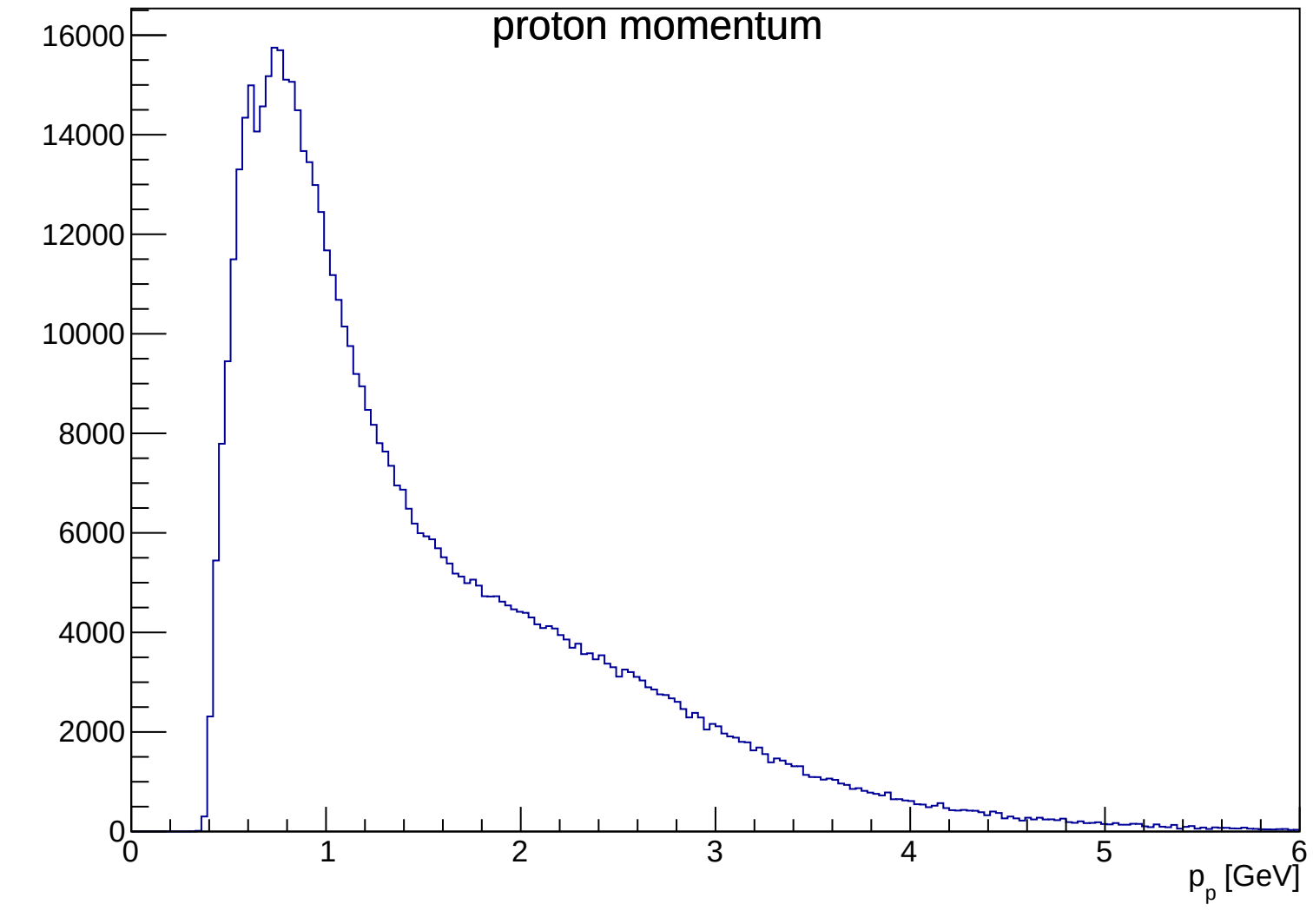

Δp_x
χ² / ndf 130.3 / 78
p0 8998 ± 70.5
p1 −0.0005837 ± 0.0002431
p2 0.0492 ± 0.0004
p3 1.103e+04 ± 7.190e+01
p4 68.67 ± 93.08
p5 −6.656e+04 ± 2.269e+03
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1
Δp_x [GeV]

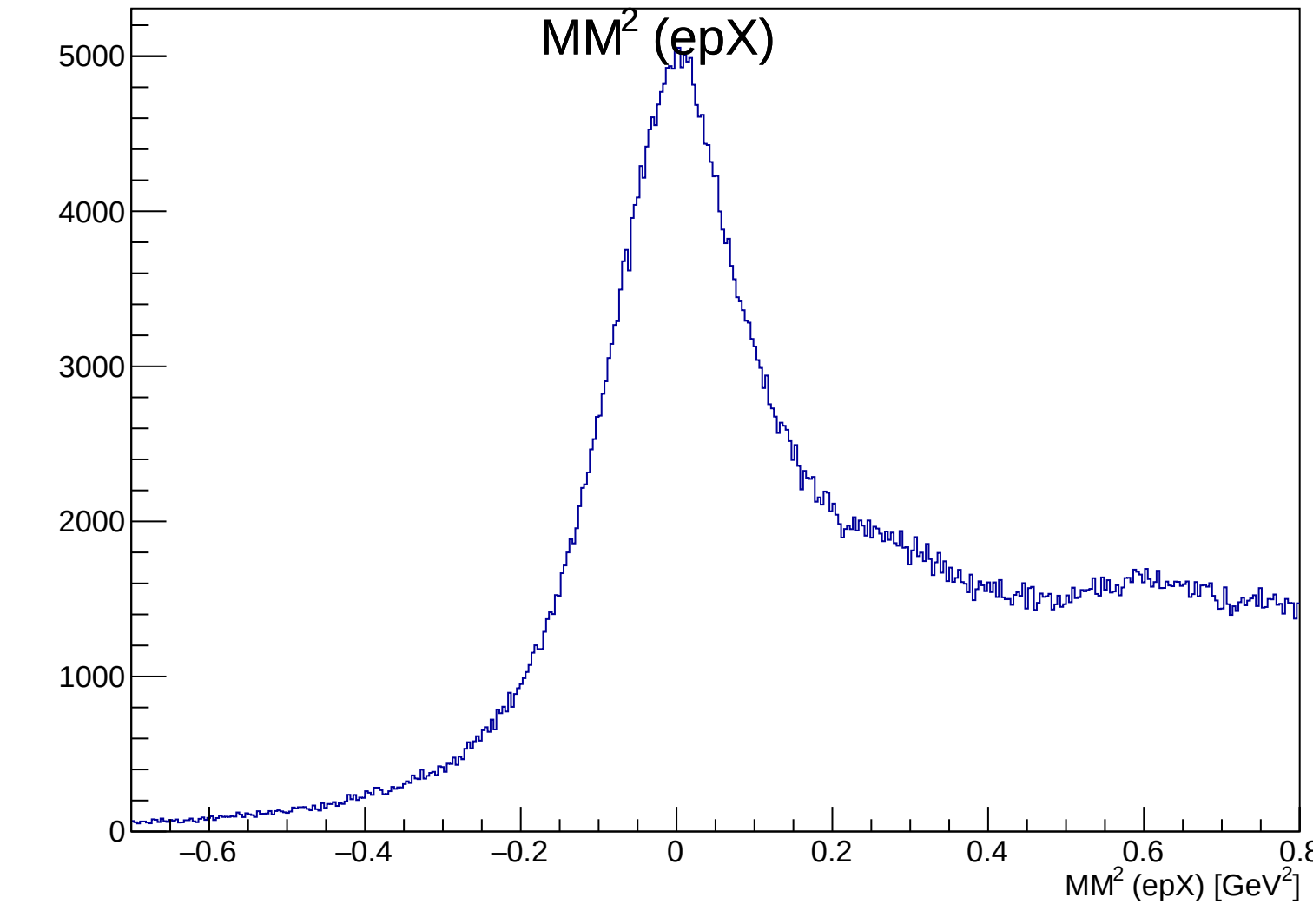

Δp_y
χ^2 / ndf 678.3 / 78
p0 9379 ± 58.0
p1 –0.005332 ± 0.000210
p2 0.03743 ± 0.00034
p3 1.257e+04 ± 4.762e+01
p4 –558.5 ± 92.3
p5 –1.077e+05 ± 1.666e+03
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_y [GeV]

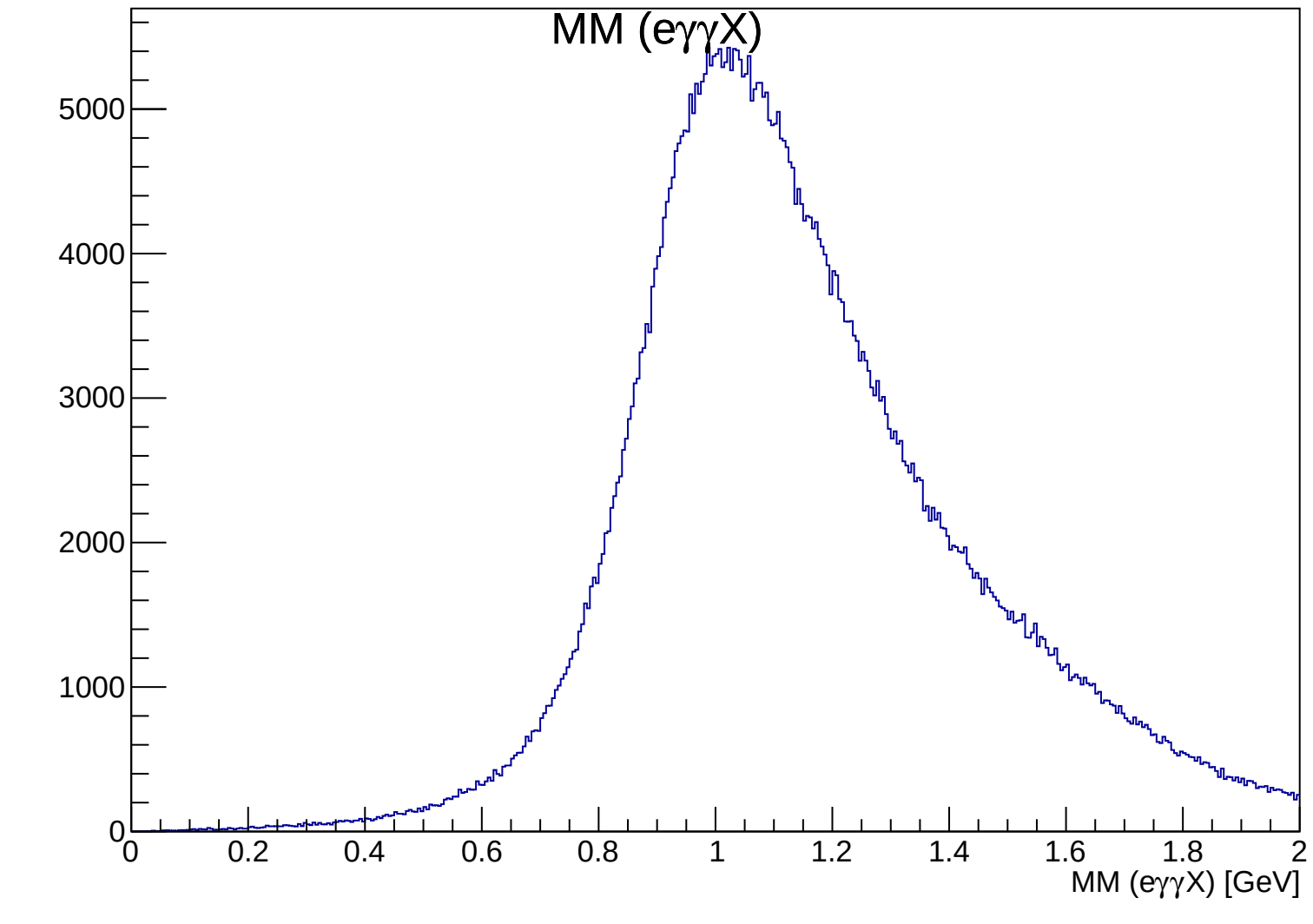

Δp_z
χ² / ndf 5.262e+04 / 148
p0 6127 ± 9.5
p1 2.528 ± 0.003
p2 0.1636 ± 0.0000
p3 3589 ± 4.8
p4 5178 ± 15.1
7000
6000
5000
4000
3000
2000
1000
0
–1
–0.5
0
0.5
1
1.5
2
Δp_z [GeV]

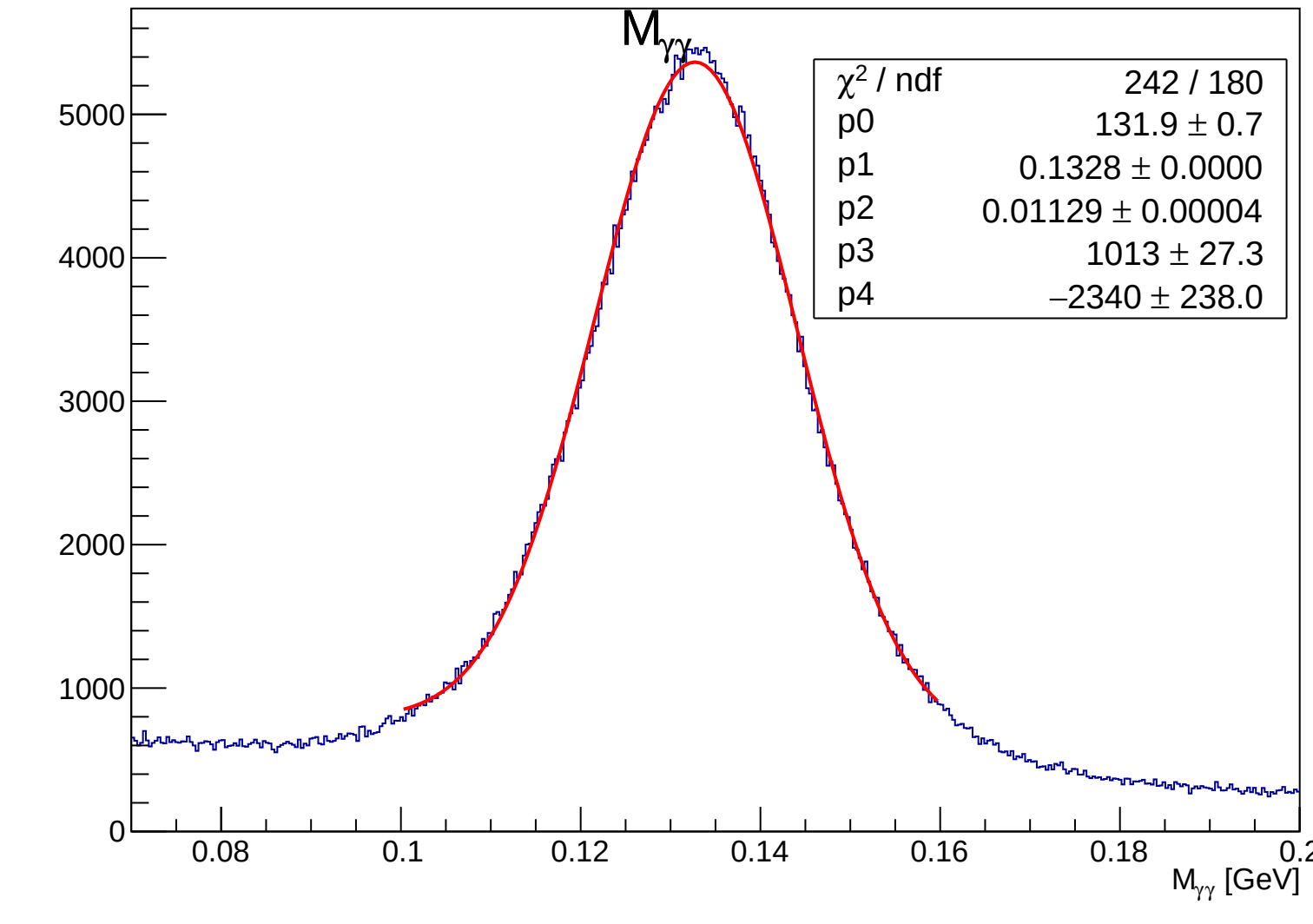

ep/pi0/pt/hggp_FD
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
7
8
9
10

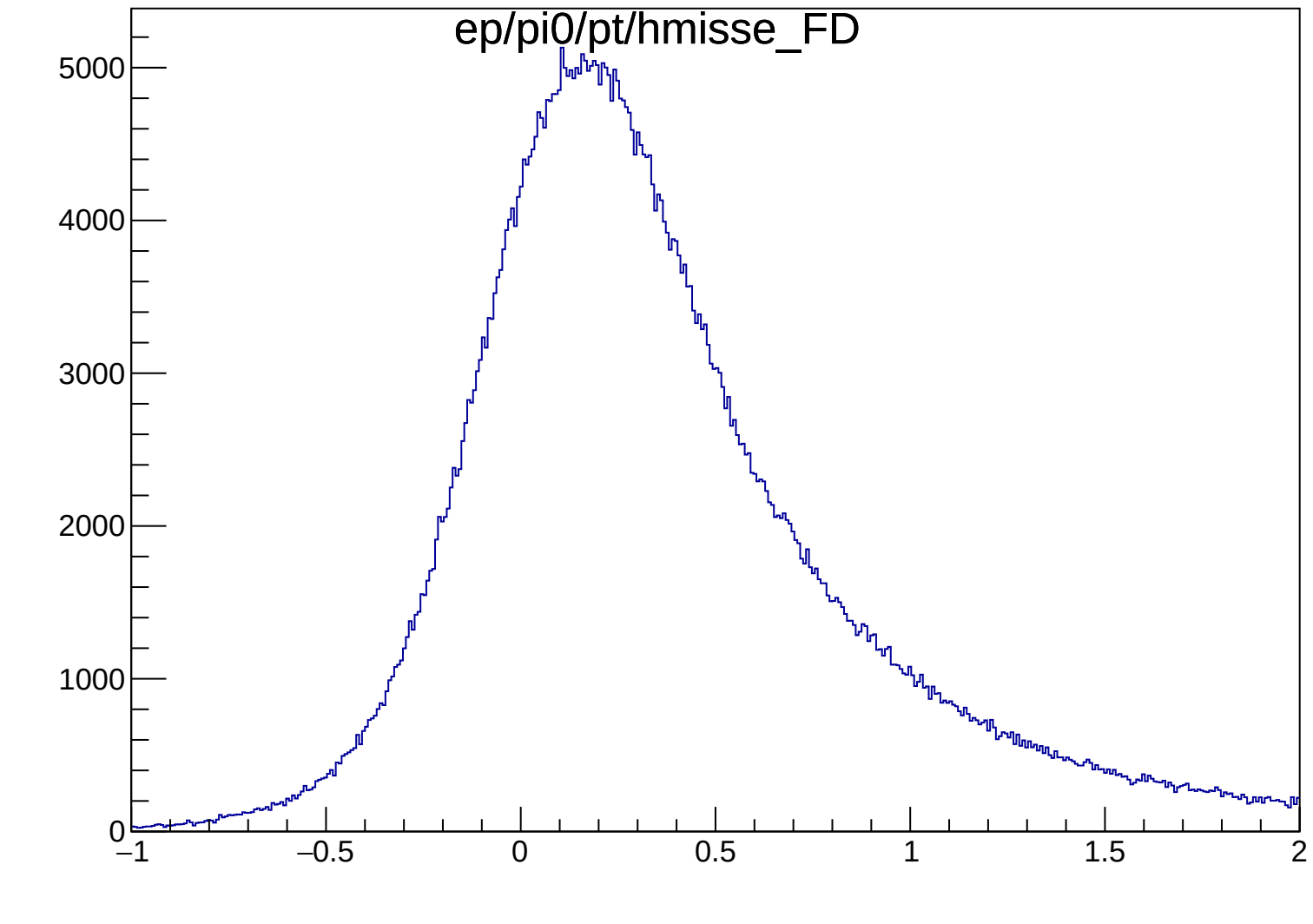

electron momentum
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
7
8
9
10
p_e [GeV]

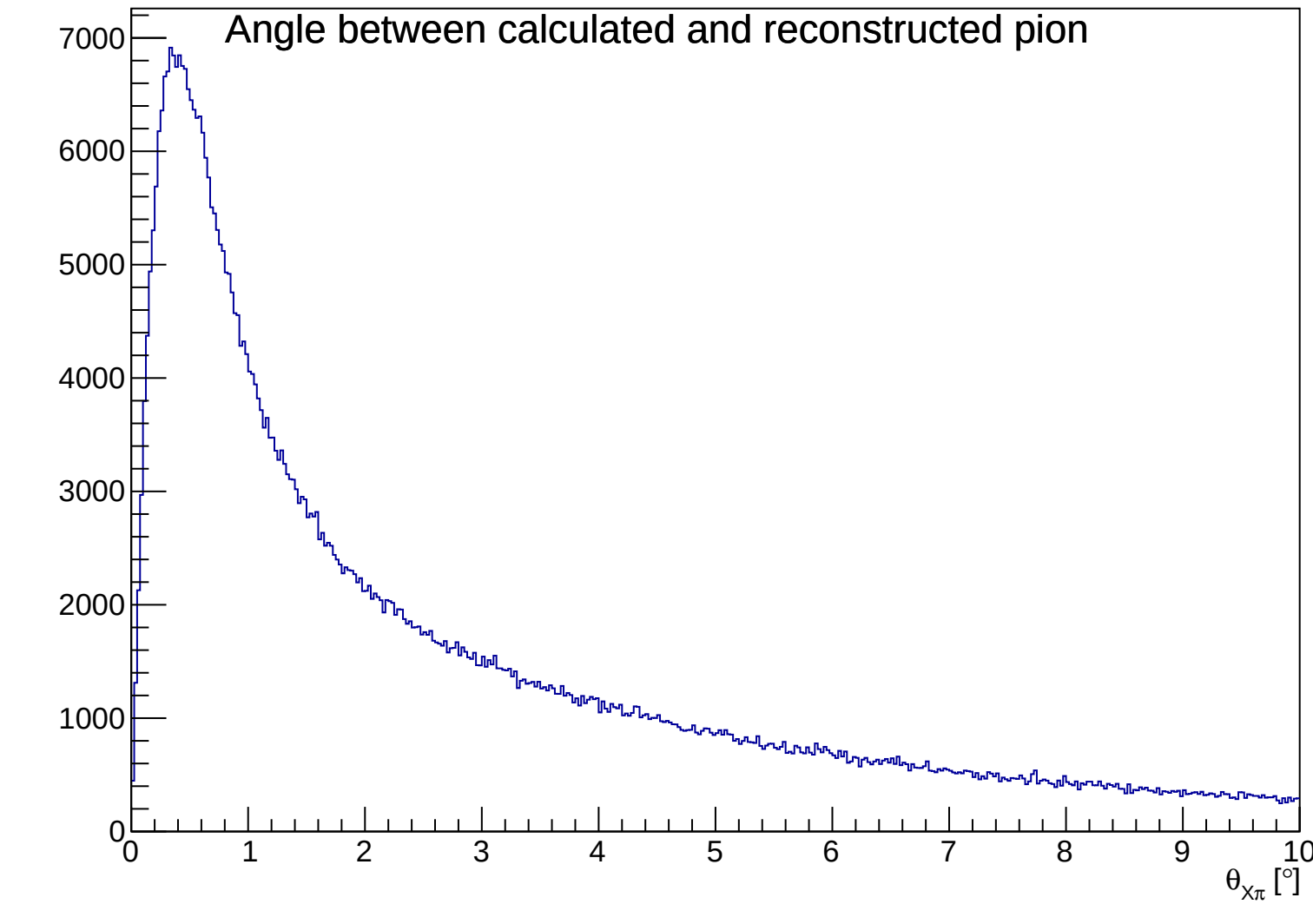

proton momentum
16000
14000
12000
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
p_p [GeV]

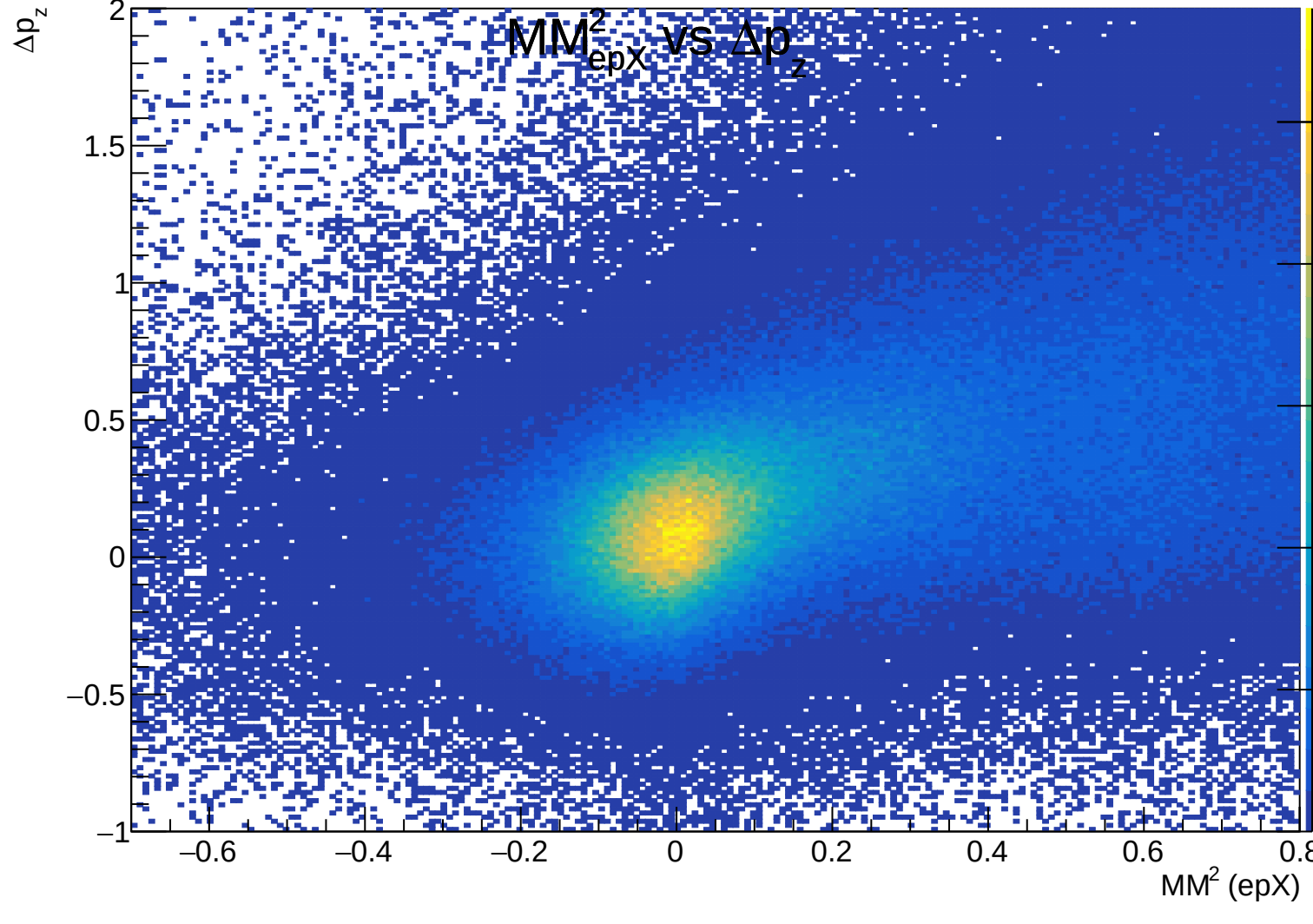

MM^2 (epX)
5000
4000
3000
2000
1000
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX) [GeV^2]

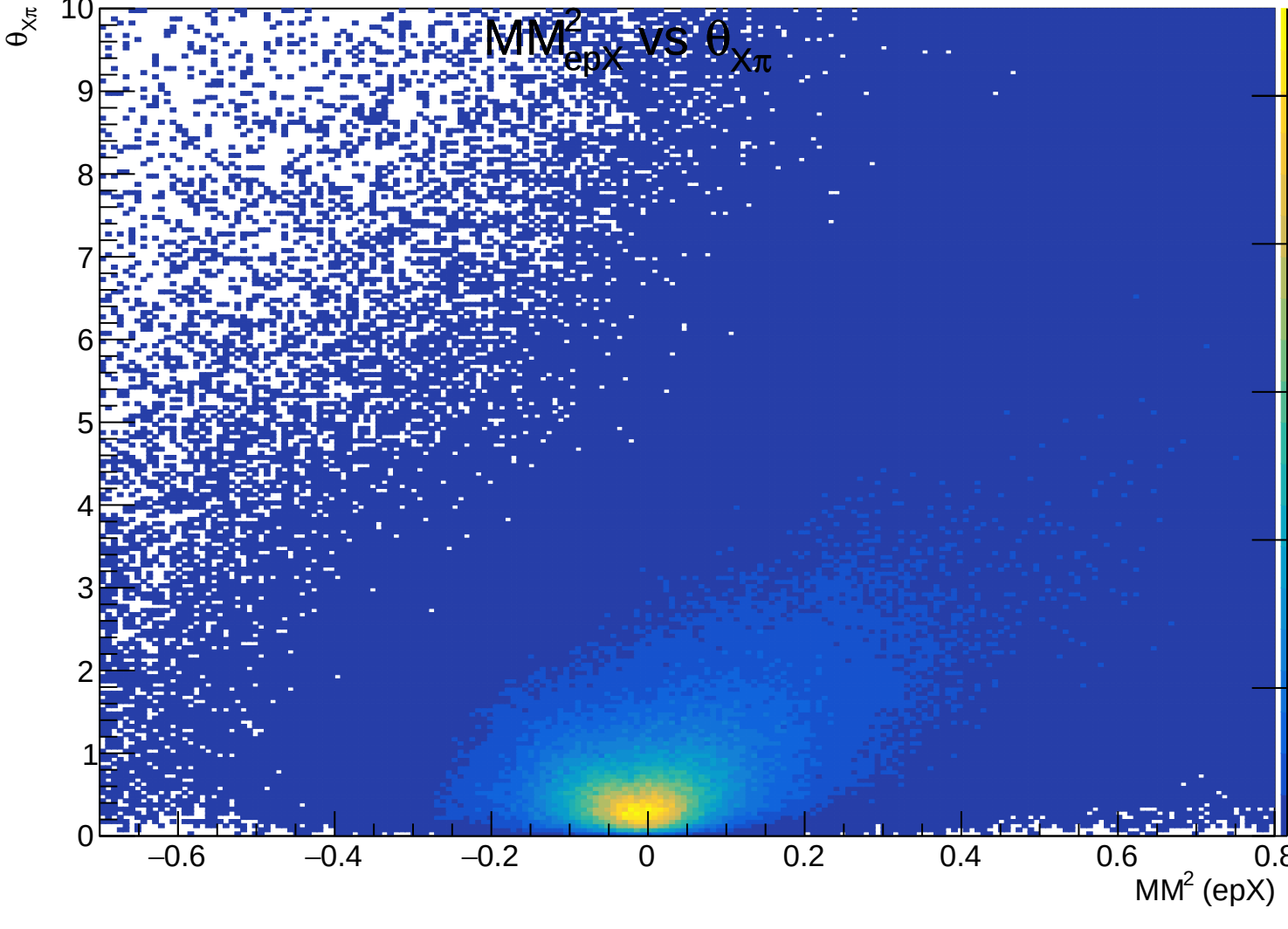

MM (eγγX)
5000
4000
3000
2000
1000
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
MM (eγγX) [GeV]

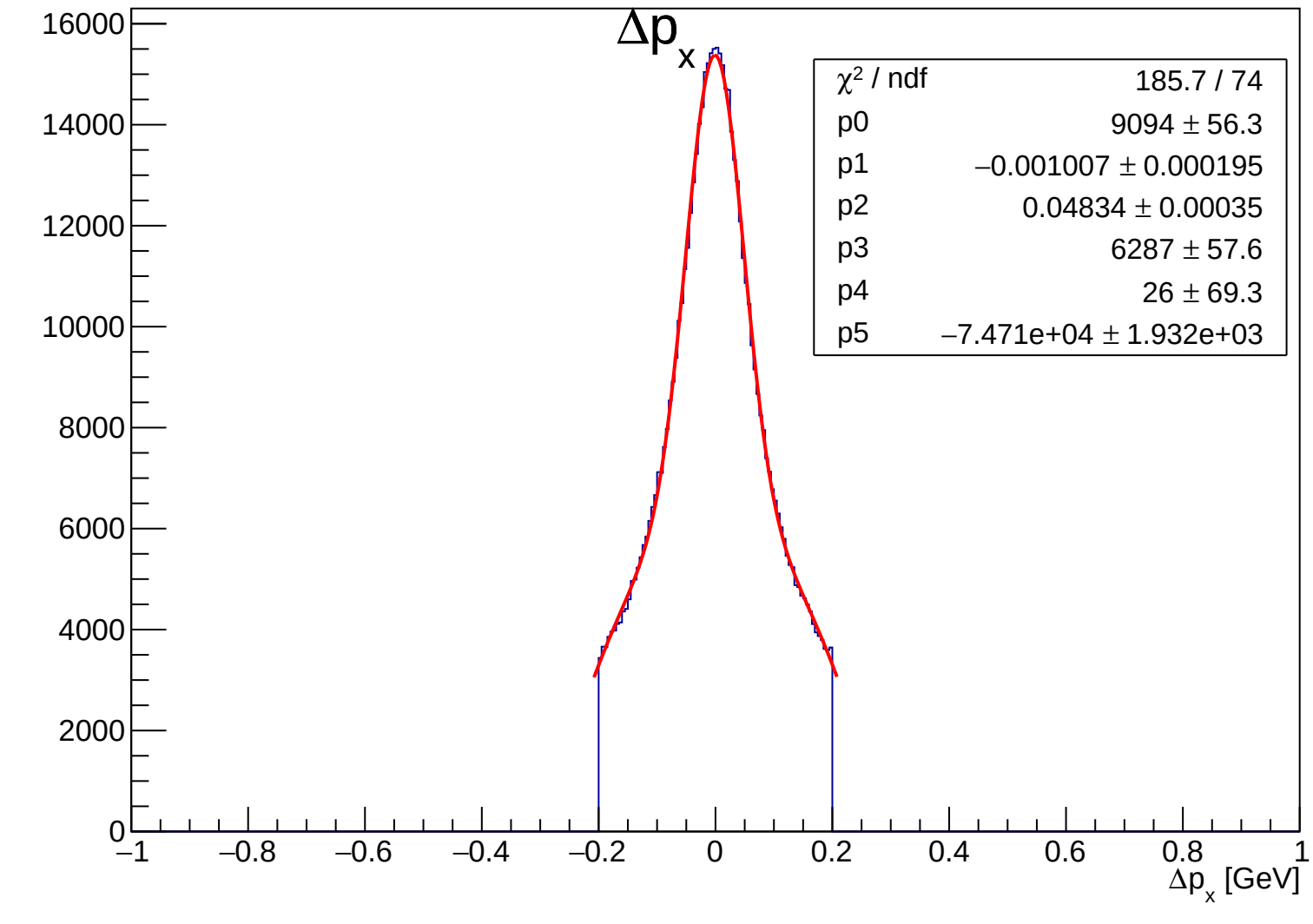

$M_{\gamma\gamma}$
χ^2 / ndf 242 / 180
p0 131.9 ± 0.7
p1 0.1328 ± 0.0000
p2 0.01129 ± 0.00004
p3 1013 ± 27.3
p4 −2340 ± 238.0
5000
4000
3000
2000
1000
0
0.08
0.1
0.12
0.14
0.16
0.18
$M_{\gamma\gamma}$ [GeV]

