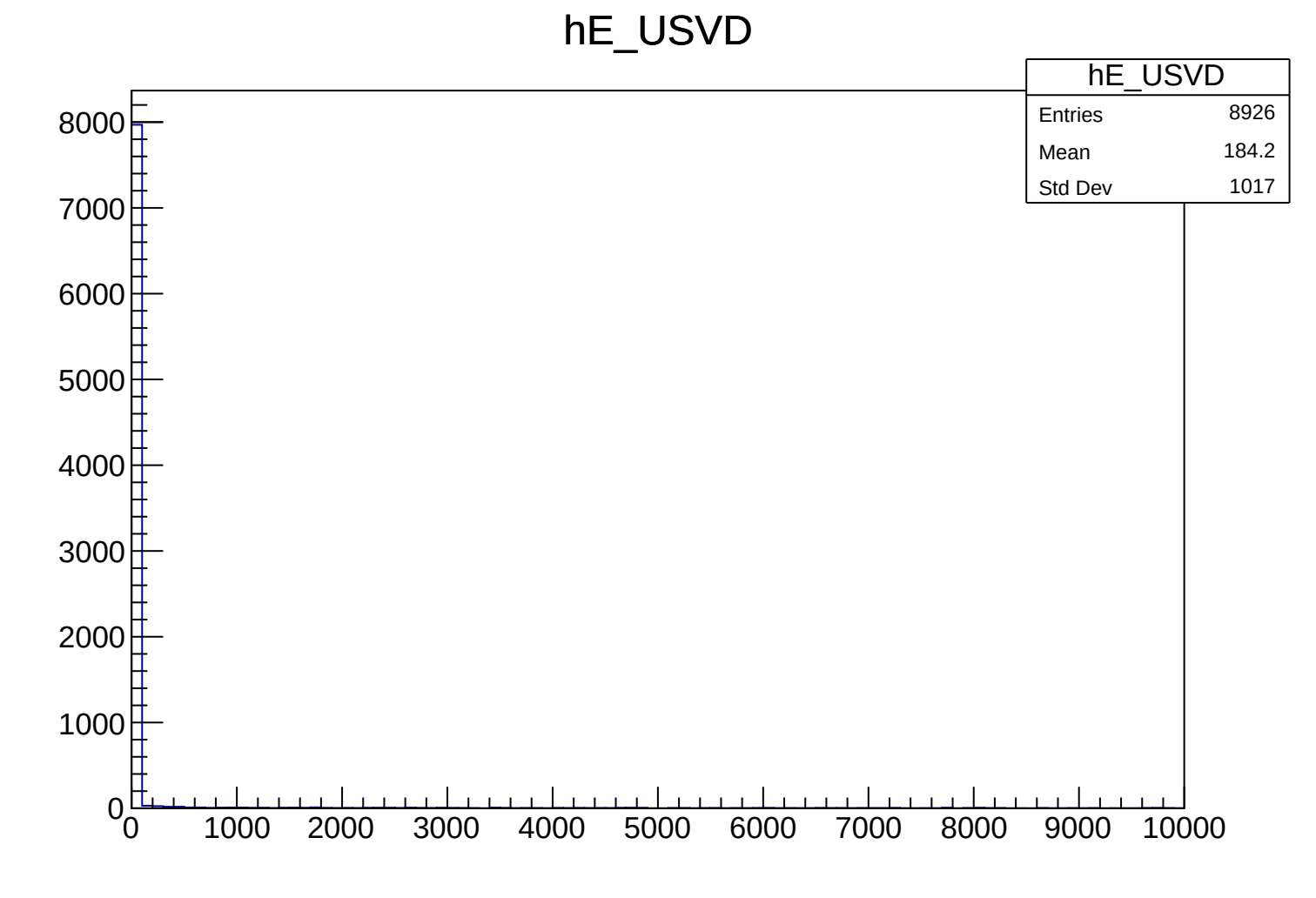
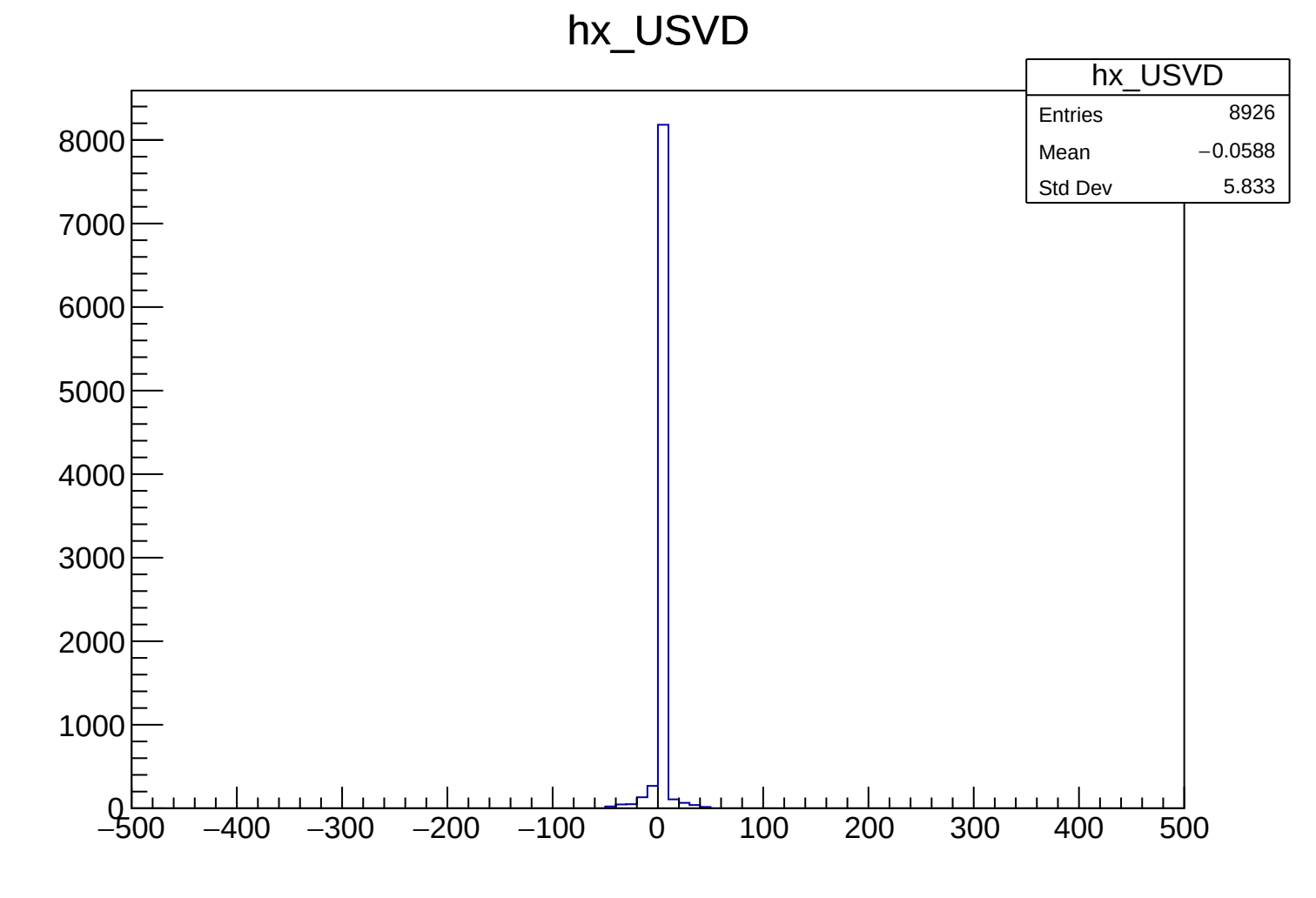
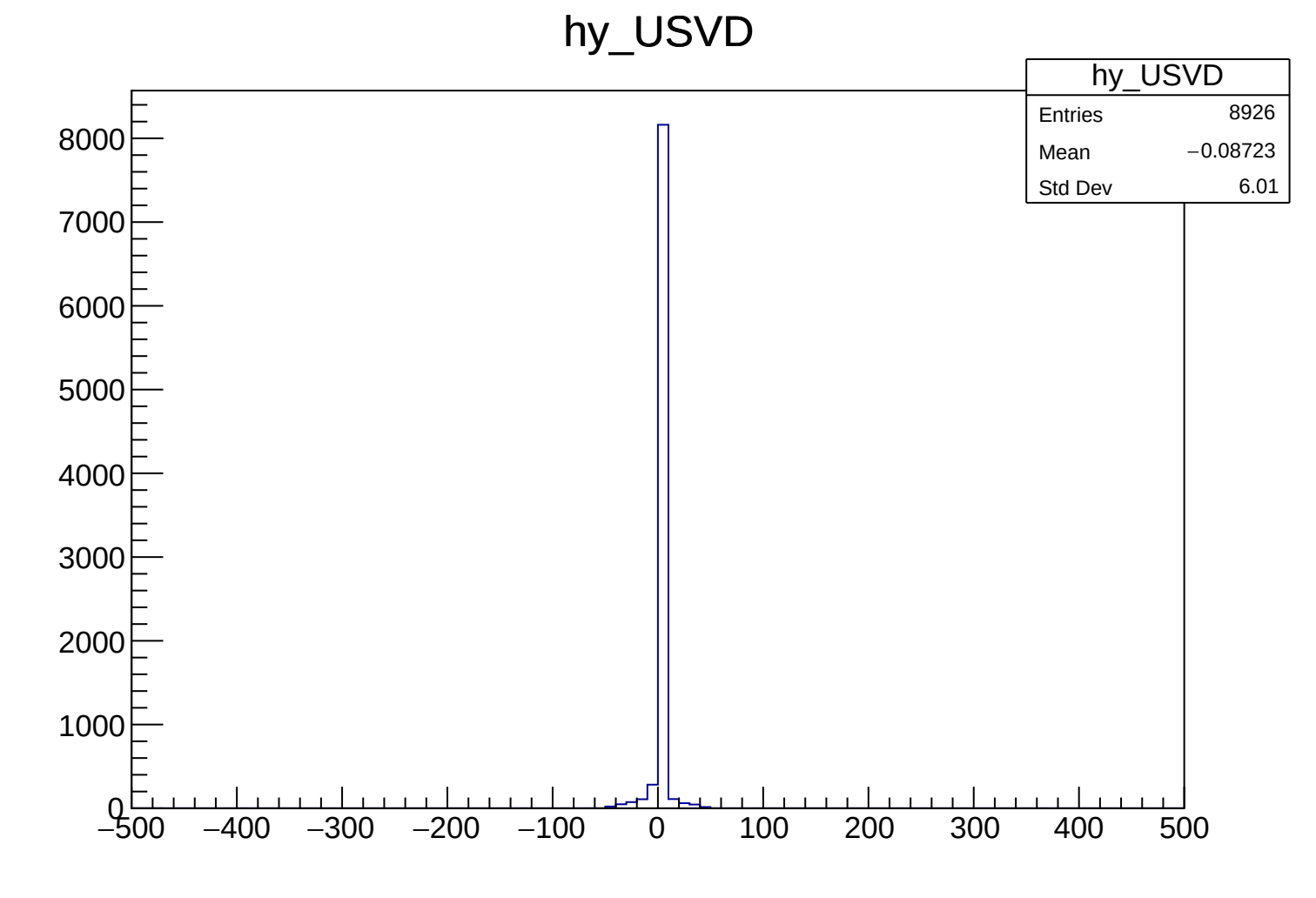
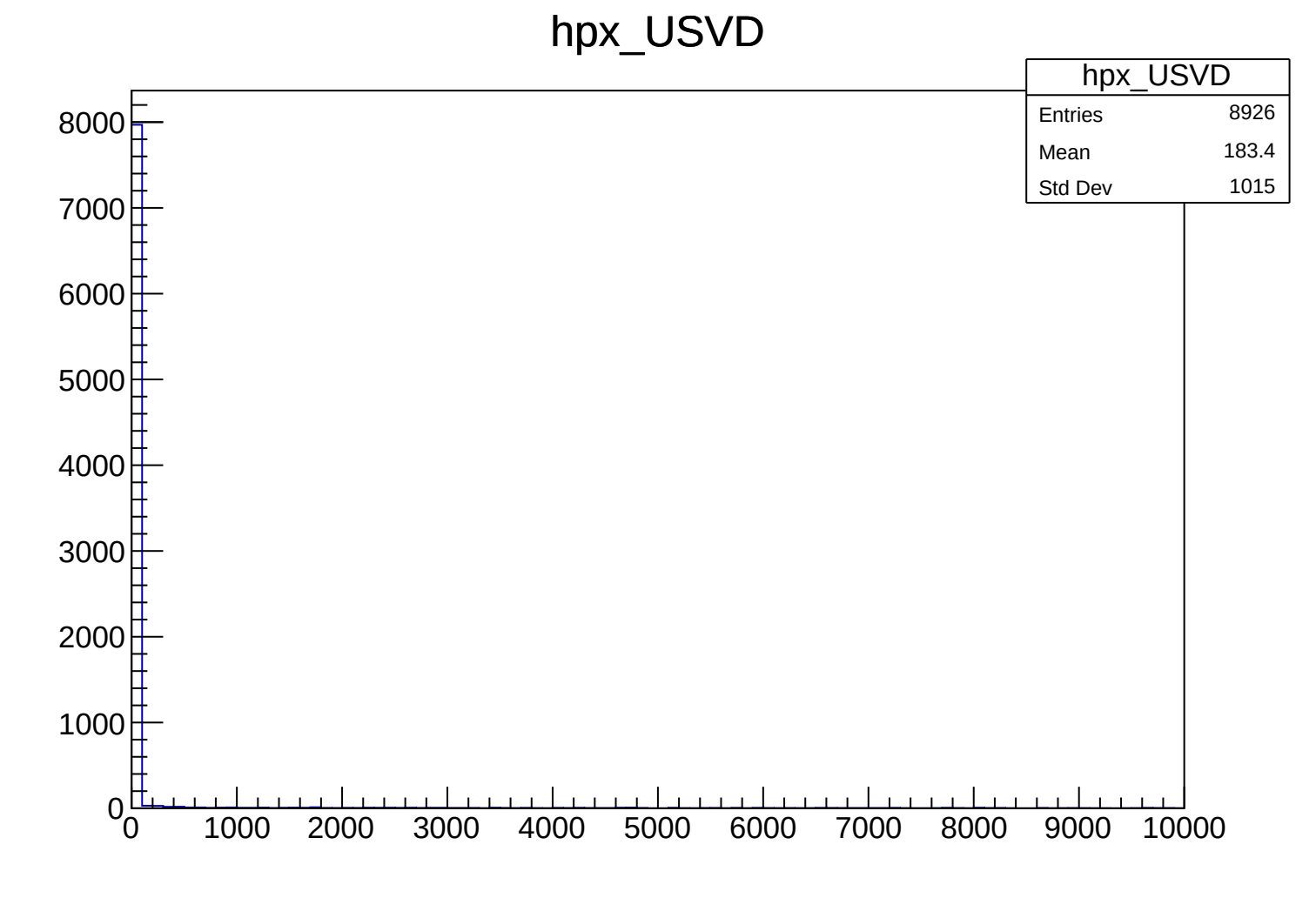
