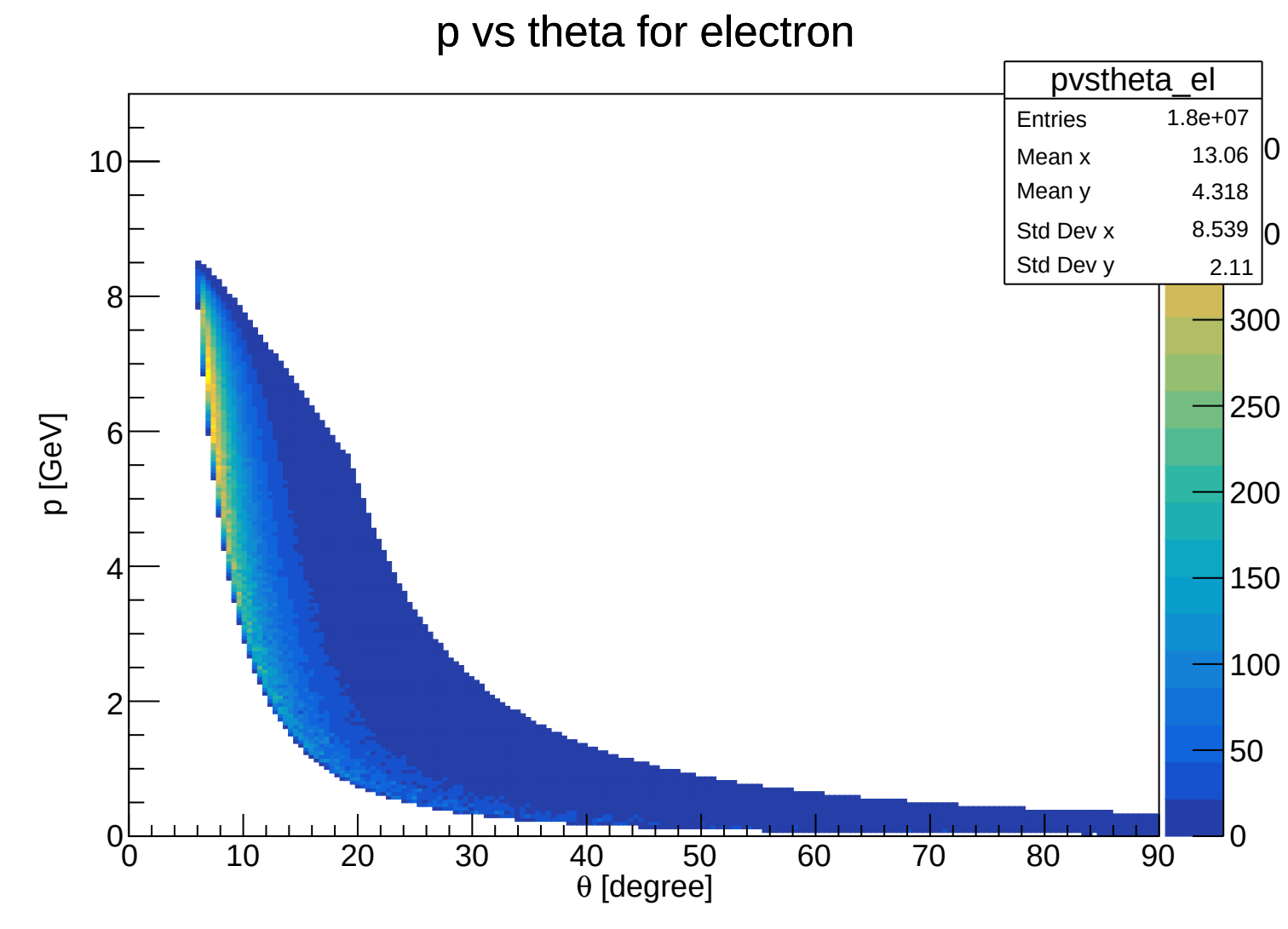
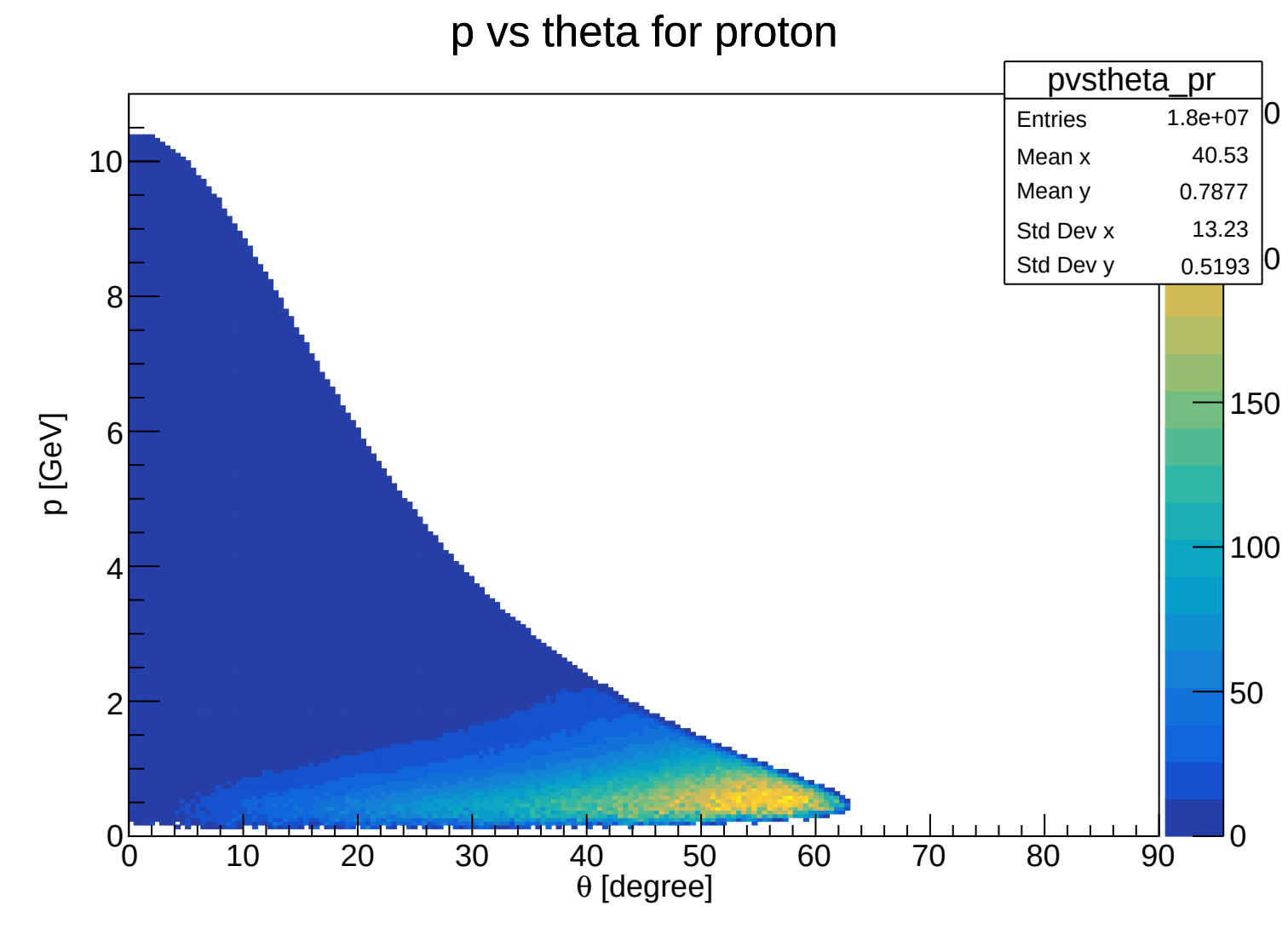
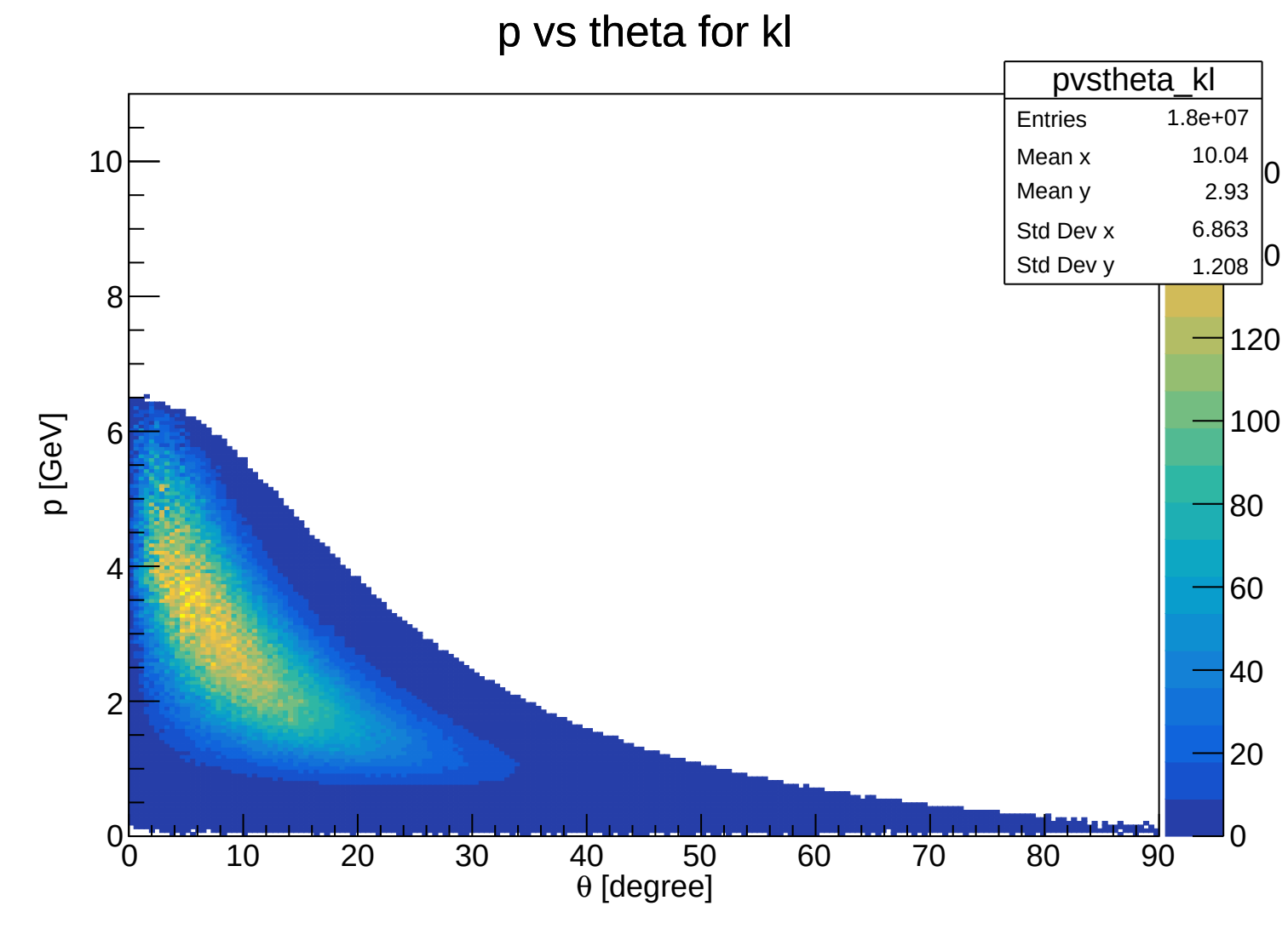
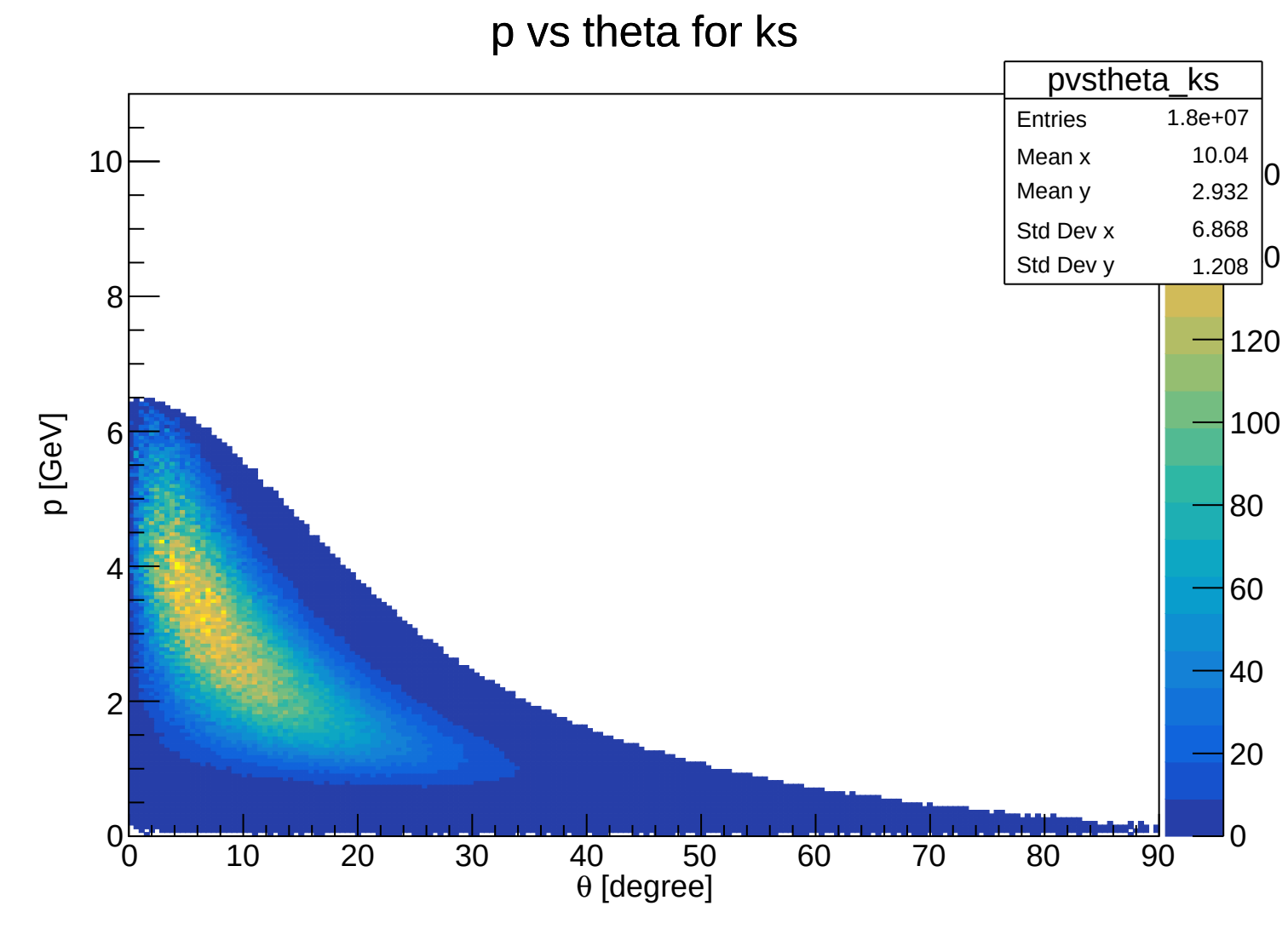
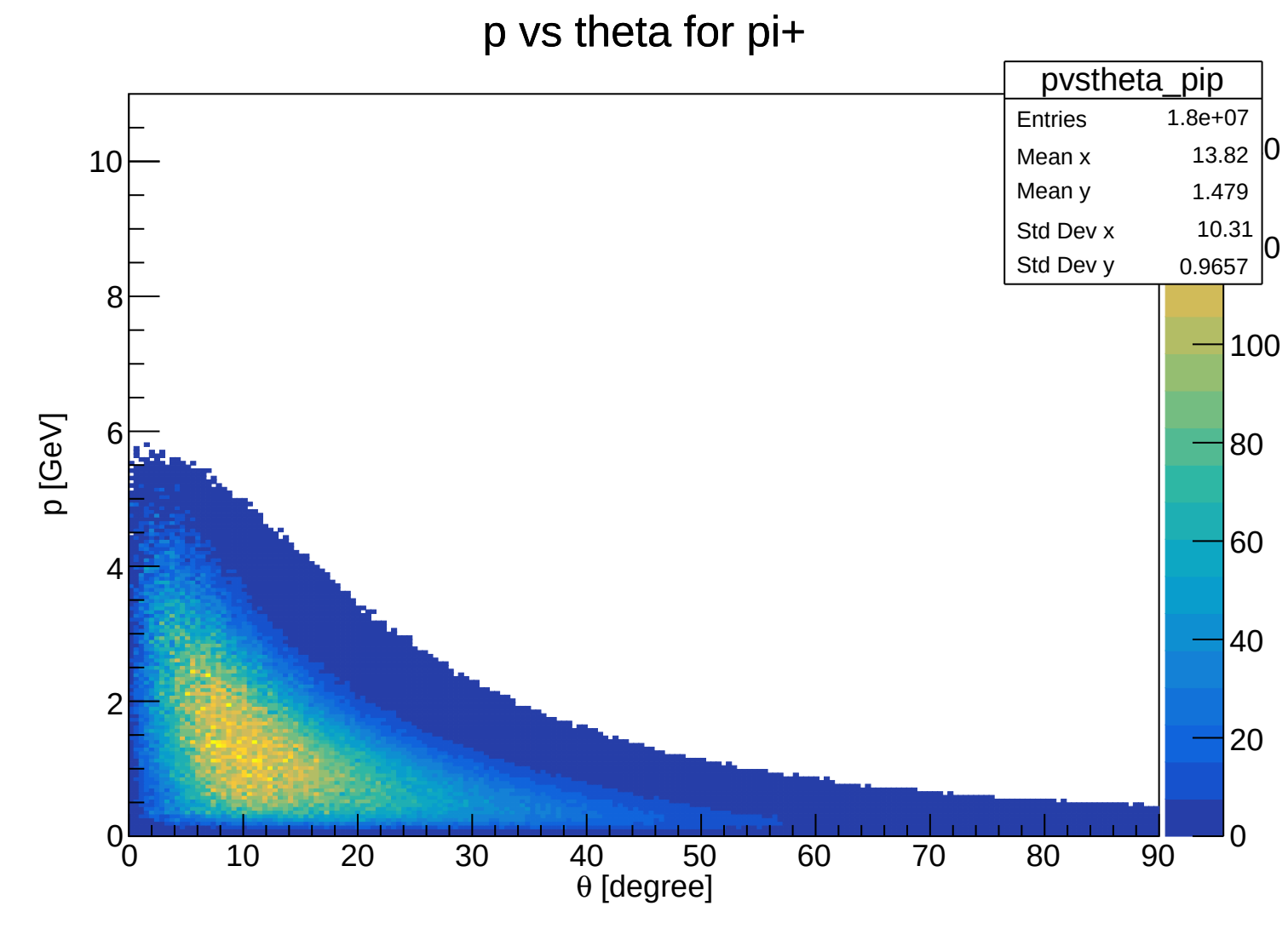
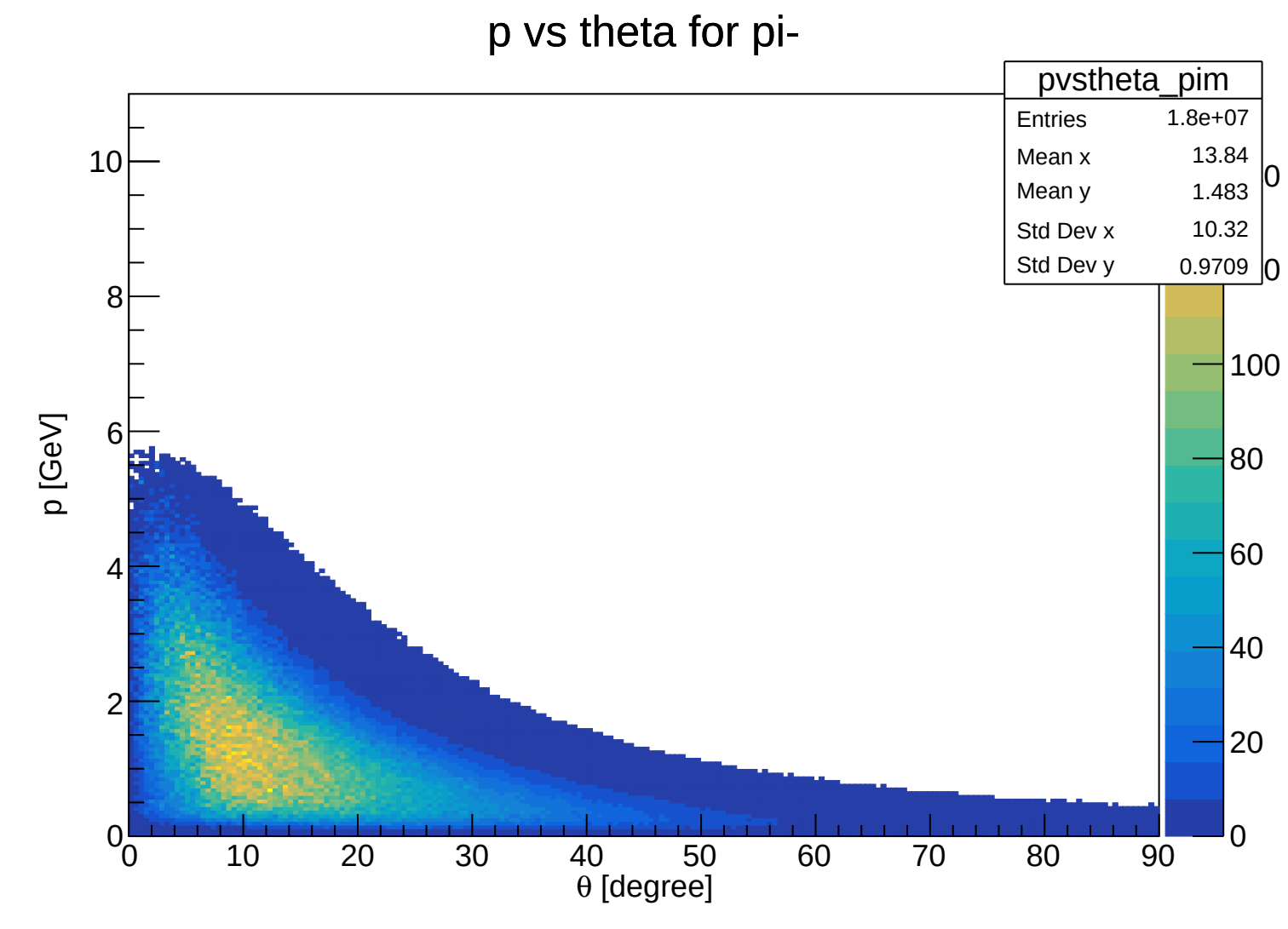