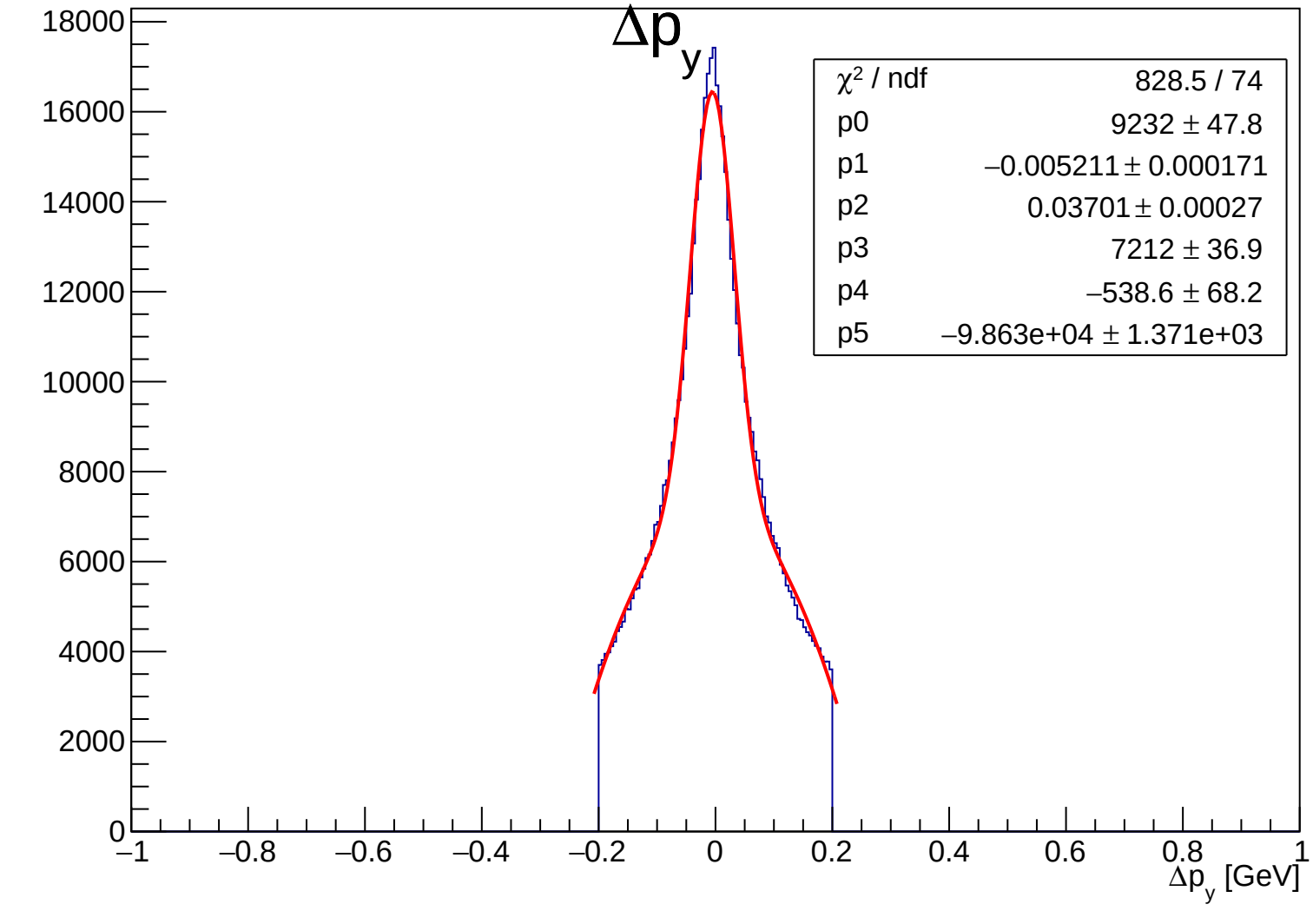

ep/pi0/pt/hmisse_FD
5000
4000
3000
2000
1000
0
–1
–0.5
0
0.5
1
1.5
2

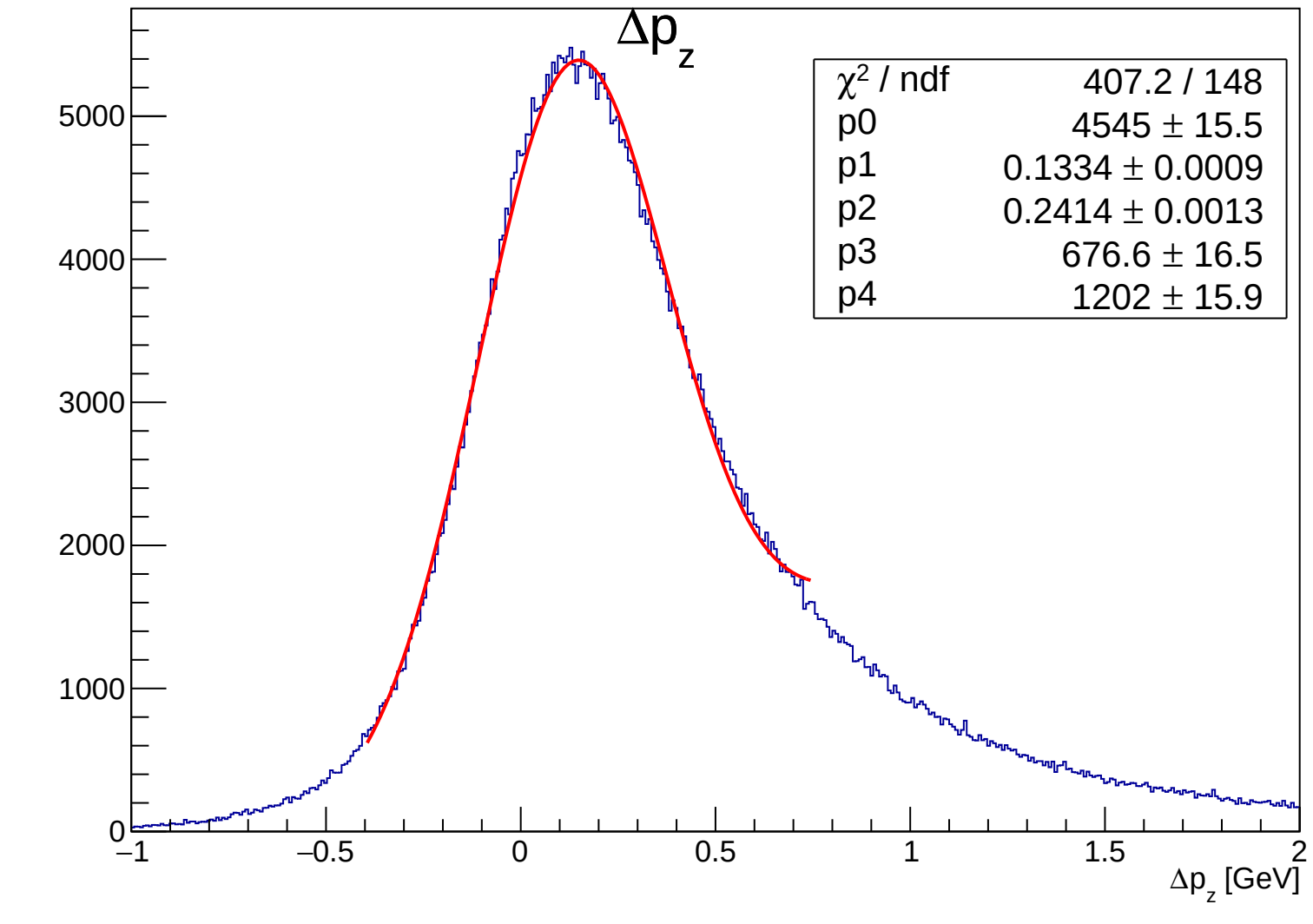

Angle between calculated and reconstructed pion
7000
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10
θXπ [°]

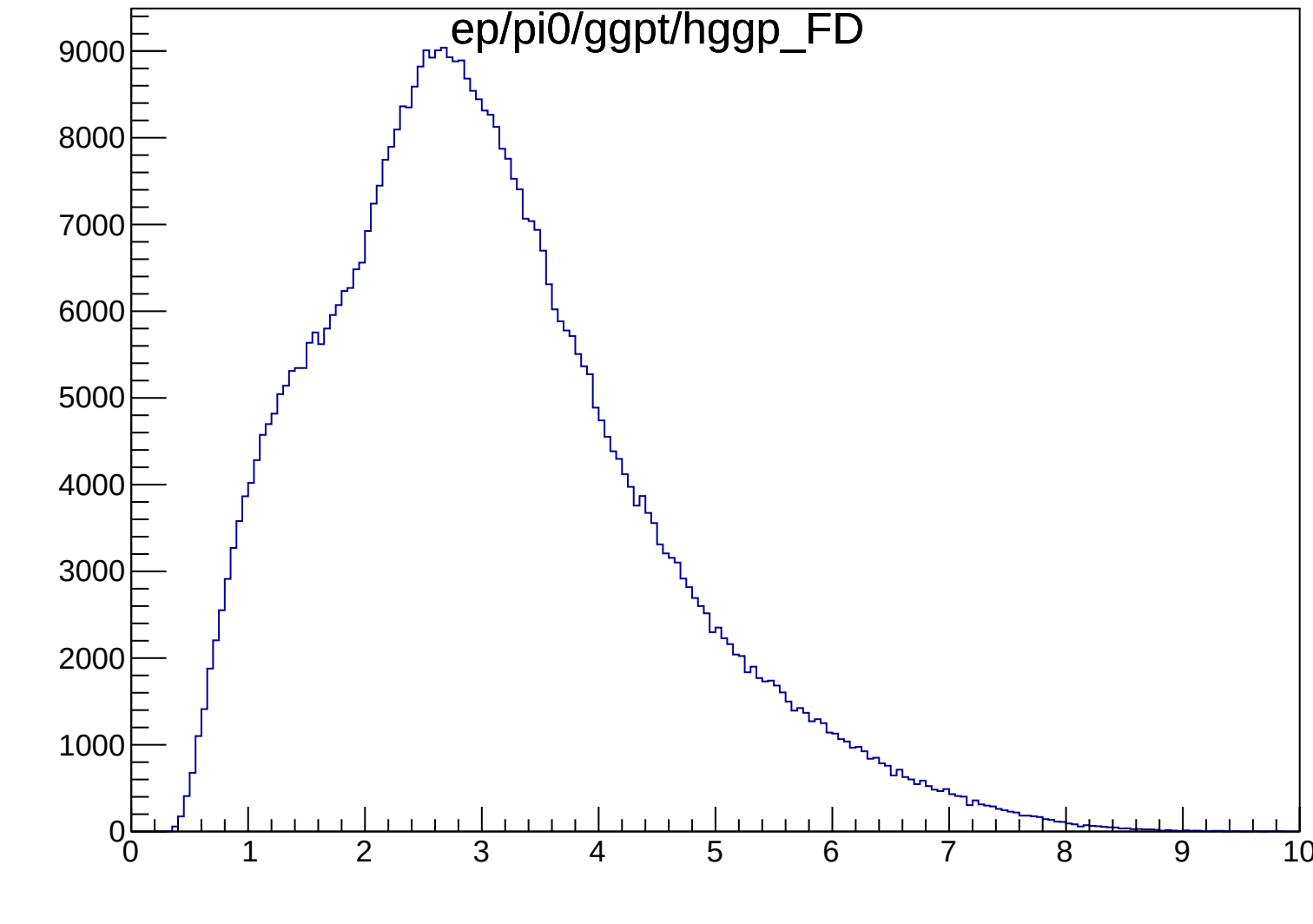

MM^2_{epX} vs Δp_z
Δp_z
2
1.5
1
0.5
0
−0.5
−1
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
MM^2 (epX)

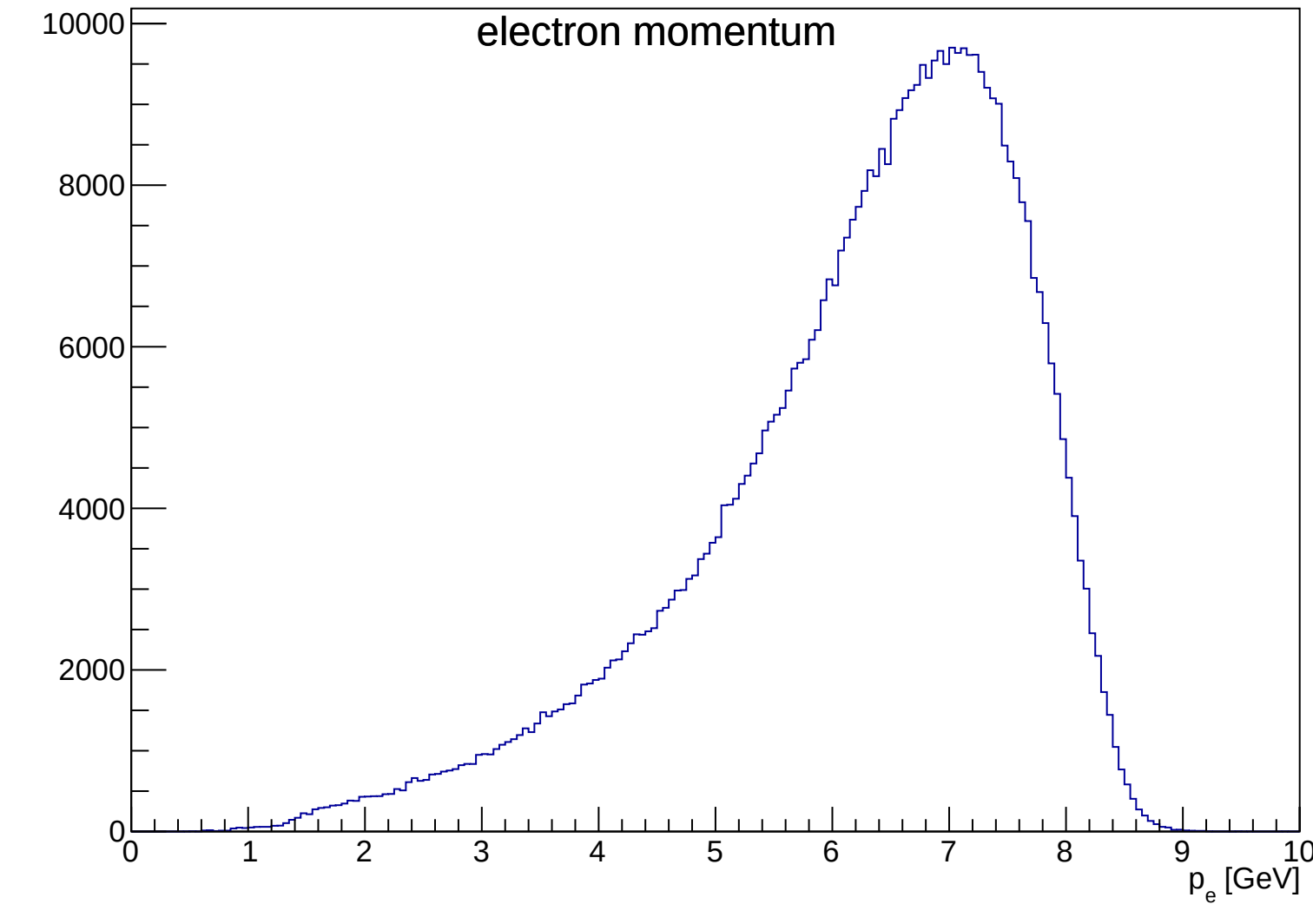

MM^2_{epX} vs $\theta_{X\pi}$
$\theta_{X\pi}$
10
9
8
7
6
5
4
3
2
1
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX)

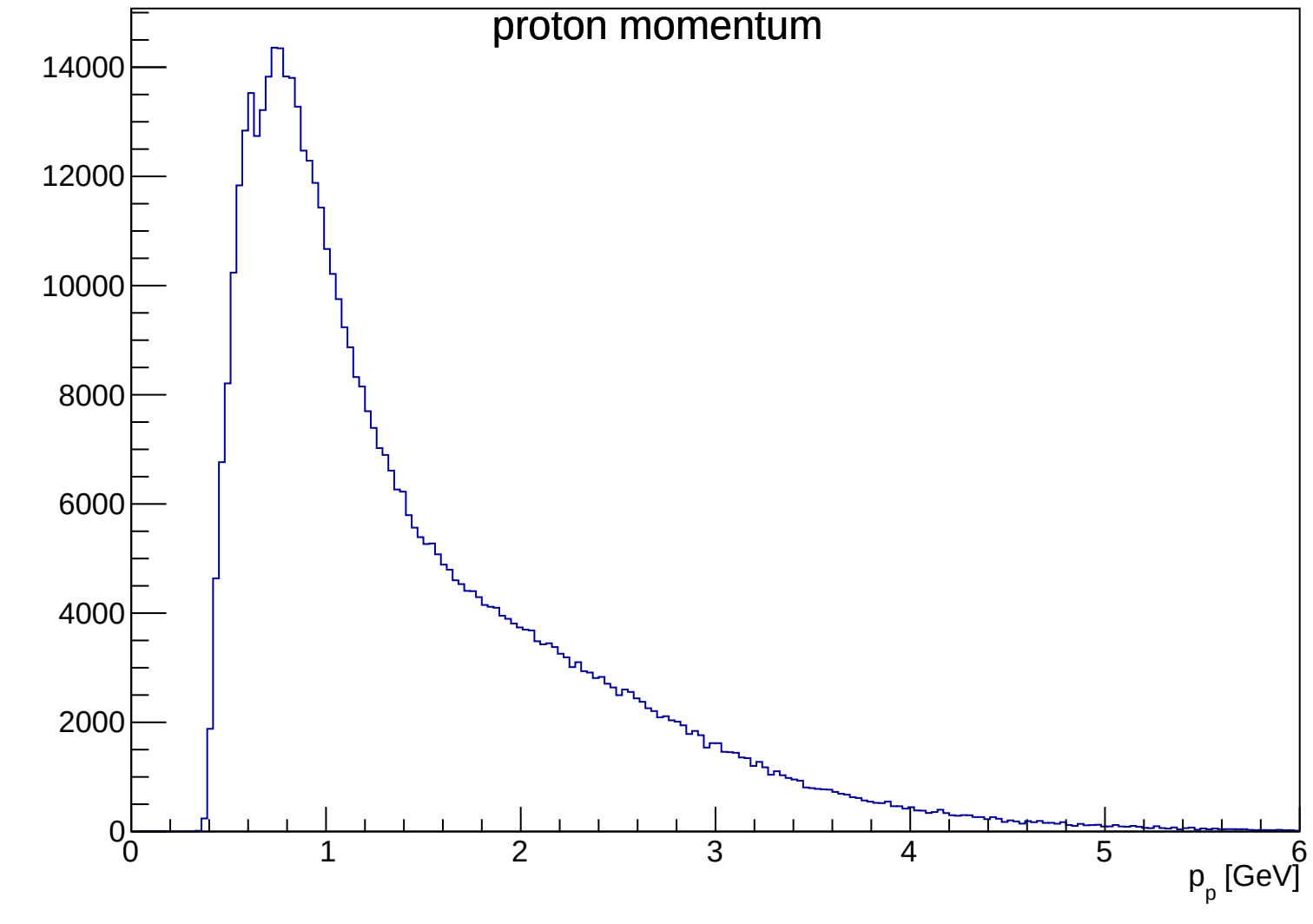

Δp_x
χ^2 / ndf 185.7 / 74
p0 9094 ± 56.3
p1 –0.001007 ± 0.000195
p2 0.04834 ± 0.00035
p3 6287 ± 57.6
p4 26 ± 69.3
p5 –7.471e+04 ± 1.932e+03
16000
14000
12000
10000
8000
6000
4000
2000
0
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_x [GeV]

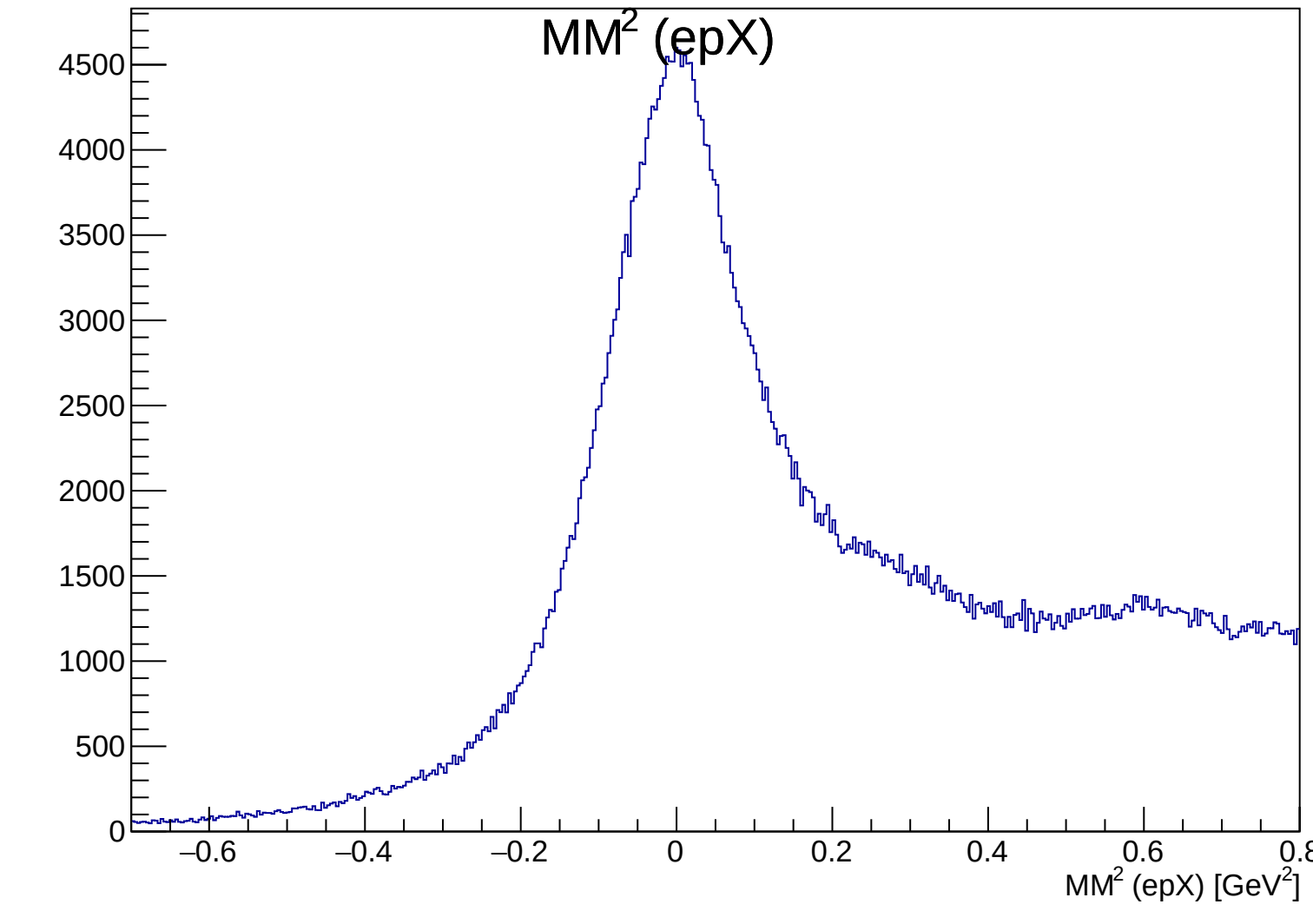

Δp_y
χ^2 / ndf 828.5 / 74
p0 9232 ± 47.8
p1 −0.005211 ± 0.000171
p2 0.03701 ± 0.00027
p3 7212 ± 36.9
p4 −538.6 ± 68.2
p5 −9.863e+04 ± 1.371e+03
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1
Δp_y [GeV]

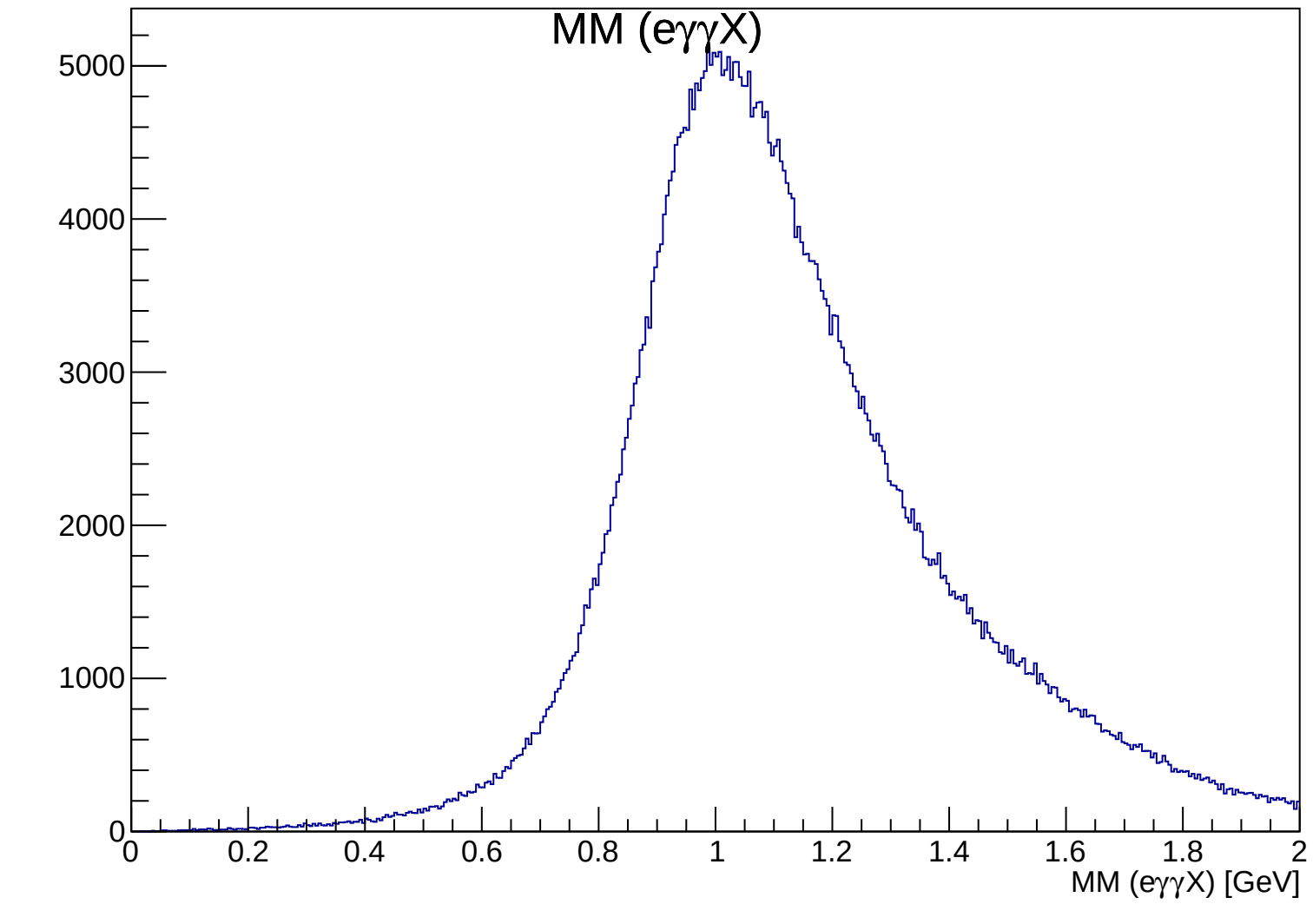

Δp_z
χ^2 / ndf 407.2 / 148
p0 4545 ± 15.5
p1 0.1334 ± 0.0009
p2 0.2414 ± 0.0013
p3 676.6 ± 16.5
p4 1202 ± 15.9
5000
4000
3000
2000
1000
0
–1
–0.5
0
0.5
1
1.5
2
Δp_z [GeV]

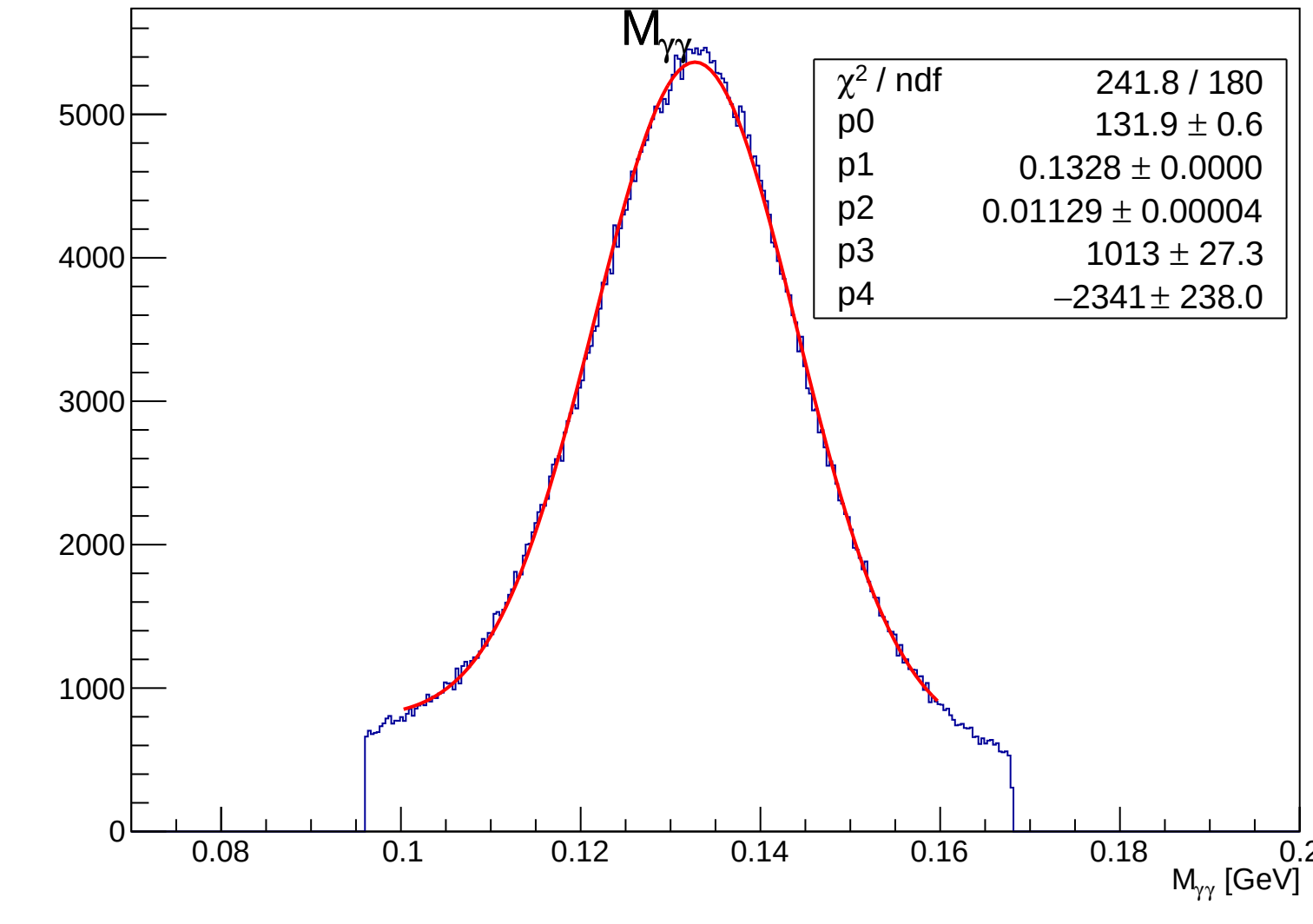

ep/pi0/ggpt/hggp_FD
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10

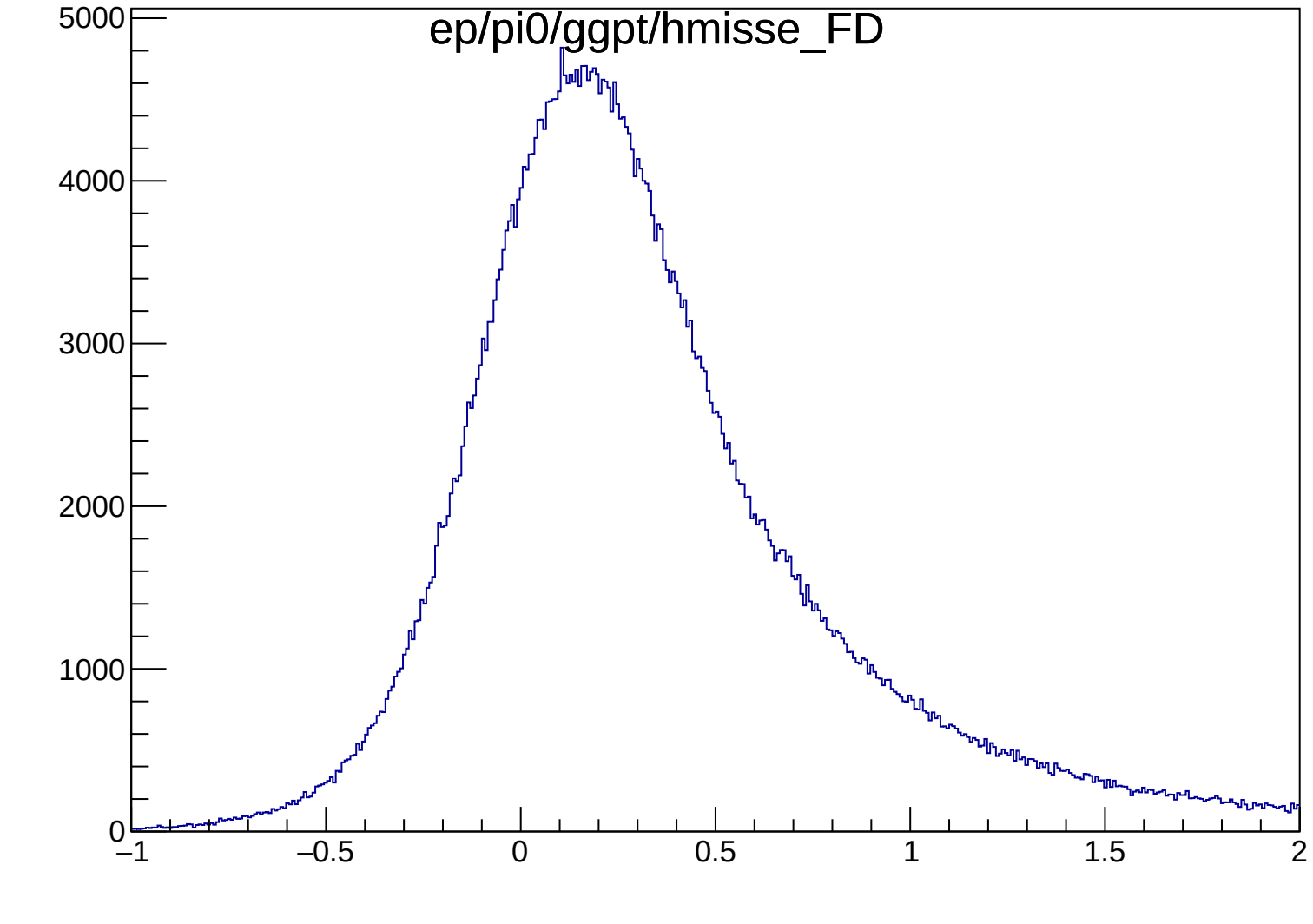

electron momentum
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
7
8
9
10
p_e [GeV]

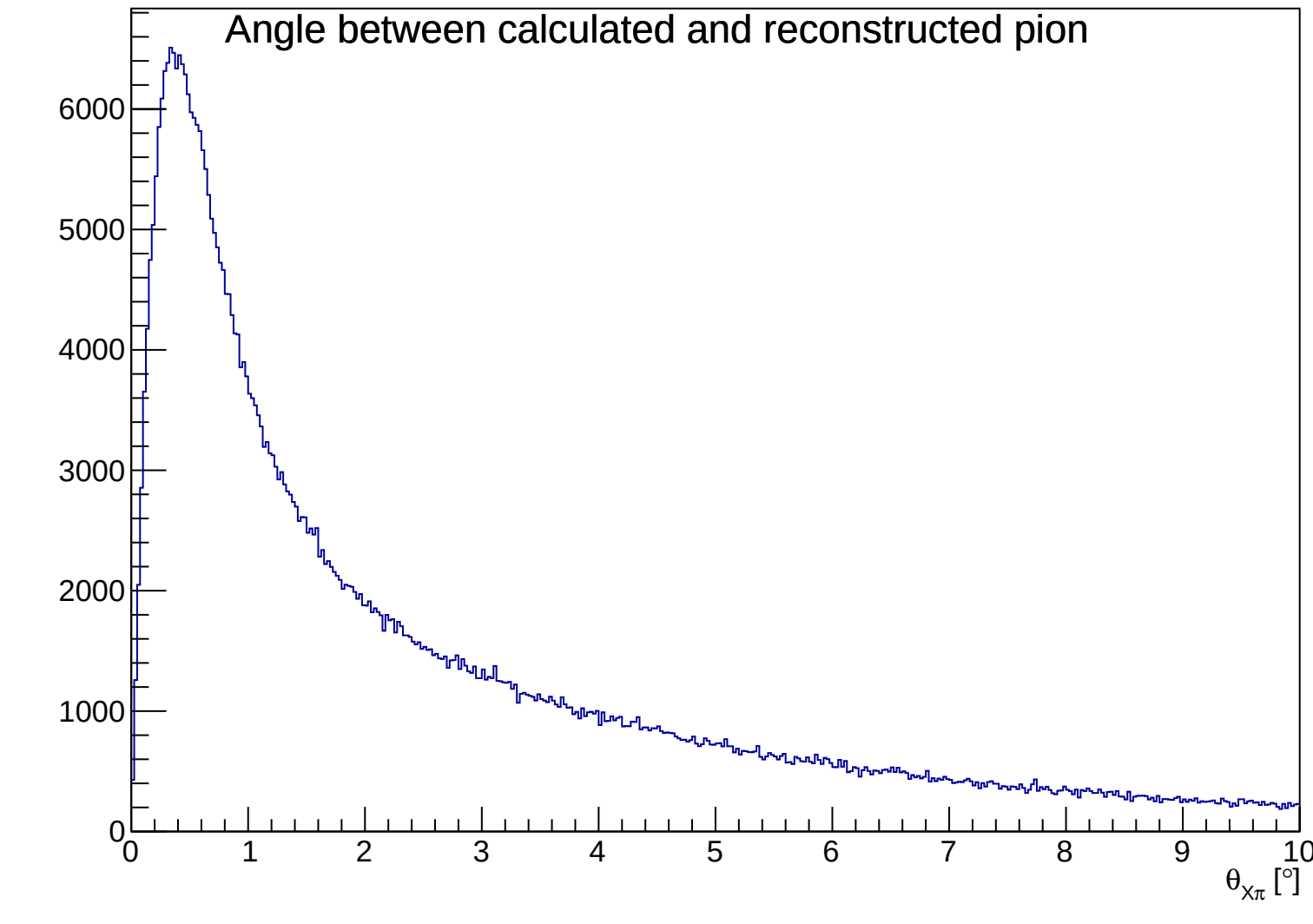

proton momentum
14000
12000
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
p_p [GeV]