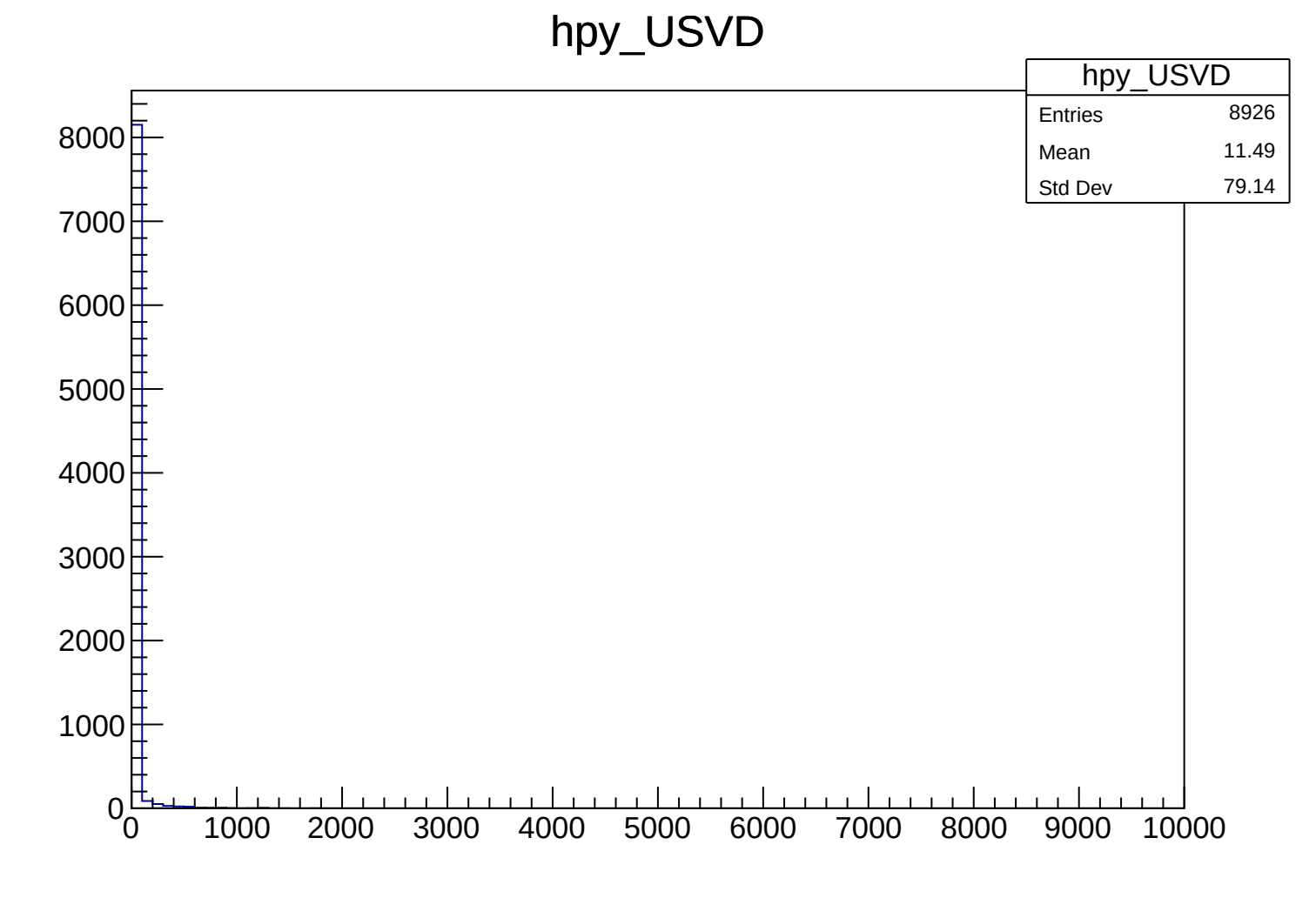
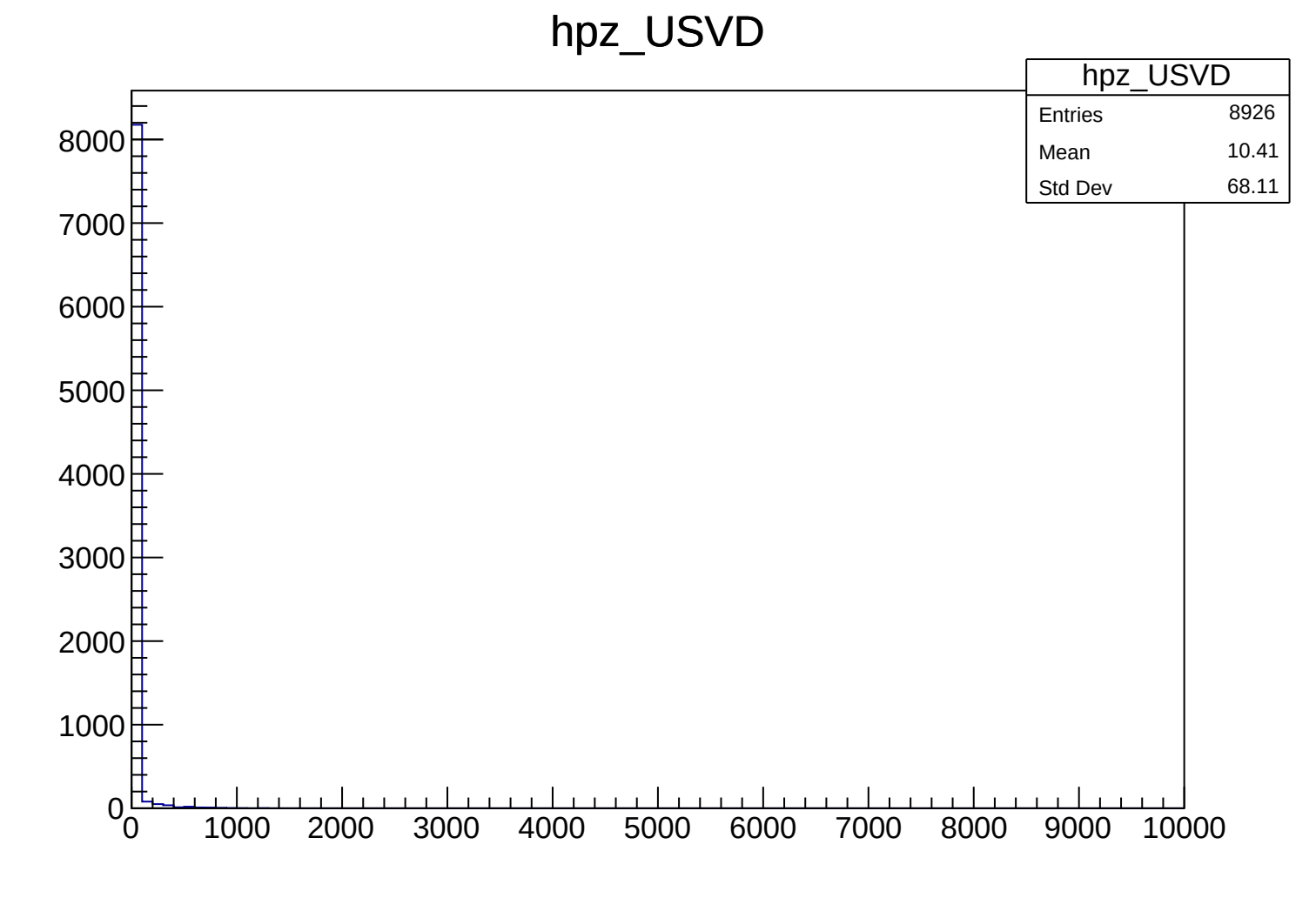

hE_USVD
hE_USVD
Entries 8926
Mean 184.2
Std Dev 1017