p vs theta for electron
pvstheta_el
Entries 1.8e+07
Mean x 13.06
Mean y 4.318
Std Dev x 8.539
Std Dev y 2.11
p [GeV]
θ [degree]
0
2
4
6
8
10
0
10
20
30
40
50
60
70
80
90
0
50
100
150
200
250
300

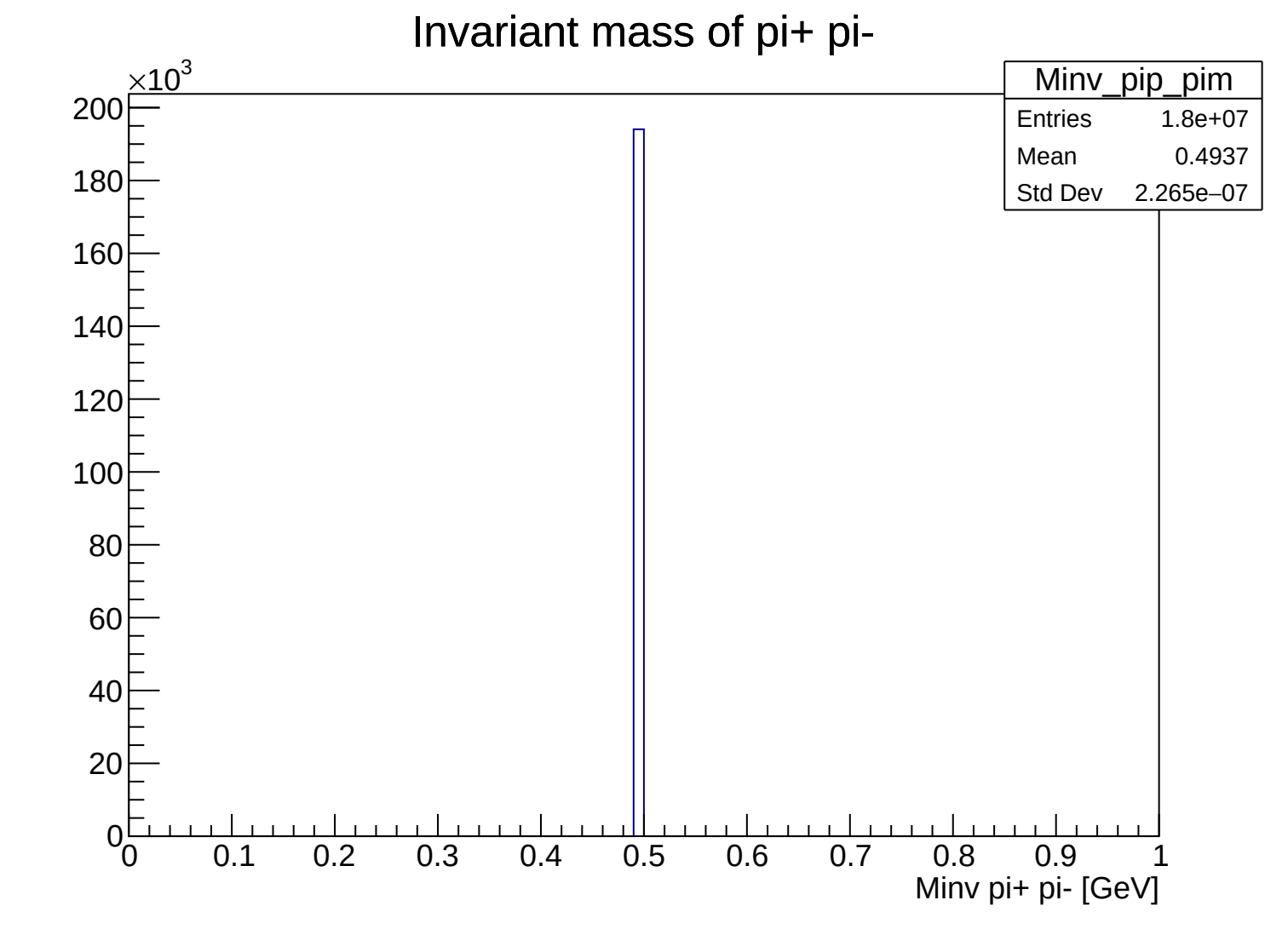

p vs theta for proton
pvstheta_pr
Entries 1.8e+07
Mean x 40.53
Mean y 0.7877
Std Dev x 13.23
Std Dev y 0.5193
p [GeV]
θ [degree]
0
2
4
6
8
10
0
10
20
30
40
50
60
70
80
90
0
50
100
150

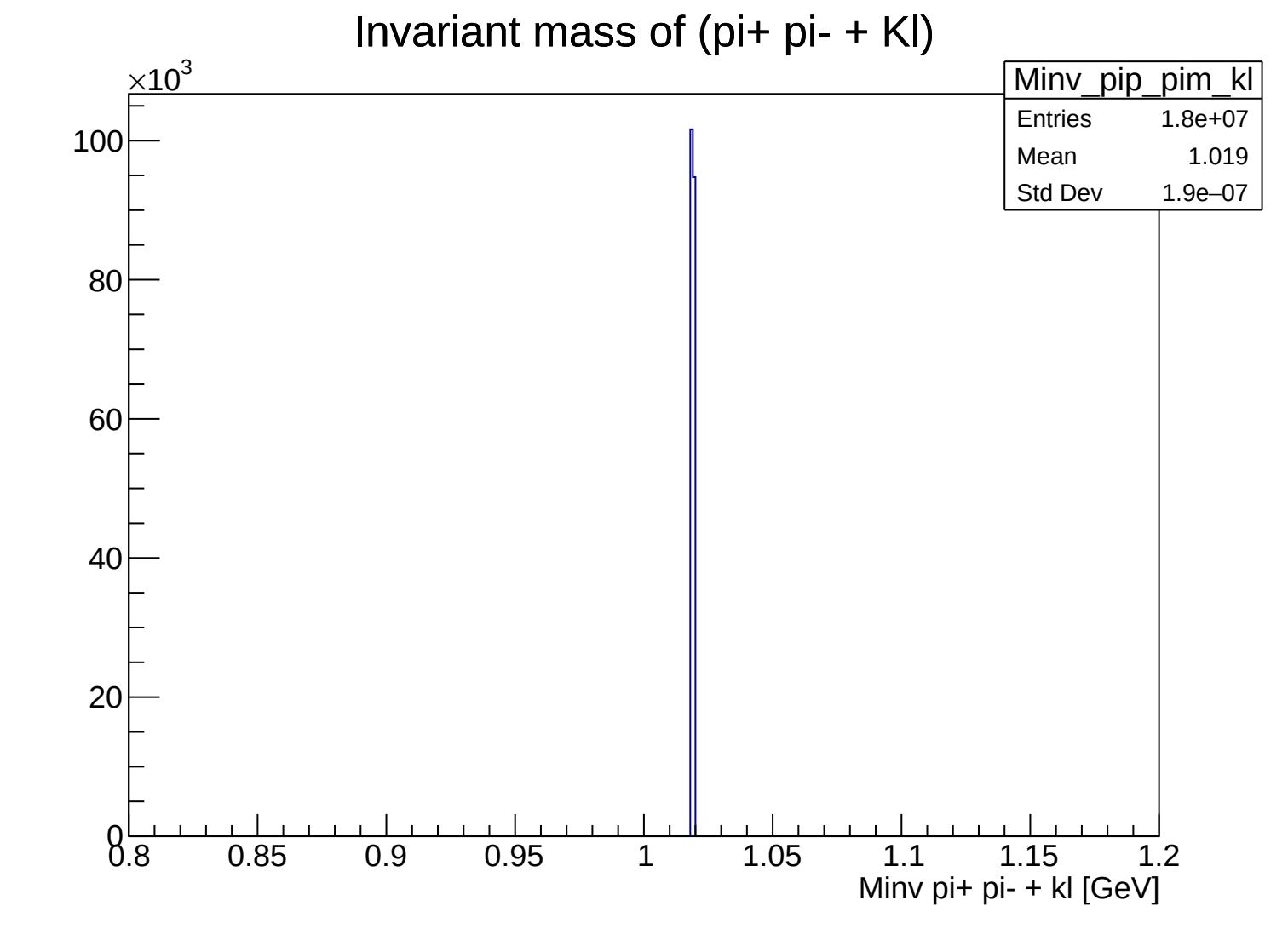

p vs theta for kl
pvstheta_kl
Entries 1.8e+07
Mean x 10.04
Mean y 2.93
Std Dev x 6.863
Std Dev y 1.208
p [GeV]
θ [degree]
0
2
4
6
8
10
0
10
20
30
40
50
60
70
80
90
0
20
40
60
80
100
120