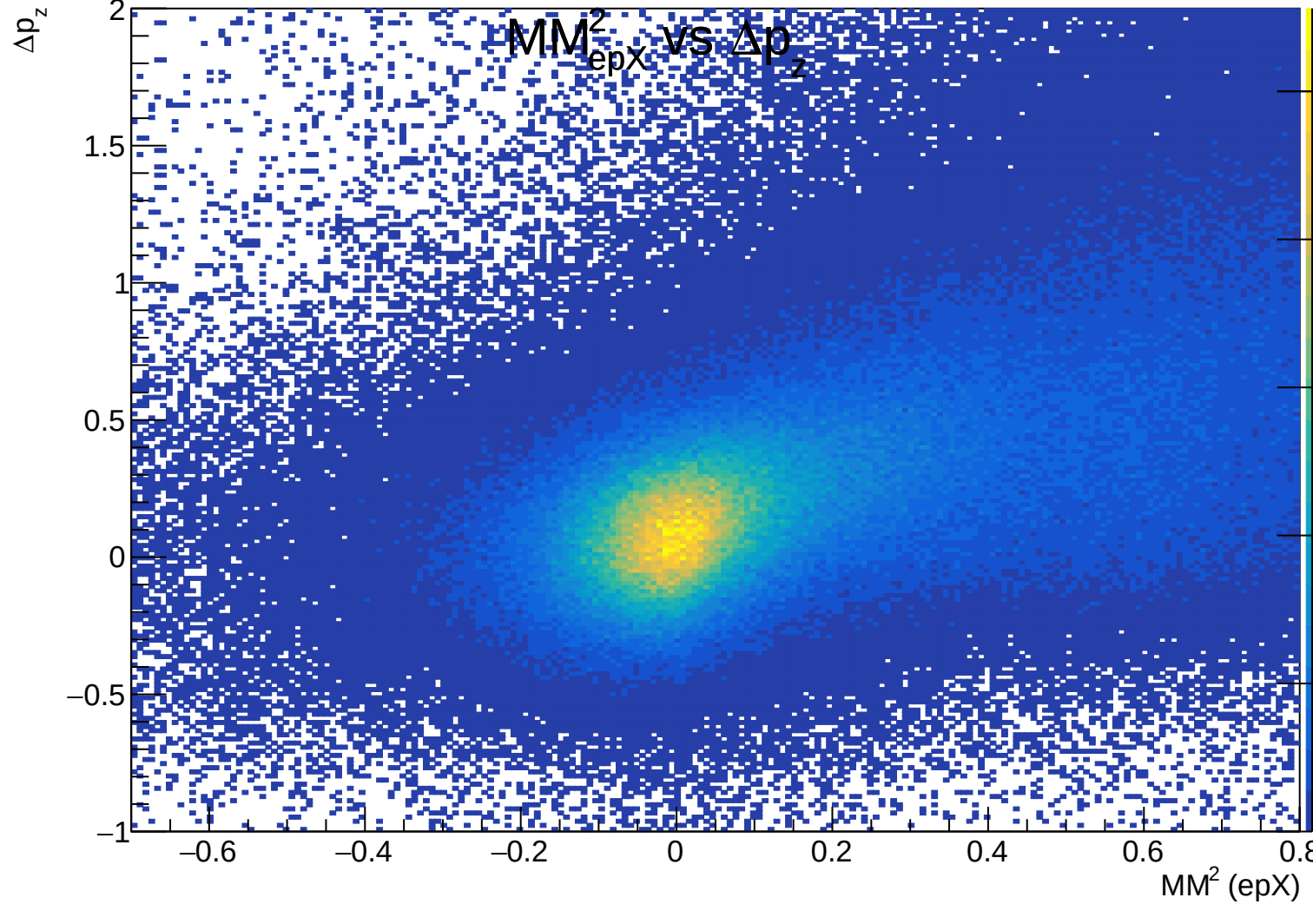

MM^2 (epX)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX) [GeV^2]

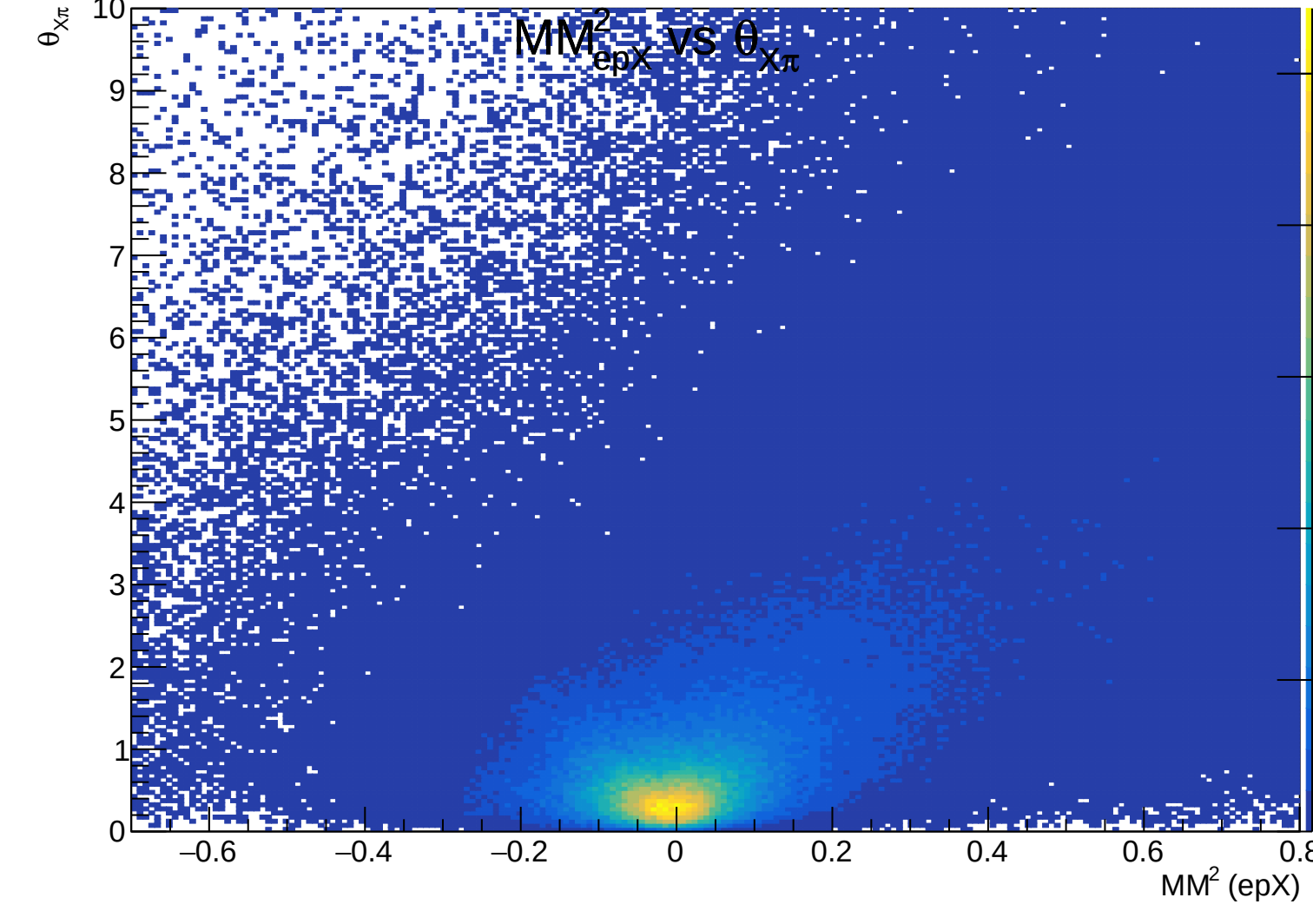

MM (eγγX)
5000
4000
3000
2000
1000
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
MM (eγγX) [GeV]

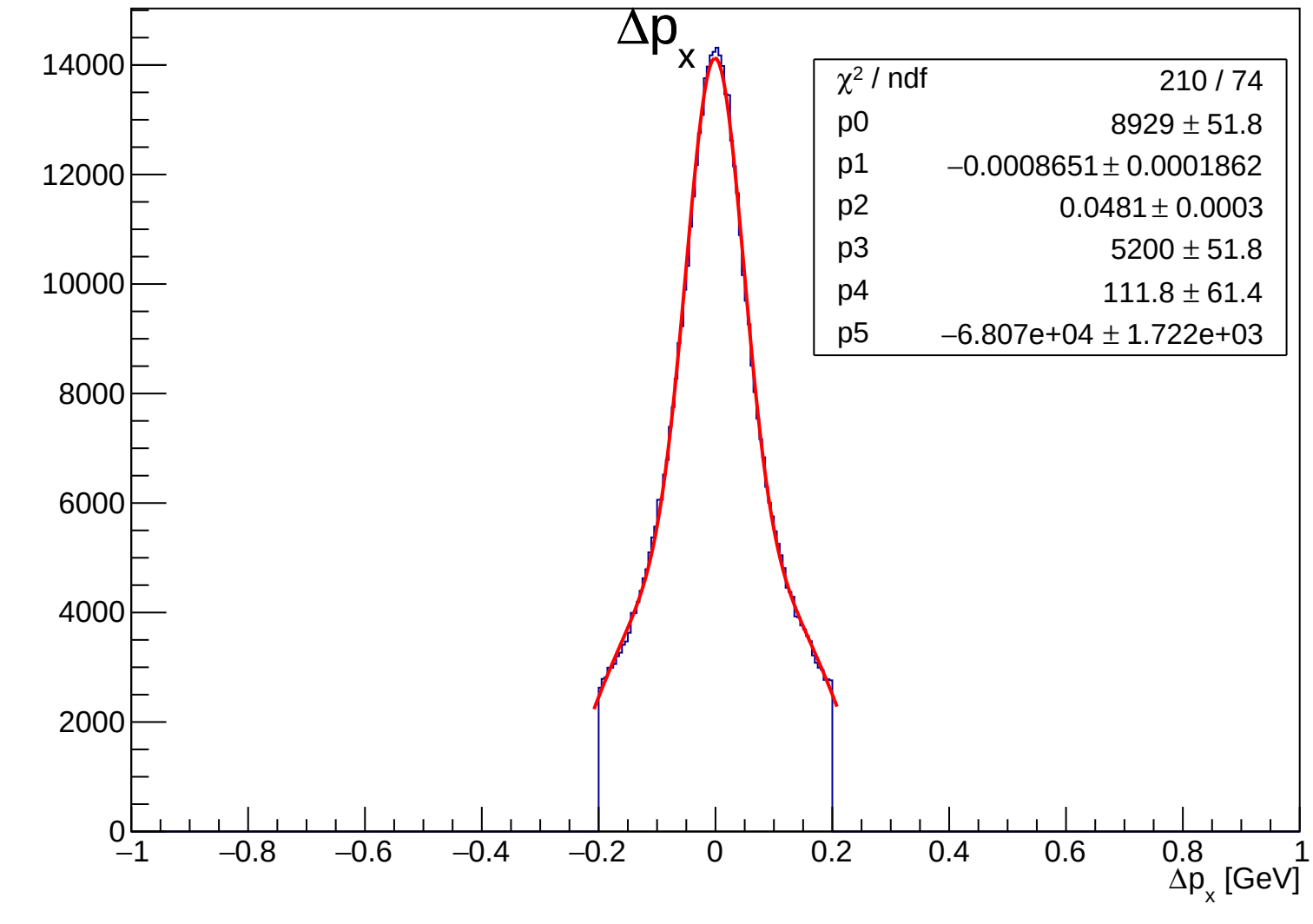

$M_{\gamma\gamma}$
χ^2 / ndf 241.8 / 180
p0 131.9 ± 0.6
p1 0.1328 ± 0.0000
p2 0.01129 ± 0.00004
p3 1013 ± 27.3
p4 −2341 ± 238.0
5000
4000
3000
2000
1000
0
0.08
0.1
0.12
0.14
0.16
0.18
$M_{\gamma\gamma}$ [GeV]

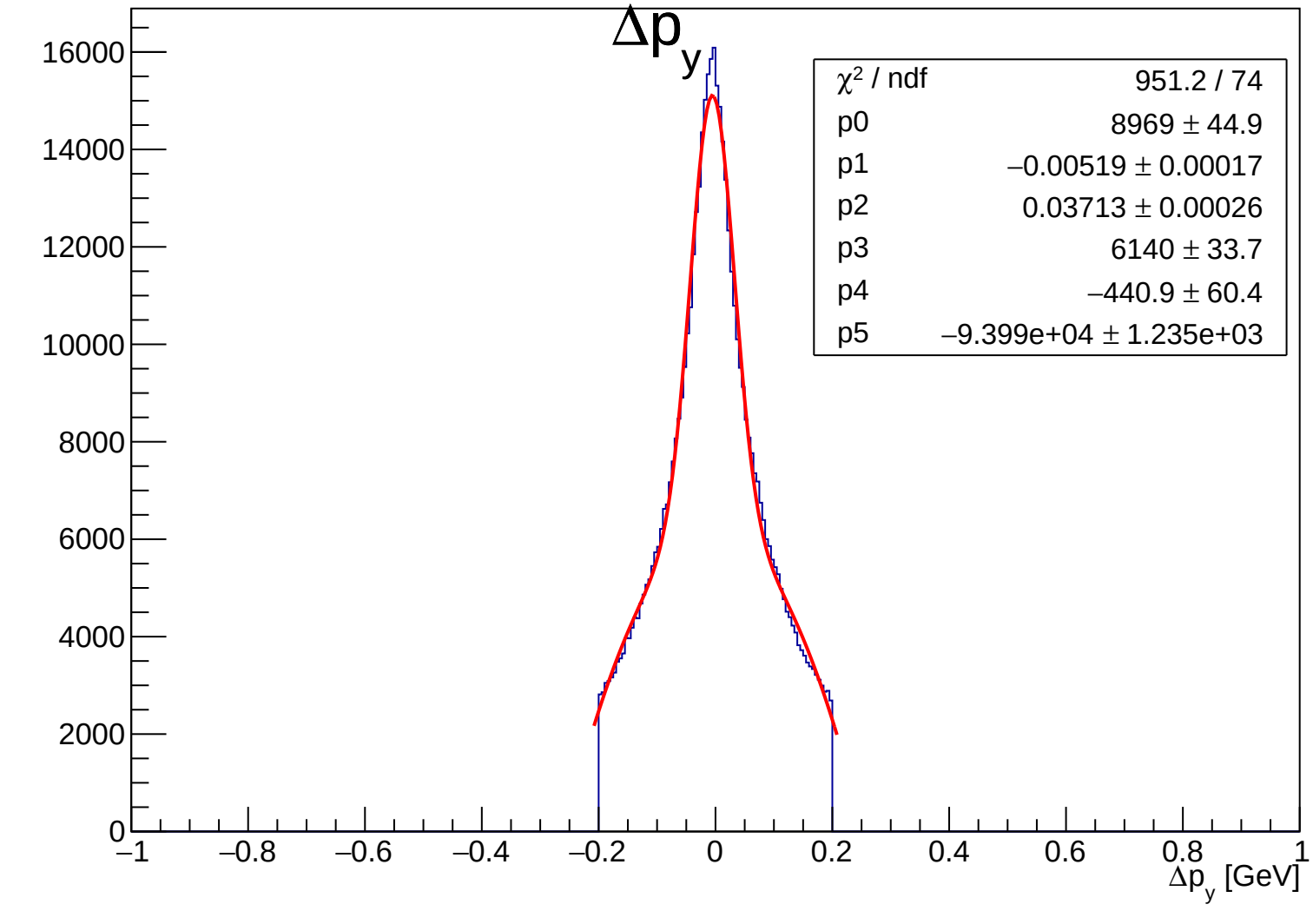

ep/pi0/ggpt/hmisse_FD
5000
4000
3000
2000
1000
0
–1
–0.5
0
0.5
1
1.5
2

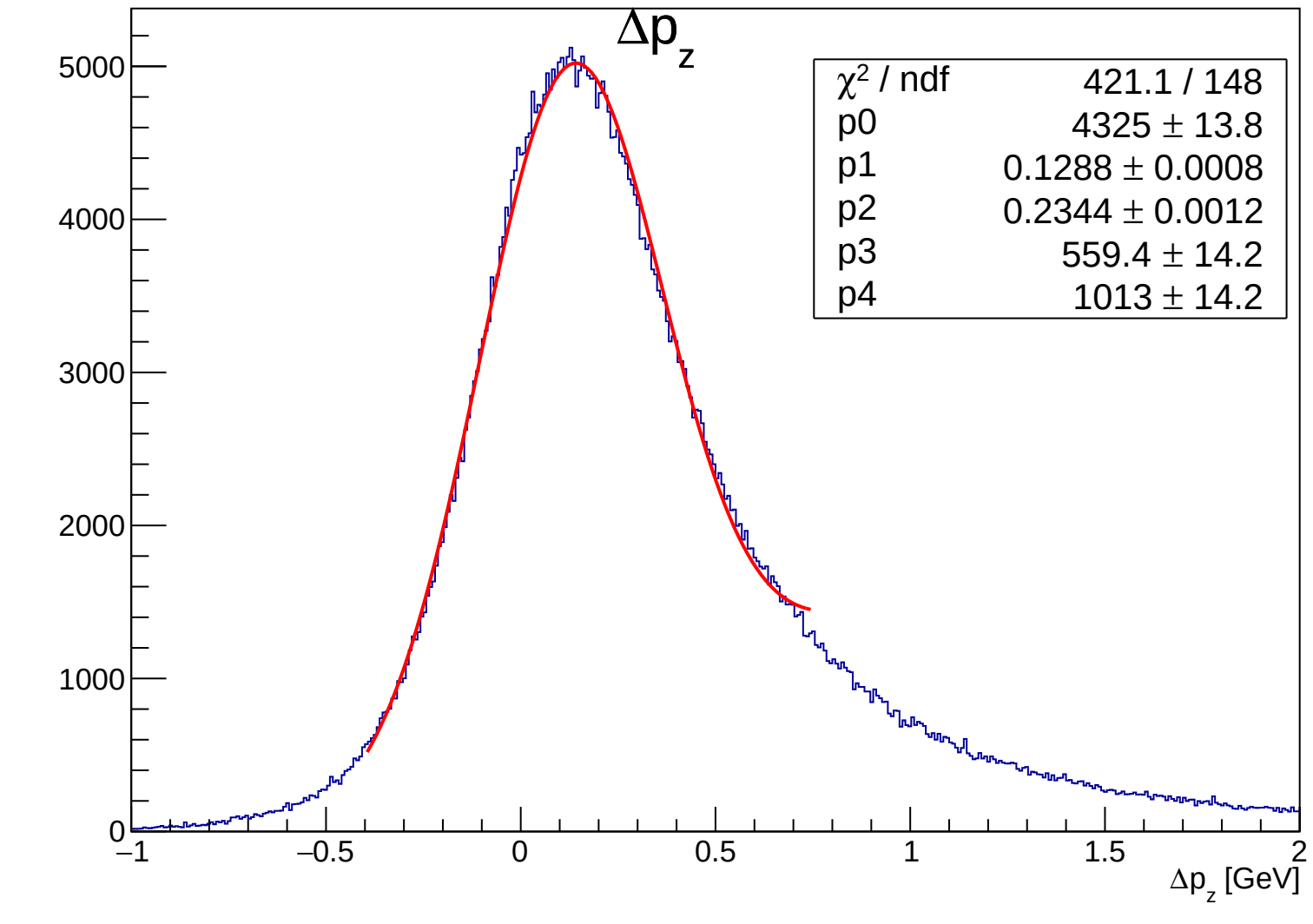

Angle between calculated and reconstructed pion
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10
θXπ [°]

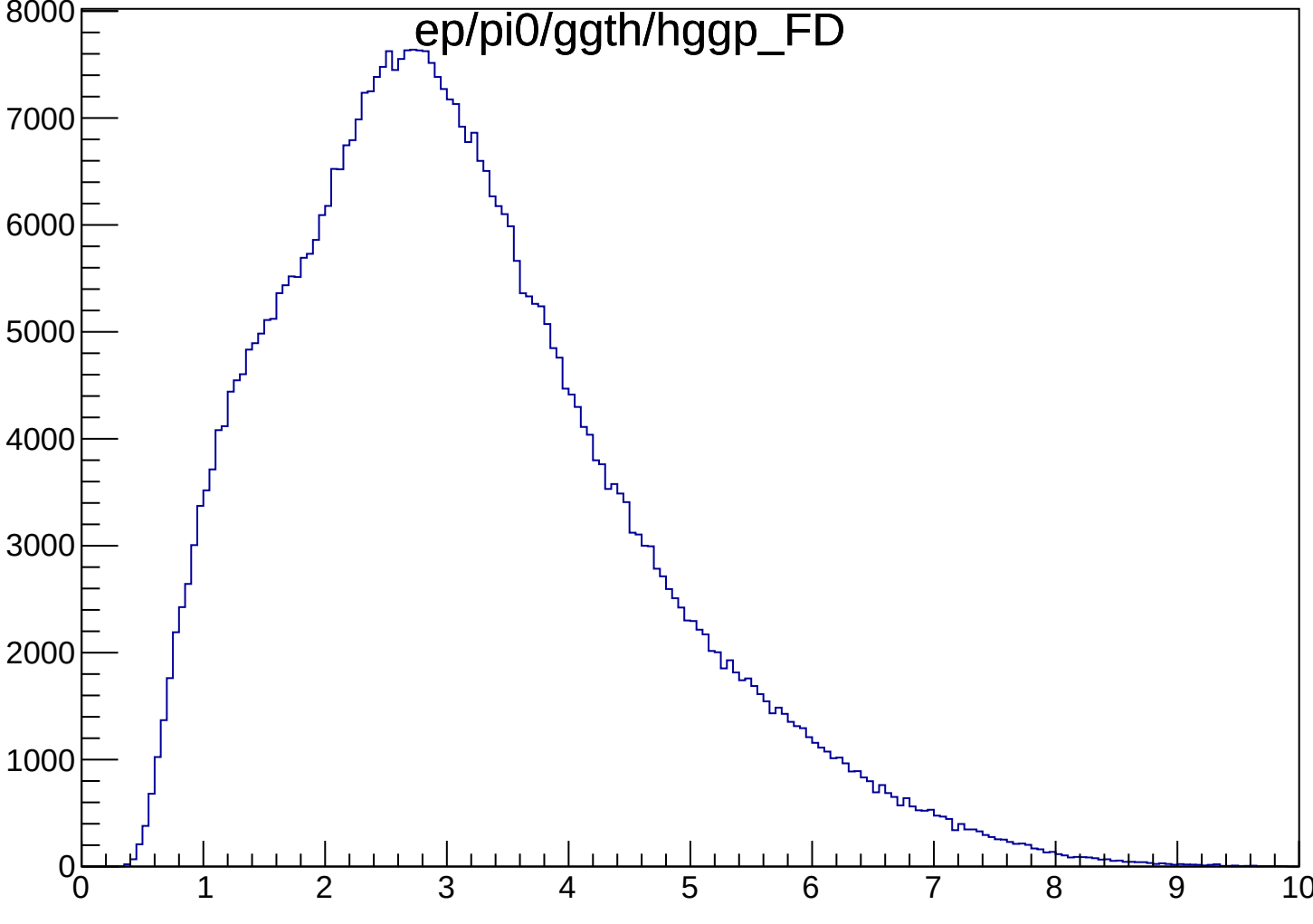

MM^2_{epX} vs Δp_z
Δp_z
2
1.5
1
0.5
0
−0.5
−1
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
MM^2 (epX)

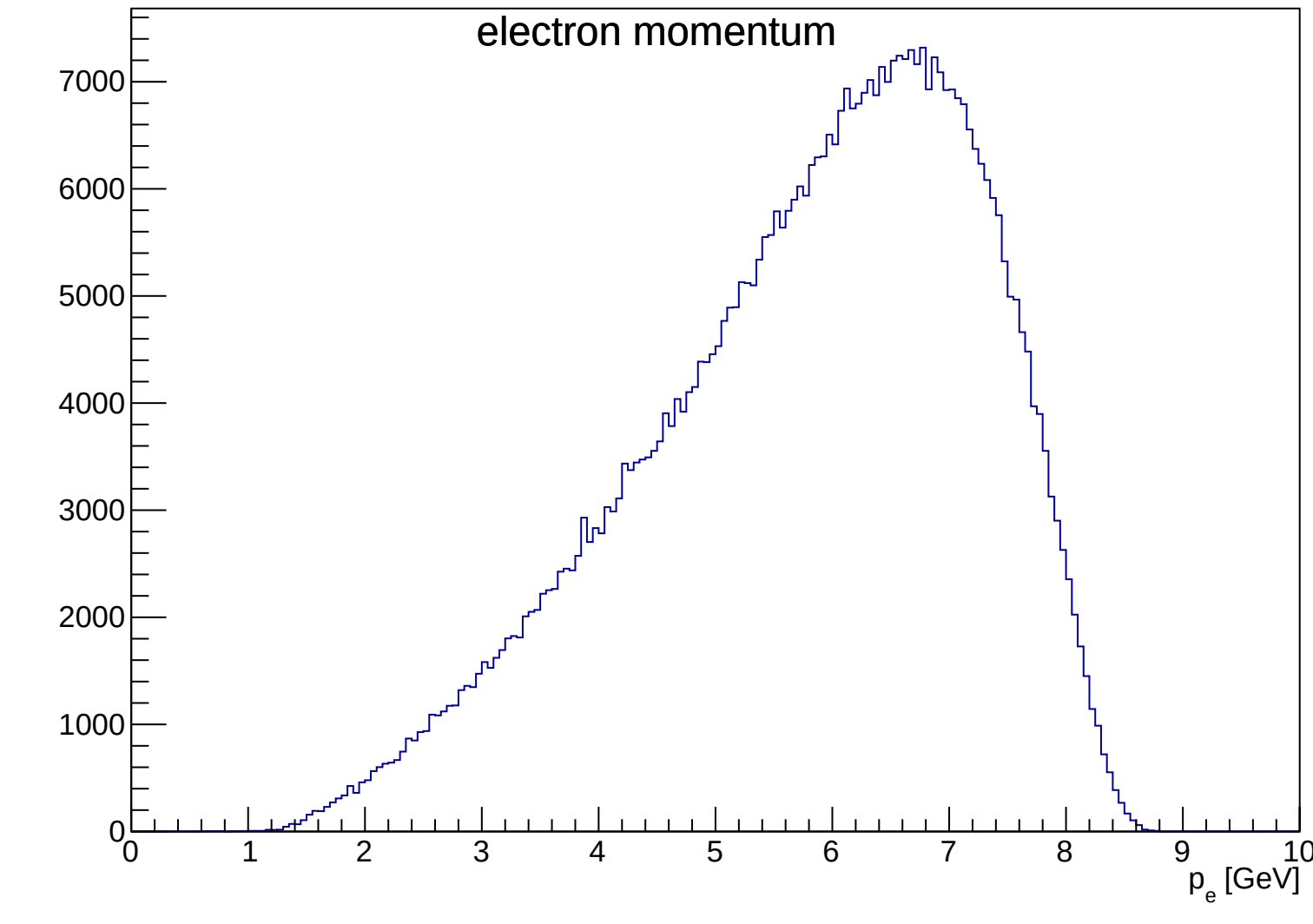

MM^2_{epX} vs $\theta_{X\pi}$
$\theta_{X\pi}$
10
9
8
7
6
5
4
3
2
1
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX)

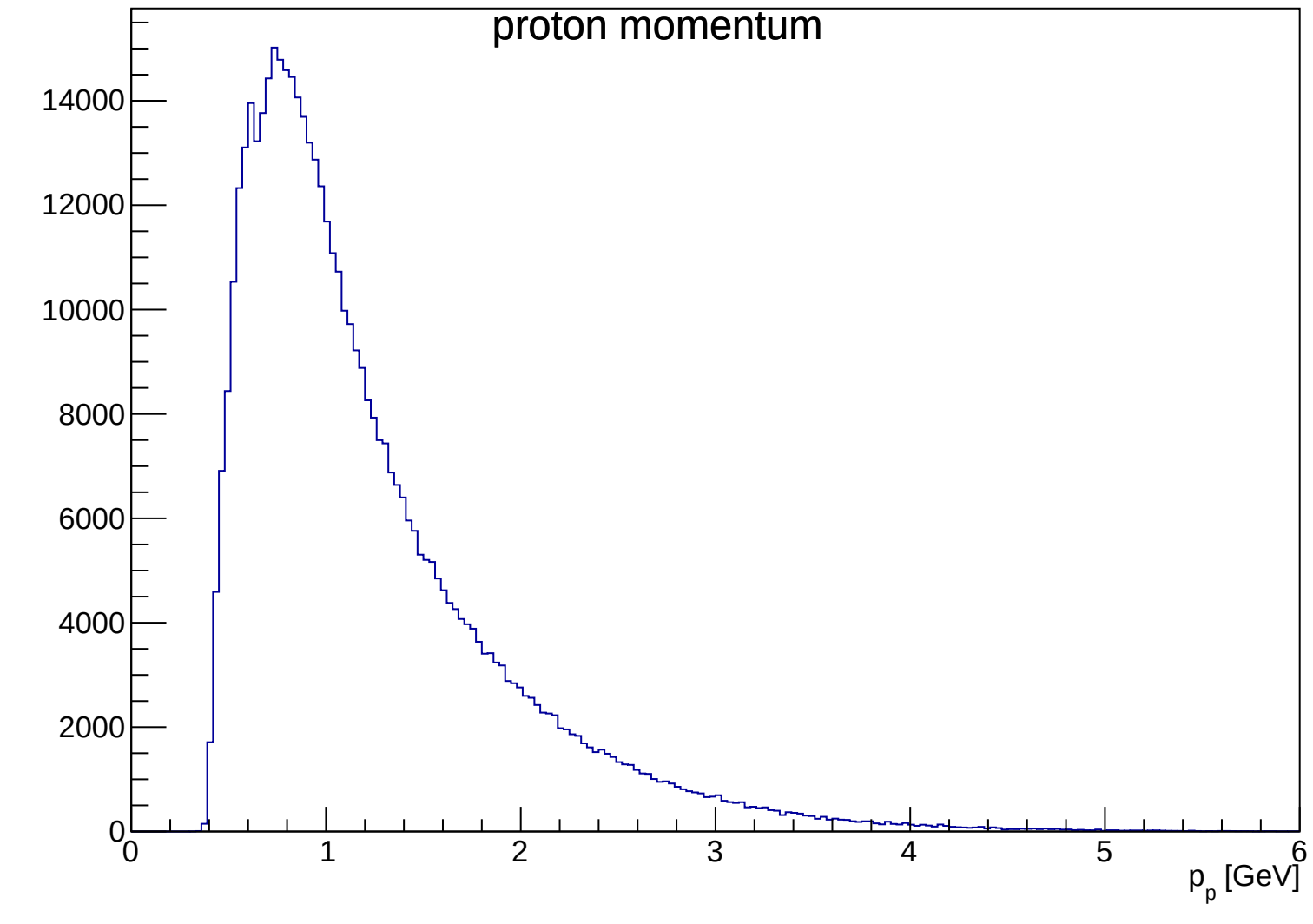

Δp_x
χ² / ndf 210 / 74
p0 8929 ± 51.8
p1 −0.0008651 ± 0.0001862
p2 0.0481 ± 0.0003
p3 5200 ± 51.8
p4 111.8 ± 61.4
p5 −6.807e+04 ± 1.722e+03
14000
12000
10000
8000
6000
4000
2000
0
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1
Δp_x [GeV]

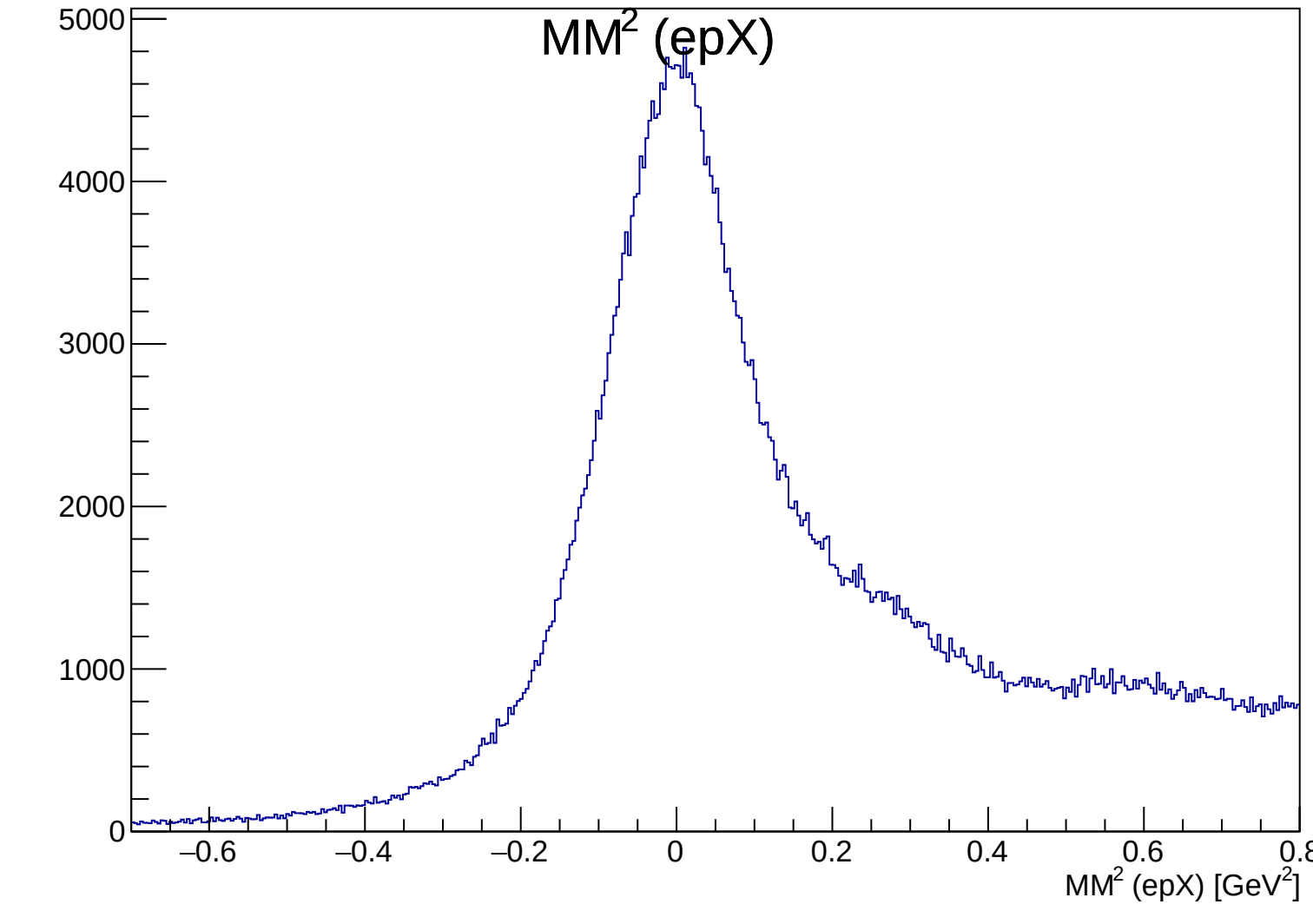

Δp_y
χ^2 / ndf 951.2 / 74
p0 8969 ± 44.9
p1 –0.00519 ± 0.00017
p2 0.03713 ± 0.00026
p3 6140 ± 33.7
p4 –440.9 ± 60.4
p5 –9.399e+04 ± 1.235e+03
16000
14000
12000
10000
8000
6000
4000
2000
0
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_y [GeV]

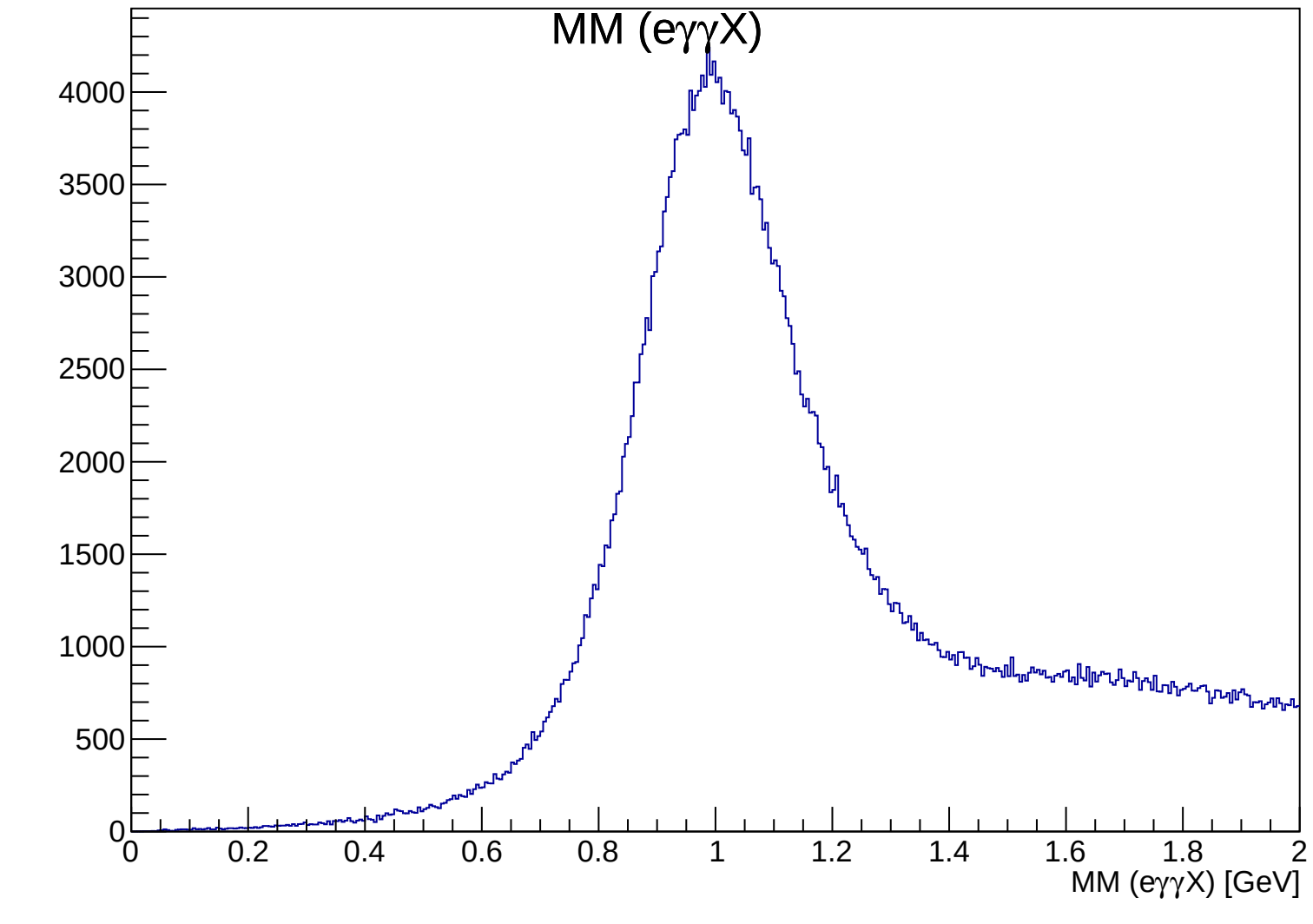

Δp_z
χ^2 / ndf 421.1 / 148
p0 4325 ± 13.8
p1 0.1288 ± 0.0008
p2 0.2344 ± 0.0012
p3 559.4 ± 14.2
p4 1013 ± 14.2
5000
4000
3000
2000
1000
0
–1
–0.5
0
0.5
1
1.5
2
Δp_z [GeV]