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

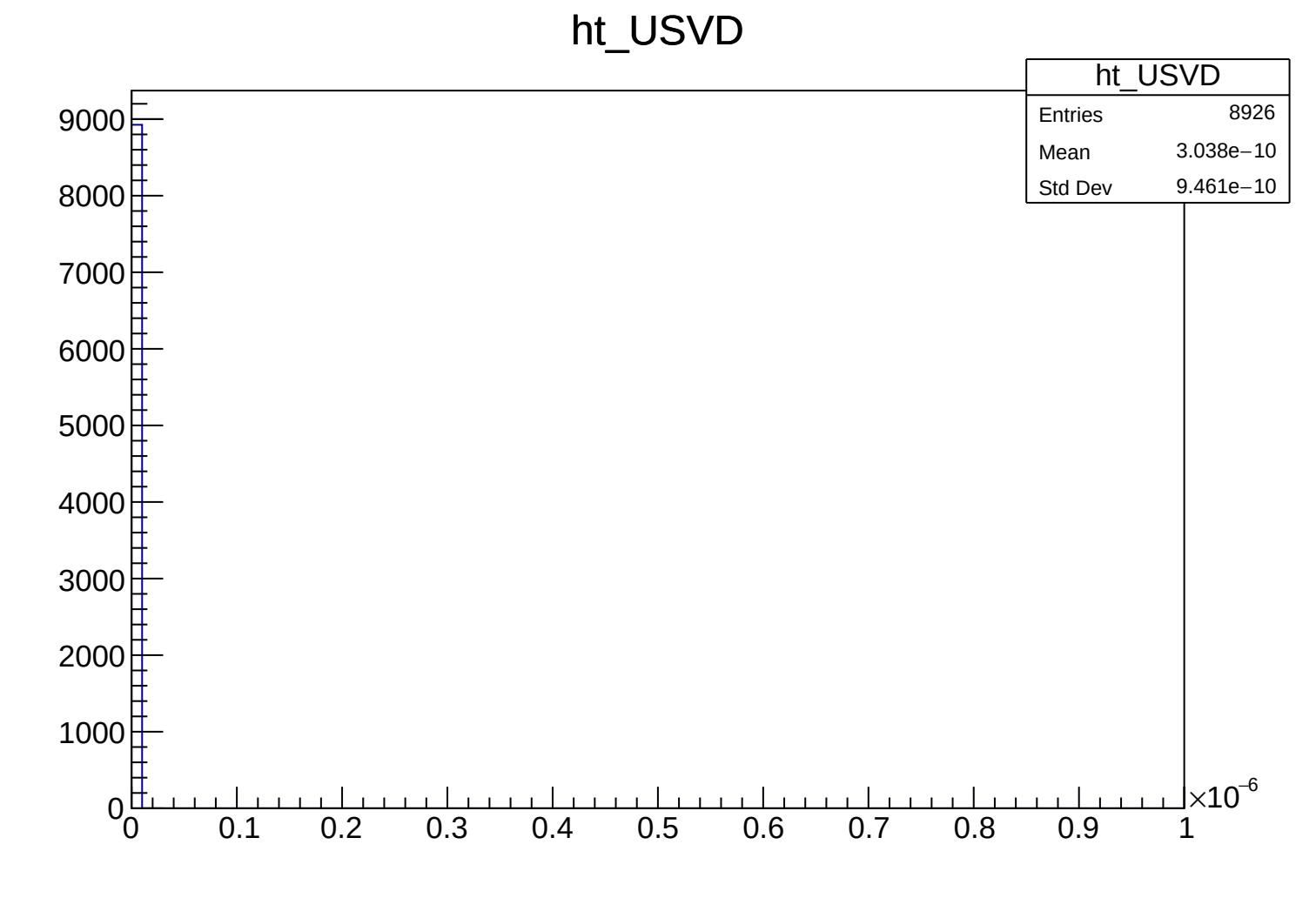

hx_USVD
hx_USVD
Entries 8926
Mean −0.0588
Std Dev 5.833
8000
7000