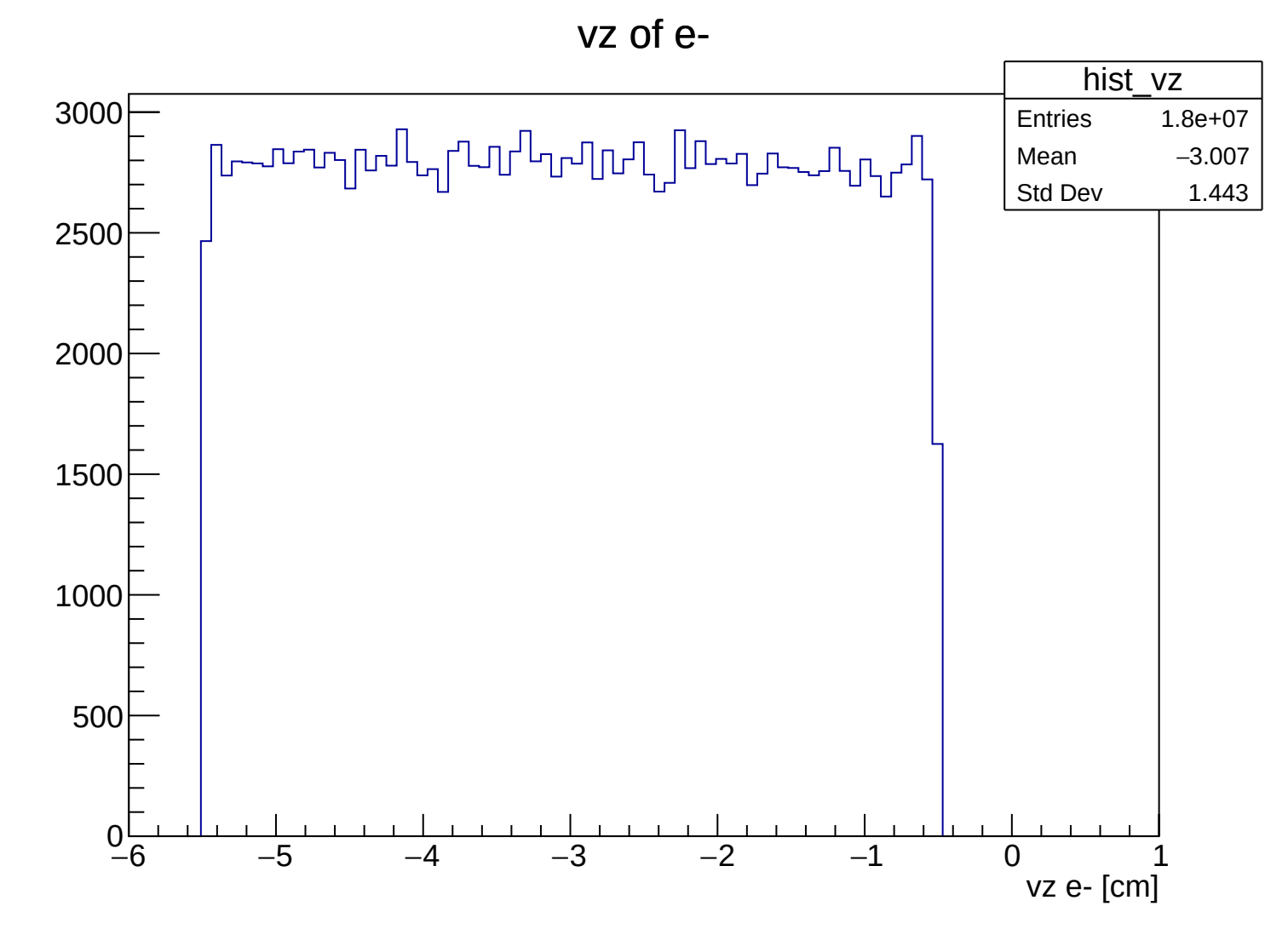

p vs theta for ks
pvstheta_ks
Entries 1.8e+07
Mean x 10.04
Mean y 2.932
Std Dev x 6.868
Std Dev y 1.208
p [GeV]
θ [degree]
0
2
4
6
8
10
0
10
20
30
40
50
60
70
80
90
0
20
40
60
80
100
120

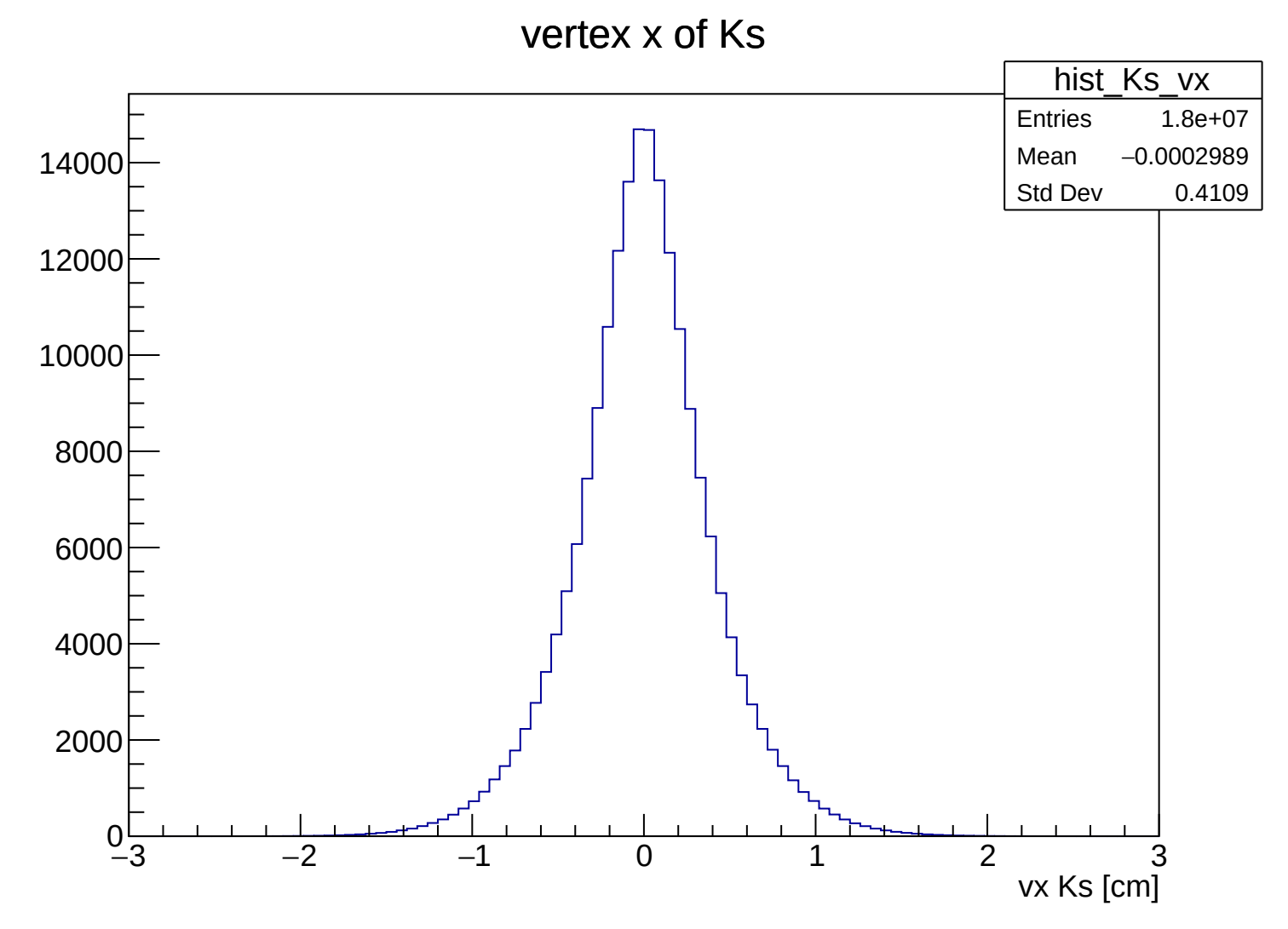

p vs theta for pi+
pvstheta_pip
Entries 1.8e+07
Mean x 13.82
Mean y 1.479
Std Dev x 10.31
Std Dev y 0.9657
p [GeV]
θ [degree]
0
2
4
6
8
10
0
10
20
30
40
50
60
70
80
90
0
20
40
60
80
100

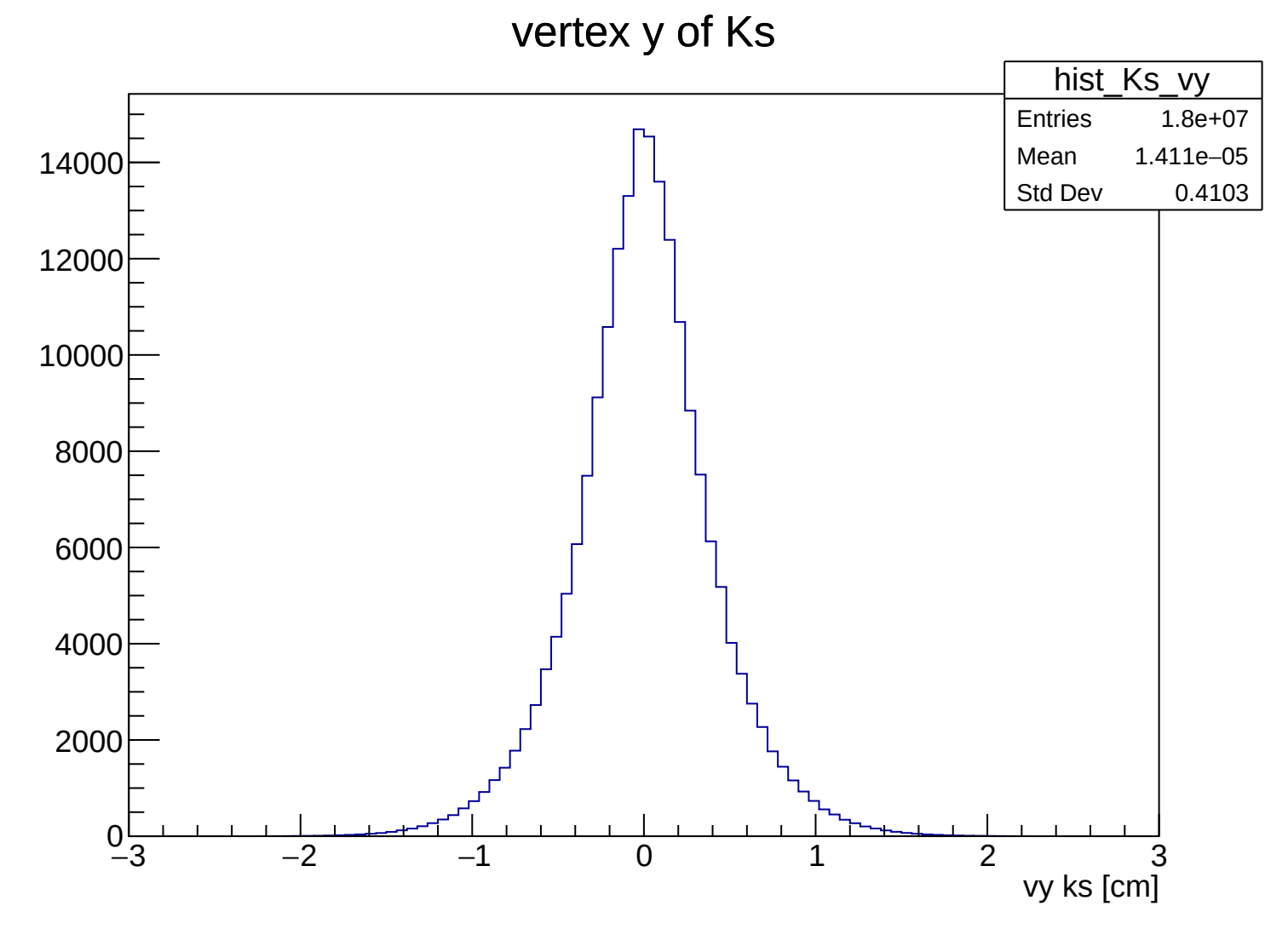

p vs theta for pi-
pvstheta_pim
Entries 1.8e+07
Mean x 13.84
Mean y 1.483
Std Dev x 10.32
Std Dev y 0.9709
p [GeV]
θ [degree]
0
2
4
6
8
10
0
10
20
30
40
50
60
70
80
90
0
20
40
60
80
100

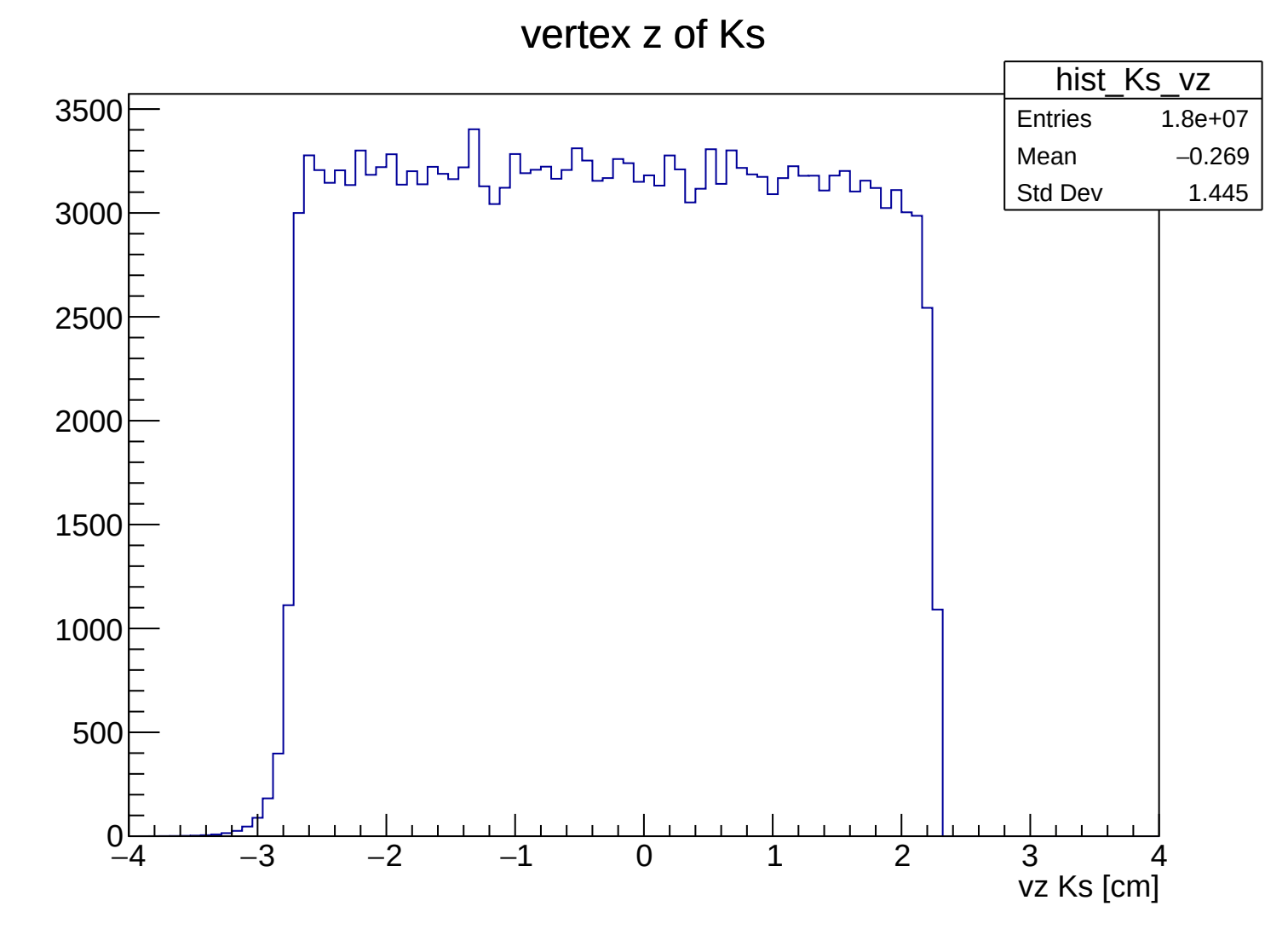

Invariant mass of pi+ pi-
×10^3
200
180
160
140
120
100
80
60
40
20
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Minv pi+ pi- [GeV]
Minv_pip_pim
Entries 1.8e+07
Mean 0.4937
Std Dev 2.265e−07