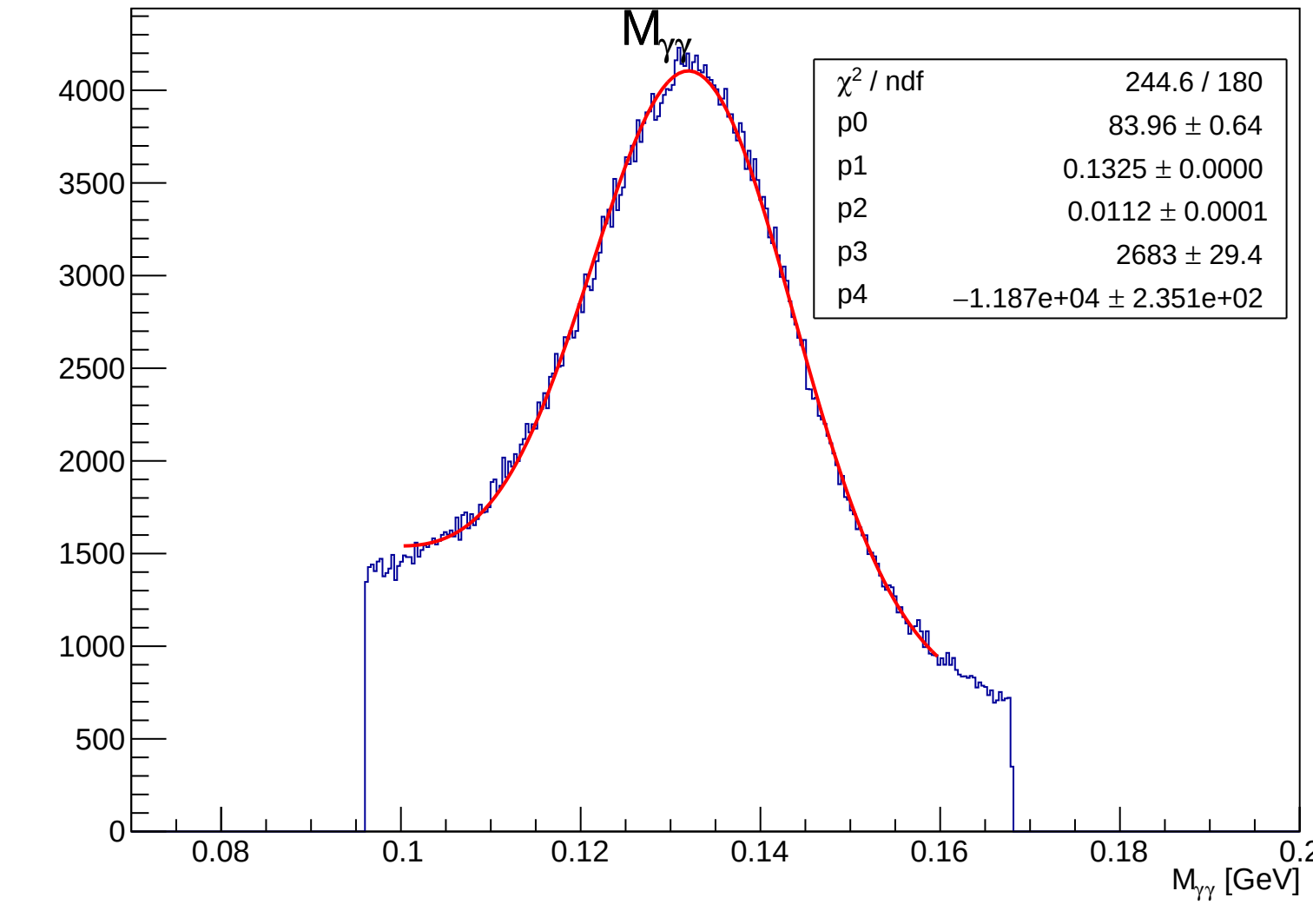

ep/pi0/ggth/hggp_FD
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10

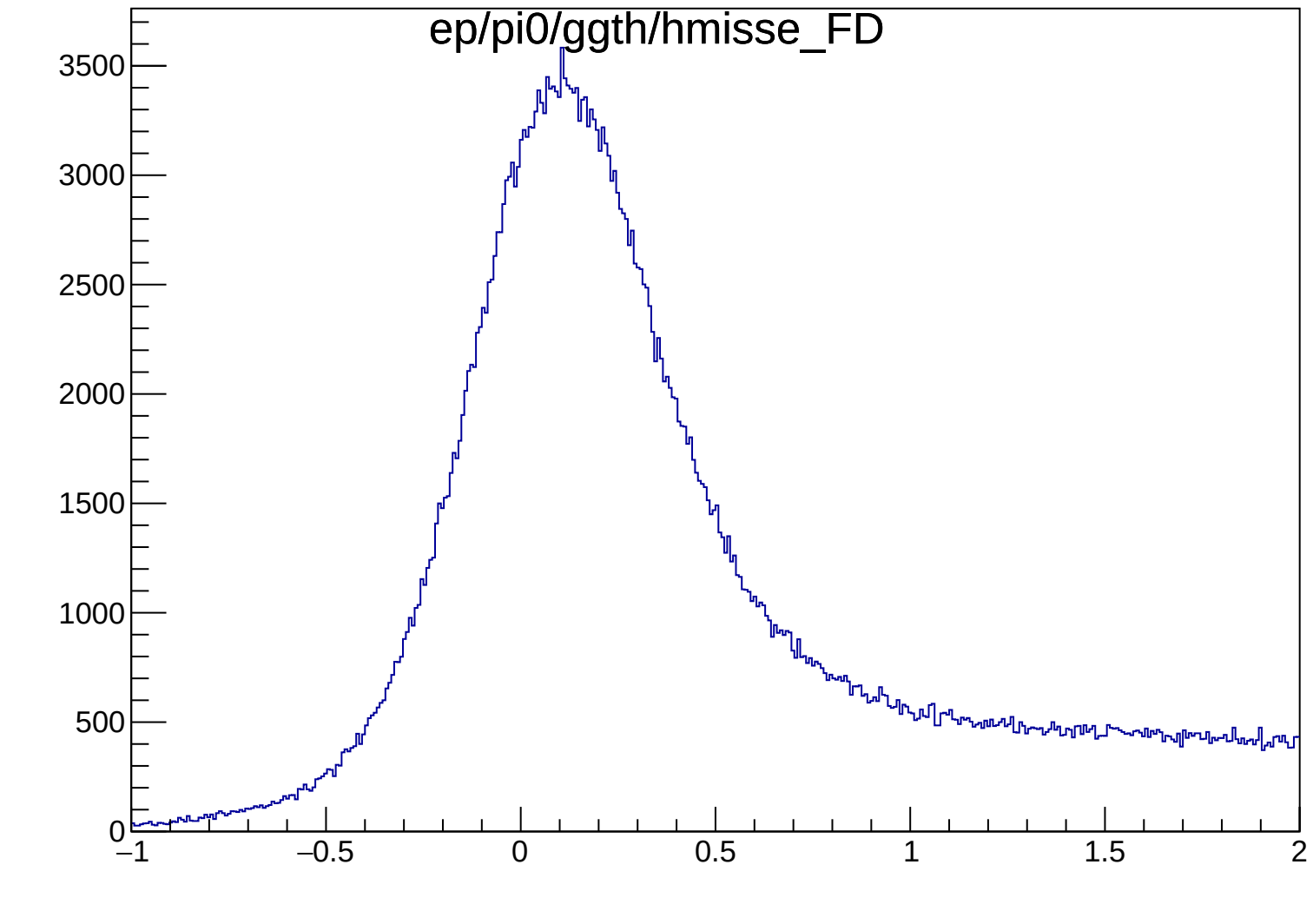

electron momentum
7000
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10
p_e [GeV]

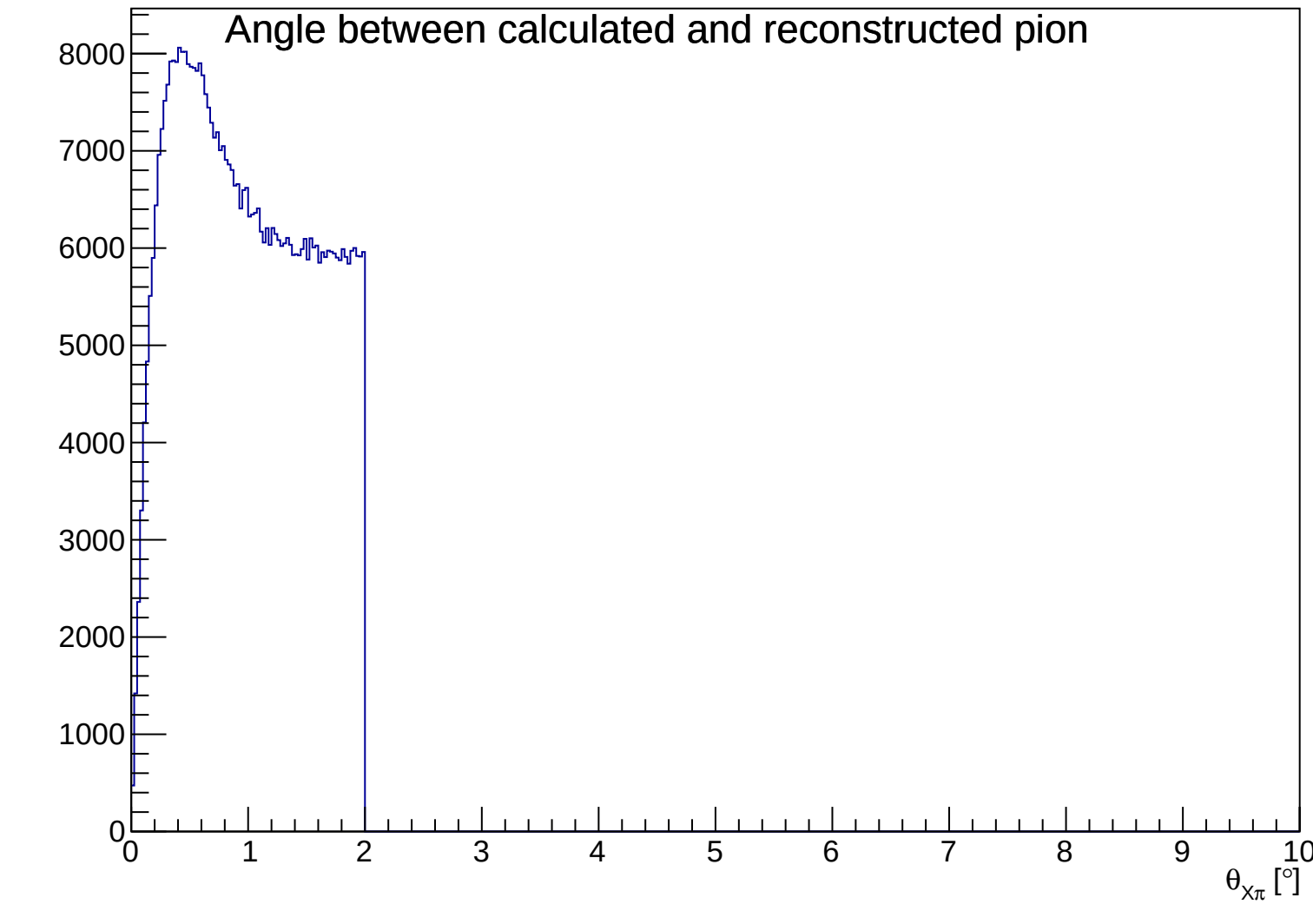

proton momentum
14000
12000
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
p_p [GeV]

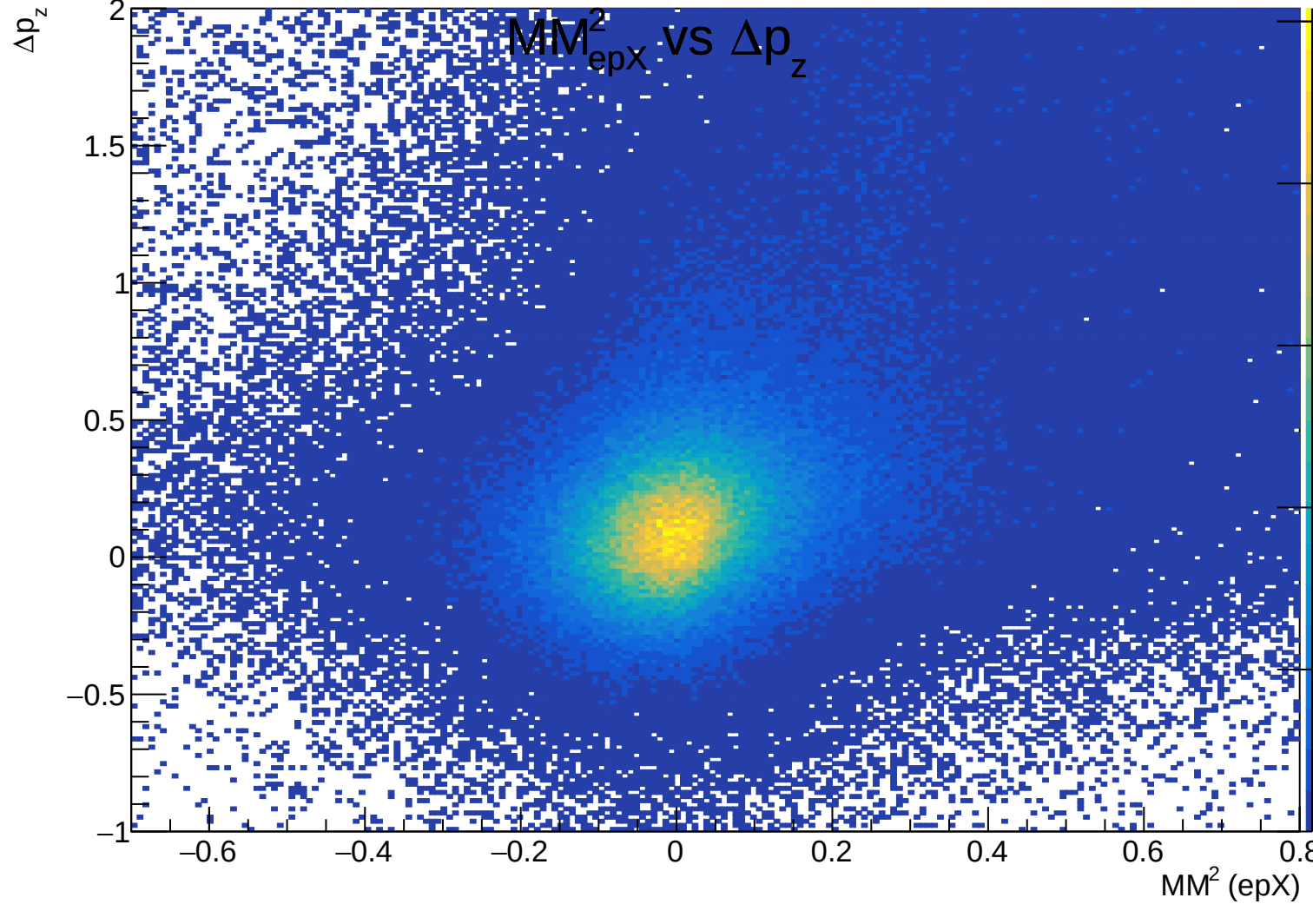

MM^2 (epX)
5000
4000
3000
2000
1000
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX) [GeV^2]

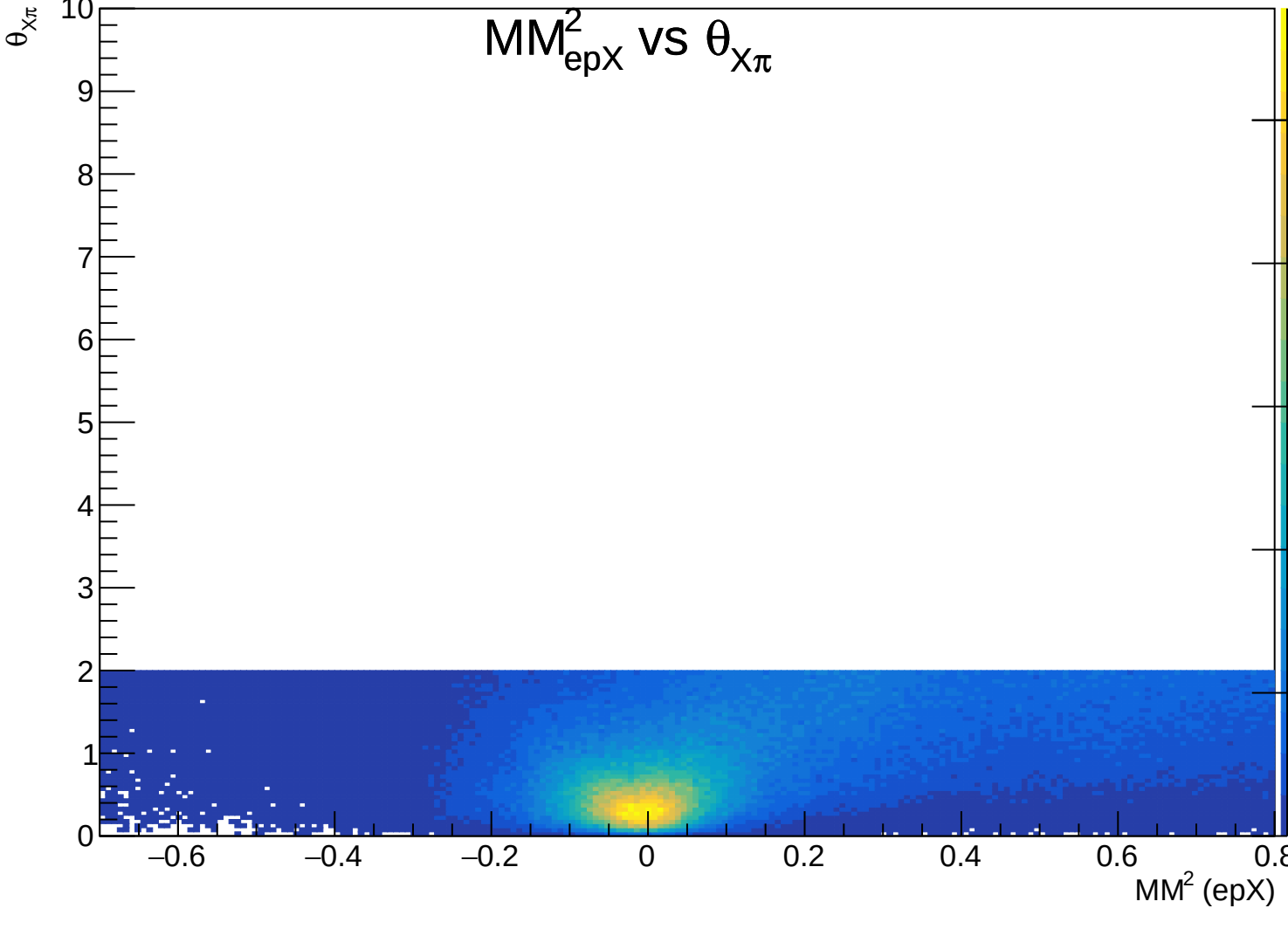

MM (eγγX)
4000
3500
3000
2500
2000
1500
1000
500
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
MM (eγγX) [GeV]

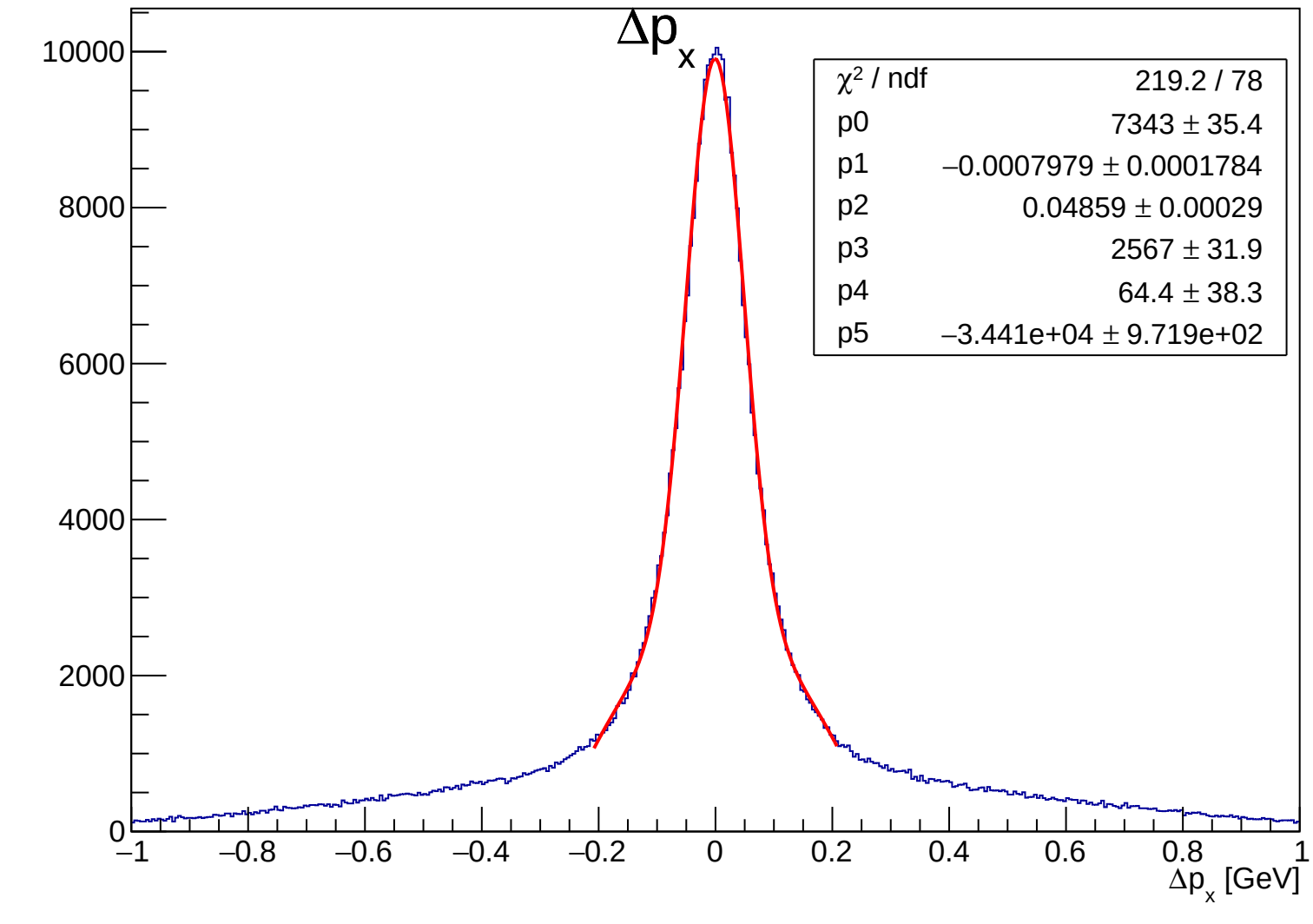

$M_{\gamma\gamma}$
χ^2 / ndf 244.6 / 180
p0 83.96 ± 0.64
p1 0.1325 ± 0.0000
p2 0.0112 ± 0.0001
p3 2683 ± 29.4
p4 −1.187e+04 ± 2.351e+02
4000
3500
3000
2500
2000
1500
1000
500
0
0.08
0.1
0.12
0.14
0.16
0.18
$M_{\gamma\gamma}$ [GeV]

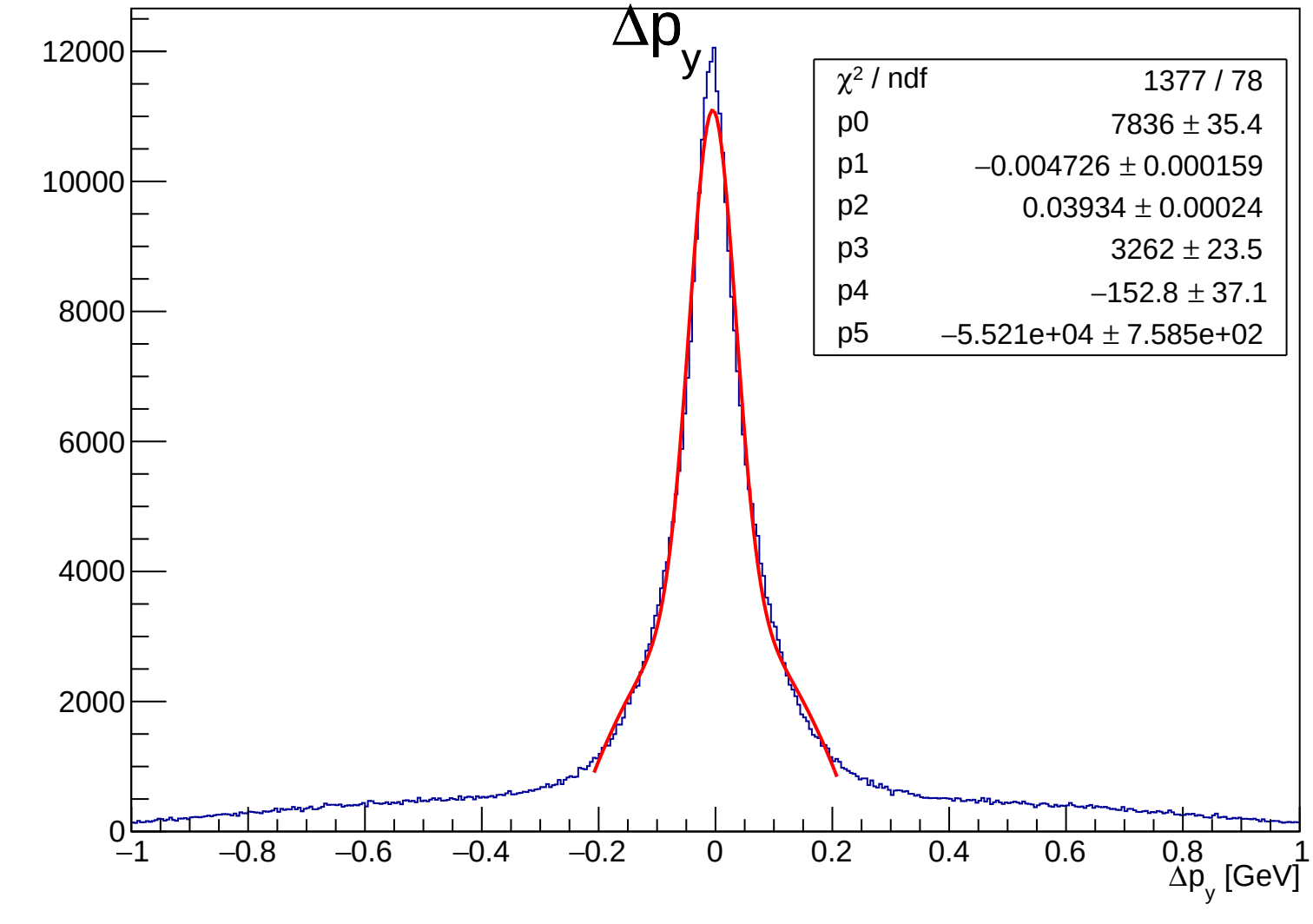

ep/pi0/ggth/hmisse_FD
3500
3000
2500
2000
1500
1000
500
0
–1
–0.5
0
0.5
1
1.5
2

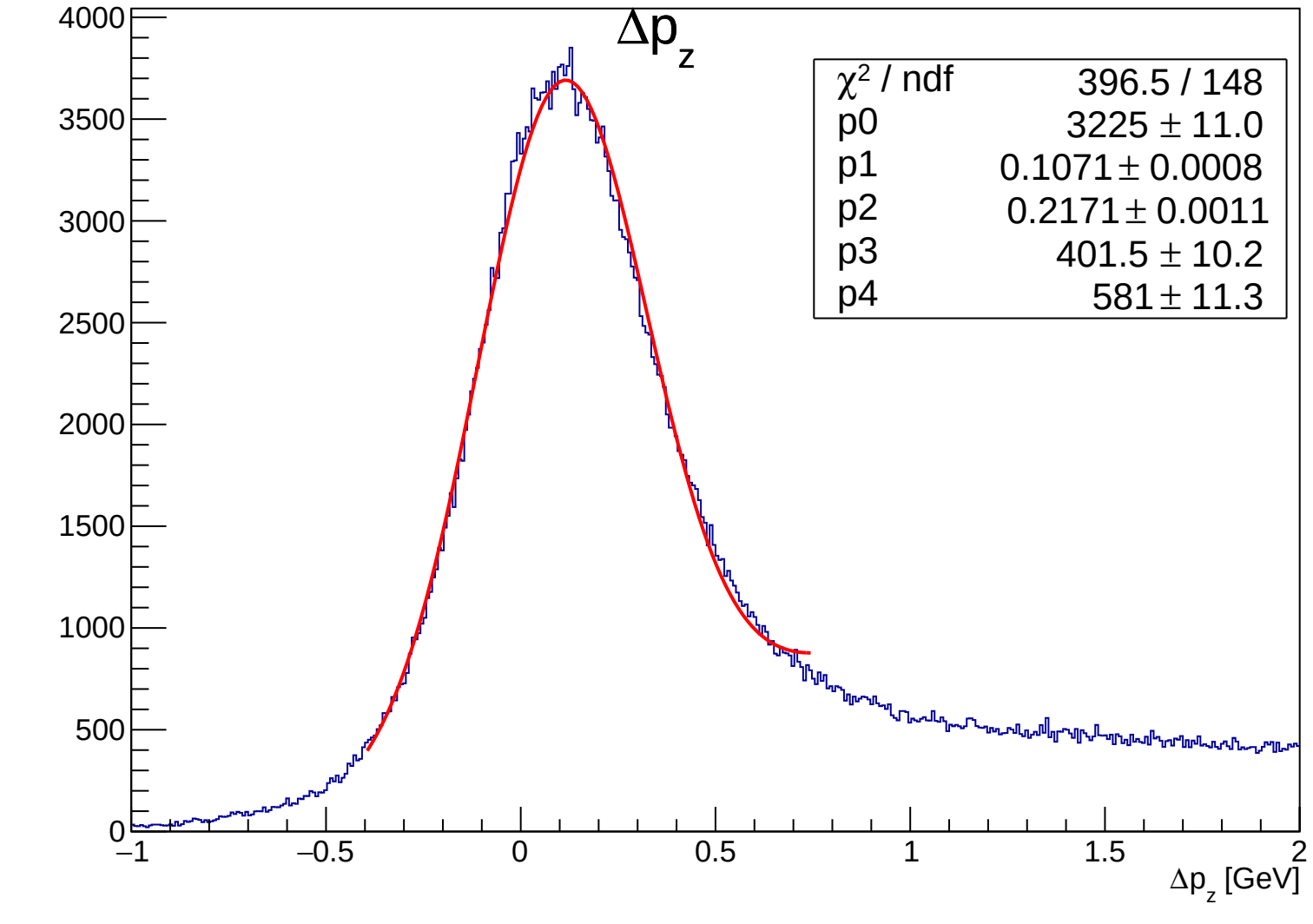

Angle between calculated and reconstructed pion
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10
θXπ [°]

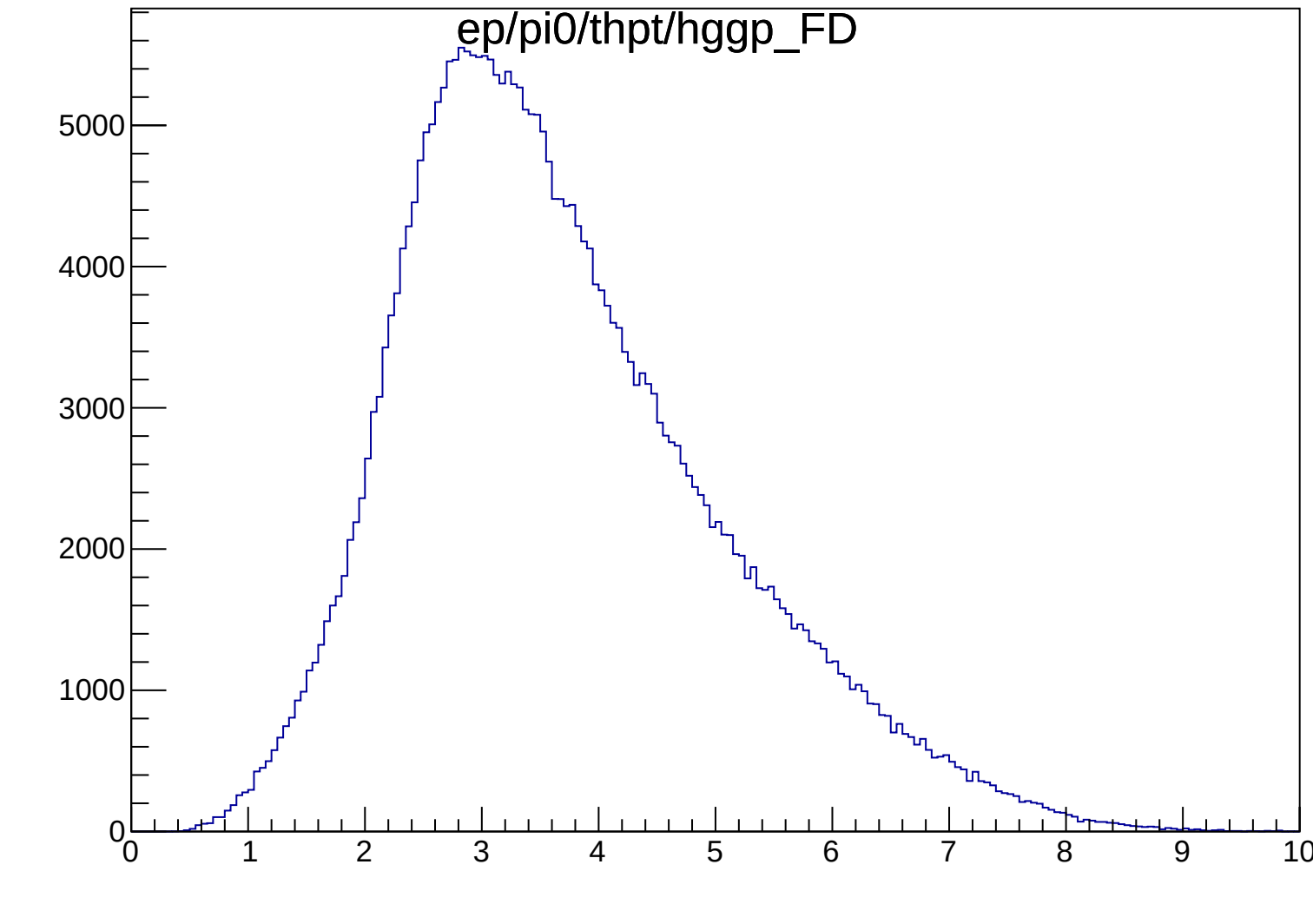

MM^2_{epX} vs Δp_z
Δp_z
2
1.5
1
0.5
0
−0.5
−1
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
MM^2 (epX)