6000
5000
4000
3000
2000
1000
0
−500
−400
−300
−200
−100
0
100
200
300
400
500

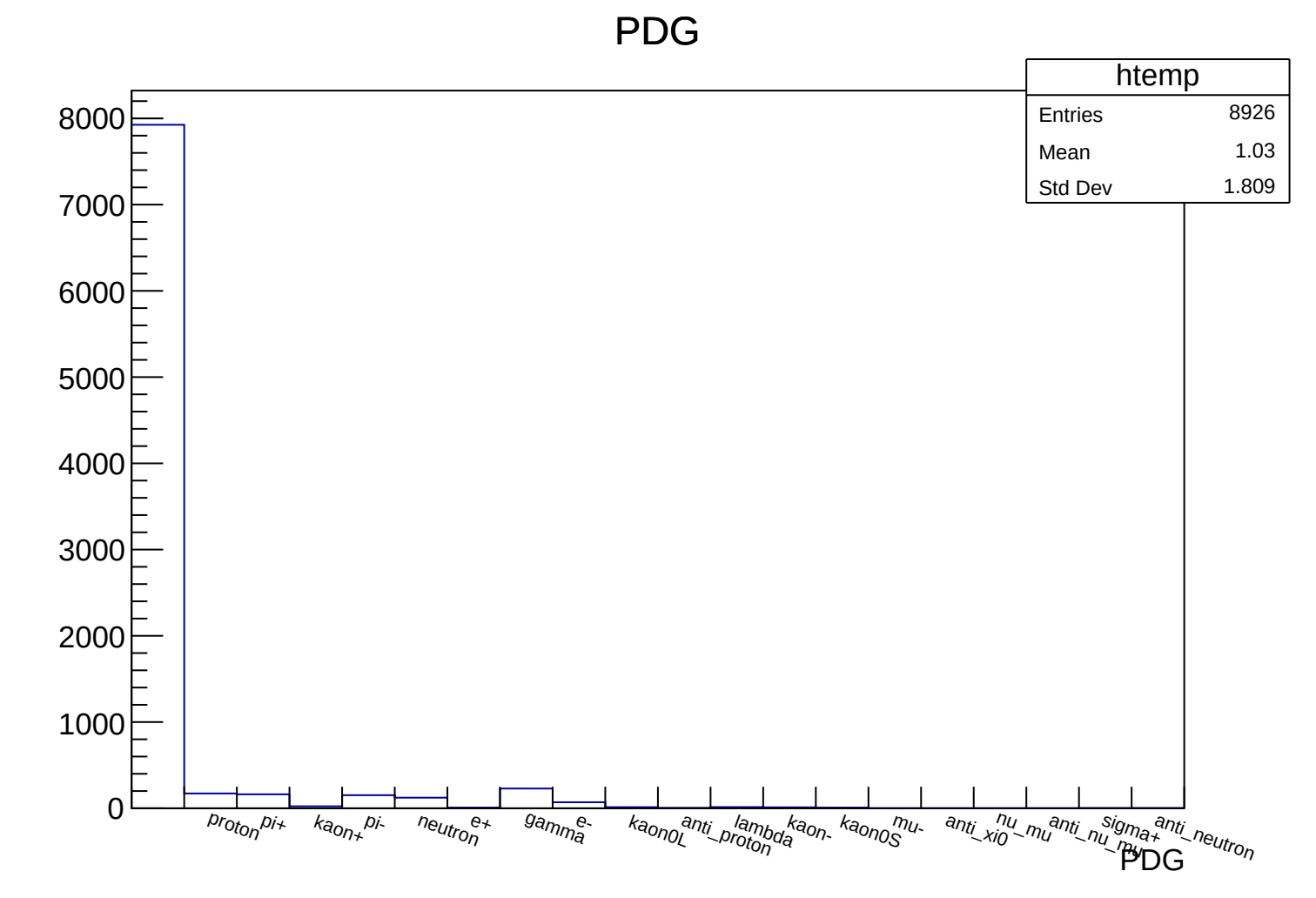

hy_USVD
hy_USVD
Entries 8926