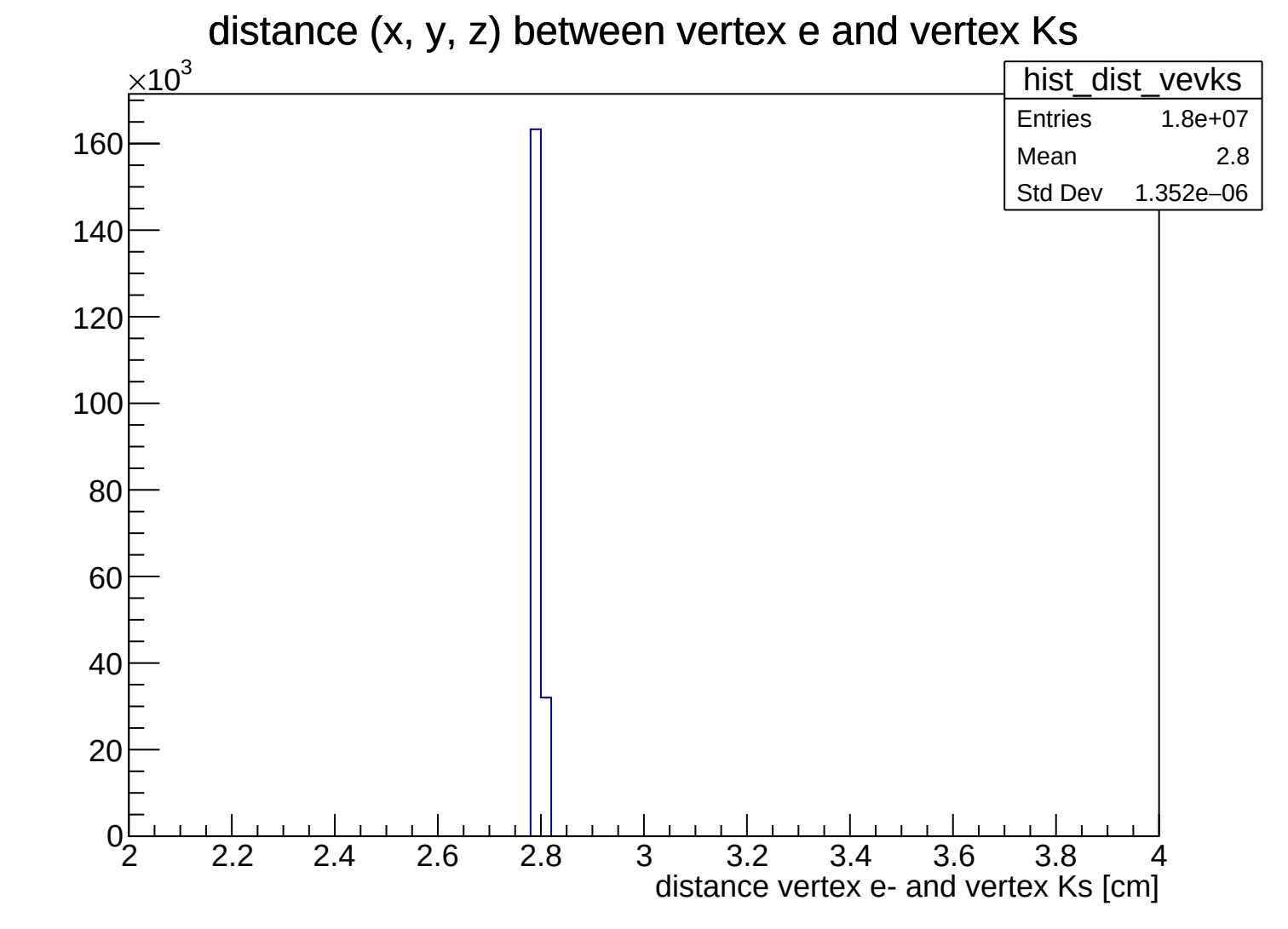

Invariant mass of (pi+ pi- + Kl)
×10^3
100
80
60
40
20
0
0.8
0.85
0.9
0.95
1
1.05
1.1
1.15
1.2
Minv pi+ pi- + kl [GeV]
Minv_pip_pim_kl
Entries 1.8e+07
Mean 1.019
Std Dev 1.9e–07

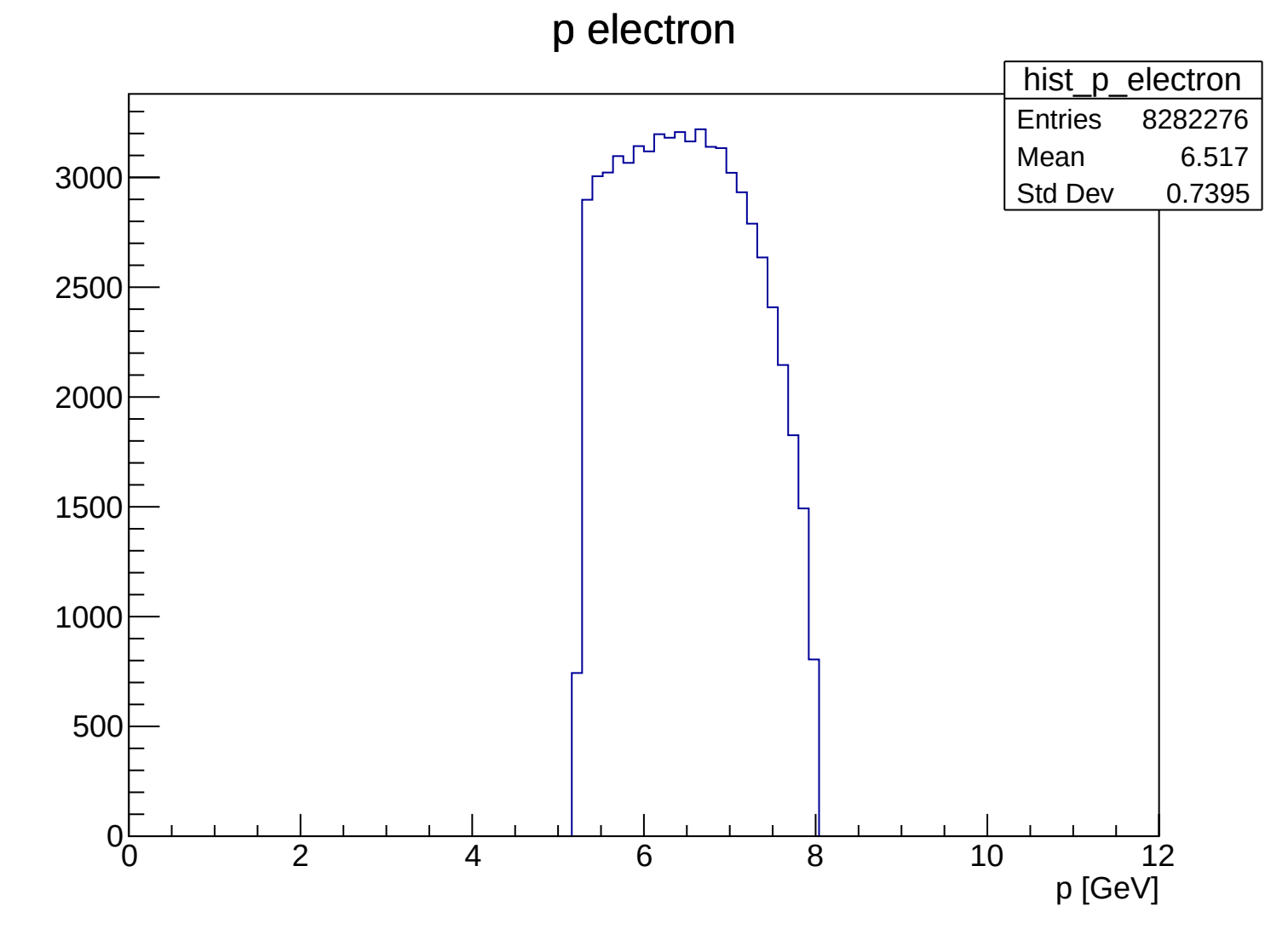

vz of e-
hist_vz
Entries 1.8e+07
Mean –3.007
Std Dev 1.443
3000
2500
2000
1500
1000
500
0
–6
–5
–4
–3
–2
–1
0
1
vz e- [cm]

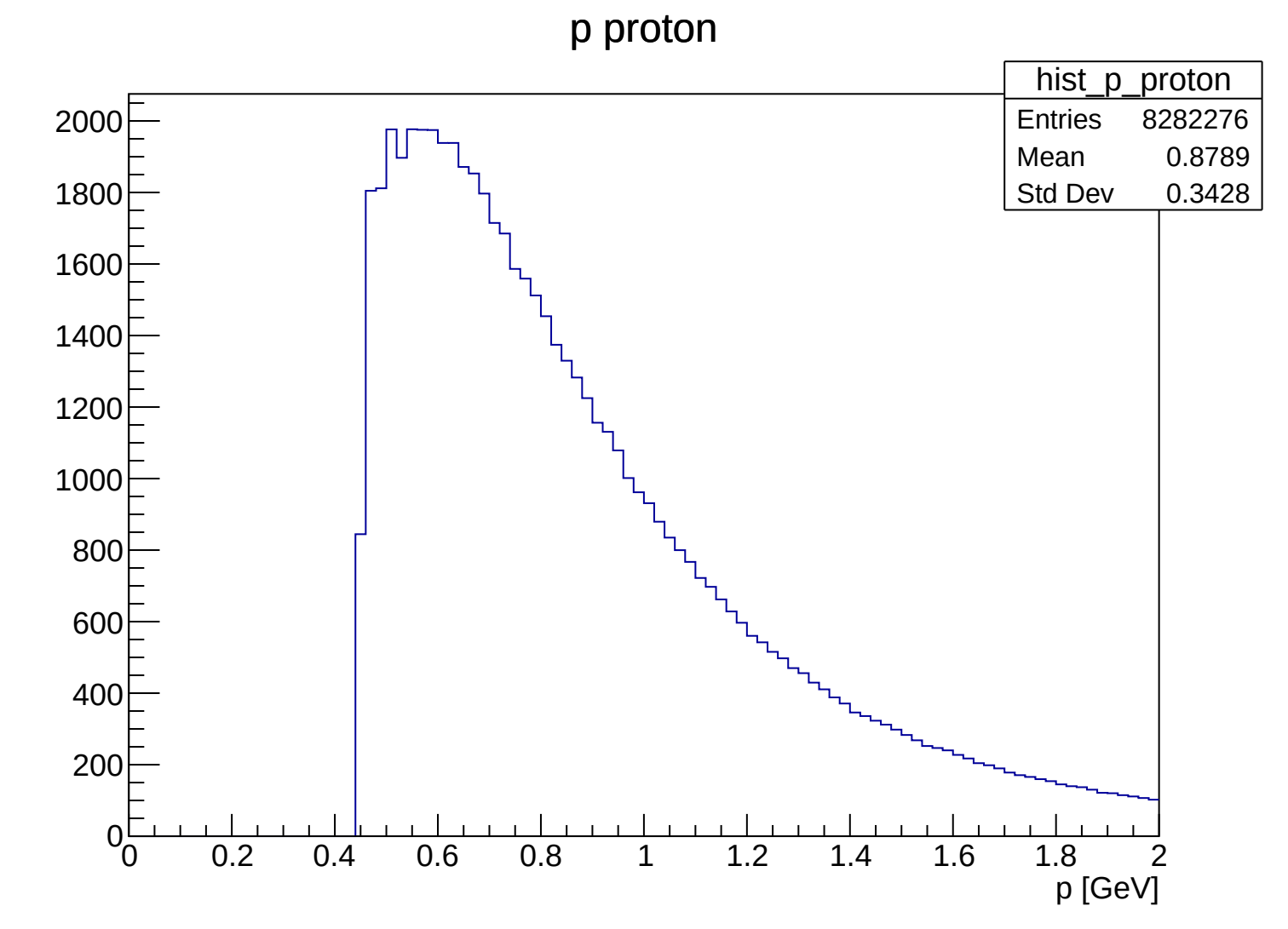

vertex x of Ks
hist_Ks_vx
Entries 1.8e+07
Mean –0.0002989
Std Dev 0.4109
14000
12000
10000
8000
6000
4000
2000
0
–3
–2
–1
0
1
2
3
vx Ks [cm]

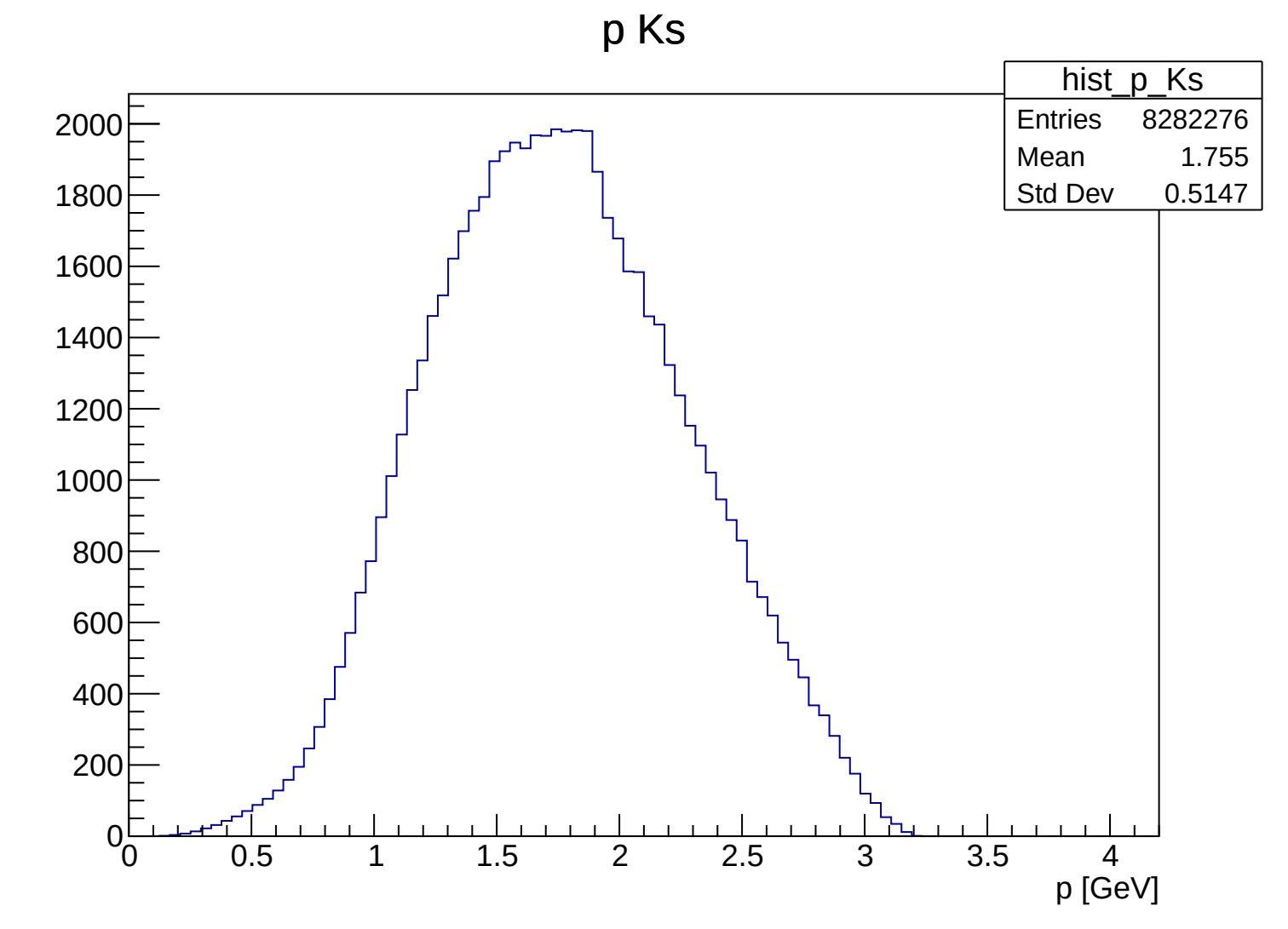

vertex y of Ks
hist_Ks_vy
Entries 1.8e+07
Mean 1.411e−05
Std Dev 0.4103
14000
12000
10000
8000
6000
4000
2000
0
−3
−2
−1
0
1
2
3
vy ks [cm]