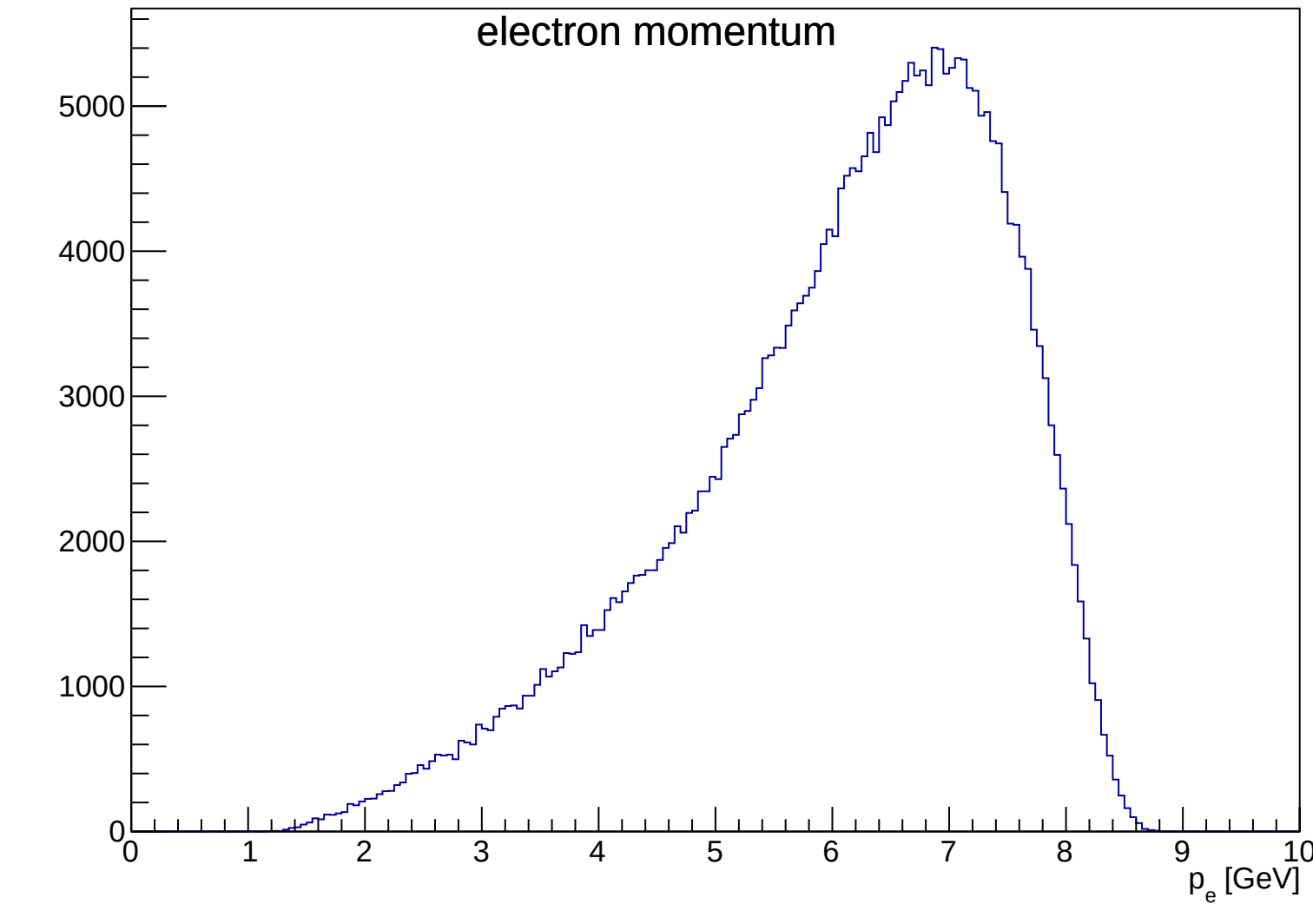

MM^2_{epX} vs $\theta_{X\pi}$
$\theta_{X\pi}$
10
9
8
7
6
5
4
3
2
1
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX)

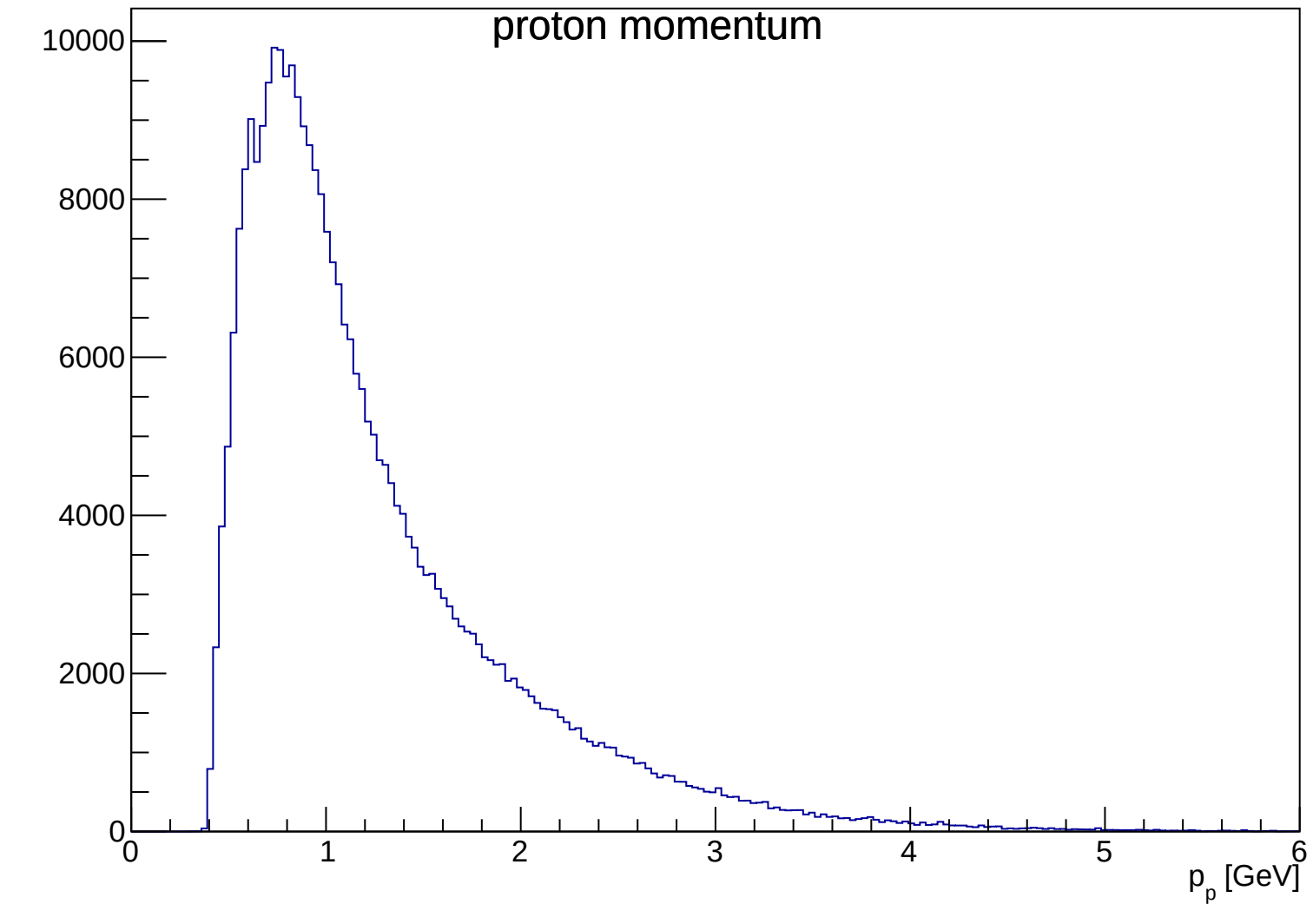

Δp_x
χ^2 / ndf 219.2 / 78
p0 7343 ± 35.4
p1 –0.0007979 ± 0.0001784
p2 0.04859 ± 0.00029
p3 2567 ± 31.9
p4 64.4 ± 38.3
p5 –3.441e+04 ± 9.719e+02
10000
8000
6000
4000
2000
0
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_x [GeV]

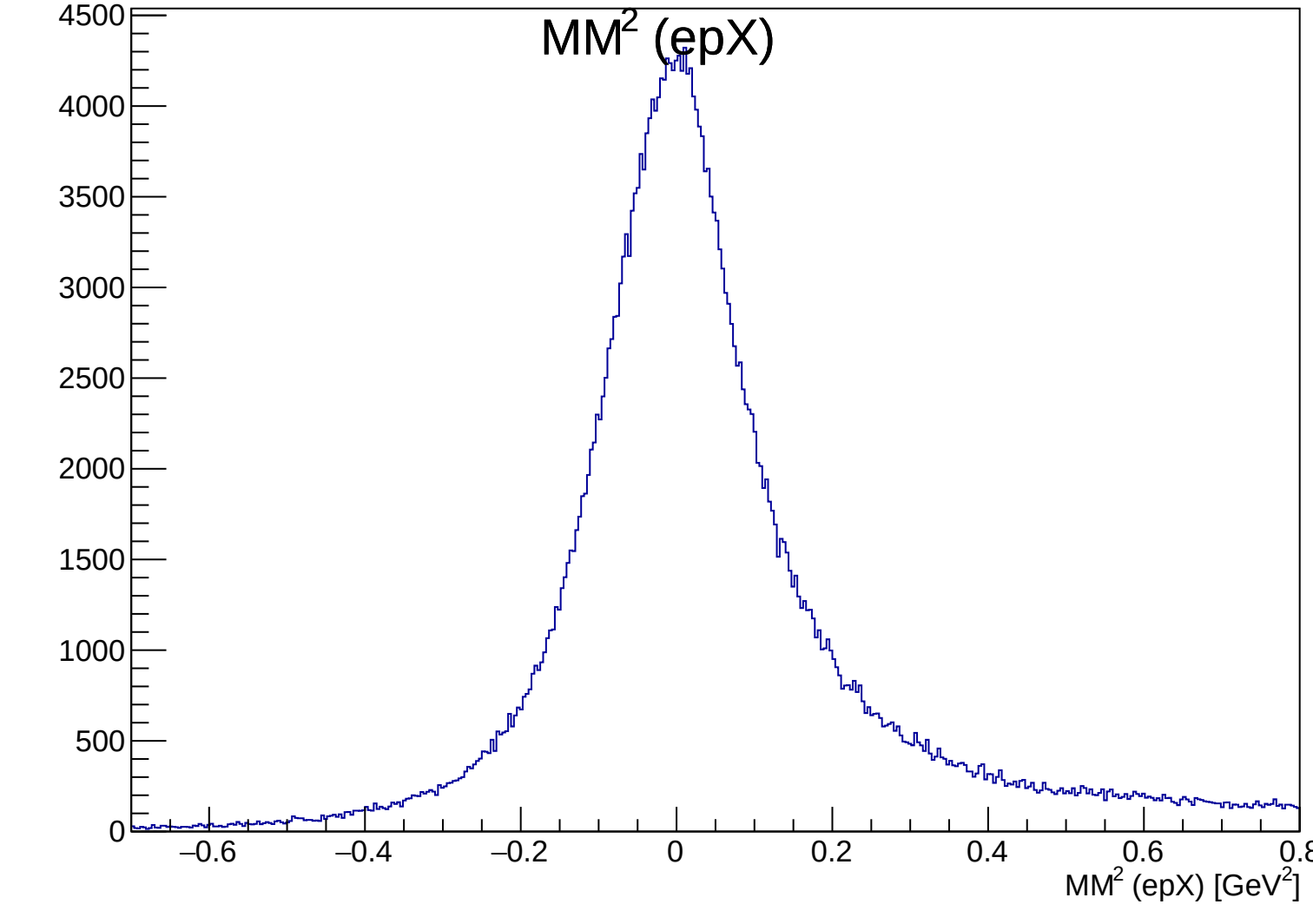

Δp_y
χ^2 / ndf 1377 / 78
p0 7836 ± 35.4
p1 –0.004726 ± 0.000159
p2 0.03934 ± 0.00024
p3 3262 ± 23.5
p4 –152.8 ± 37.1
p5 –5.521e+04 ± 7.585e+02
12000
10000
8000
6000
4000
2000
0
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_y [GeV]

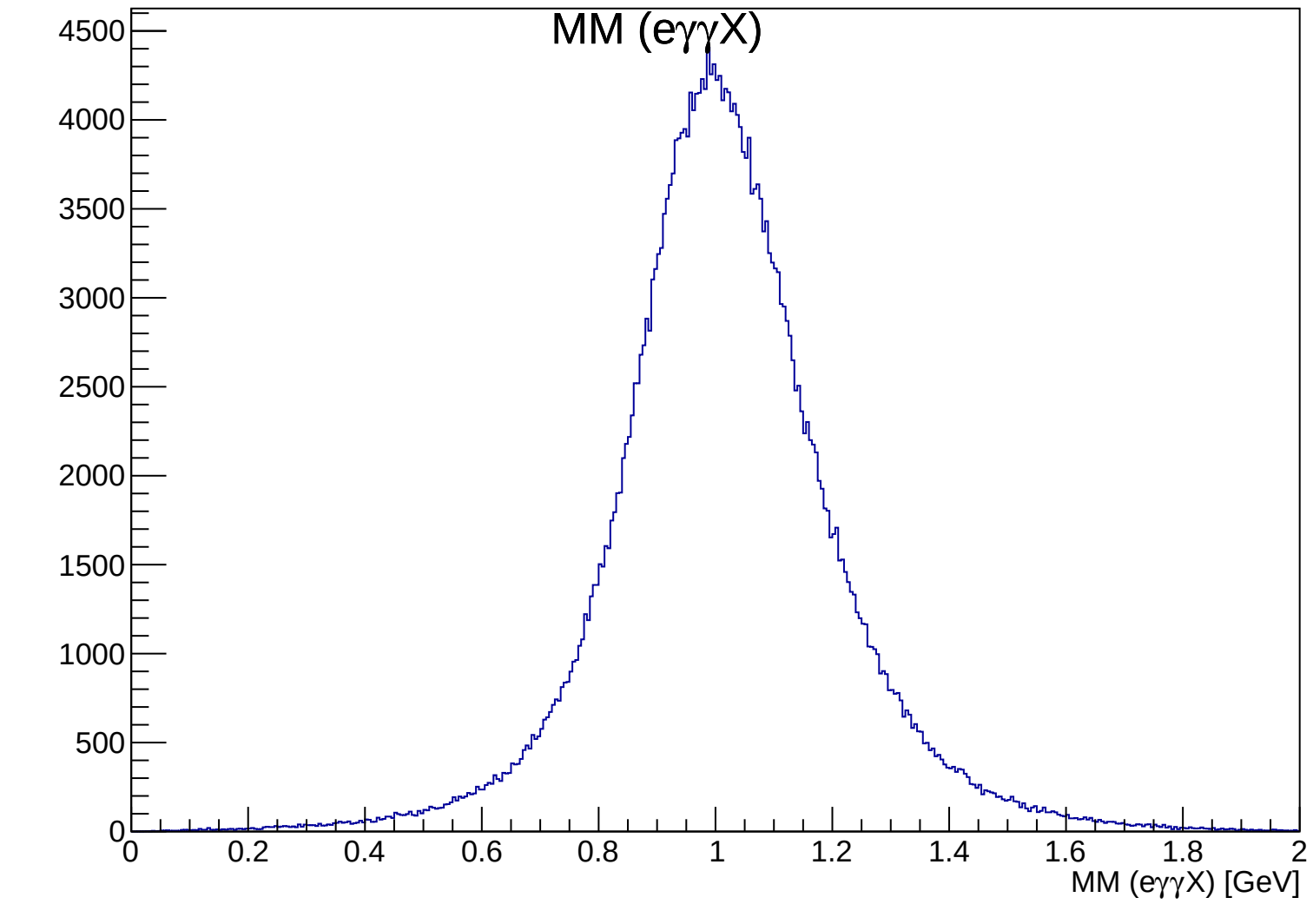

Δp_z
χ^2 / ndf 396.5 / 148
p0 3225 ± 11.0
p1 0.1071 ± 0.0008
p2 0.2171 ± 0.0011
p3 401.5 ± 10.2
p4 581 ± 11.3
4000
3500
3000
2500
2000
1500
1000
500
0
–1
–0.5
0
0.5
1
1.5
2
Δp_z [GeV]

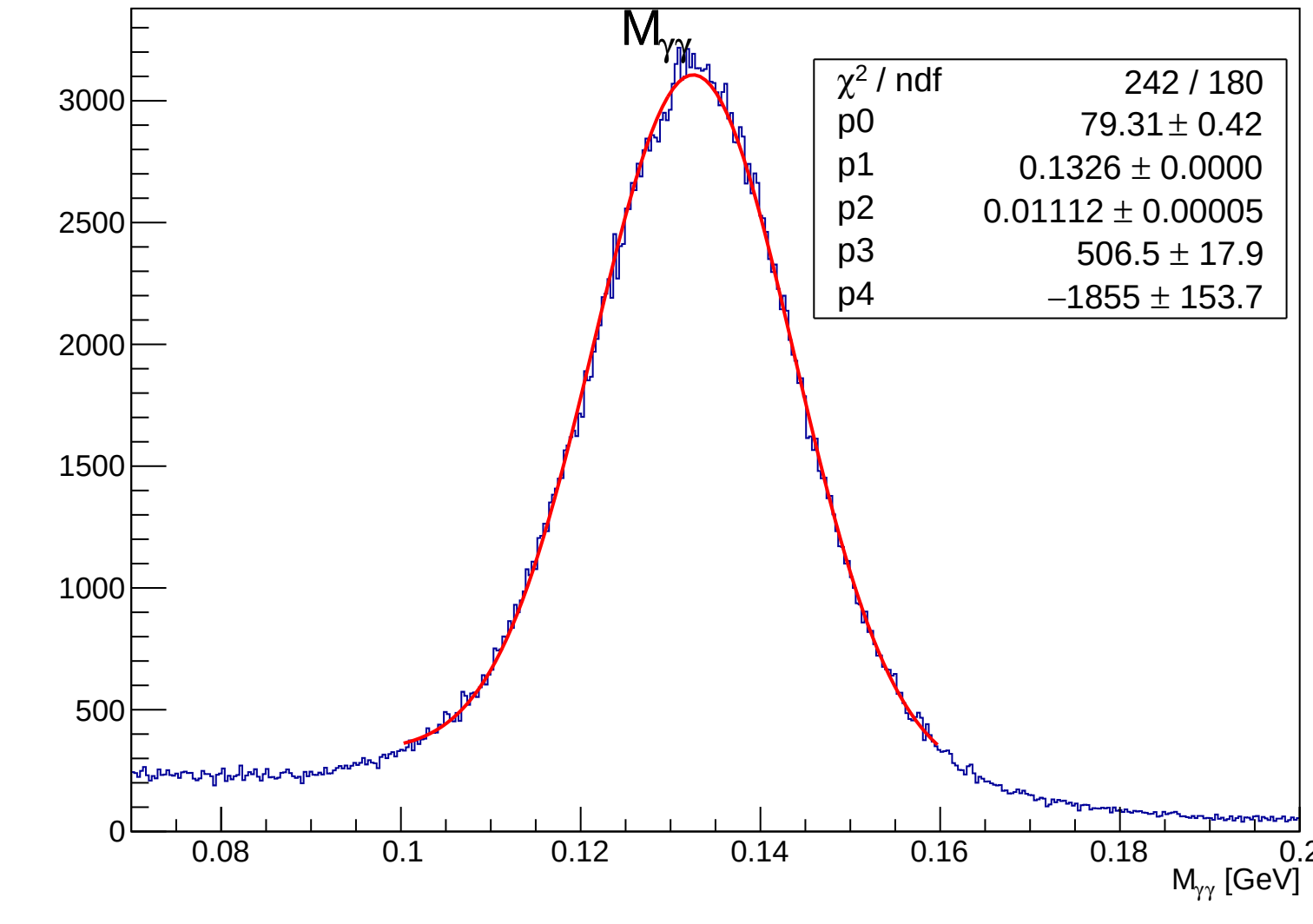

ep/pi0/thpt/hggp_FD
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10

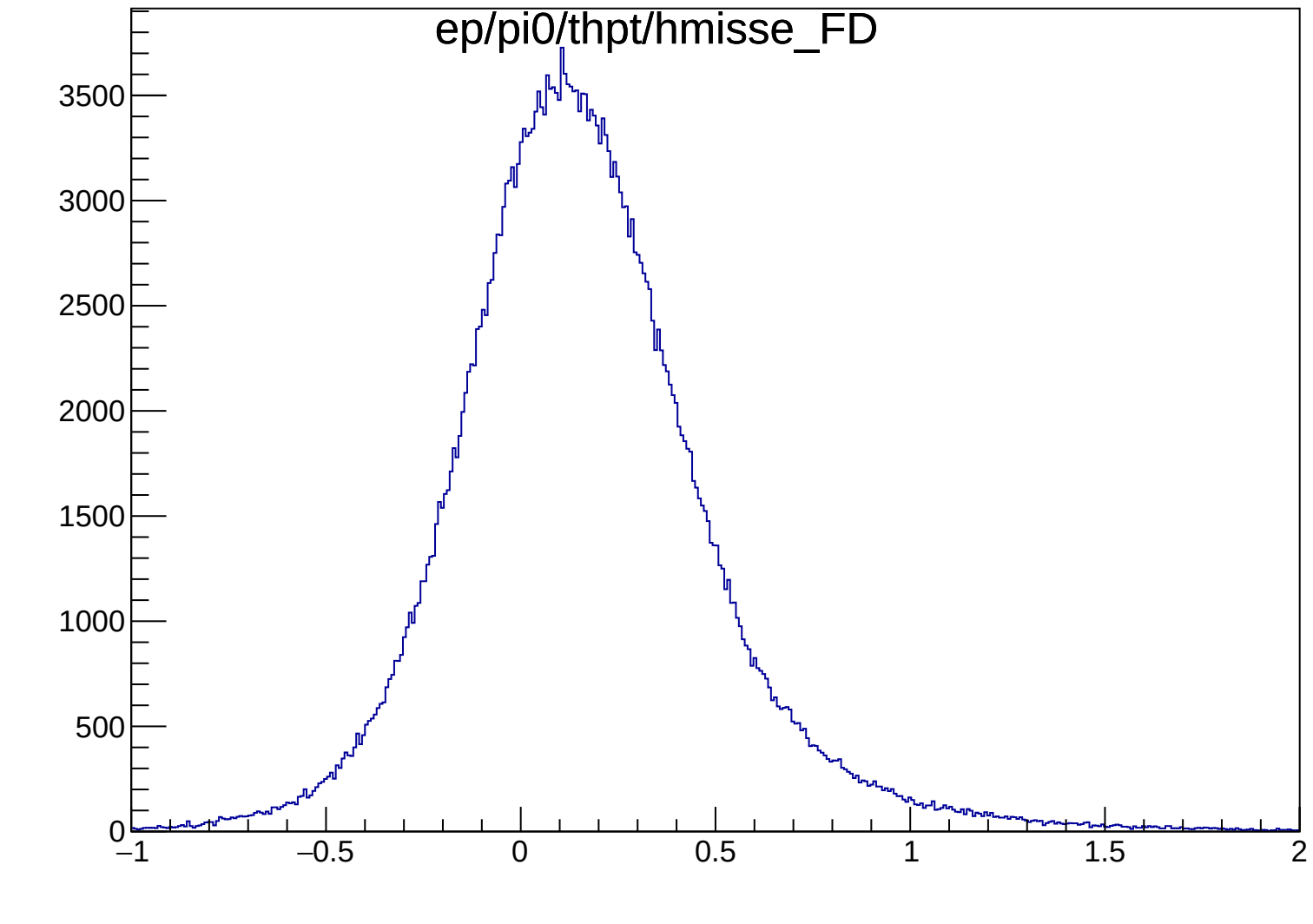

electron momentum
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10
p_e [GeV]

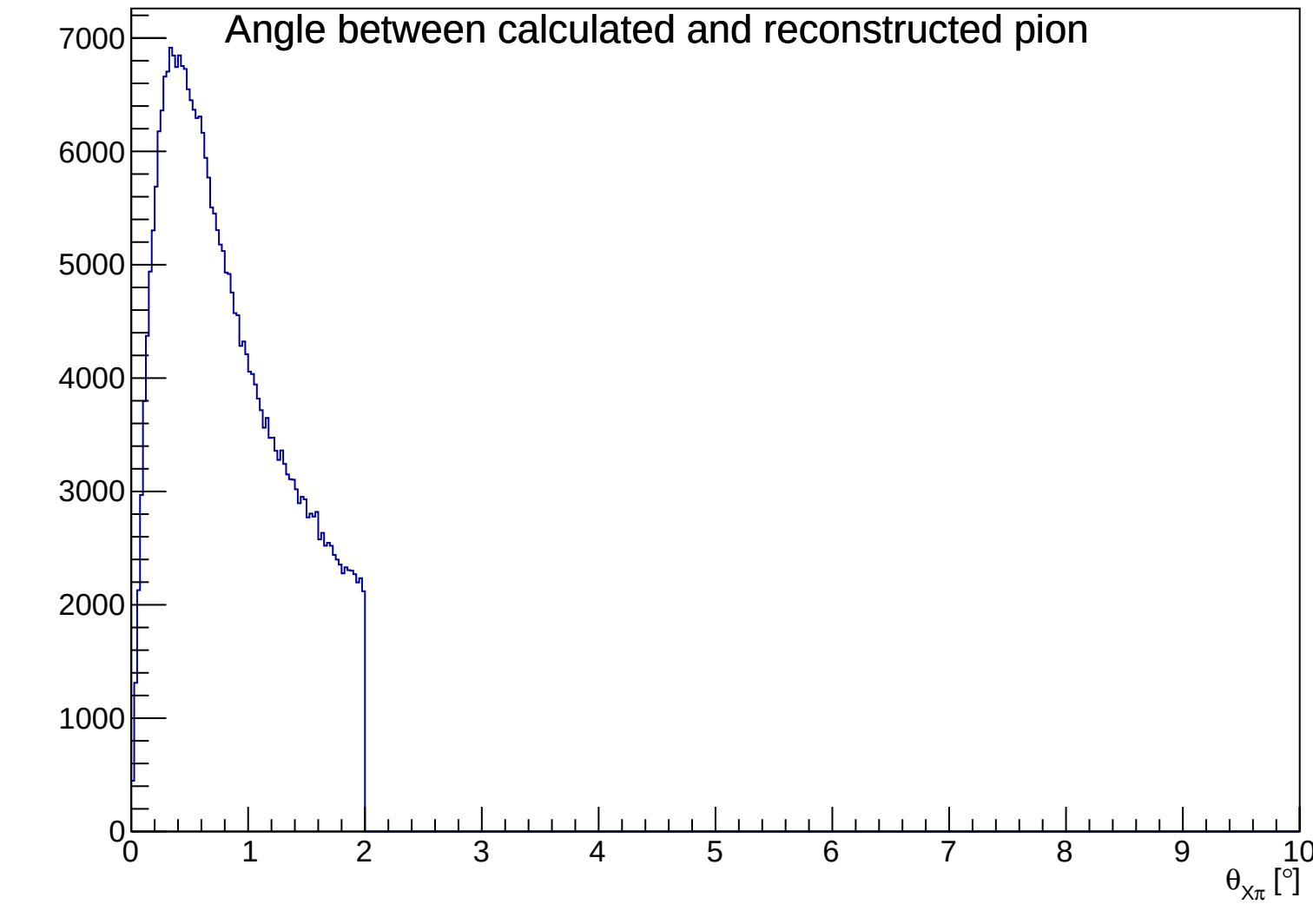

proton momentum
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
p_p [GeV]

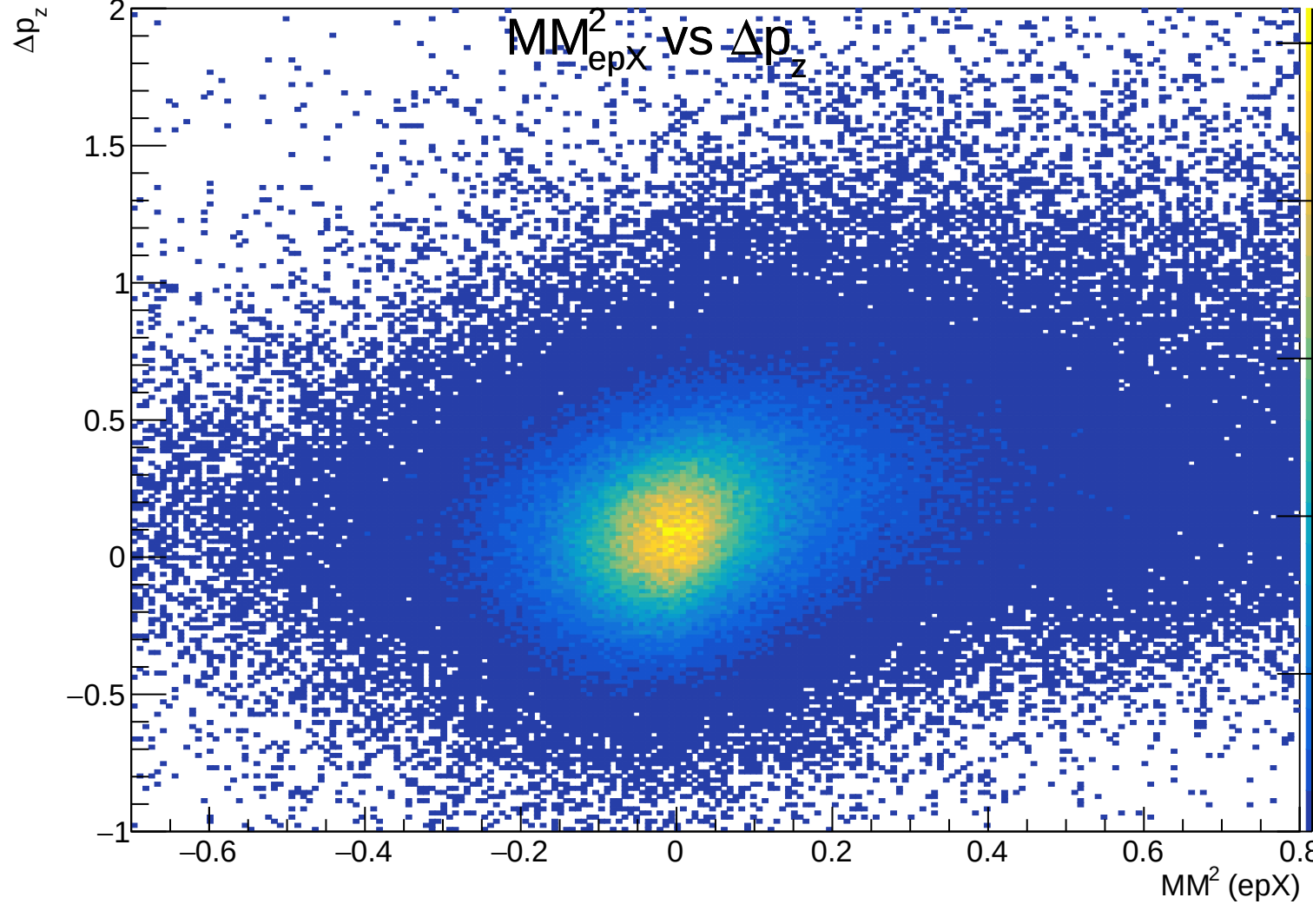

MM^2 (epX)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX) [GeV^2]

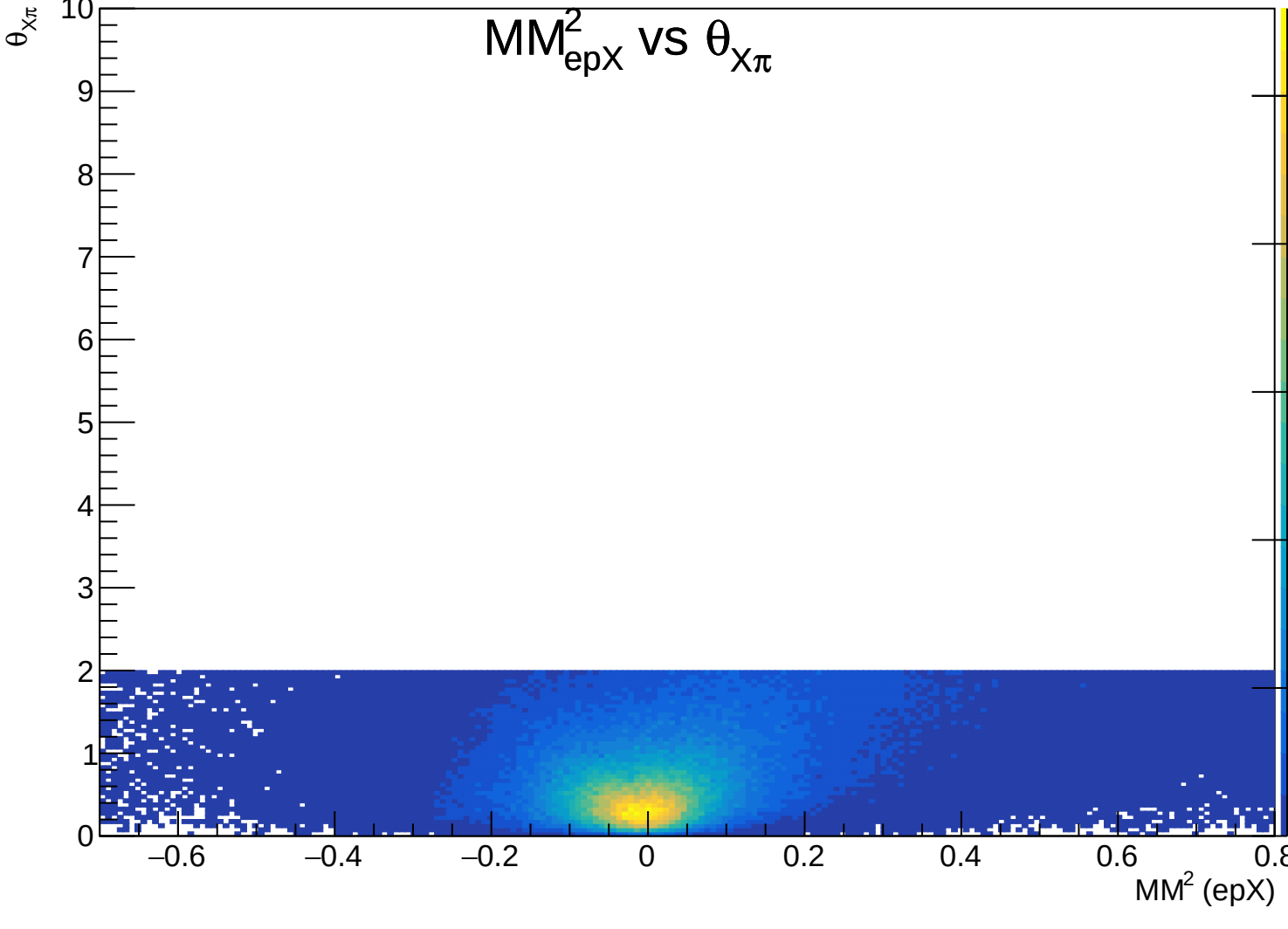

MM (eγγX)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
MM (eγγX) [GeV]

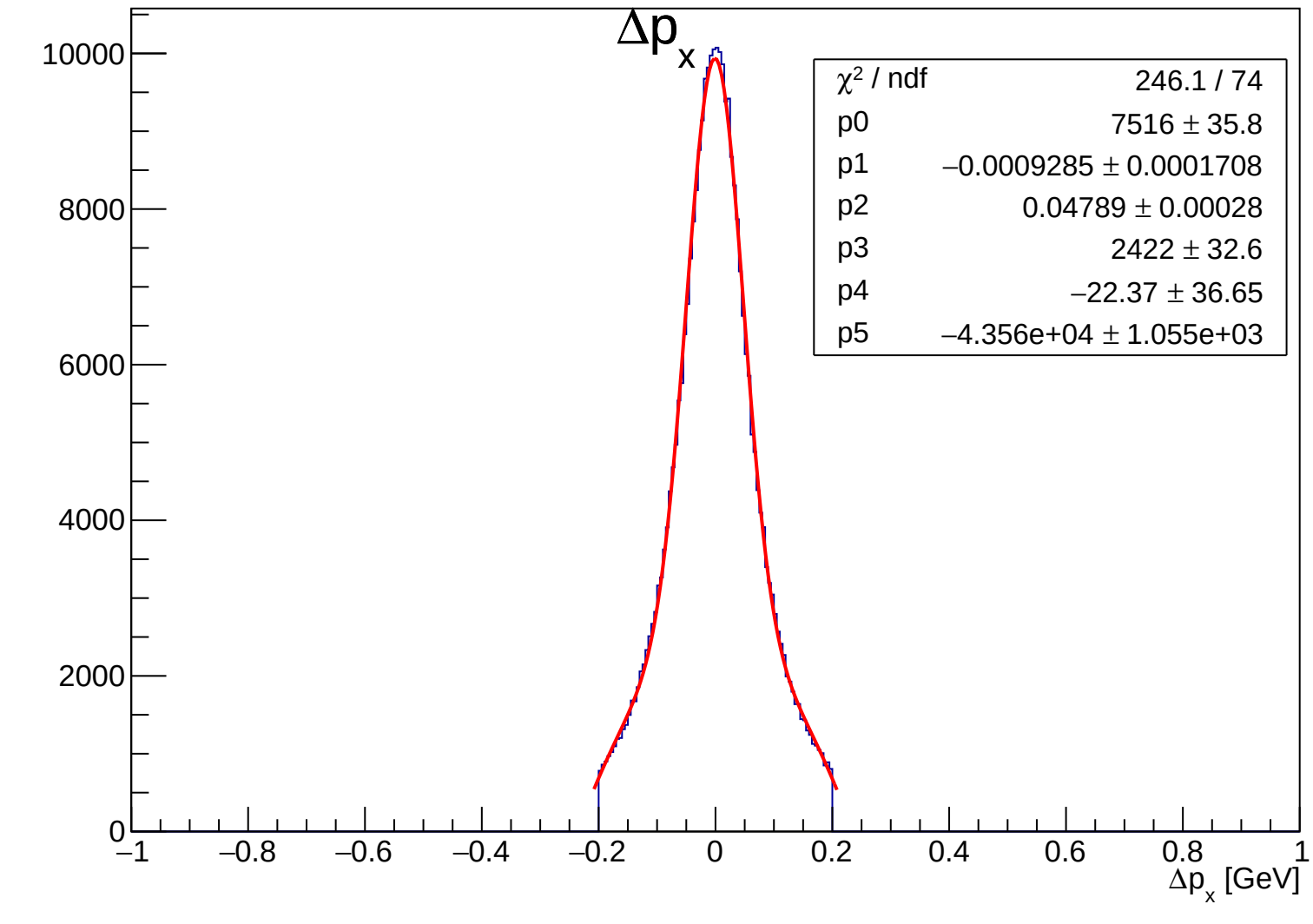

$M_{\gamma\gamma}$
χ^2 / ndf 242 / 180
p0 79.31 ± 0.42
p1 0.1326 ± 0.0000
p2 0.01112 ± 0.00005
p3 506.5 ± 17.9
p4 −1855 ± 153.7
3000
2500
2000
1500
1000
500
0
0.08
0.1
0.12
0.14
0.16
0.18
0.2
$M_{\gamma\gamma}$ [GeV]