Mean −0.08723
Std Dev 6.01
8000
7000
6000
5000
4000
3000
2000
1000
0
−500
−400
−300
−200
−100
0
100
200
300
400
500

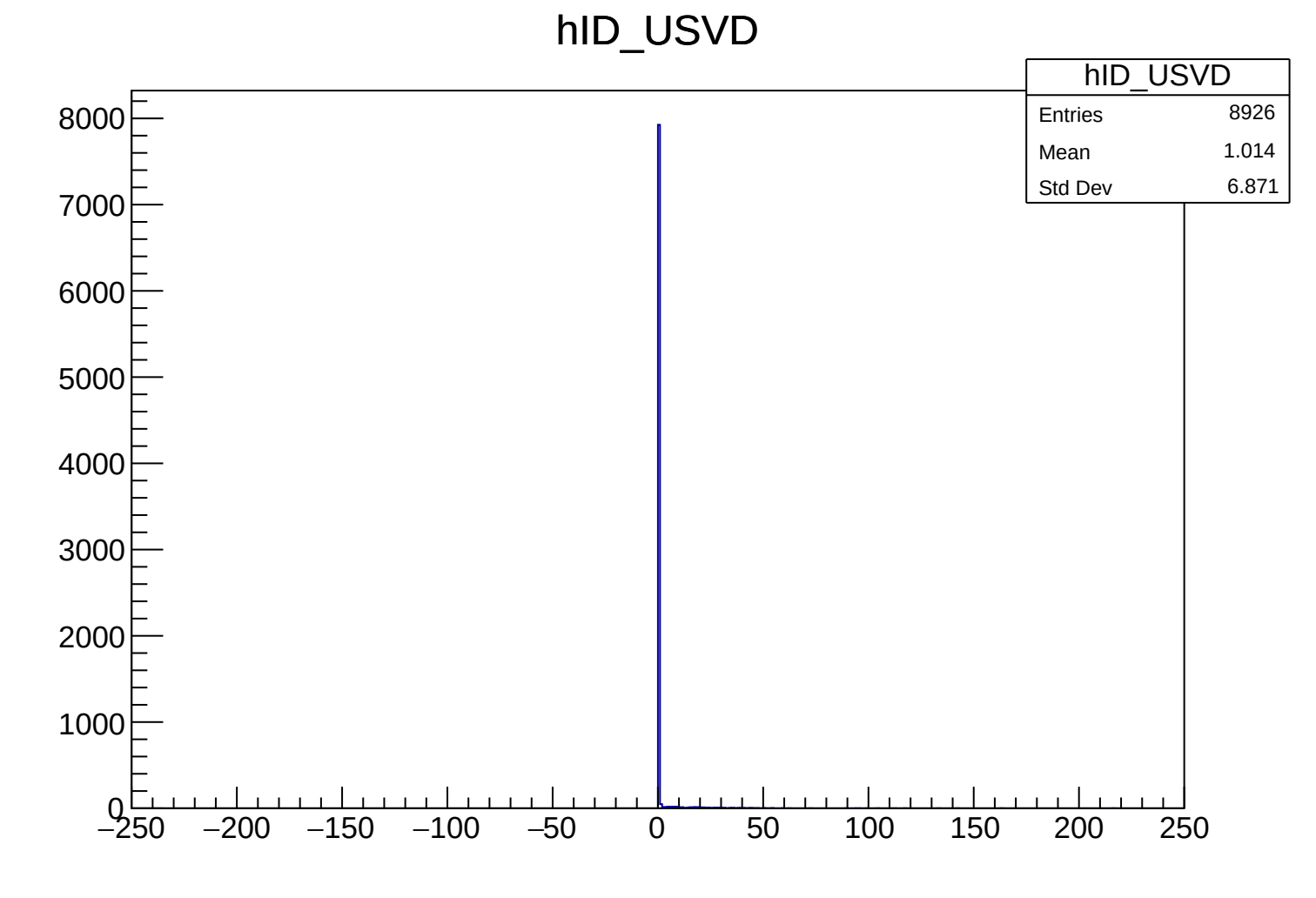