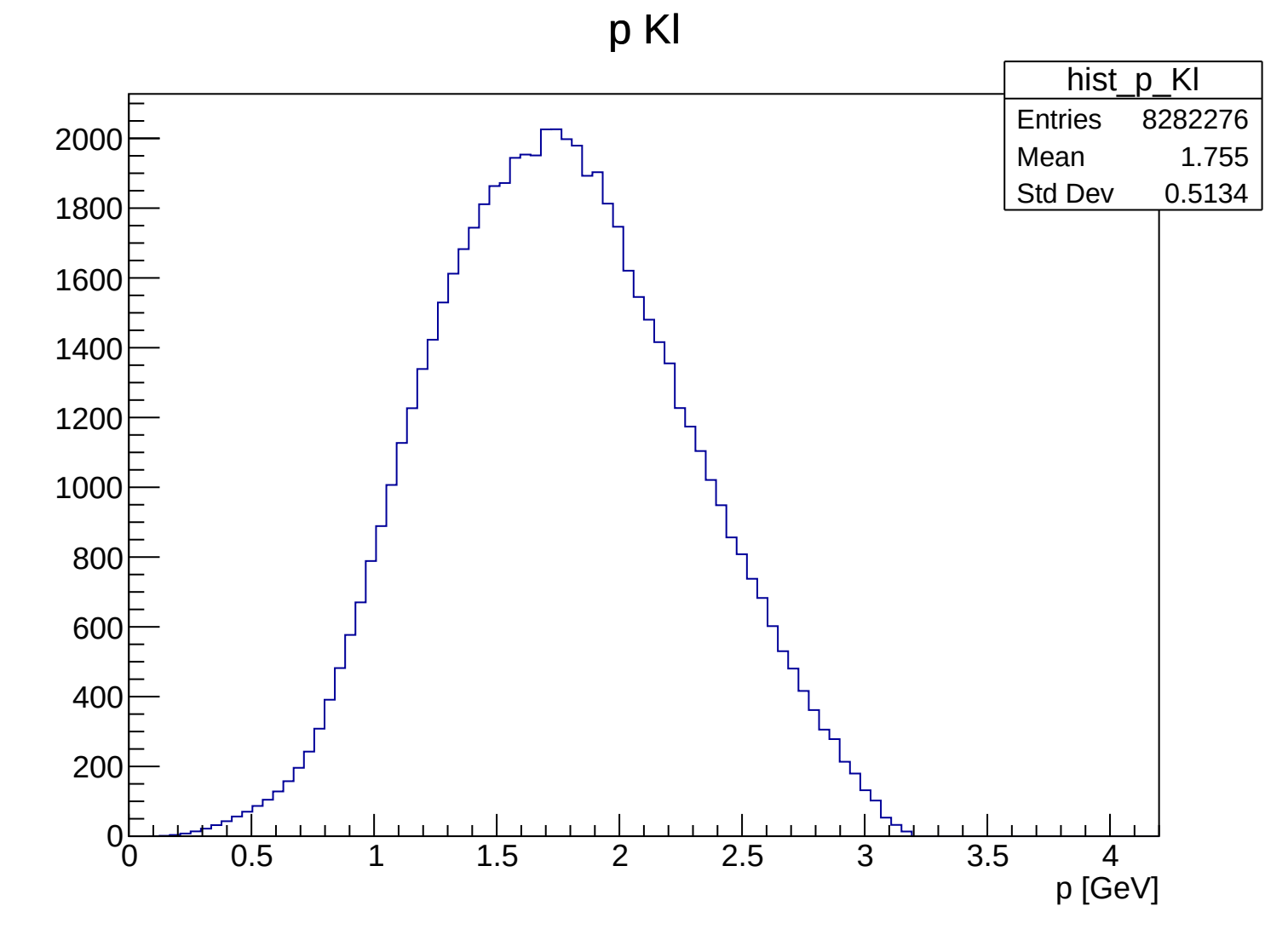

vertex z of Ks
hist_Ks_vz
Entries 1.8e+07
Mean –0.269
Std Dev 1.445
3500
3000
2500
2000
1500
1000
500
0
–4
–3
–2
–1
0
1
2
3
4
vz Ks [cm]

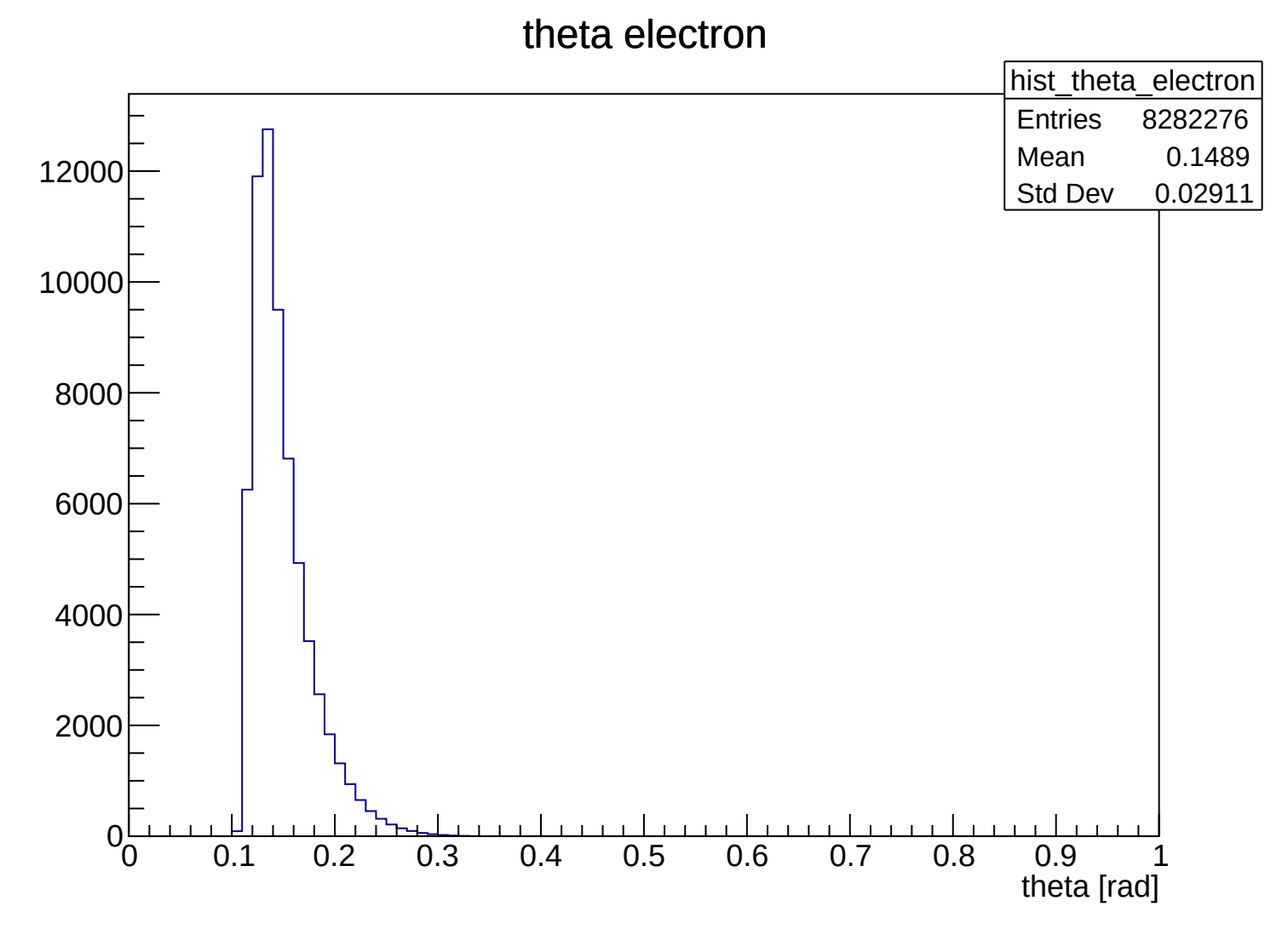

distance (x, y, z) between vertex e and vertex Ks
hist_dist_vevks
Entries 1.8e+07
Mean 2.8
Std Dev 1.352e−06
×10^3
160
140
120
100
80
60
40
20
0
2
2.2
2.4
2.6
2.8
3
3.2
3.4
3.6
3.8
4
distance vertex e- and vertex Ks [cm]

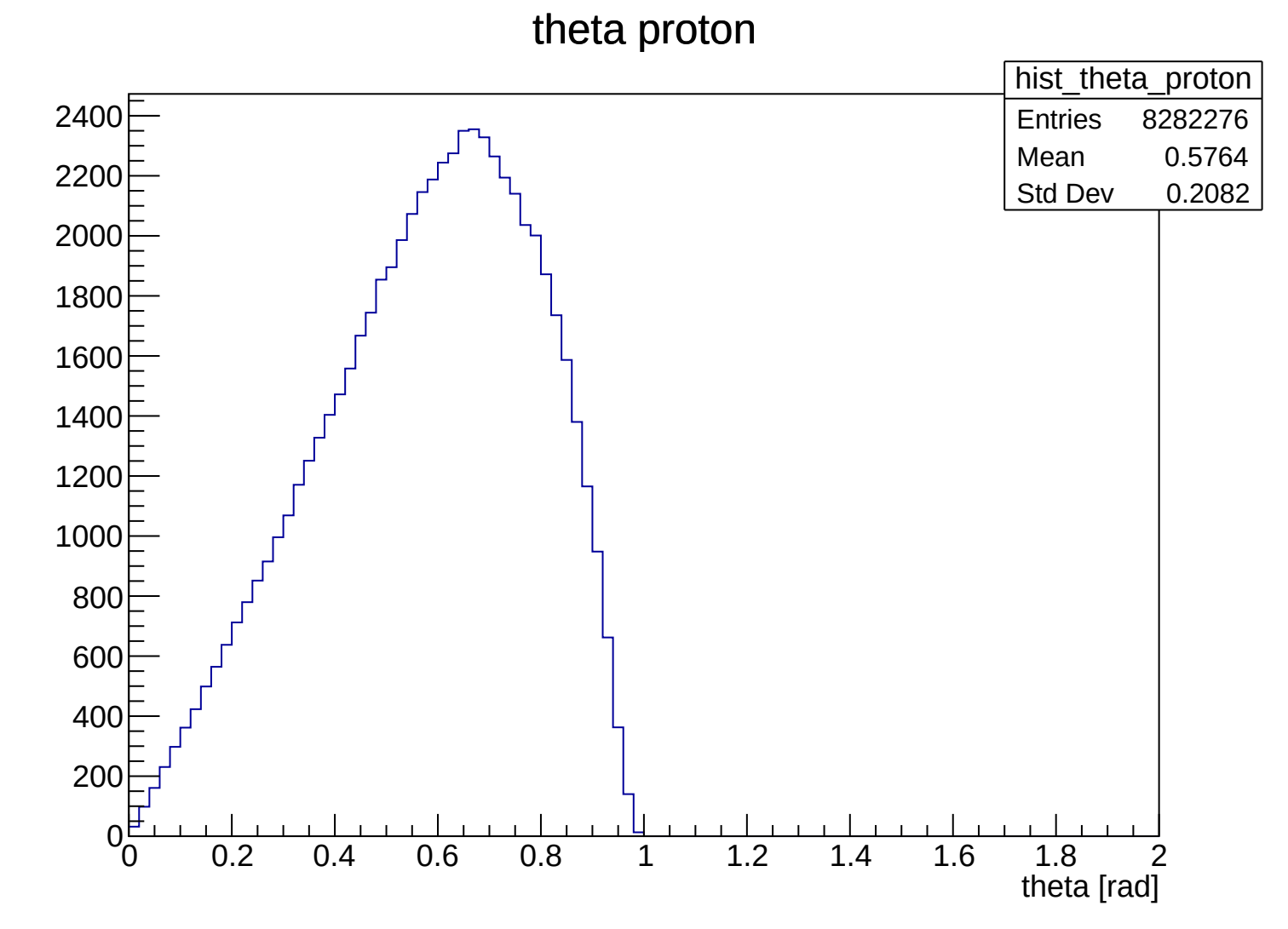

p electron
hist_p_electron
Entries 8282276
Mean 6.517
Std Dev 0.7395
3000
2500
2000
1500
1000
500
0
0
2
4
6
8
10
12
p [GeV]

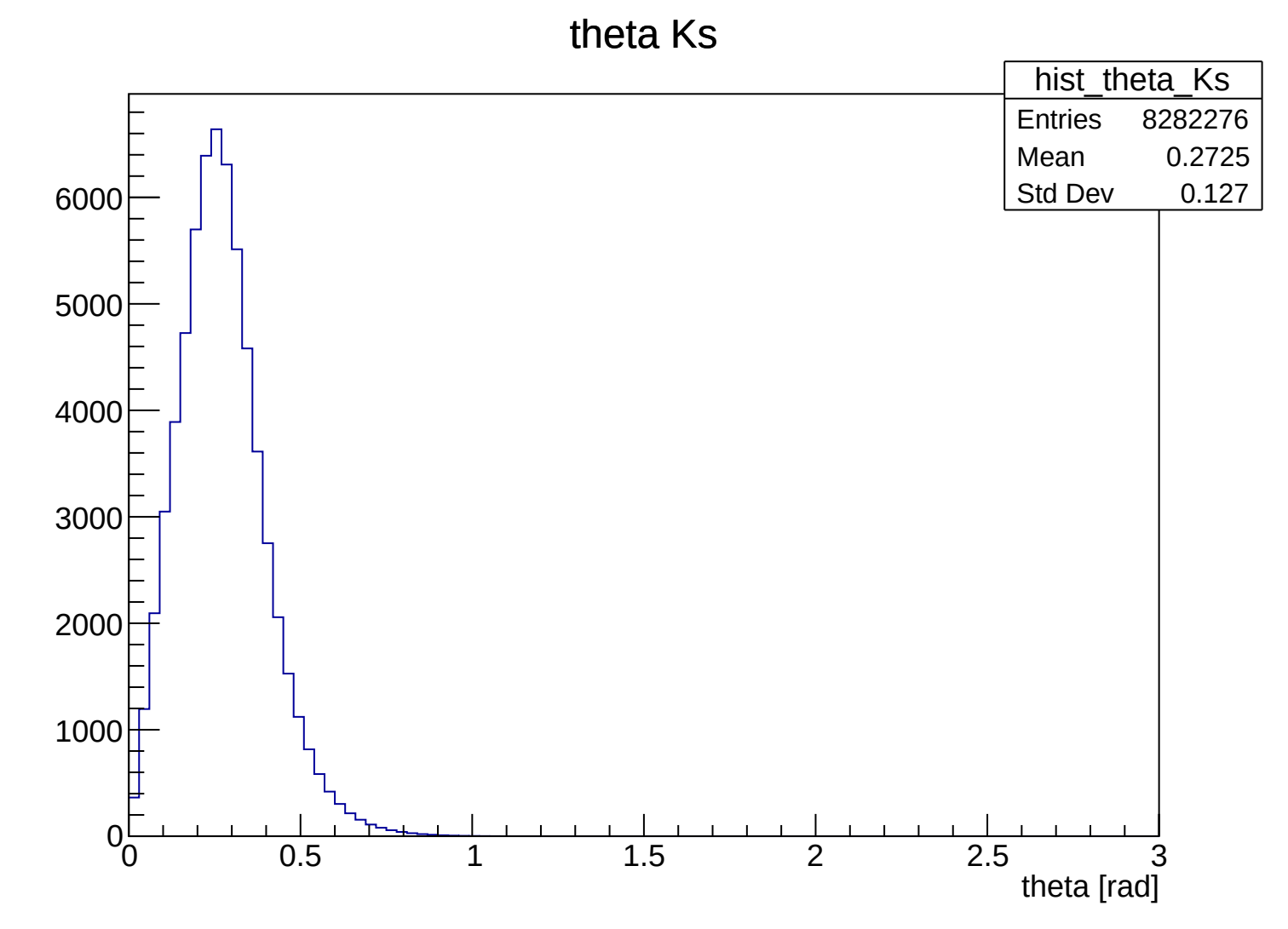

p proton
hist_p_proton
Entries 8282276
Mean 0.8789
Std Dev 0.3428
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
p [GeV]