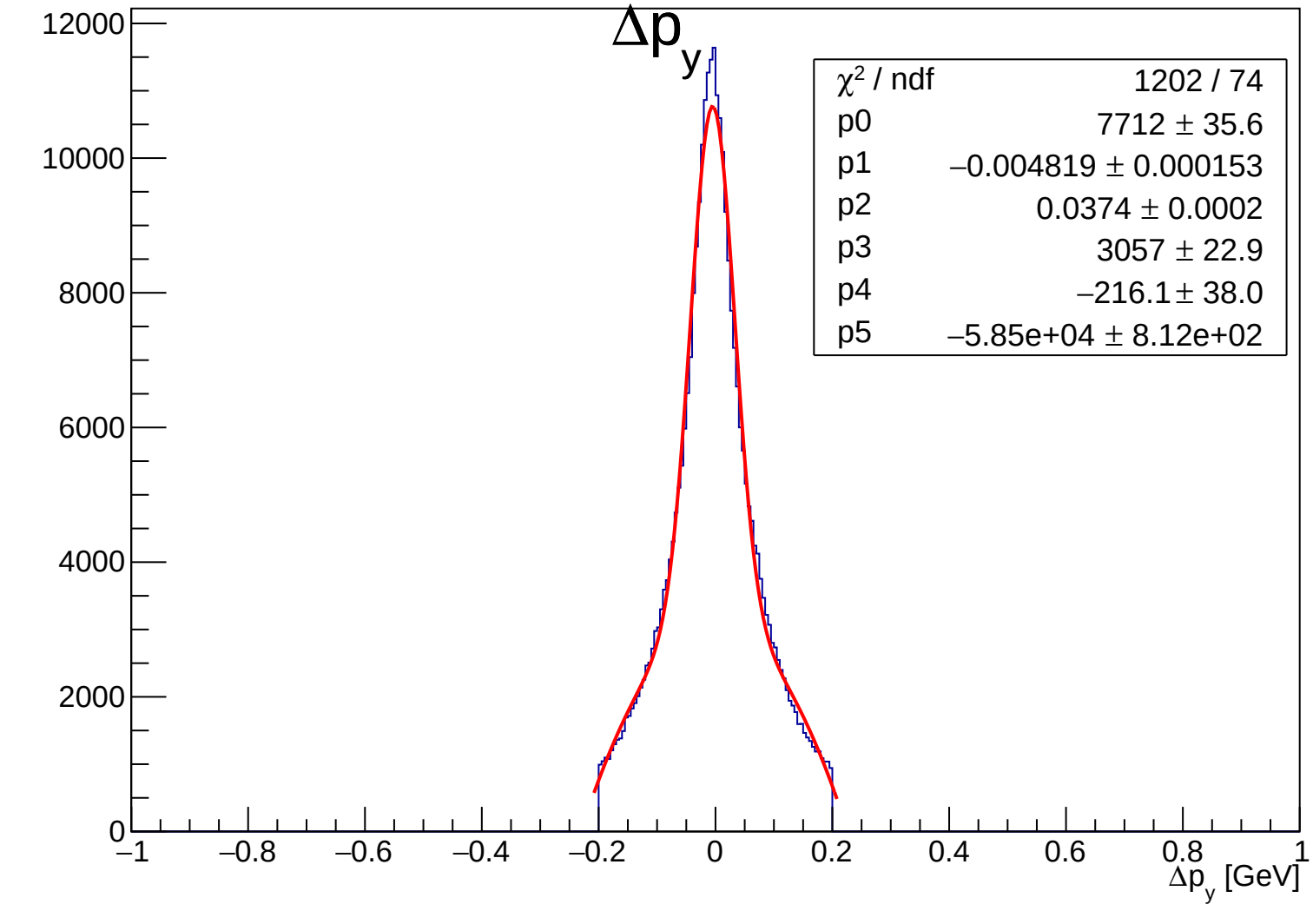

ep/pi0/thpt/hmisse_FD
3500
3000
2500
2000
1500
1000
500
0
–1
–0.5
0
0.5
1
1.5
2

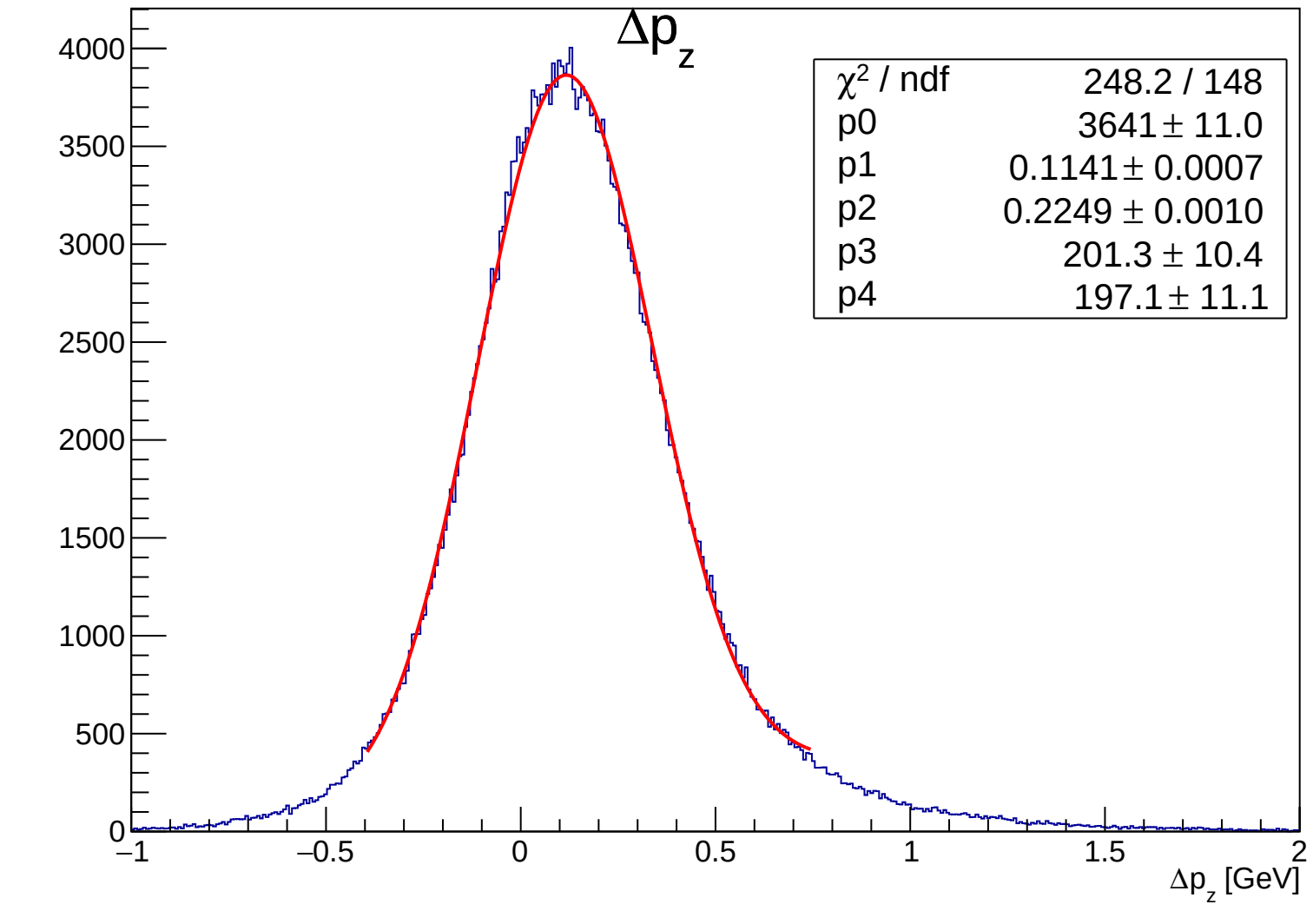

Angle between calculated and reconstructed pion
7000
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10
θXπ [°]

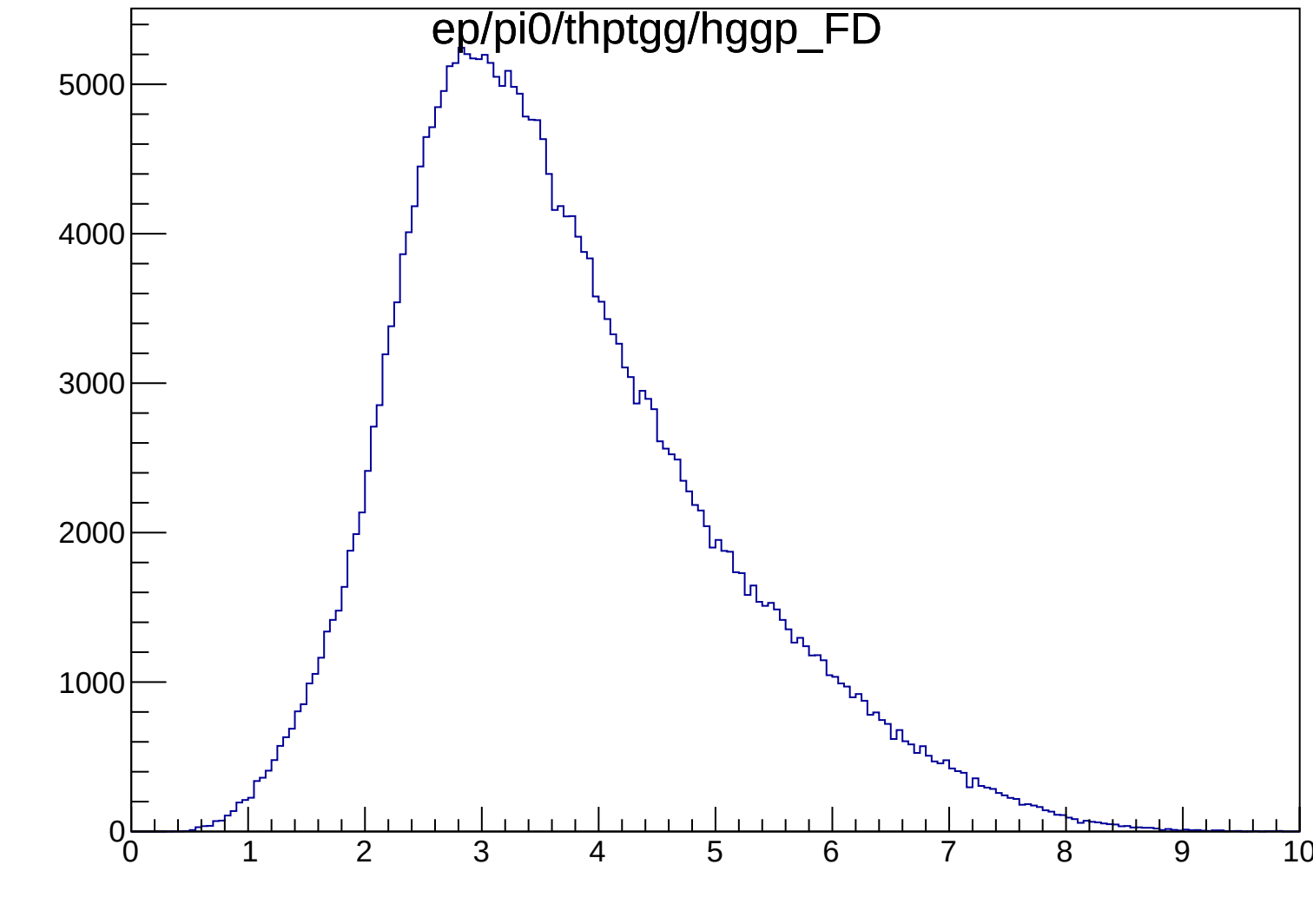

MM^2_{epX} vs Δp_z
Δp_z
2
1.5
1
0.5
0
−0.5
−1
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
MM^2 (epX)

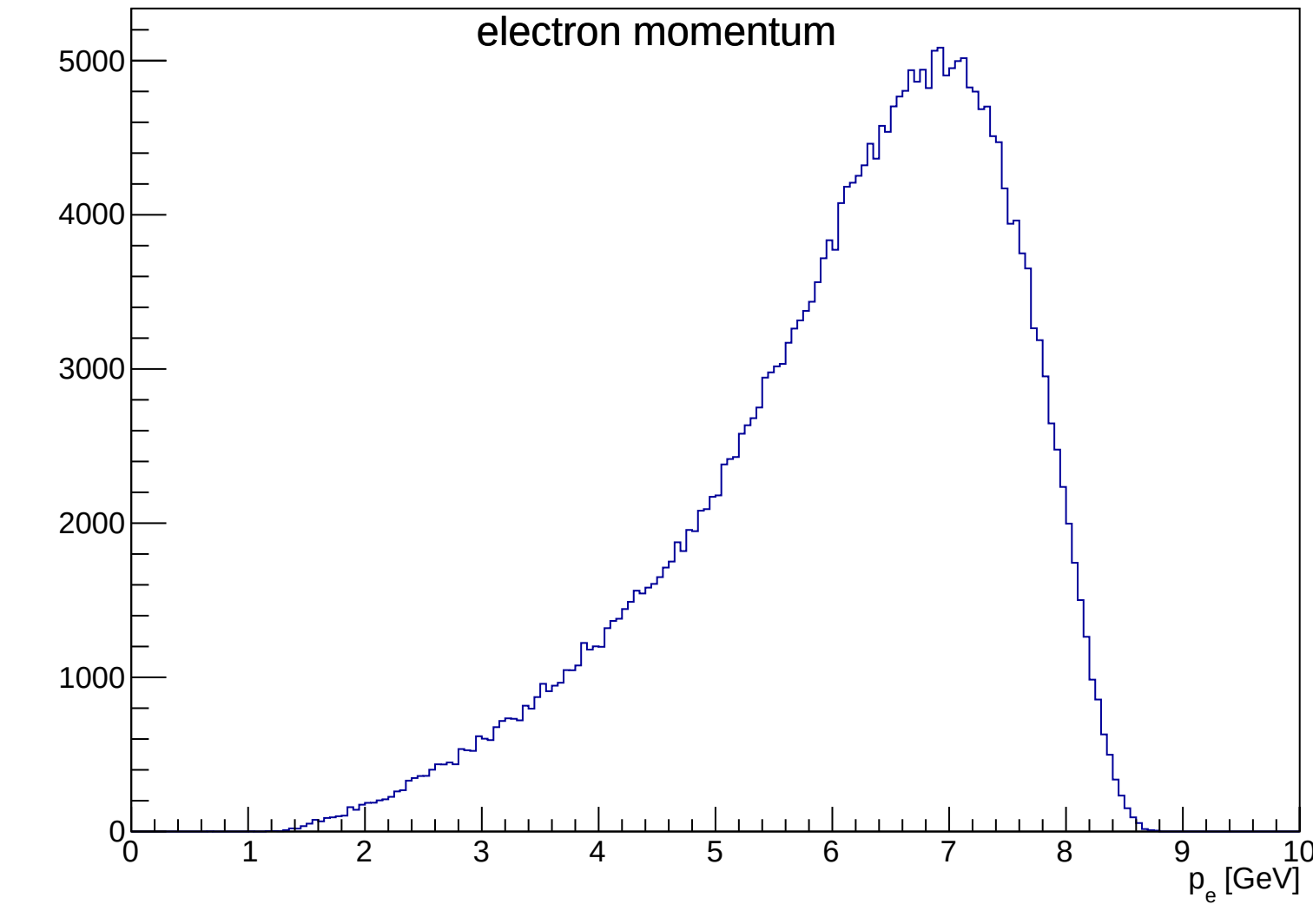

MM^2_{epX} vs $\theta_{X\pi}$
$\theta_{X\pi}$
10
9
8
7
6
5
4
3
2
1
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX)

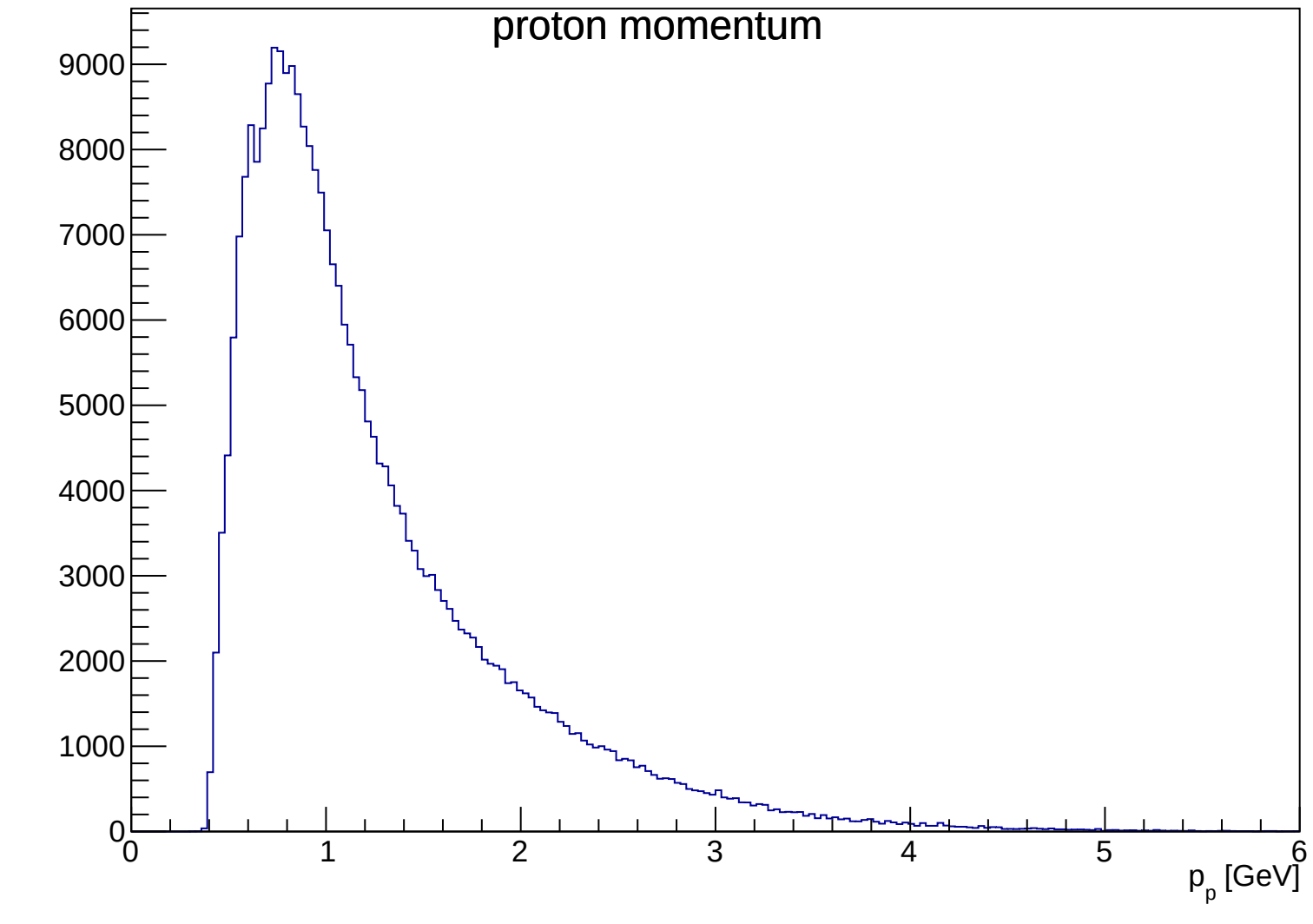

Δp_x
χ² / ndf 246.1 / 74
p0 7516 ± 35.8
p1 −0.0009285 ± 0.0001708
p2 0.04789 ± 0.00028
p3 2422 ± 32.6
p4 −22.37 ± 36.65
p5 −4.356e+04 ± 1.055e+03
10000
8000
6000
4000
2000
0
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1
Δp_x [GeV]

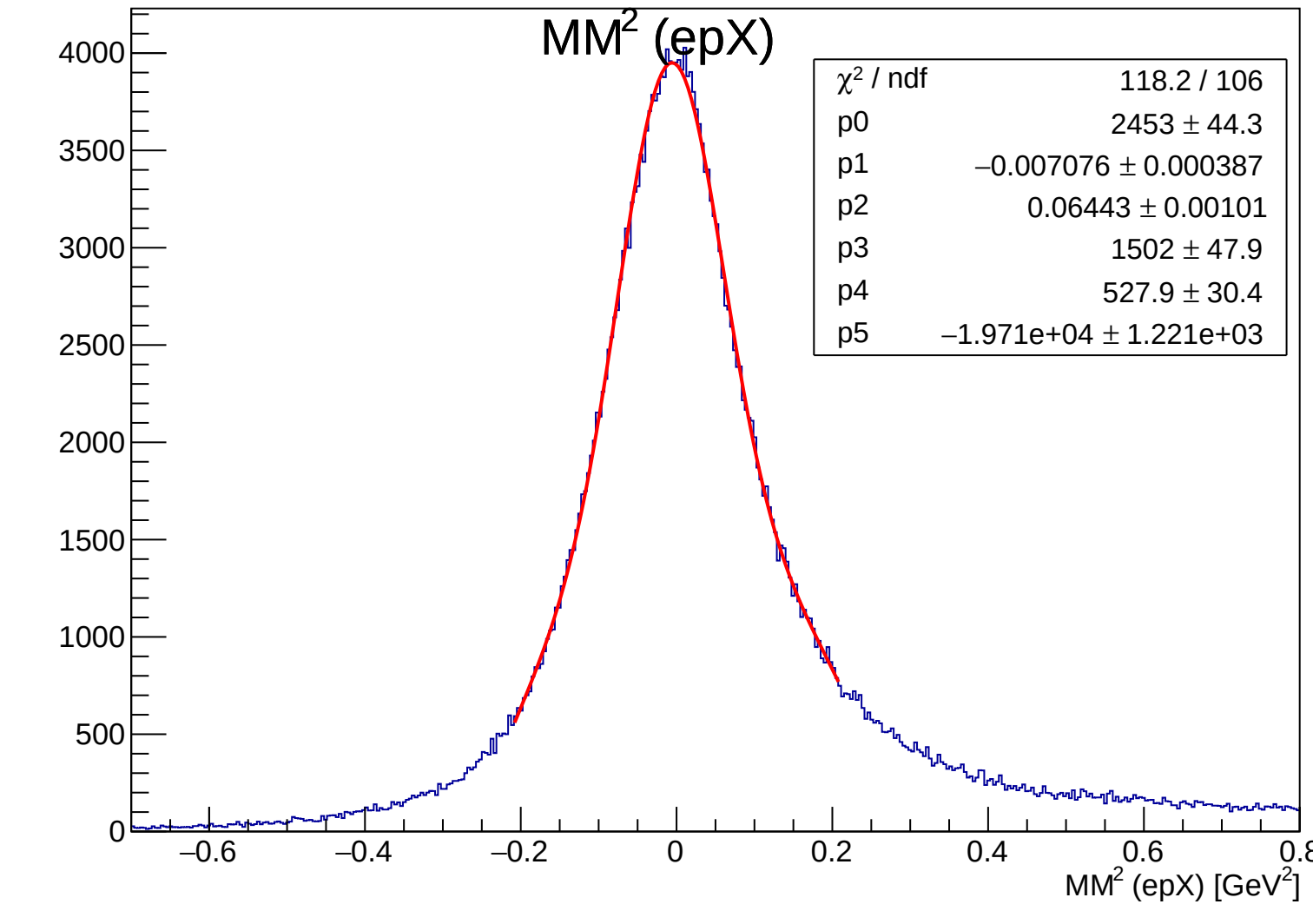

Δp_y
χ^2 / ndf 1202 / 74
p0 7712 ± 35.6
p1 –0.004819 ± 0.000153
p2 0.0374 ± 0.0002
p3 3057 ± 22.9
p4 –216.1 ± 38.0
p5 –5.85e+04 ± 8.12e+02
12000
10000
8000
6000
4000
2000
0
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_y [GeV]

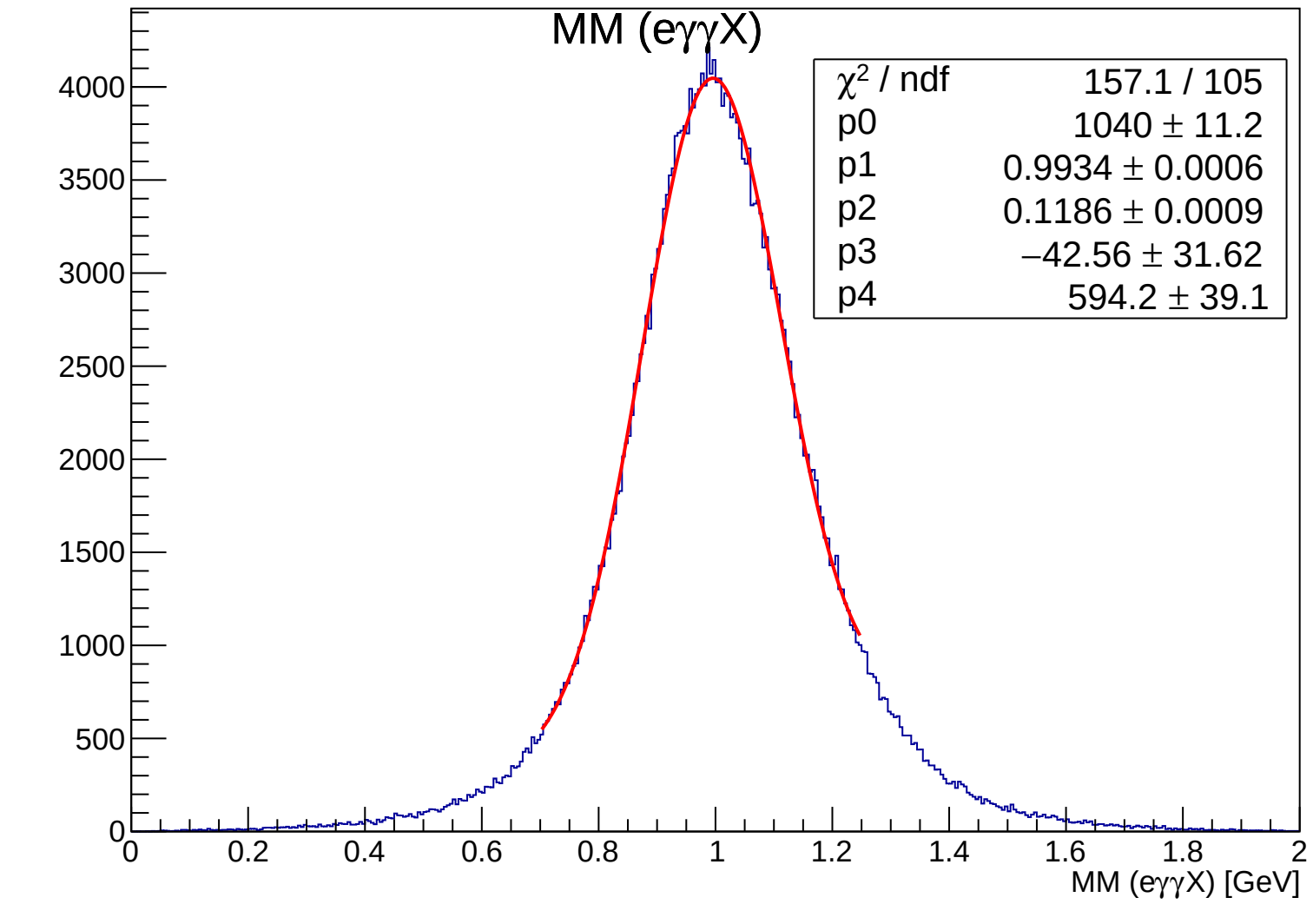

Δp_z
χ^2 / ndf 248.2 / 148
p0 3641 ± 11.0
p1 0.1141 ± 0.0007
p2 0.2249 ± 0.0010
p3 201.3 ± 10.4
p4 197.1 ± 11.1
4000
3500
3000
2500
2000
1500
1000
500
0
–1
–0.5
0
0.5
1
1.5
2
Δp_z [GeV]

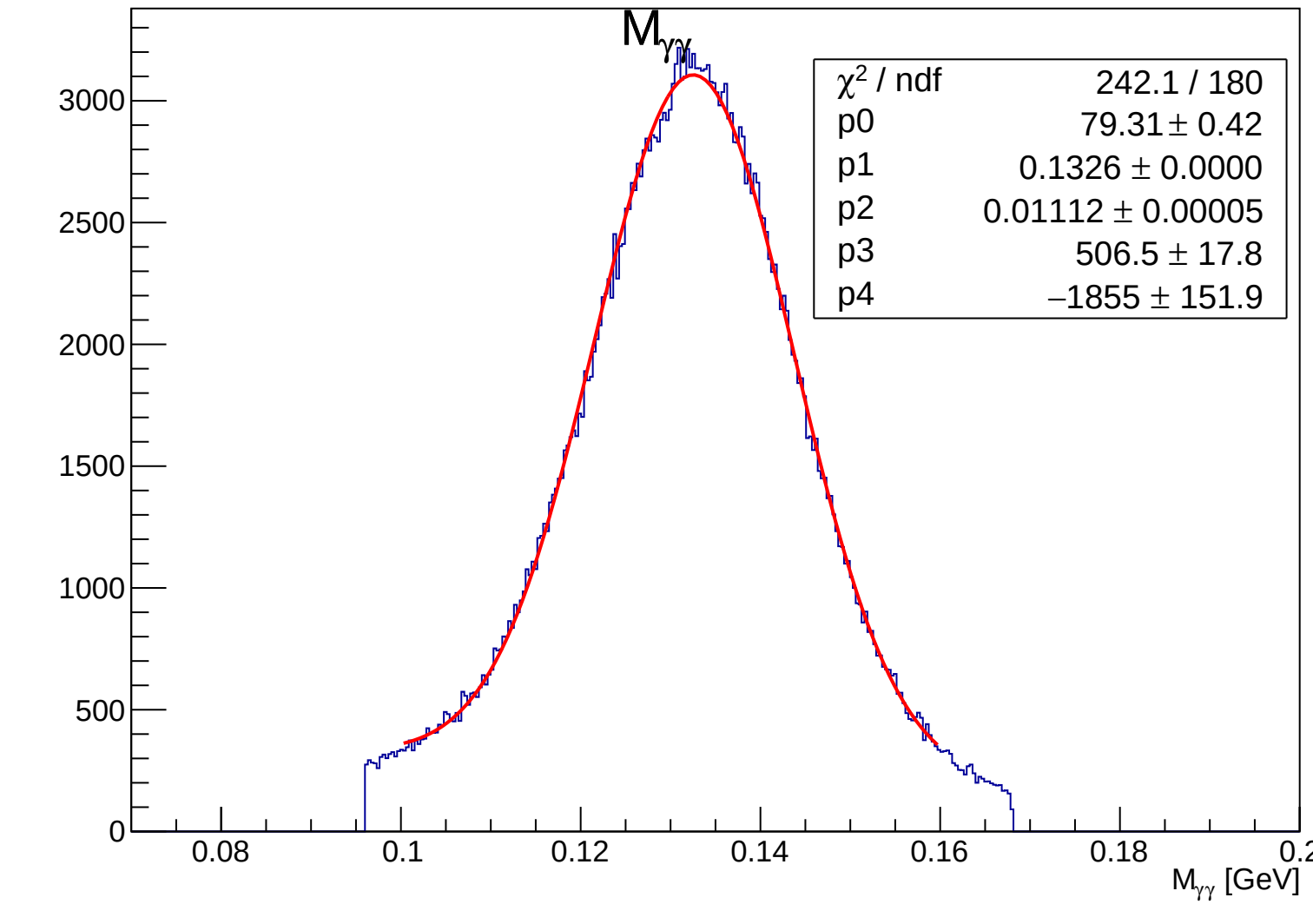

ep/pi0/thptgg/hggp_FD
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10

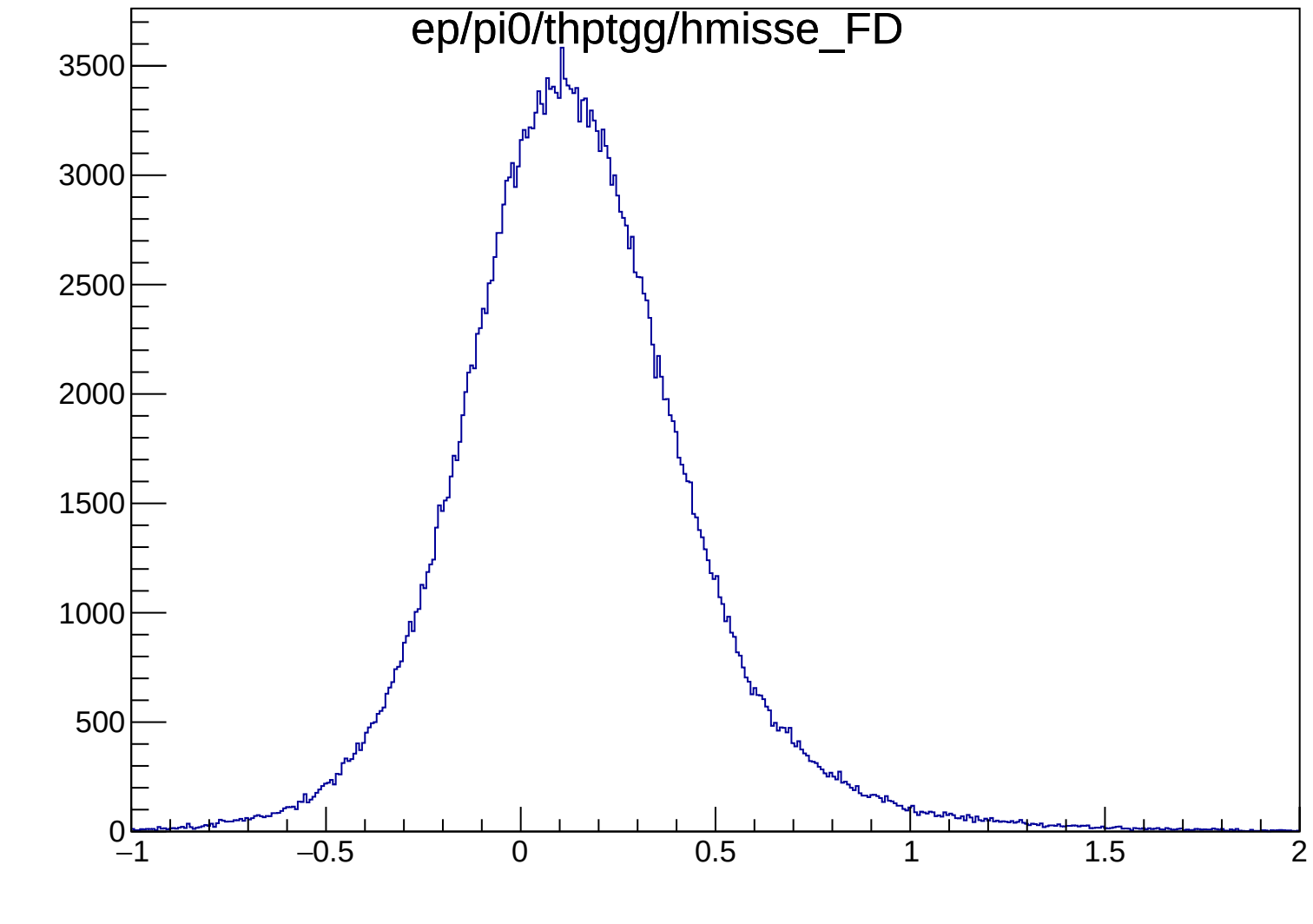

electron momentum
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10
p_e [GeV]