hpx_USVD
hpx_USVD
Entries 8926
Mean 183.4
Std Dev 1015
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

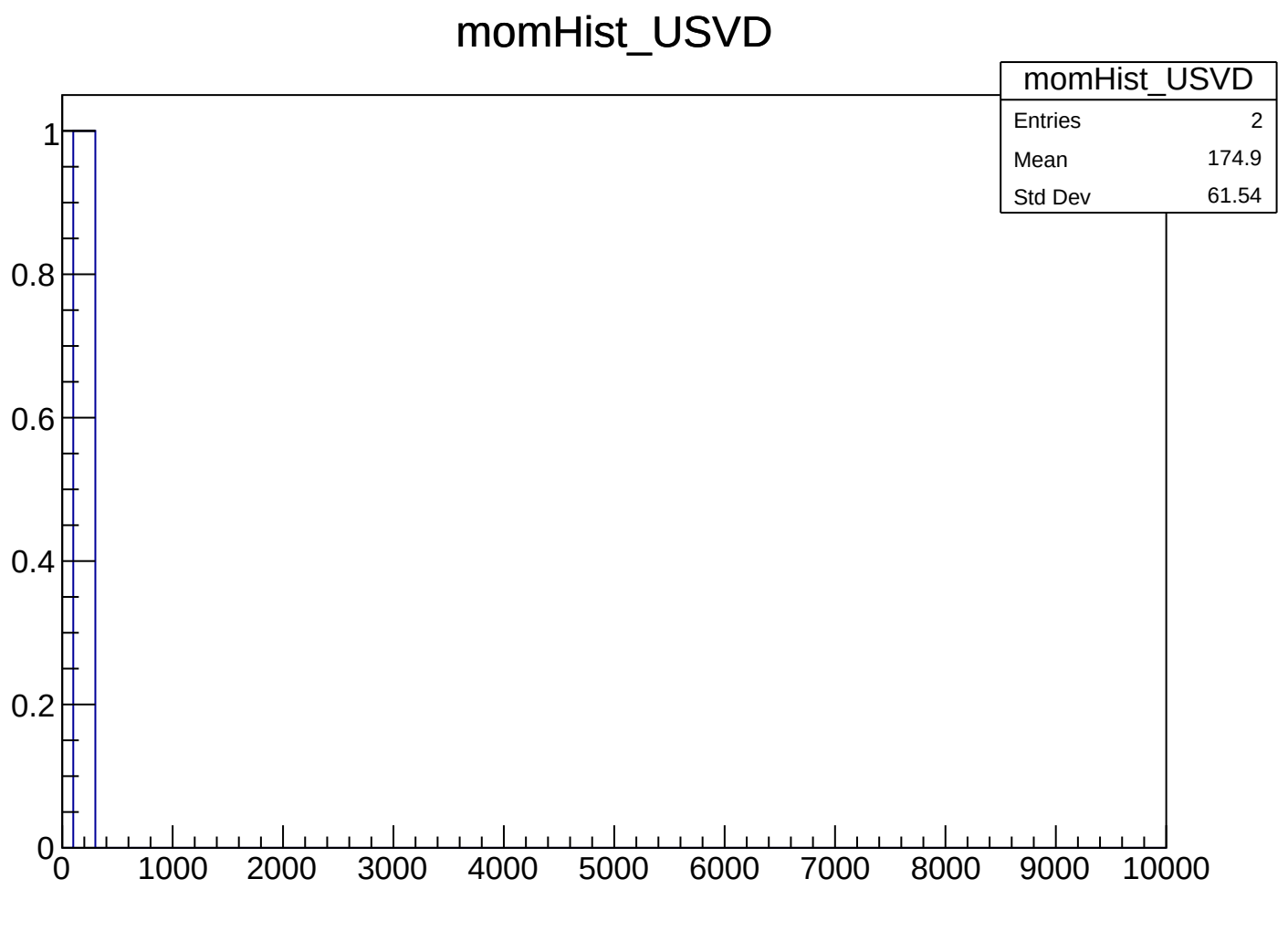