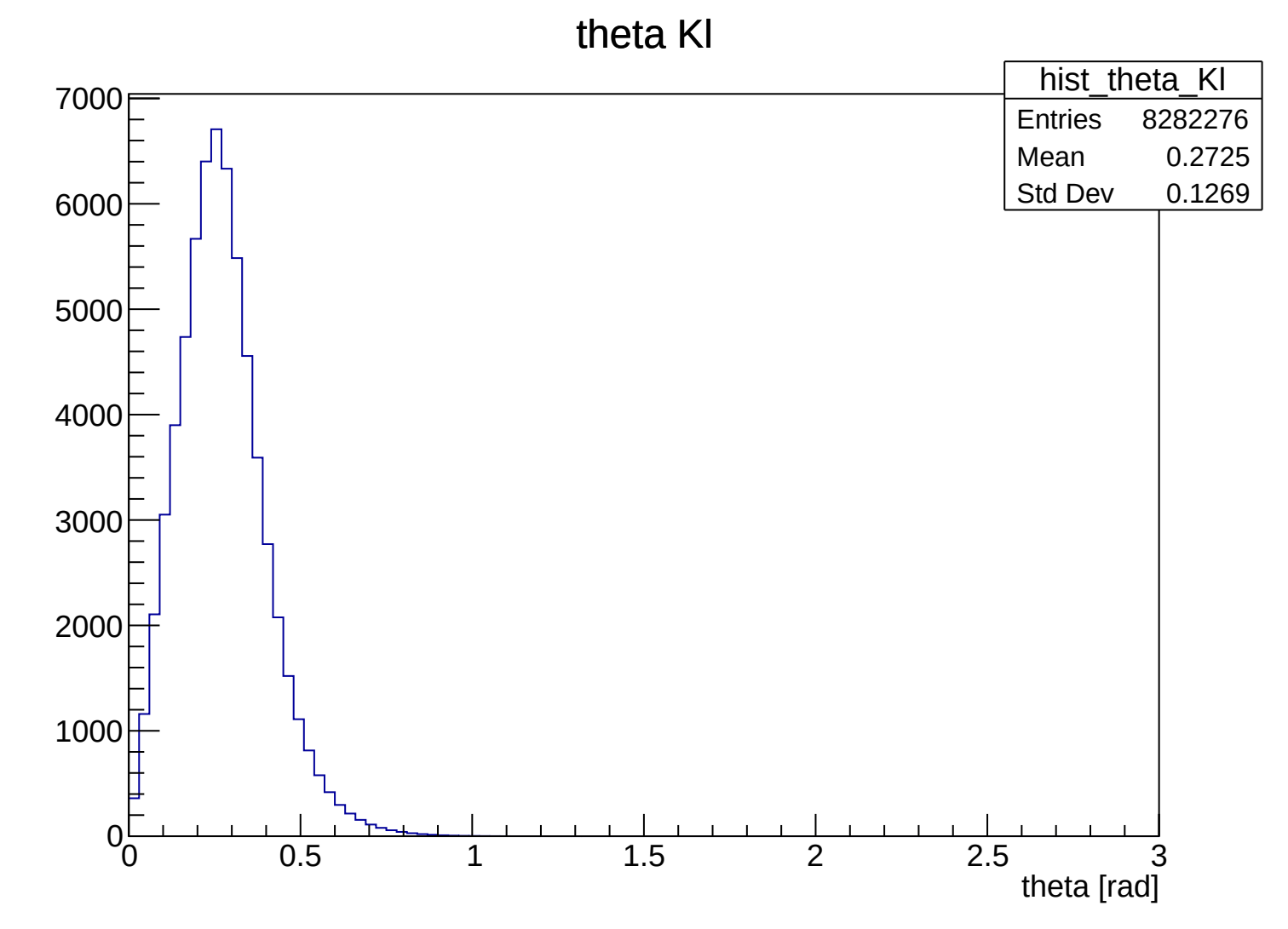

p Ks
hist_p_Ks
Entries 8282276
Mean 1.755
Std Dev 0.5147
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0
0.5
1
1.5
2
2.5
3
3.5
4
p [GeV]

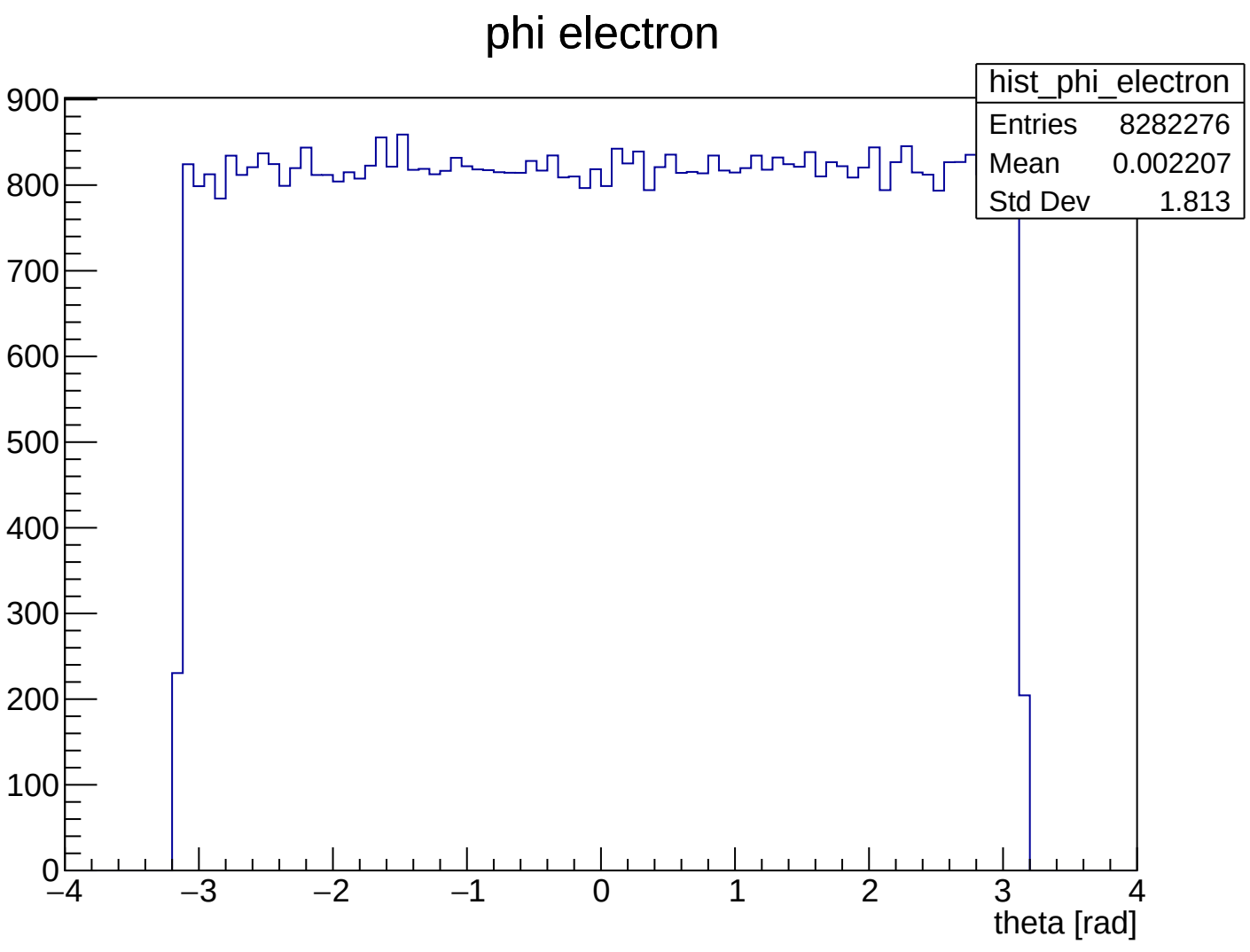

p Kl
hist_p_Kl
Entries 8282276
Mean 1.755
Std Dev 0.5134
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0
0.5
1
1.5
2
2.5
3
3.5
4
p [GeV]

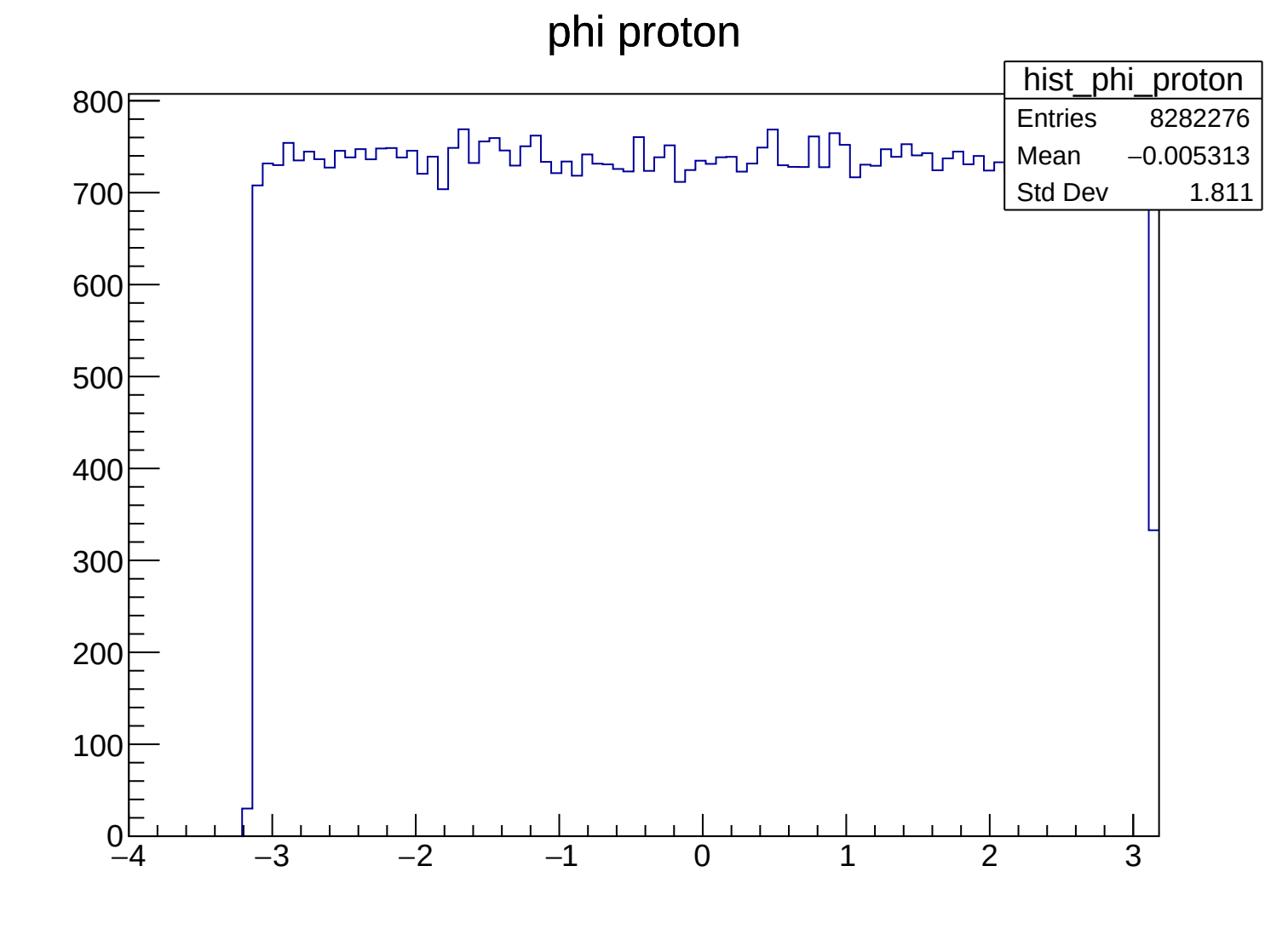

theta electron
hist_theta_electron
Entries 8282276
Mean 0.1489
Std Dev 0.02911
12000
10000
8000
6000
4000
2000
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
theta [rad]