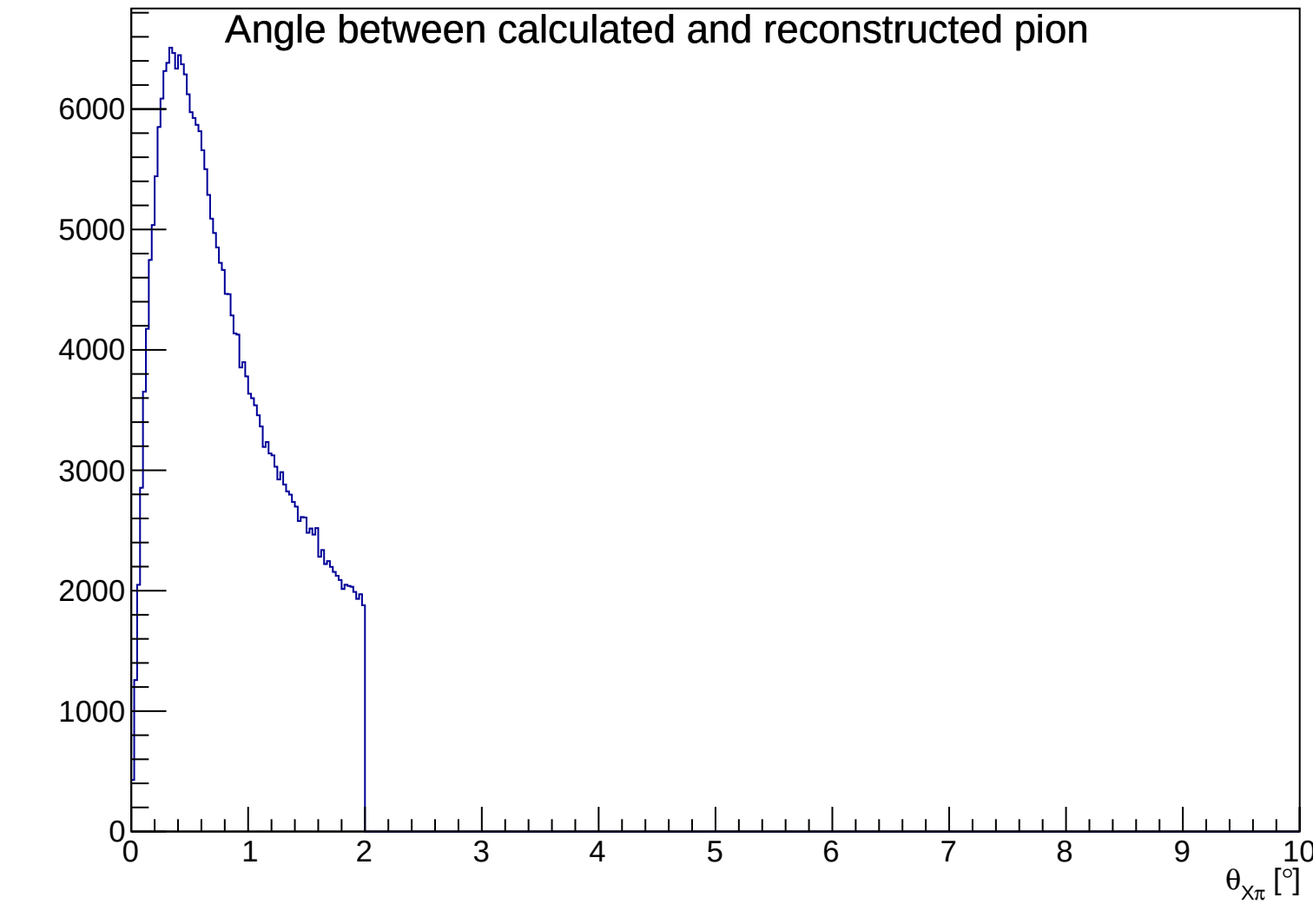

proton momentum
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
p_p [GeV]

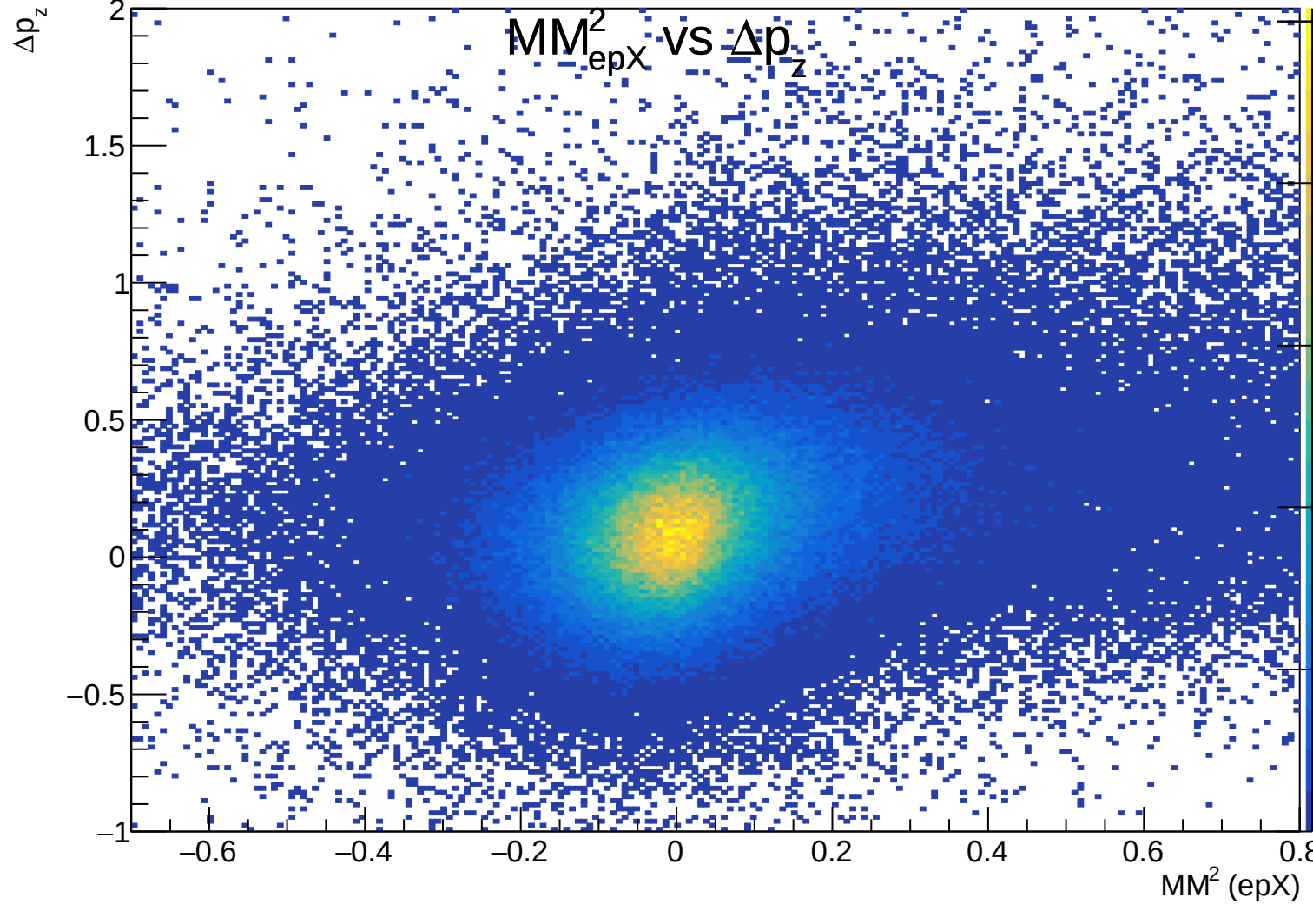

MM^2 (epX)
χ^2 / ndf 118.2 / 106
p0 2453 ± 44.3
p1 –0.007076 ± 0.000387
p2 0.06443 ± 0.00101
p3 1502 ± 47.9
p4 527.9 ± 30.4
p5 –1.971e+04 ± 1.221e+03
4000
3500
3000
2500
2000
1500
1000
500
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX) [GeV^2]

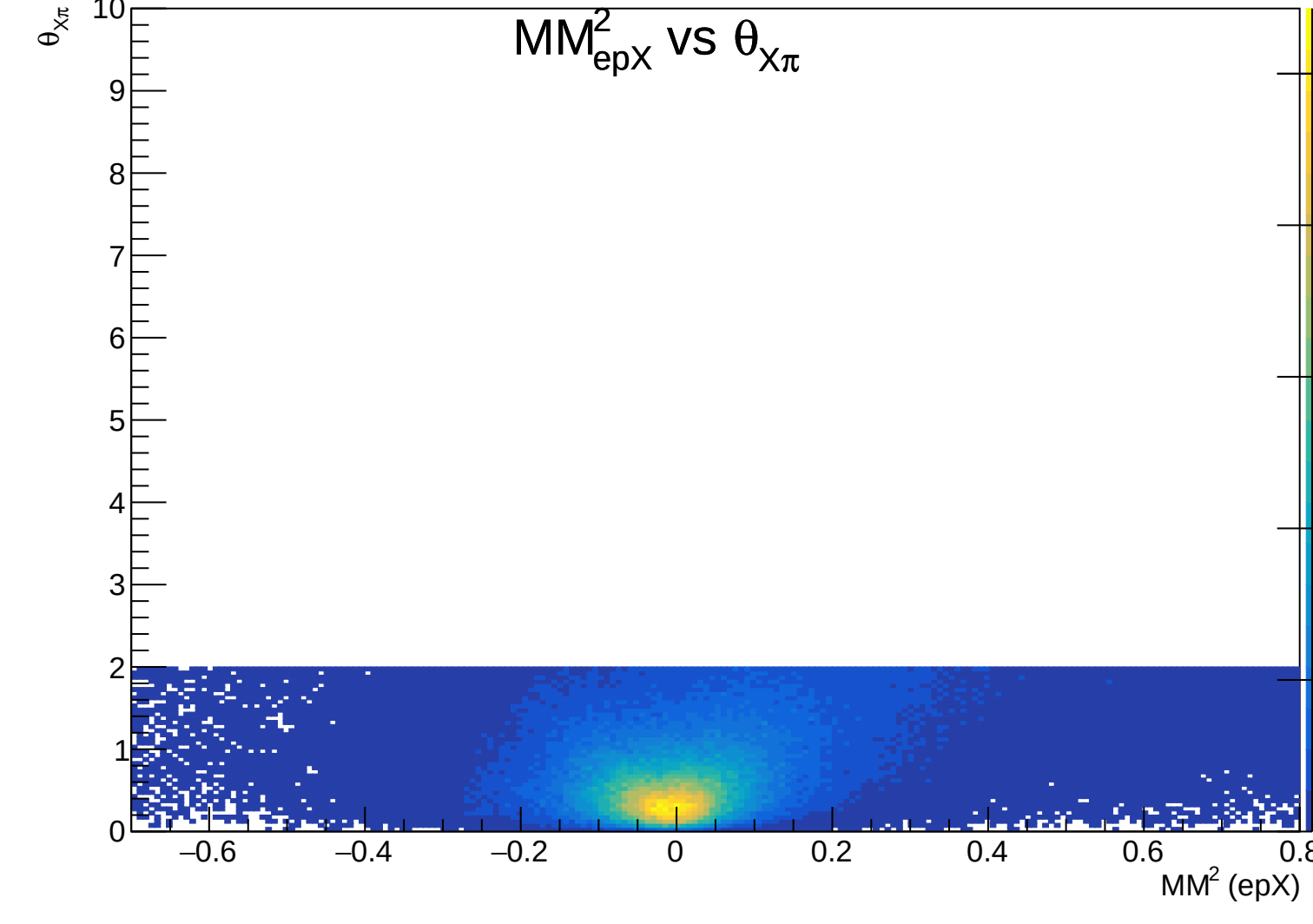

MM (eγγX)
χ² / ndf 157.1 / 105
p0 1040 ± 11.2
p1 0.9934 ± 0.0006
p2 0.1186 ± 0.0009
p3 −42.56 ± 31.62
p4 594.2 ± 39.1
4000
3500
3000
2500
2000
1500
1000
500
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
MM (eγγX) [GeV]

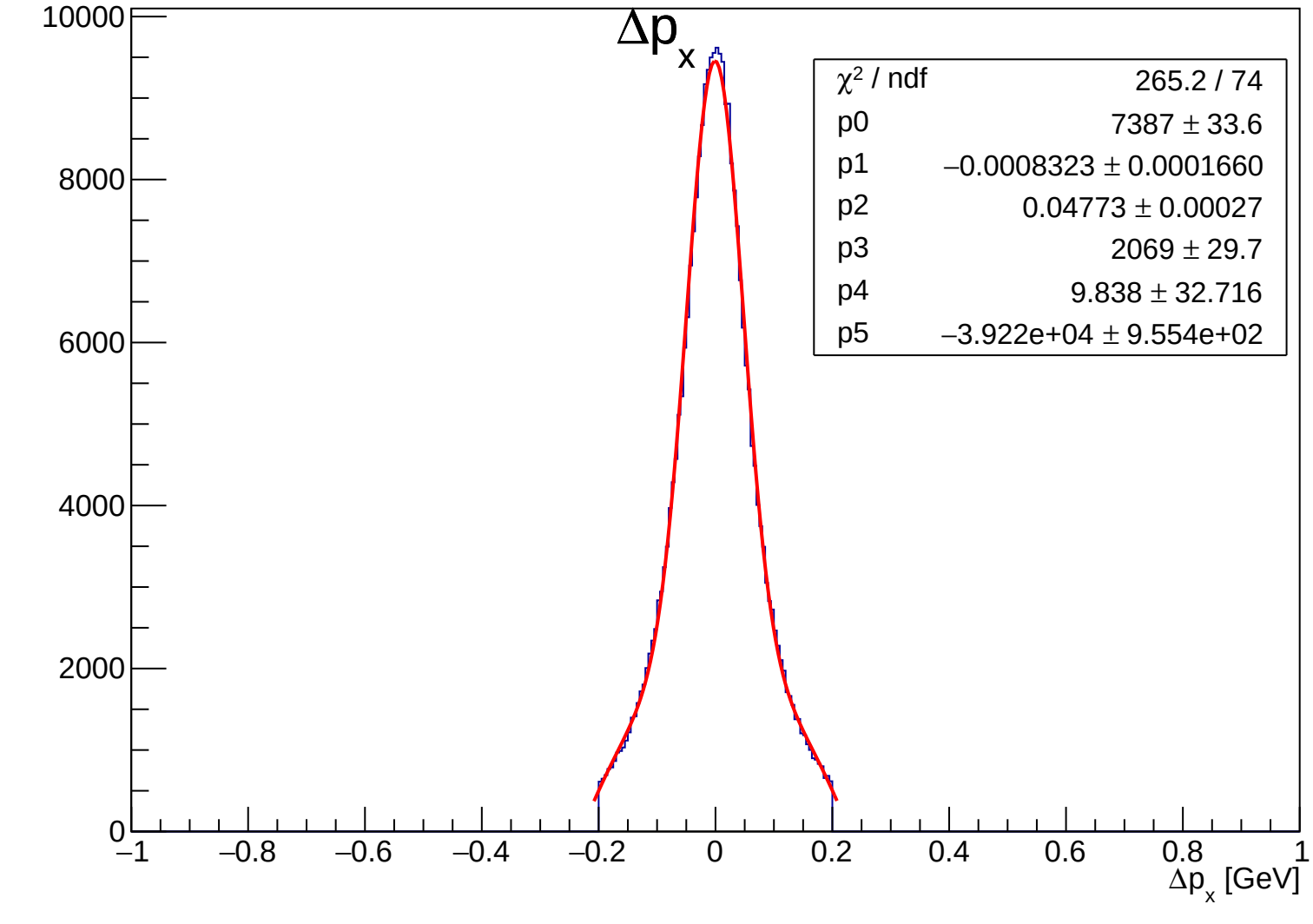

$M_{\gamma\gamma}$
χ^2 / ndf 242.1 / 180
p0 79.31 ± 0.42
p1 0.1326 ± 0.0000
p2 0.01112 ± 0.00005
p3 506.5 ± 17.8
p4 −1855 ± 151.9
3000
2500
2000
1500
1000
500
0
0.08
0.1
0.12
0.14
0.16
0.18
0.2
$M_{\gamma\gamma}$ [GeV]

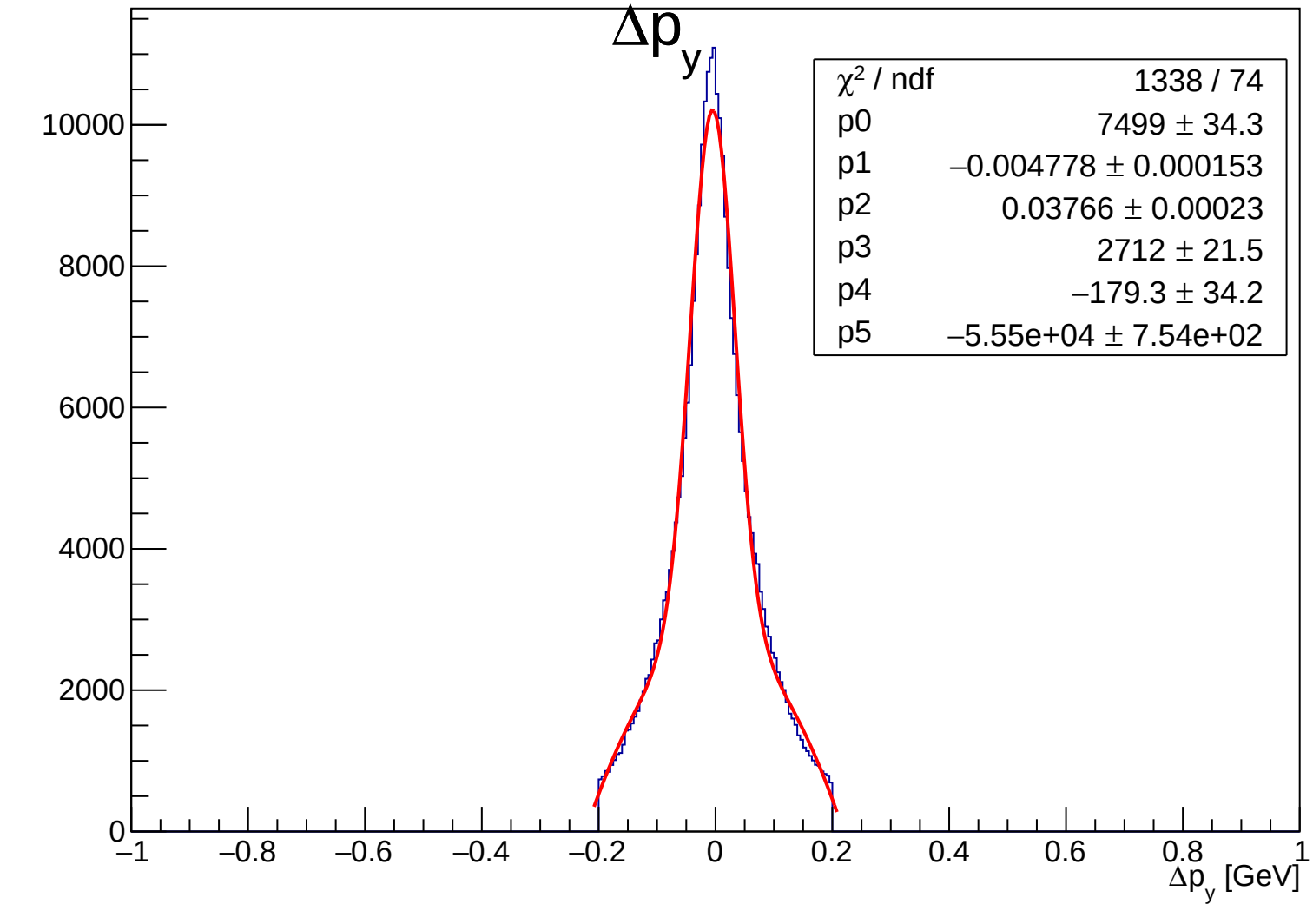

ep/pi0/thptgg/hmisse_FD
3500
3000
2500
2000
1500
1000
500
0
–1
–0.5
0
0.5
1
1.5
2

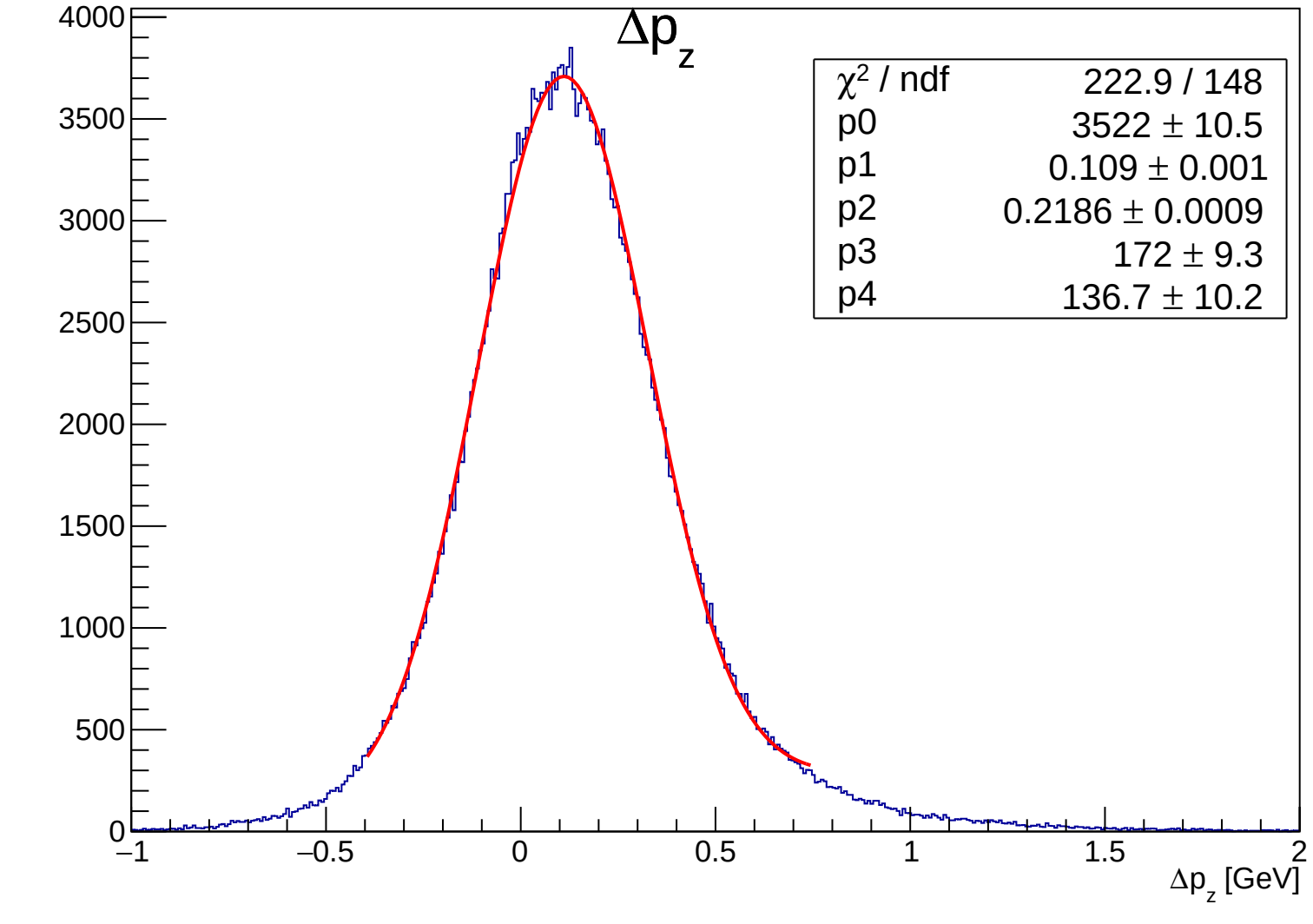

Angle between calculated and reconstructed pion
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10
θXπ [°]

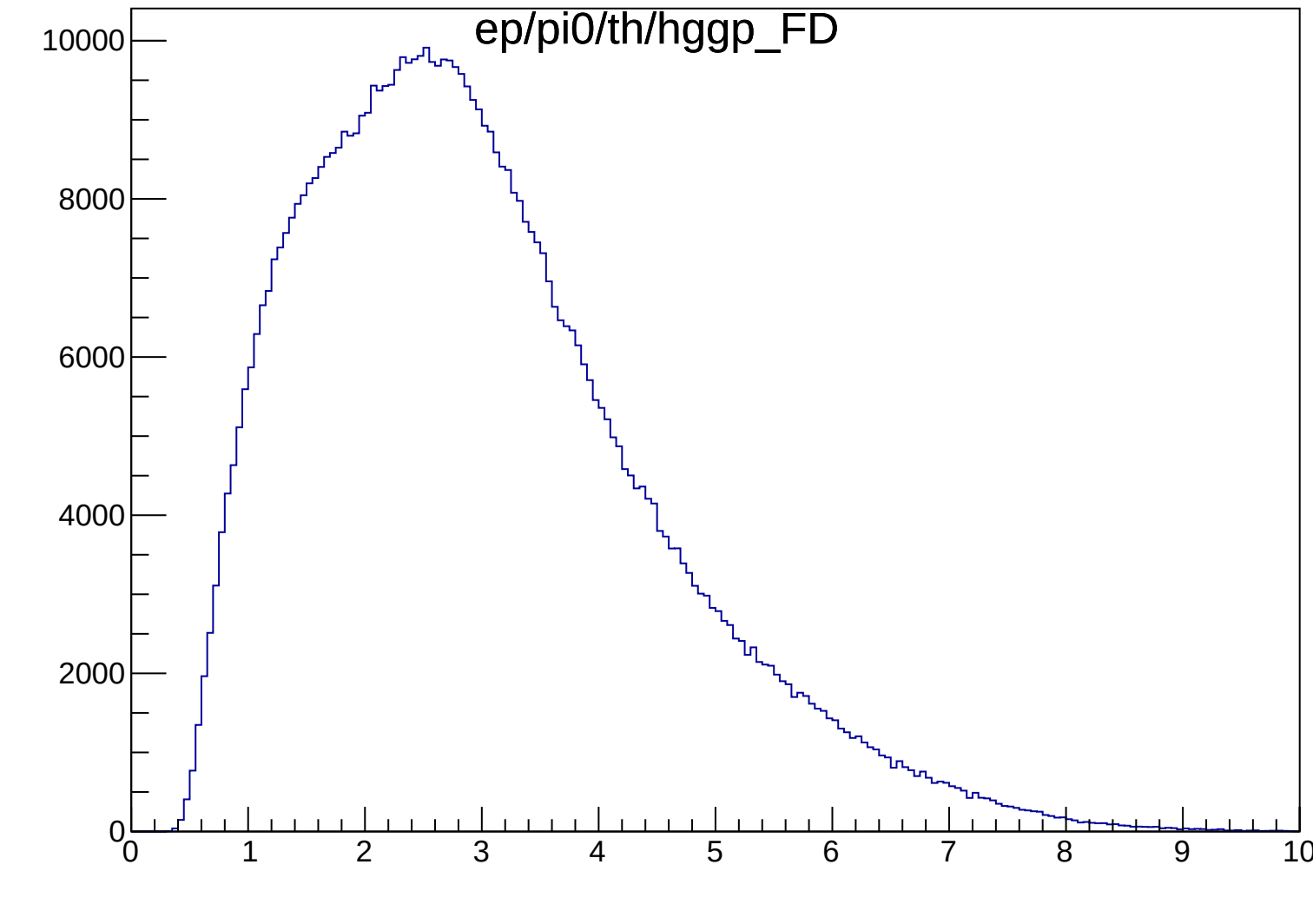

MM^2_{epX} vs Δp_z
Δp_z
2
1.5
1
0.5
0
−0.5
−1
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
MM^2 (epX)

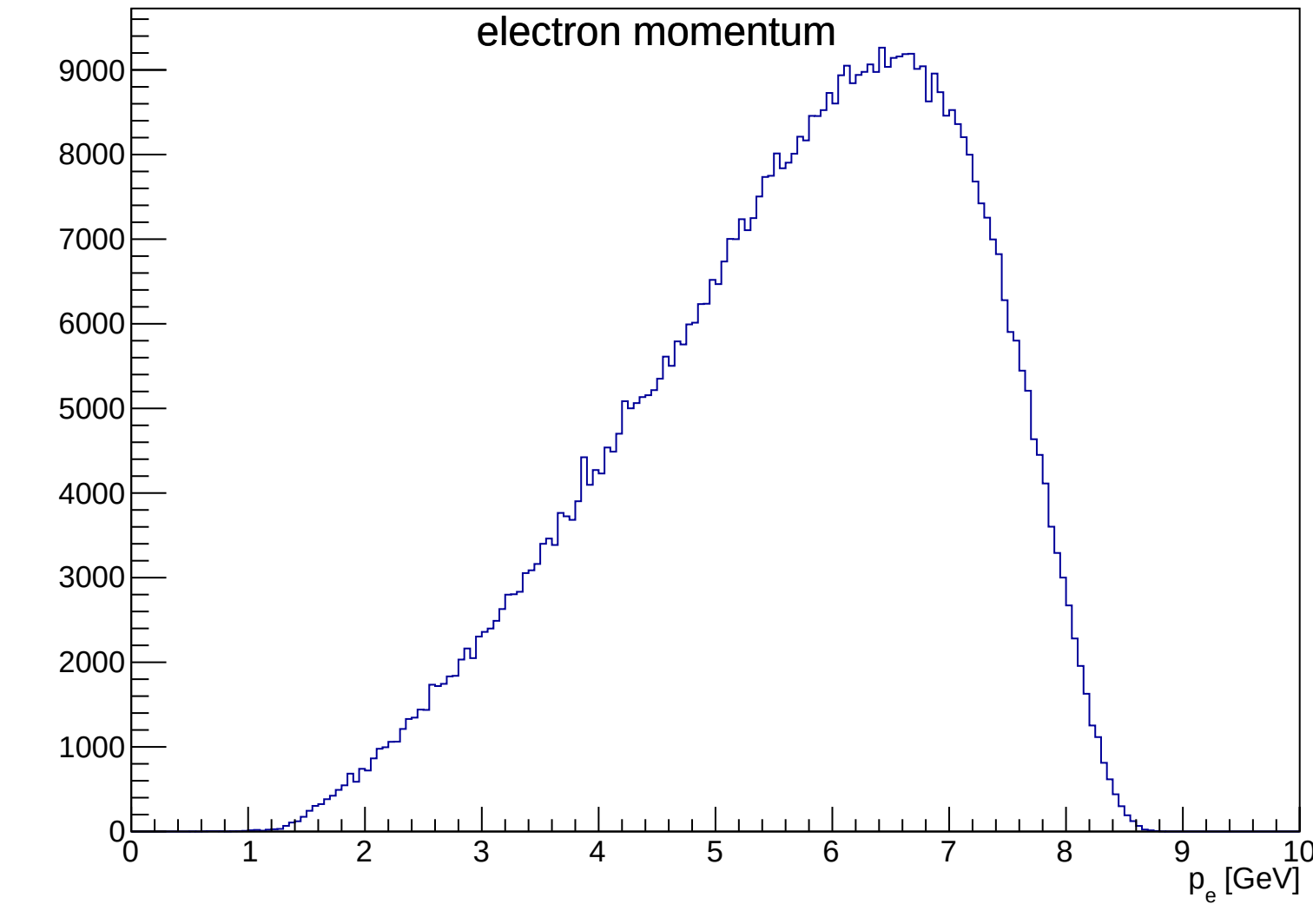

MM^2_{epX} vs $\theta_{X\pi}$
$\theta_{X\pi}$
10
9
8
7
6
5
4
3
2
1
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX)

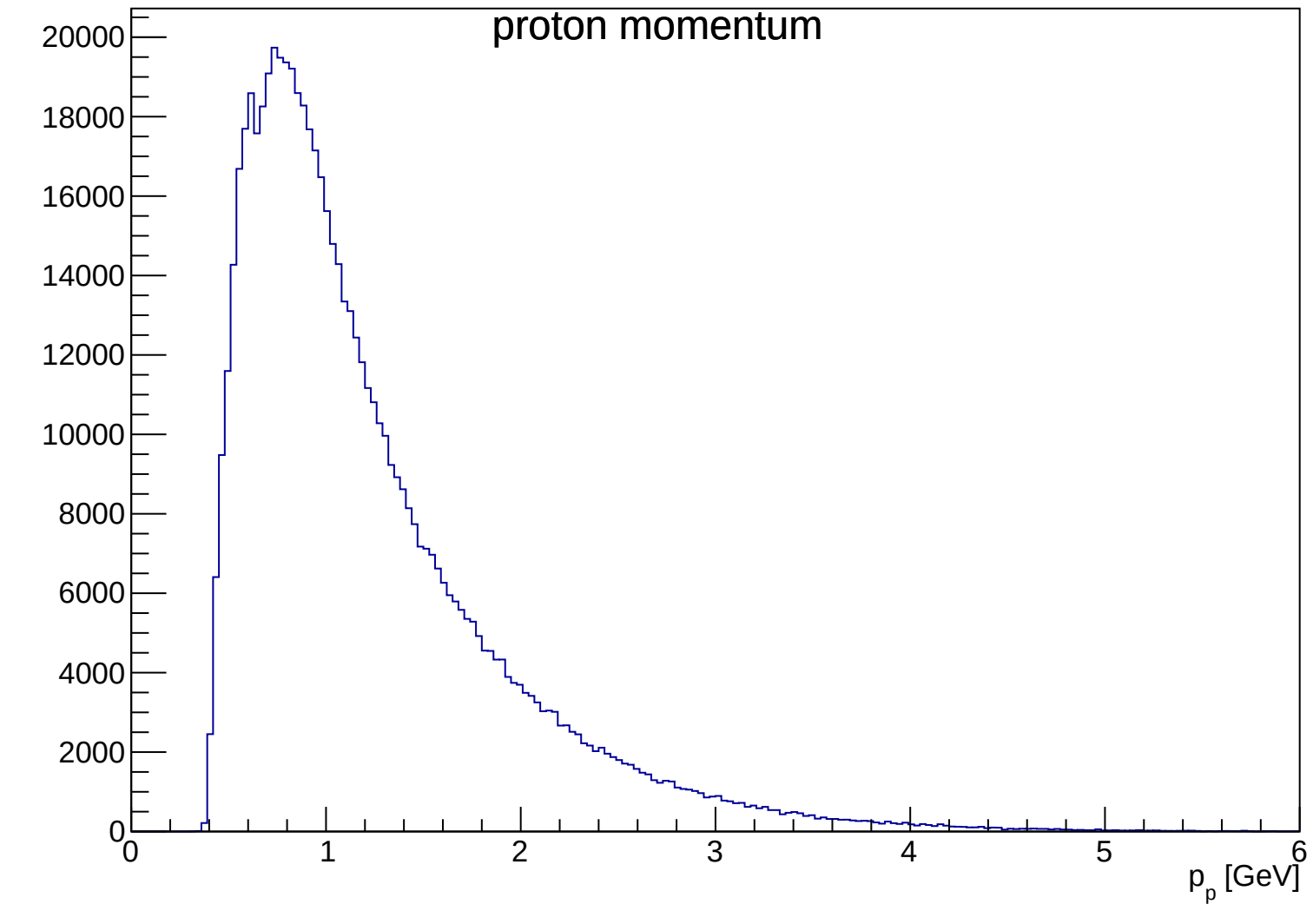

Δp_x
χ^2 / ndf 265.2 / 74
p0 7387 ± 33.6
p1 –0.0008323 ± 0.0001660
p2 0.04773 ± 0.00027
p3 2069 ± 29.7
p4 9.838 ± 32.716
p5 –3.922e+04 ± 9.554e+02
10000
8000
6000
4000
2000
0
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_x [GeV]

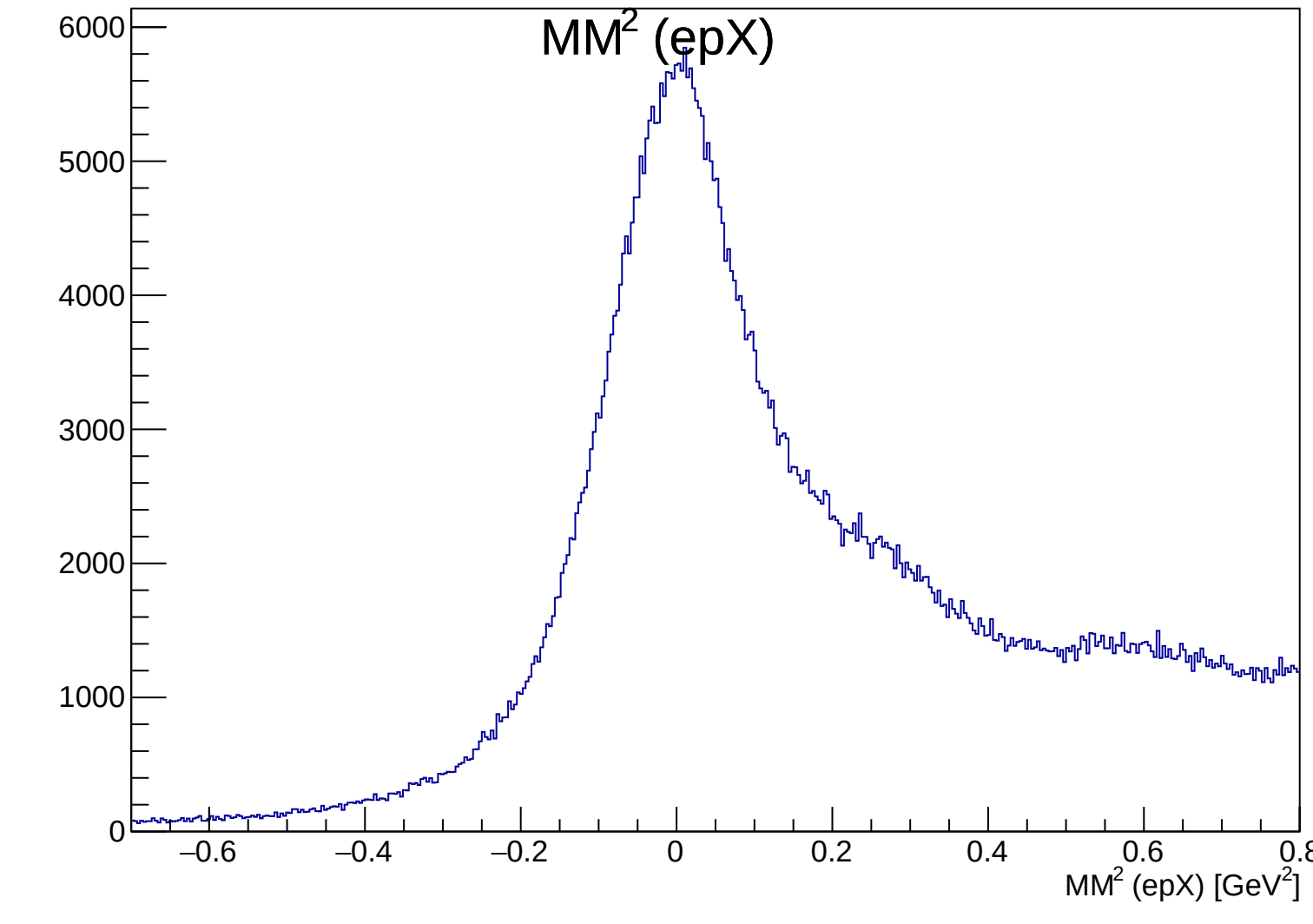

Δp_y
χ^2 / ndf 1338 / 74
p0 7499 ± 34.3
p1 –0.004778 ± 0.000153
p2 0.03766 ± 0.00023
p3 2712 ± 21.5
p4 –179.3 ± 34.2
p5 –5.55e+04 ± 7.54e+02
10000
8000
6000
4000
2000
0
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_y [GeV]