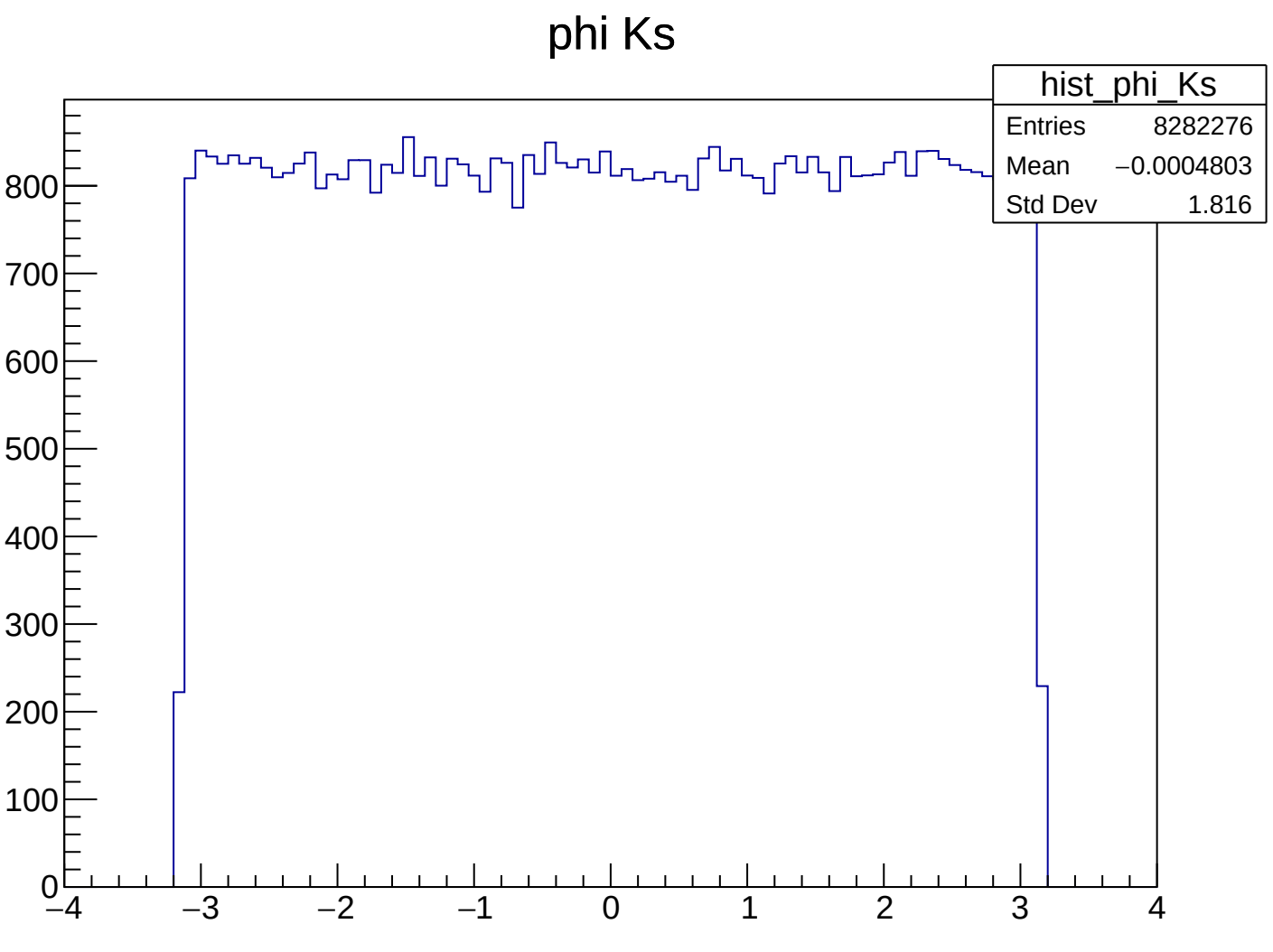

theta proton
hist_theta_proton
Entries 8282276
Mean 0.5764
Std Dev 0.2082
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
theta [rad]

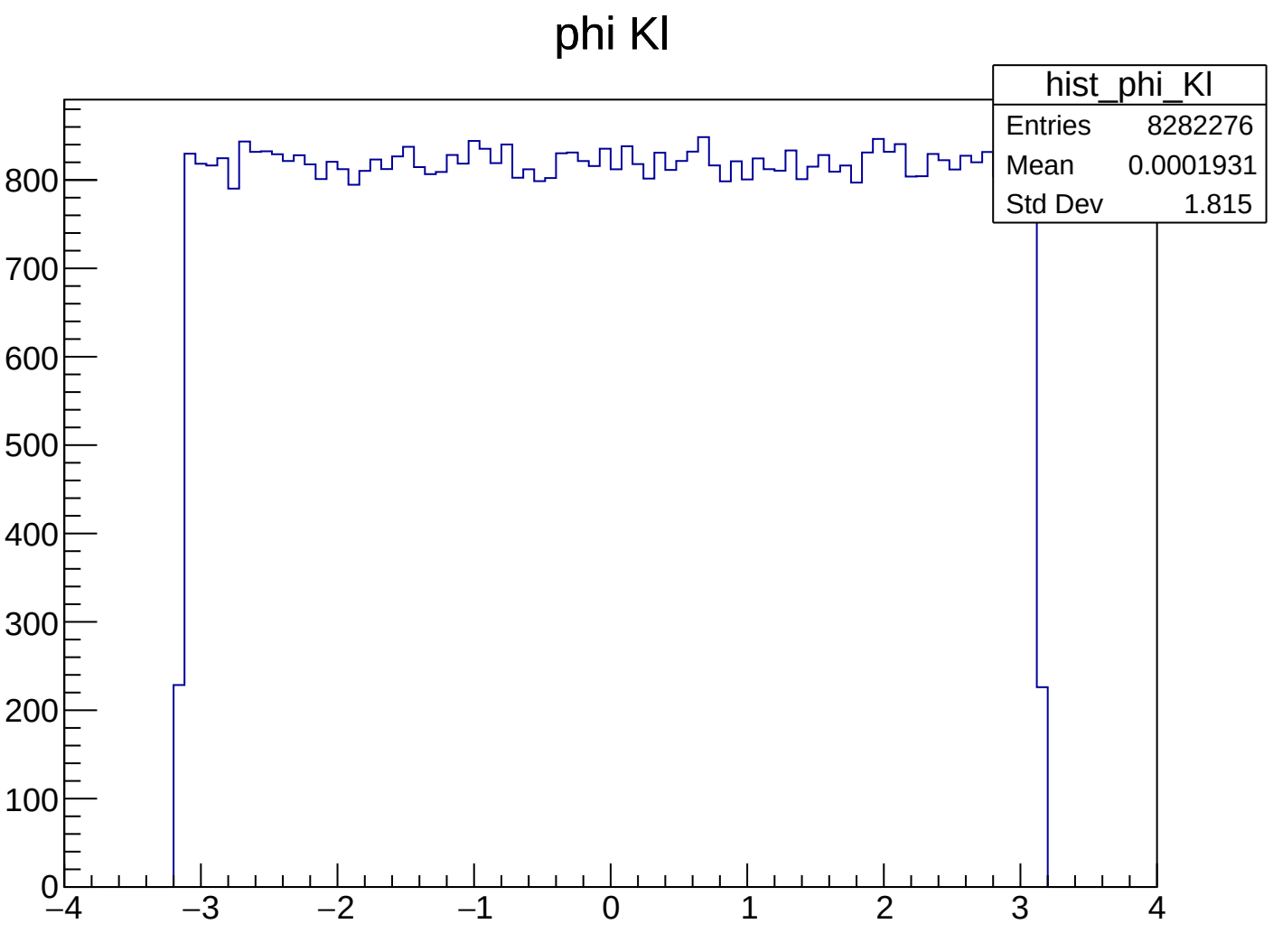

theta Ks
hist_theta_Ks
Entries 8282276
Mean 0.2725
Std Dev 0.127
6000
5000
4000
3000
2000
1000
0
0
0.5
1
1.5
2
2.5
3
theta [rad]

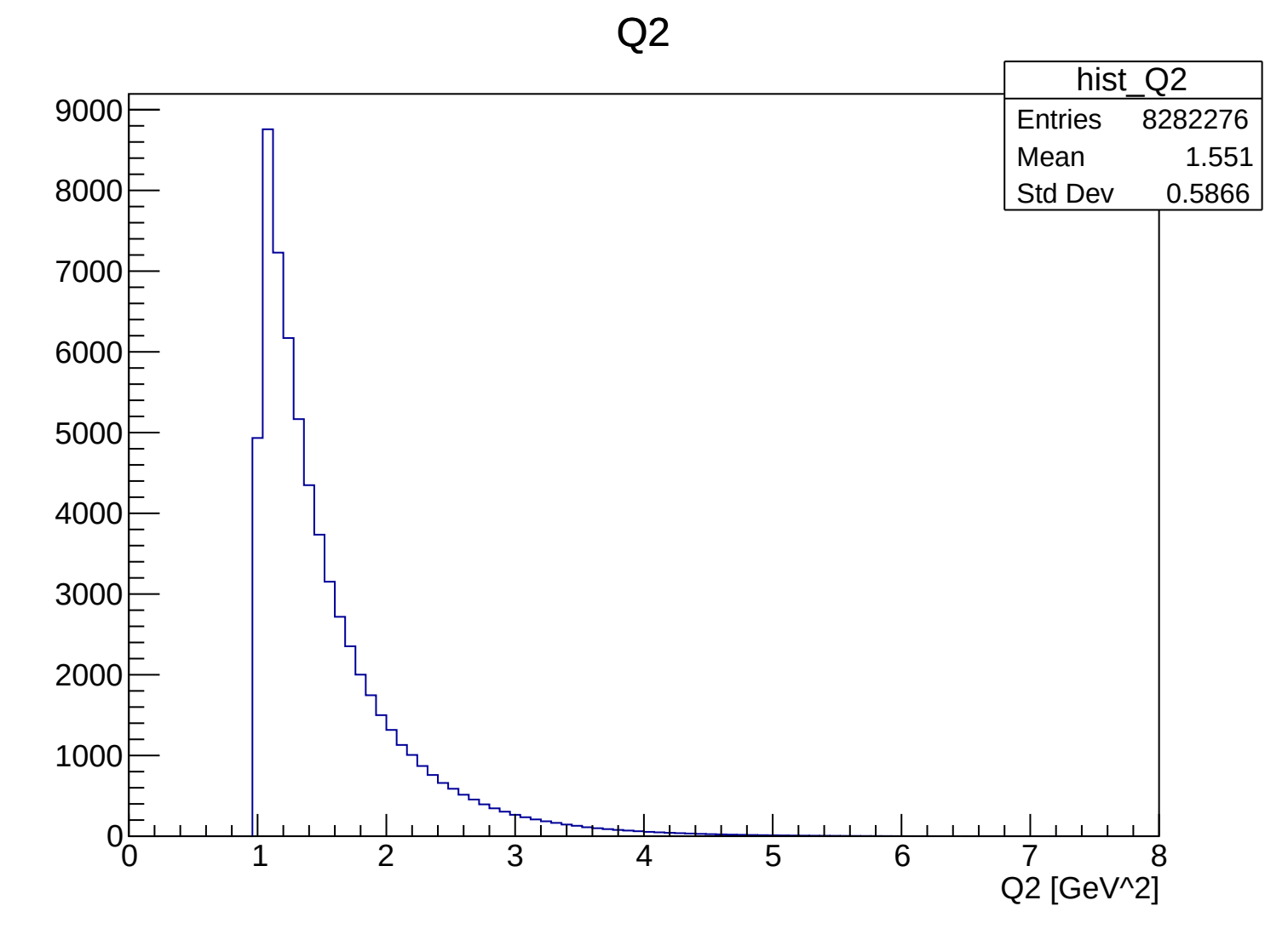

theta Kl
hist_theta_Kl
Entries 8282276
Mean 0.2725
Std Dev 0.1269
7000
6000
5000
4000
3000
2000
1000
0
0
0.5
1
1.5
2
2.5
3
theta [rad]

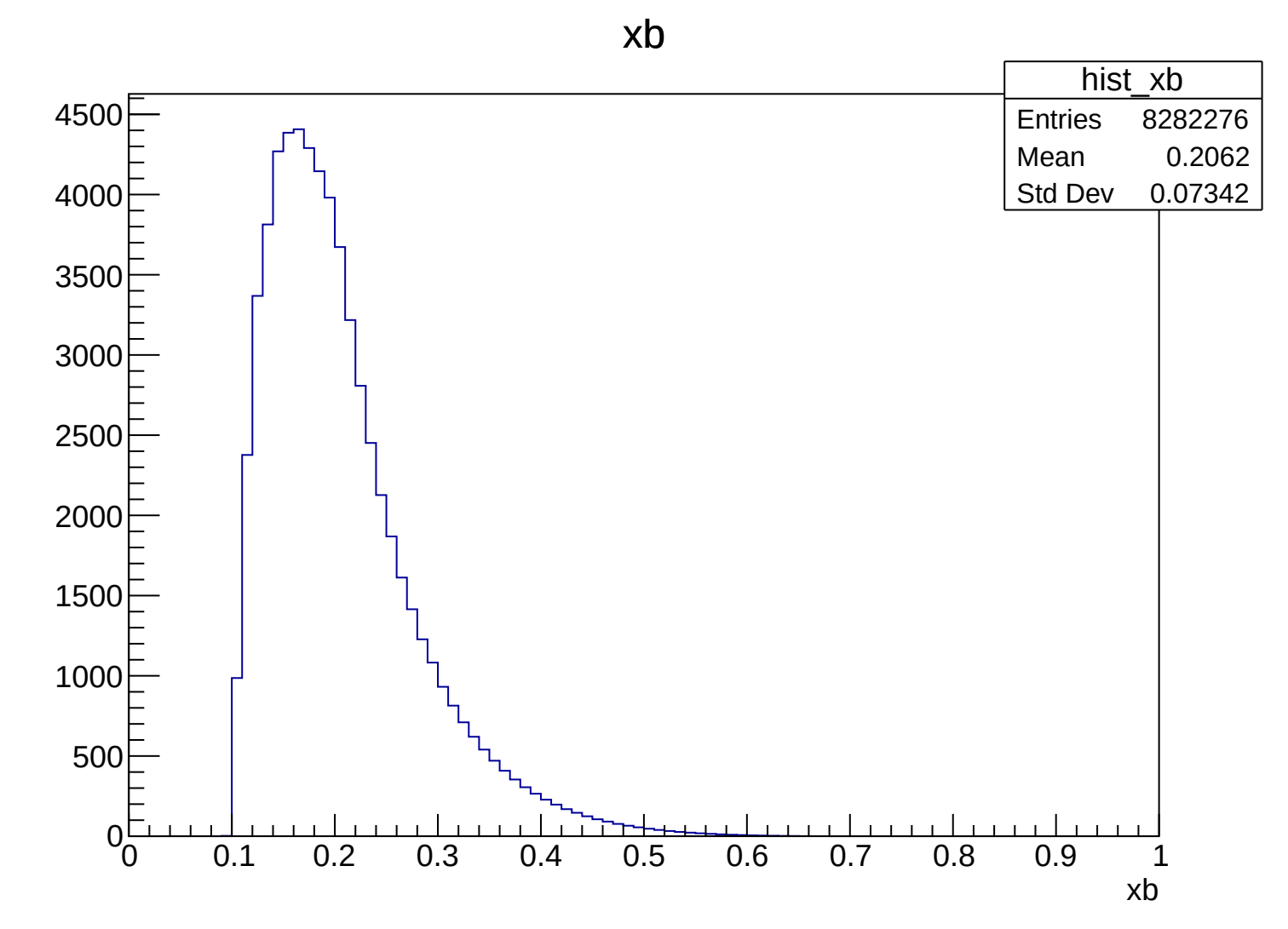

phi electron
hist_phi_electron
Entries 8282276
Mean 0.002207
Std Dev 1.813
900
800
700
600
500
400
300
200
100
0
−4
−3
−2
−1
0
1
2
3
4
theta [rad]

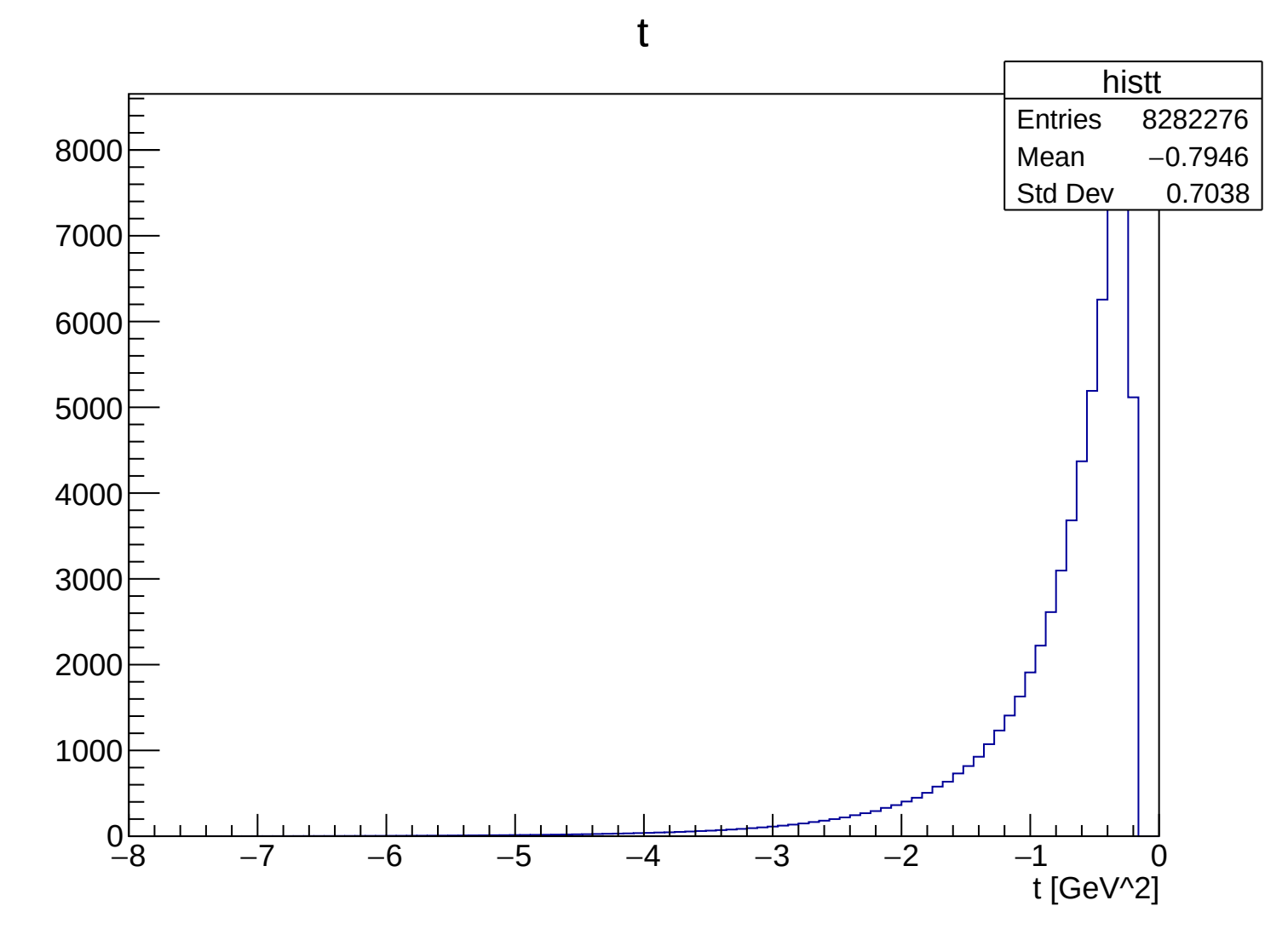

phi proton
hist_phi_proton
Entries 8282276
Mean −0.005313
Std Dev 1.811
800
700
600
500
400
300
200
100
0
−4
−3
−2
−1
0
1
2
3

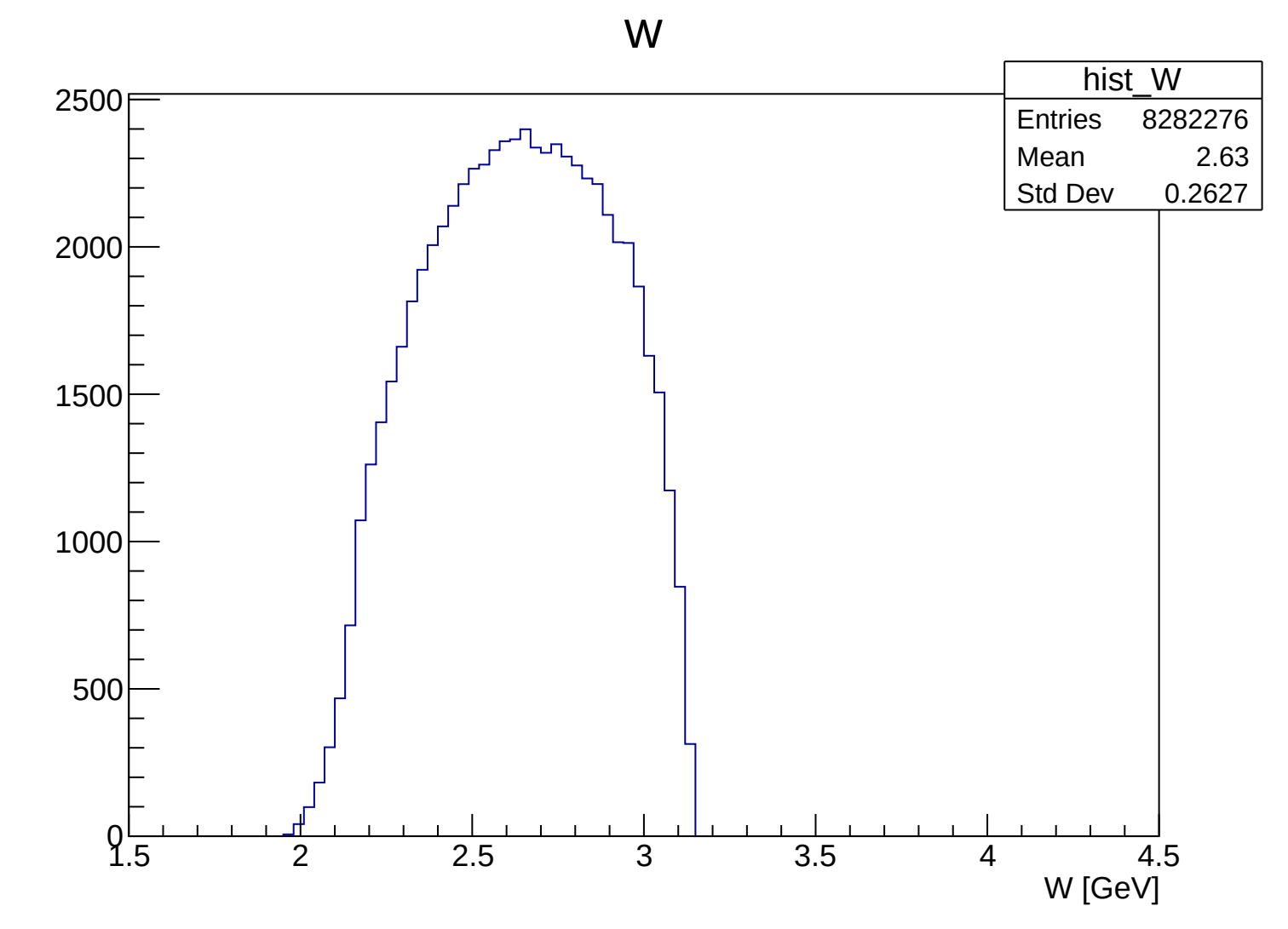

phi Ks
hist_phi_Ks
Entries 8282276
Mean −0.0004803
Std Dev 1.816
800
700
600
500
400
300
200
100
0
−4
−3
−2
−1
0
1
2
3
4

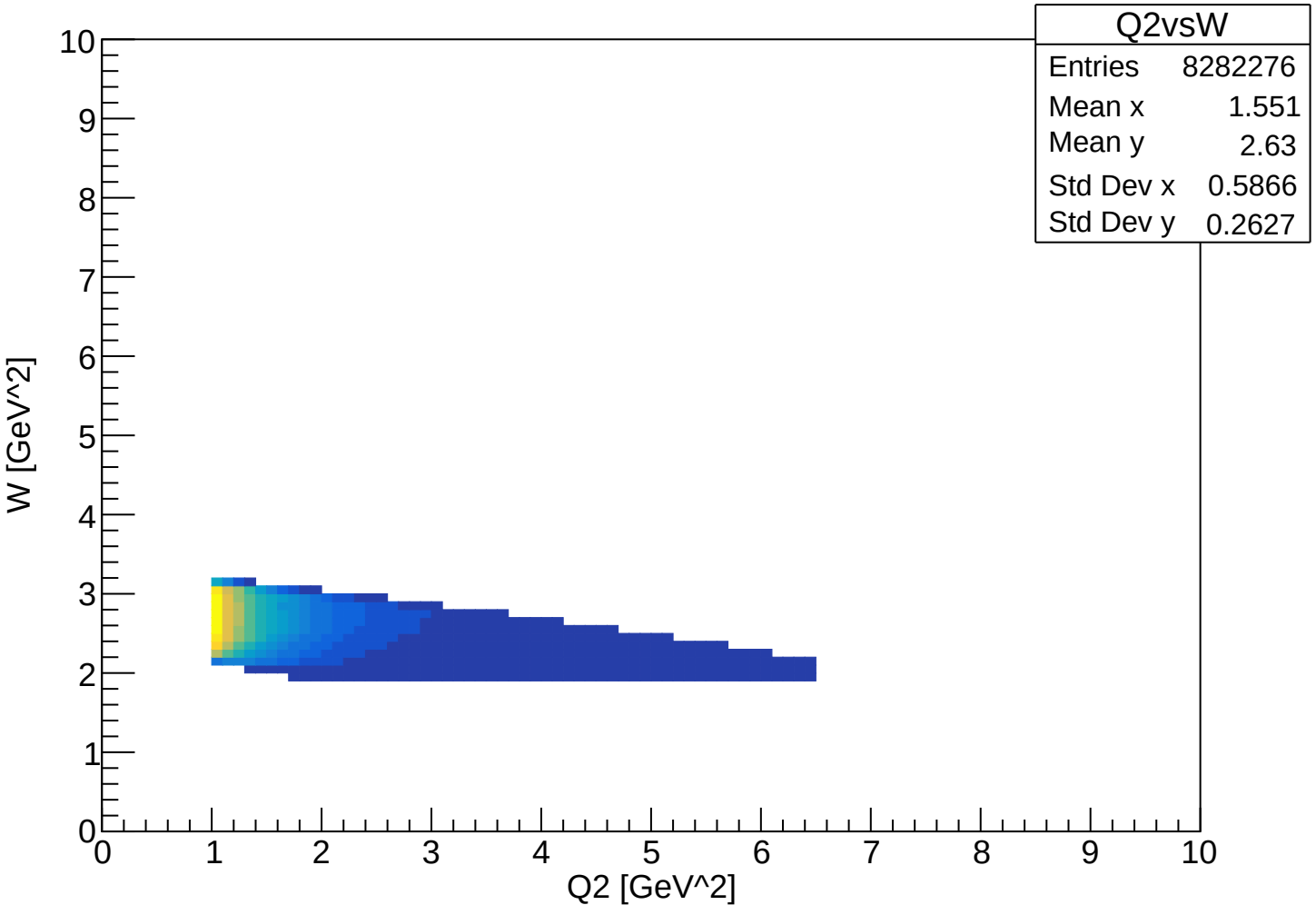

phi Kl
hist_phi_Kl
Entries 8282276
Mean 0.0001931
Std Dev 1.815
800
700
600
500
400
300
200
100
0
−4
−3
−2
−1
0
1
2
3
4

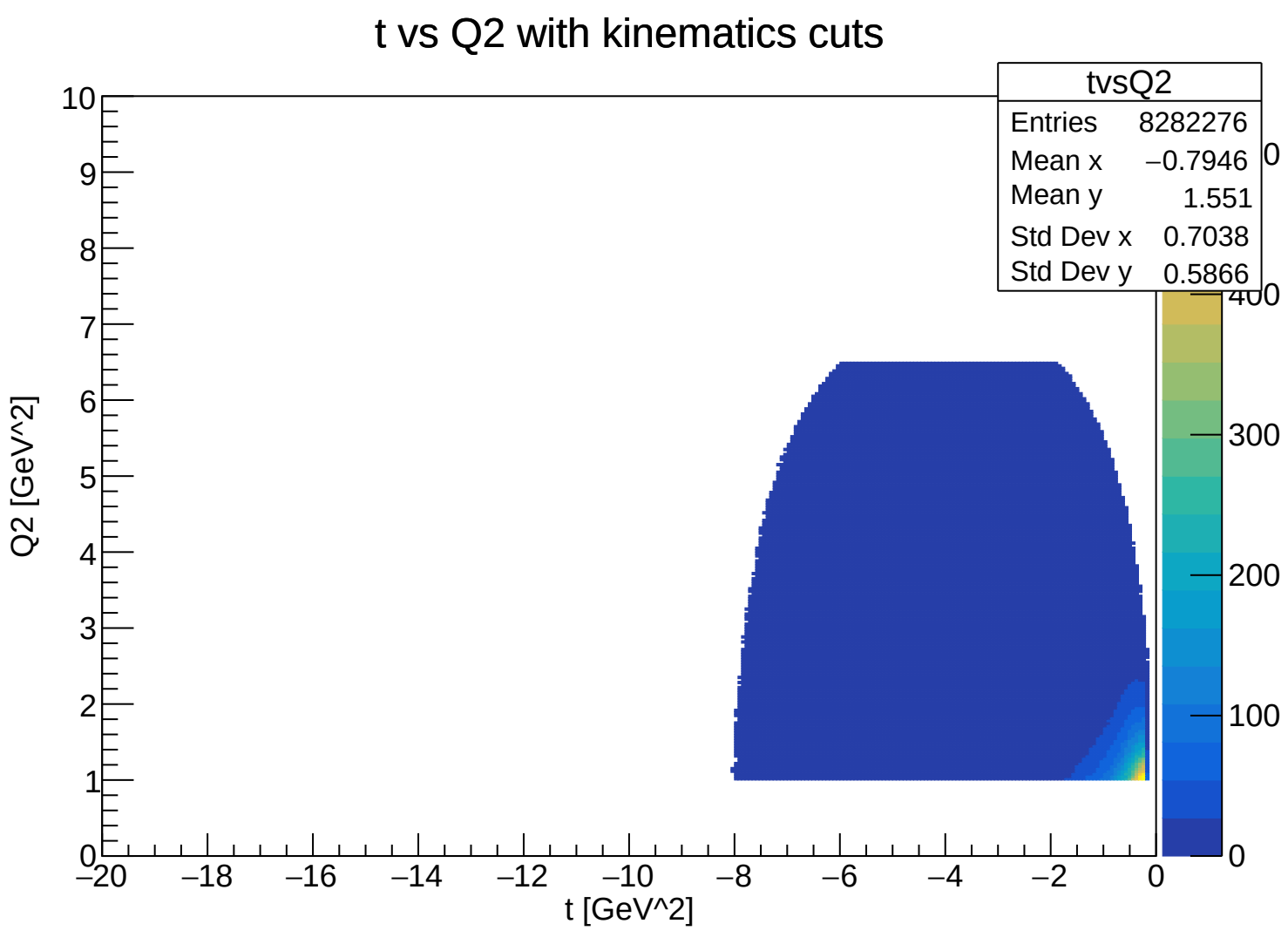

Q2
hist_Q2
Entries 8282276
Mean 1.551
Std Dev 0.5866
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1
2
3
4
5
6
7
8
Q2 [GeV^2]


xb
hist_xb
Entries 8282276
Mean 0.2062
Std Dev 0.07342
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
xb


t
histt
Entries 8282276
Mean −0.7946
Std Dev 0.7038
8000
7000
6000
5000
4000
3000
2000
1000
0
−8
−7
−6
−5
−4
−3
−2
−1
0
t [GeV^2]


W
hist_W
Entries 8282276
Mean 2.63
Std Dev 0.2627
2500
2000
1500
1000
500
0
1.5
2
2.5
3
3.5
4
4.5
W [GeV]


Q2 vs W
Q2vsW
Entries 8282276
Mean x 1.551
Mean y 2.63
Std Dev x 0.5866
Std Dev y 0.2627
W [GeV^2]
Q2 [GeV^2]
0
1
2
3
4
5
6
7
8
9
10


t vs Q2 with kinematics cuts
tvsQ2
Entries 8282276
Mean x −0.7946
Mean y 1.551
Std Dev x 0.7038
Std Dev y 0.5866
Q2 [GeV^2]
t [GeV^2]
10
9
8
7
6
5
4
3
2
1
0
−20
−18
−16
−14
−12
−10
−8
−6
−4
−2
0
400
300
200
100
0