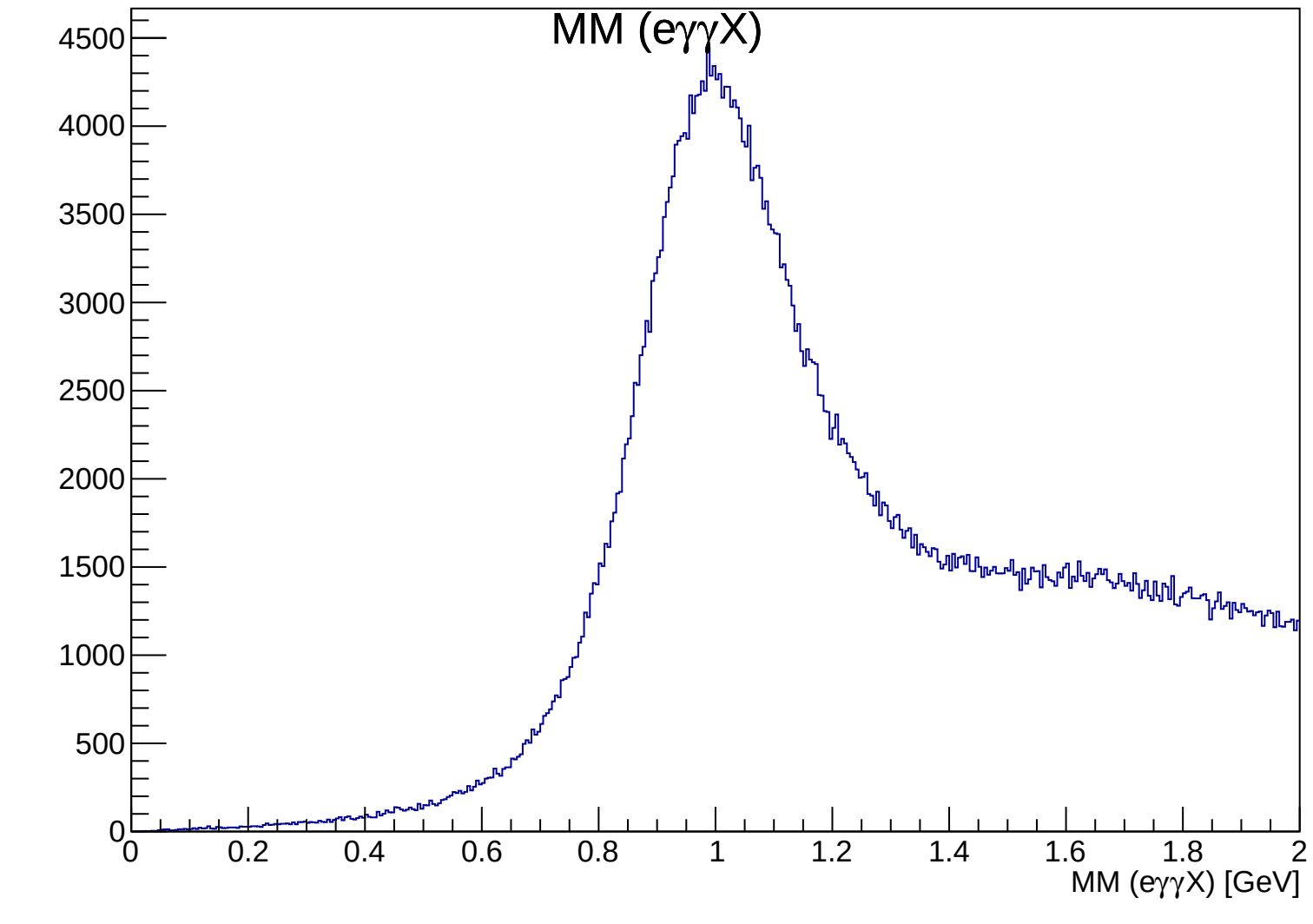

Δp_z
χ^2 / ndf 222.9 / 148
p0 3522 ± 10.5
p1 0.109 ± 0.001
p2 0.2186 ± 0.0009
p3 172 ± 9.3
p4 136.7 ± 10.2
4000
3500
3000
2500
2000
1500
1000
500
0
–1
–0.5
0
0.5
1
1.5
2
Δp_z [GeV]

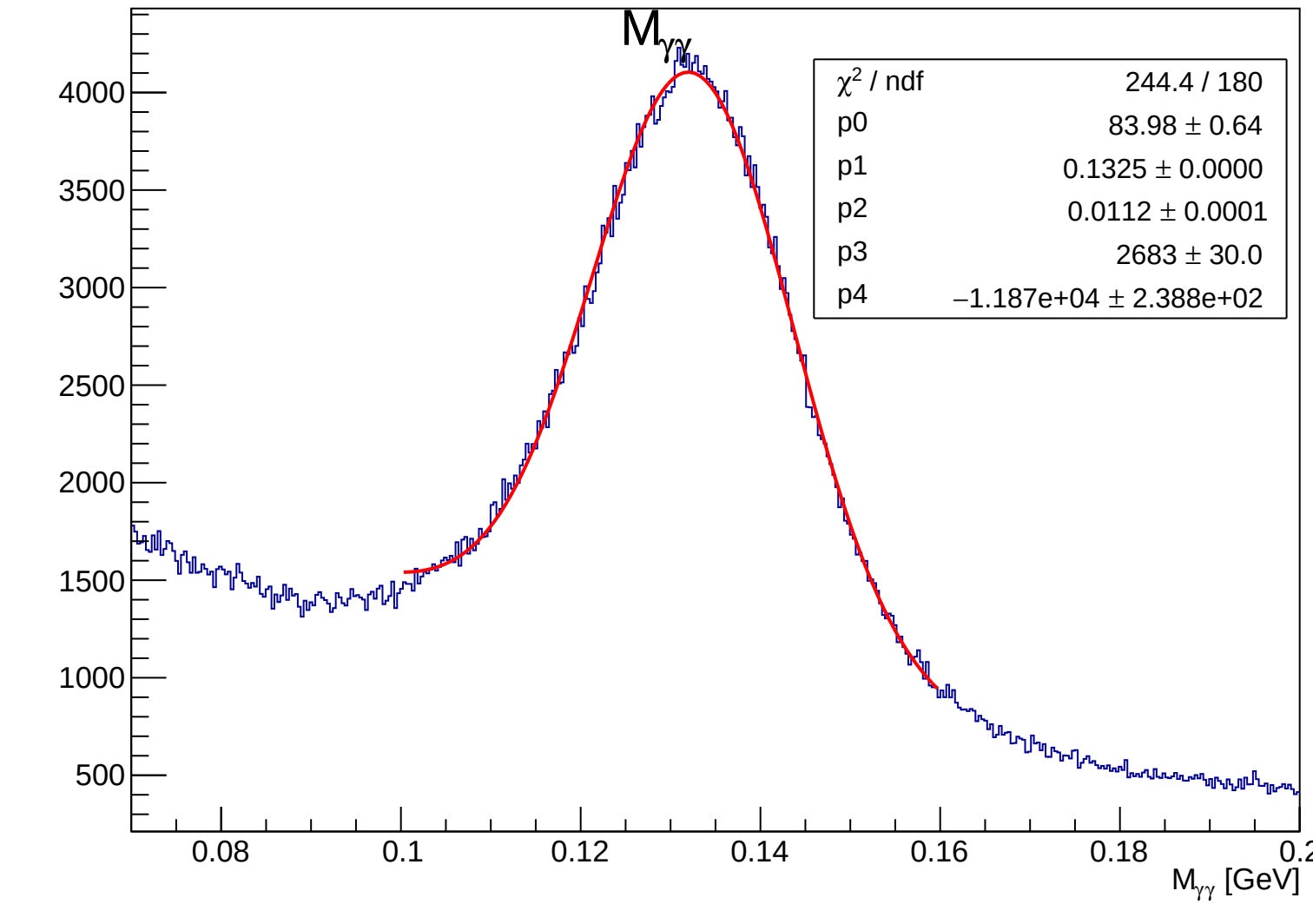

ep/pi0/th/hggp_FD
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
7
8
9
10

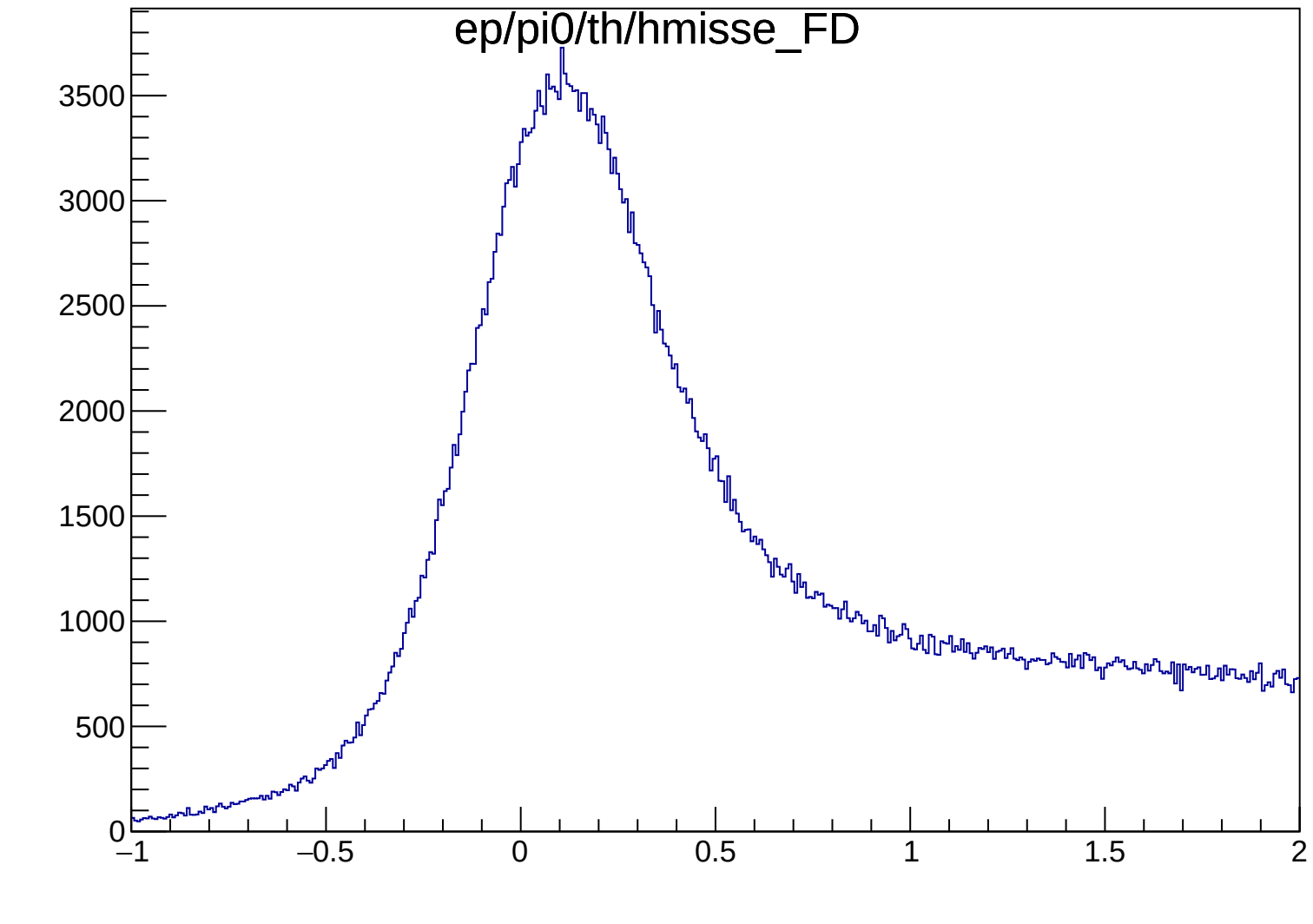

electron momentum
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
9
10
p_e [GeV]

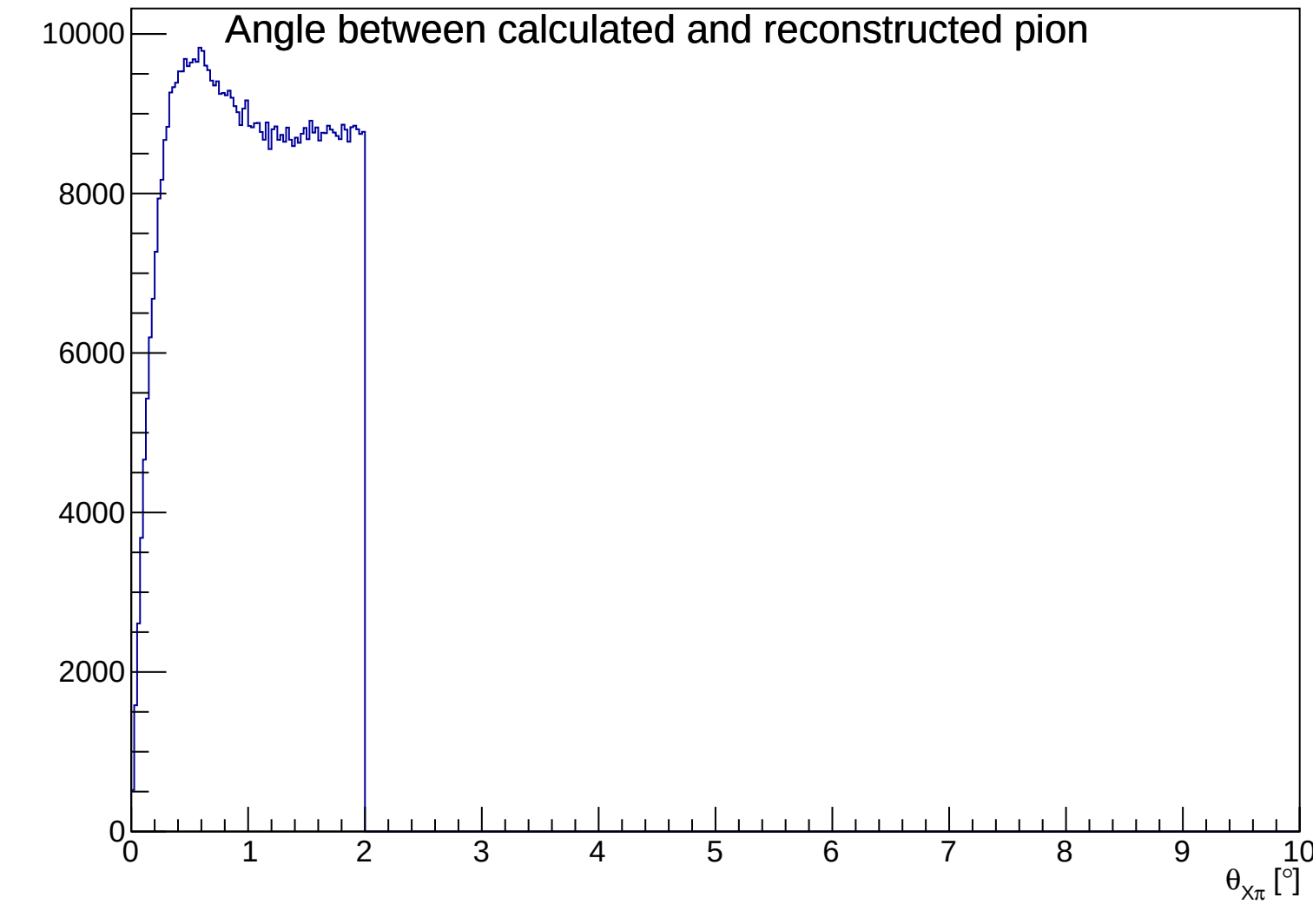

proton momentum
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
p_p [GeV]

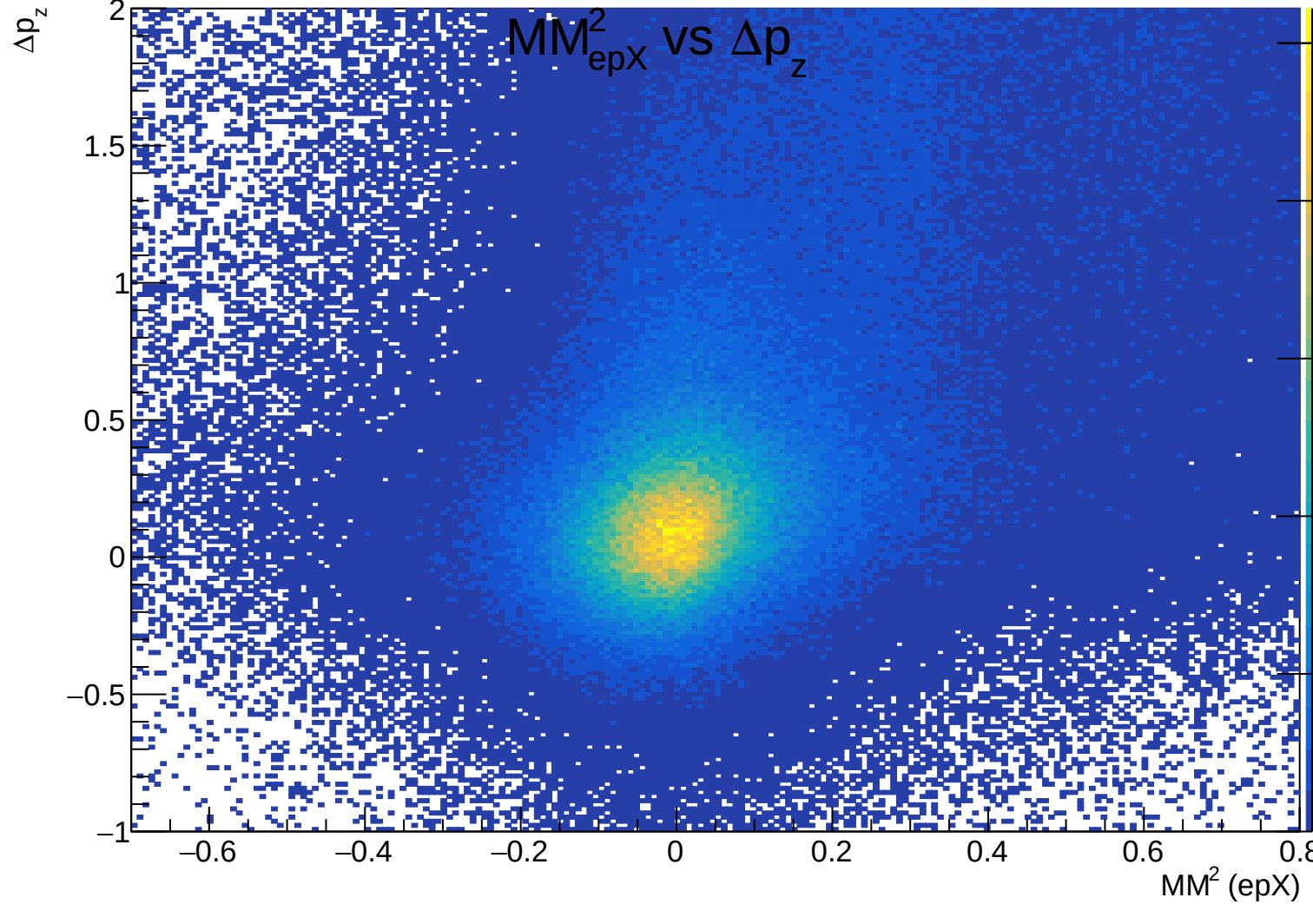

MM^2 (epX)
6000
5000
4000
3000
2000
1000
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX) [GeV^2]

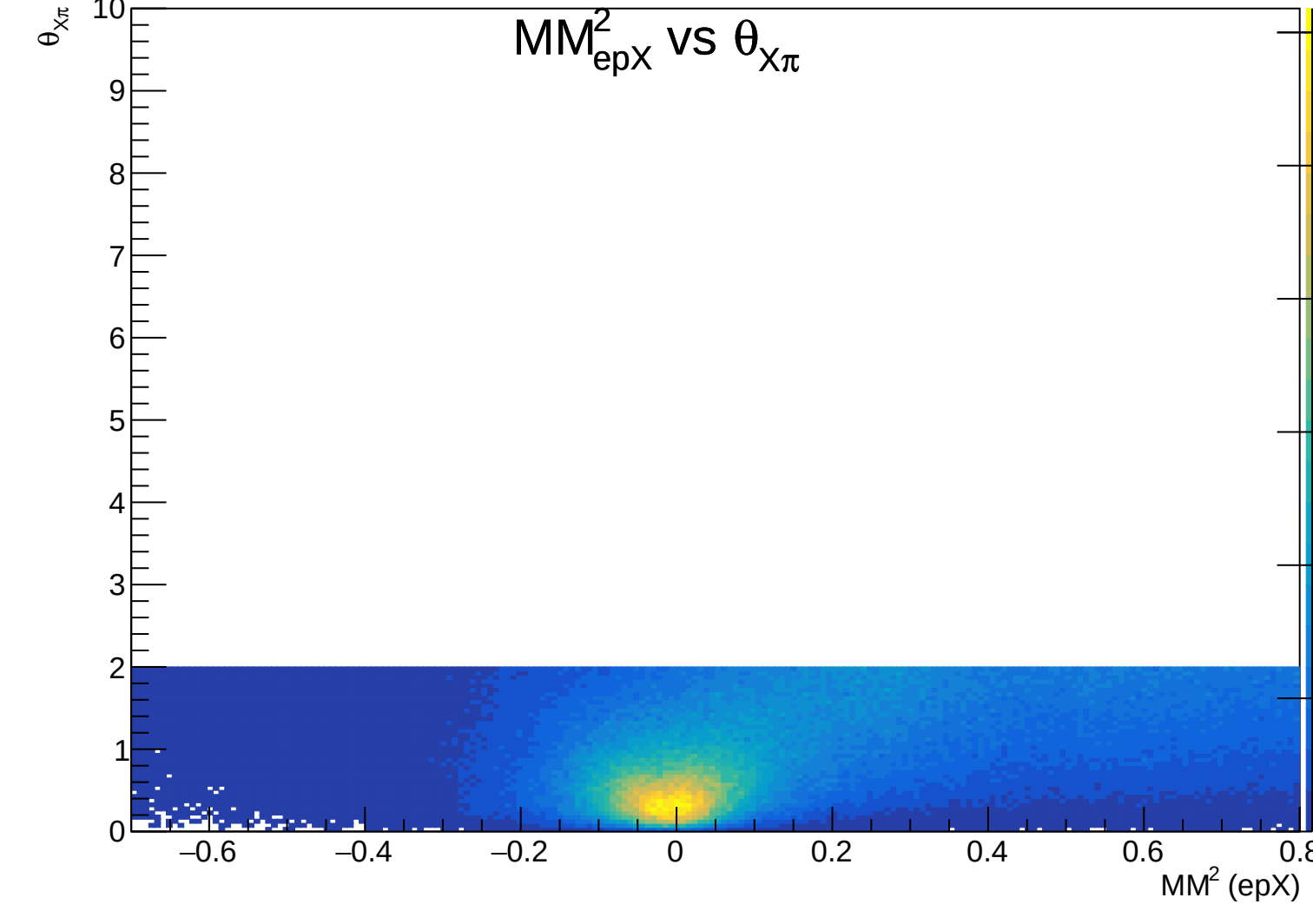

MM (eγγX)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
MM (eγγX) [GeV]

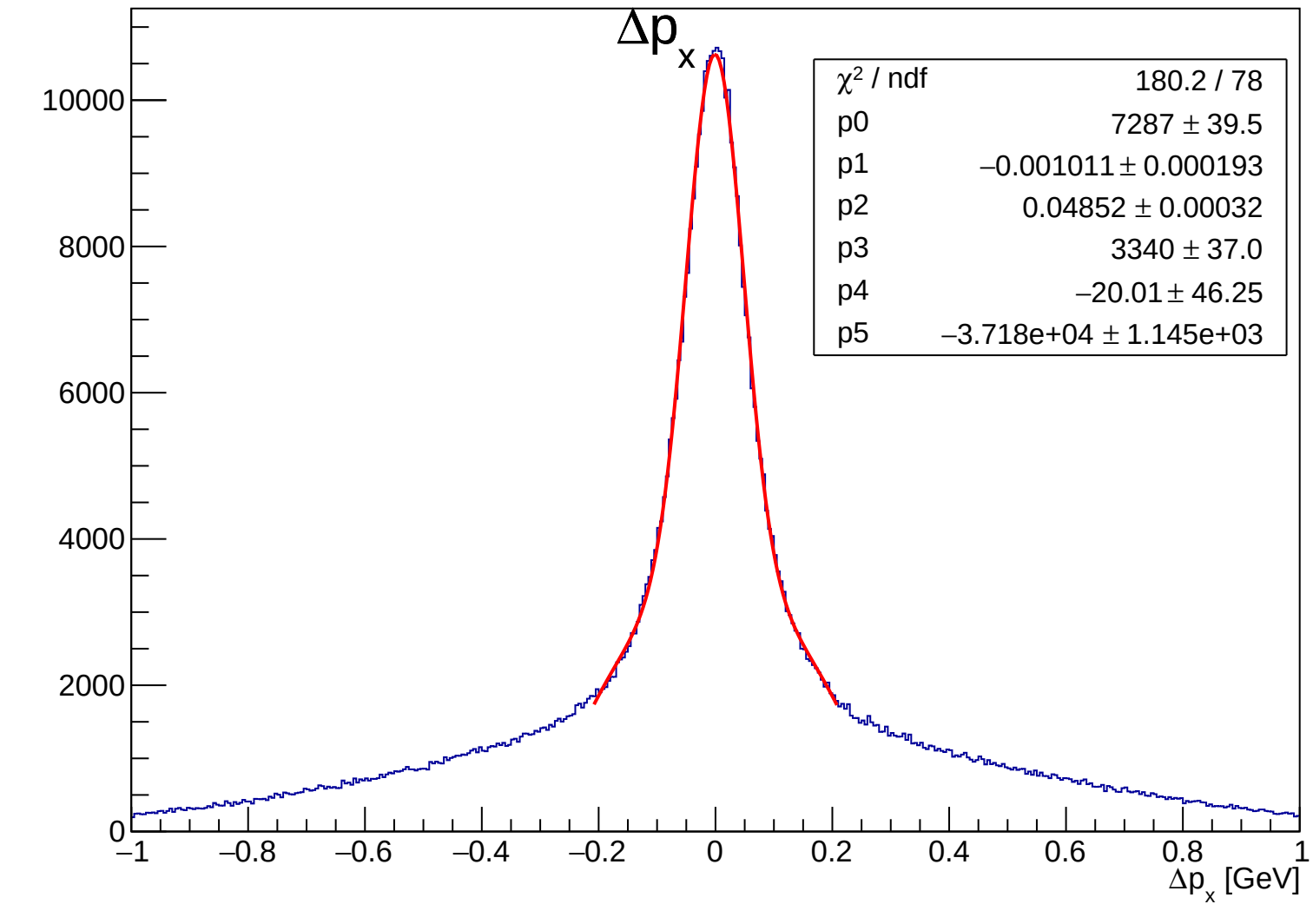

$M_{\gamma\gamma}$
χ^2 / ndf 244.4 / 180
p0 83.98 ± 0.64
p1 0.1325 ± 0.0000
p2 0.0112 ± 0.0001
p3 2683 ± 30.0
p4 −1.187e+04 ± 2.388e+02
4000
3500
3000
2500
2000
1500
1000
500
0.08
0.1
0.12
0.14
0.16
0.18
$M_{\gamma\gamma}$ [GeV]

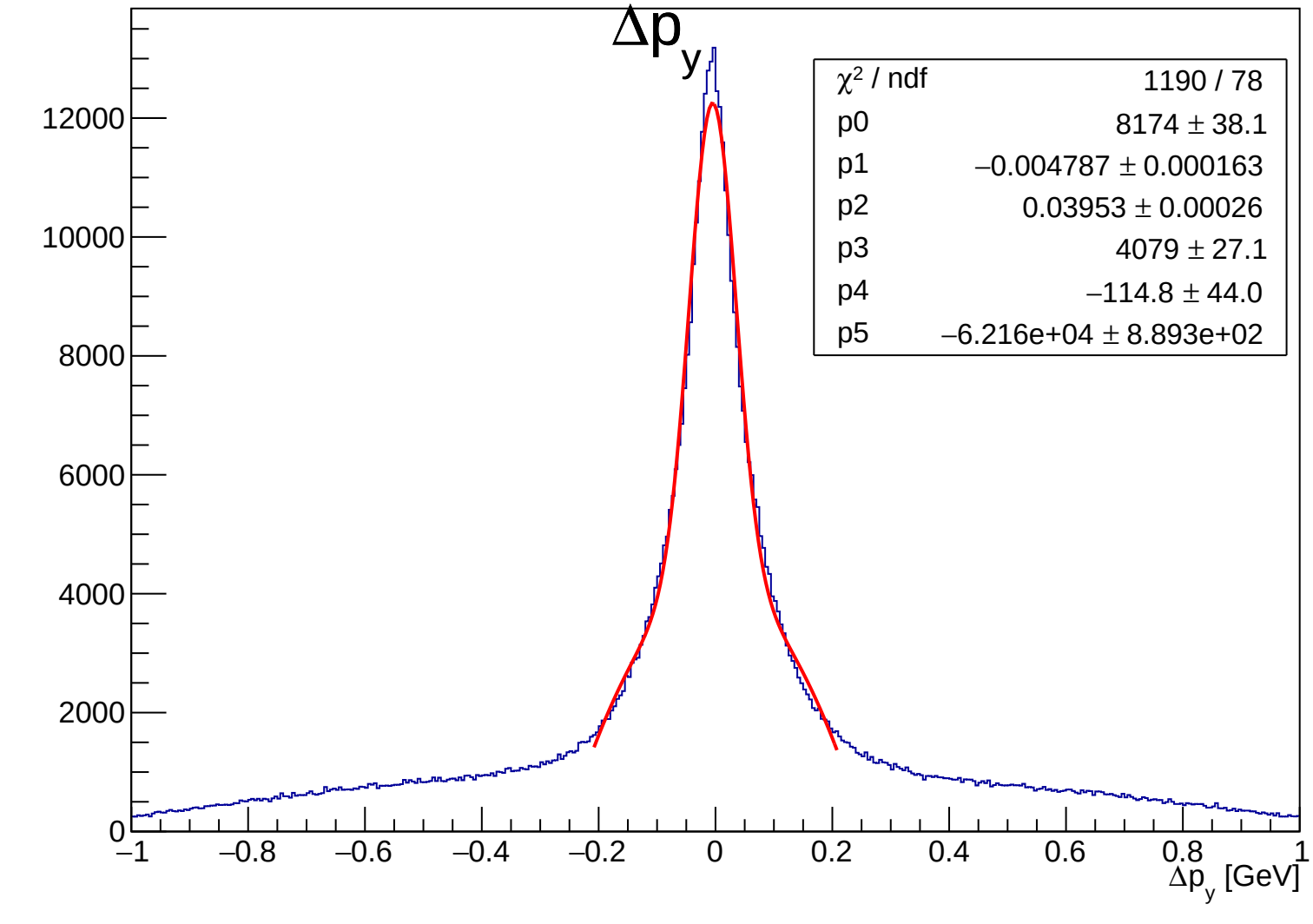

ep/pi0/th/hmisse_FD
3500
3000
2500
2000
1500
1000
500
0
–1
–0.5
0
0.5
1
1.5
2

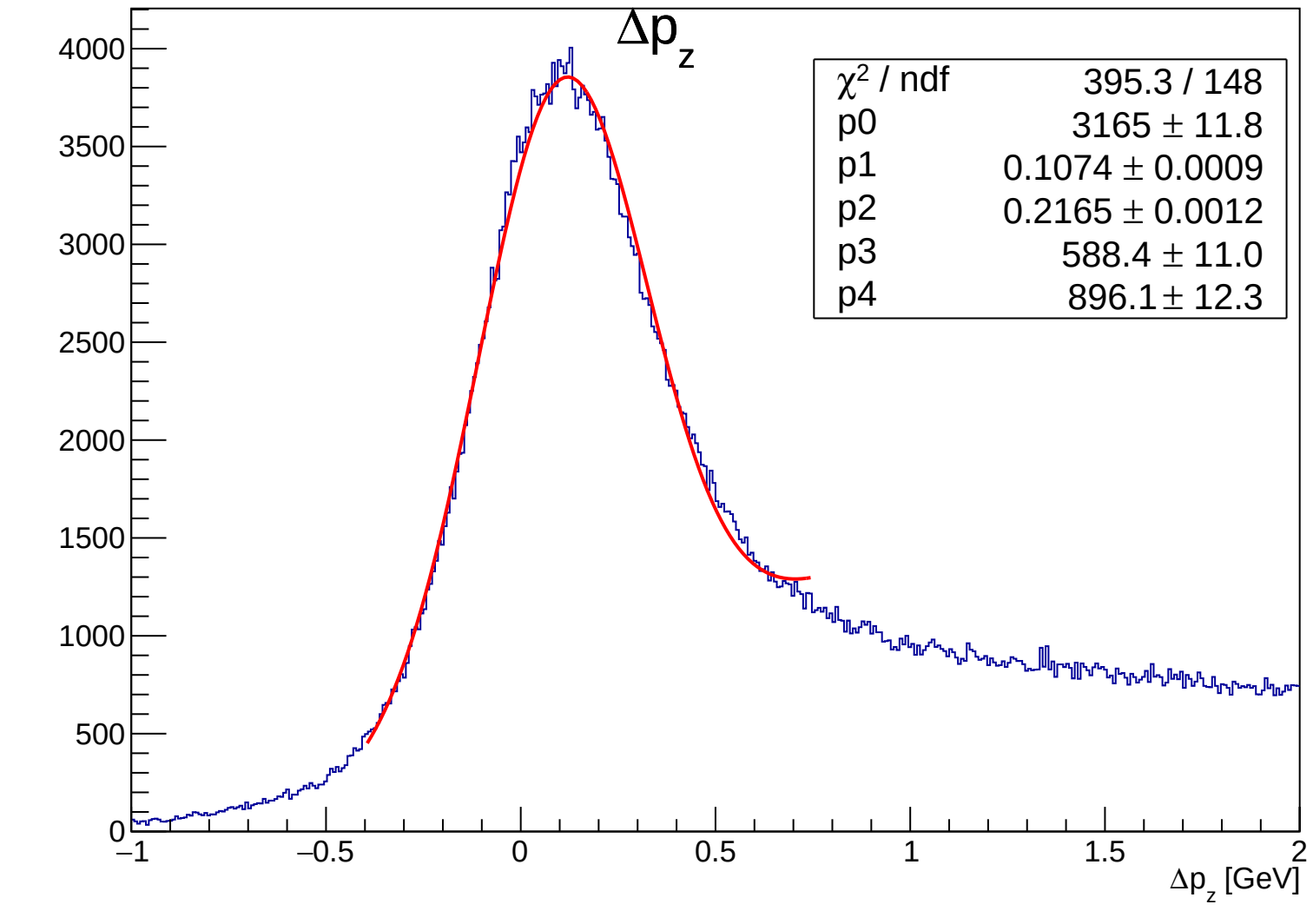

Angle between calculated and reconstructed pion
10000
8000
6000
4000
2000
0
0
1
2
3
4
5
6
7
8
9
10
θXπ [°]


MM^2_{epX} vs Δp_z
Δp_z
2
1.5
1
0.5
0
−0.5
−1
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
MM^2 (epX)


MM^2_{epX} vs $\theta_{X\pi}$
$\theta_{X\pi}$
10
9
8
7
6
5
4
3
2
1
0
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
MM^2 (epX)


Δp_x
χ² / ndf 180.2 / 78
p0 7287 ± 39.5
p1 –0.001011 ± 0.000193
p2 0.04852 ± 0.00032
p3 3340 ± 37.0
p4 –20.01 ± 46.25
p5 –3.718e+04 ± 1.145e+03
10000
8000
6000
4000
2000
0
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_x [GeV]


Δp_y
χ^2 / ndf 1190 / 78
p0 8174 ± 38.1
p1 –0.004787 ± 0.000163
p2 0.03953 ± 0.00026
p3 4079 ± 27.1
p4 –114.8 ± 44.0
p5 –6.216e+04 ± 8.893e+02
12000
10000
8000
6000
4000
2000
0
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
Δp_y [GeV]


Δp_z
χ^2 / ndf 395.3 / 148
p0 3165 ± 11.8
p1 0.1074 ± 0.0009
p2 0.2165 ± 0.0012
p3 588.4 ± 11.0
p4 896.1 ± 12.3
4000
3500
3000
2500
2000
1500
1000
500
0
–1
–0.5
0
0.5
1
1.5
2
Δp_z [GeV]