hpy_USVD
hpy_USVD
Entries 8926
Mean 11.49
Std Dev 79.14
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

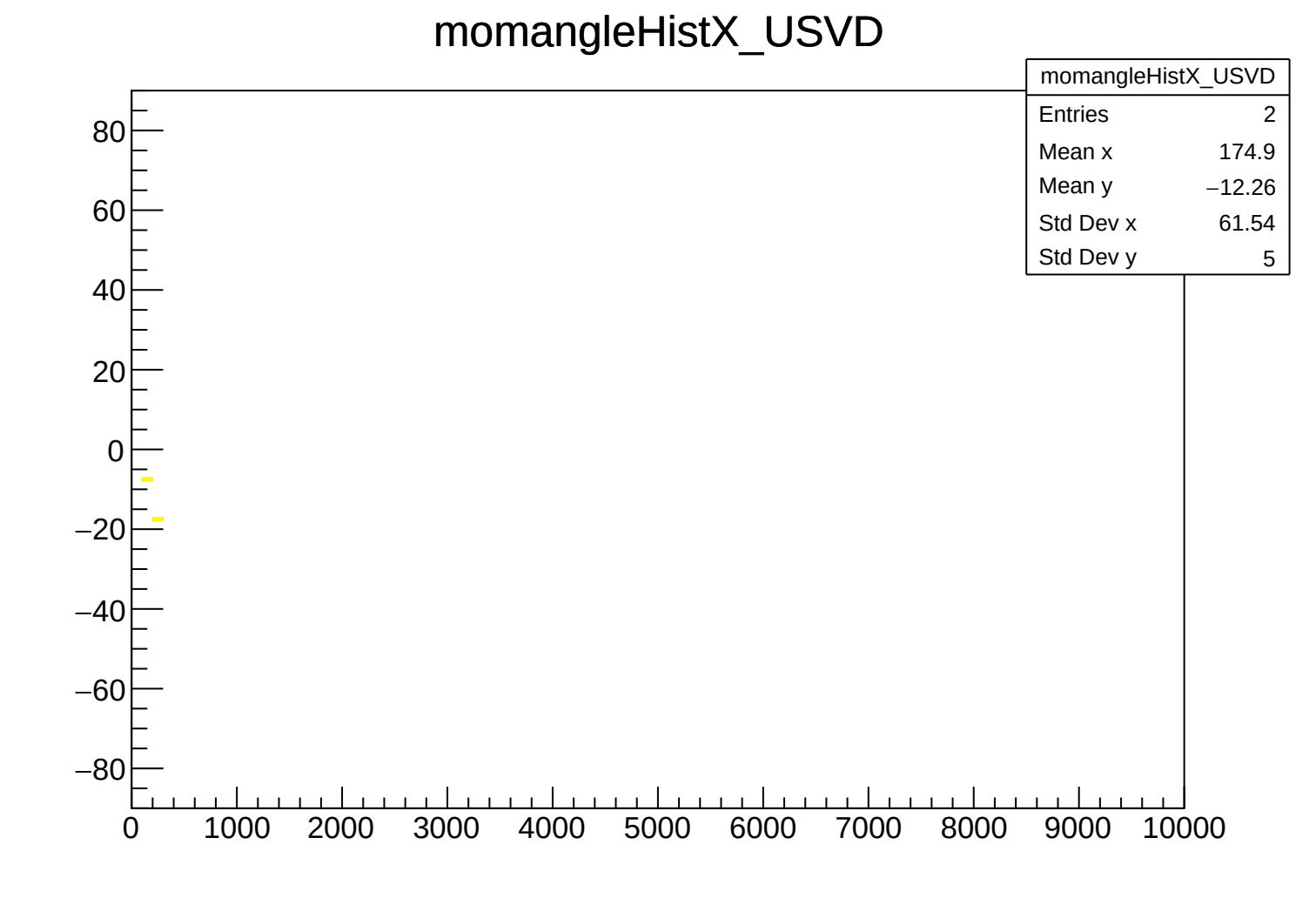

hpz_USVD
hpz_USVD
Entries 8926
Mean 10.41
Std Dev 68.11
8000
7000
6000
5000
4000
3000
2000
1000
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

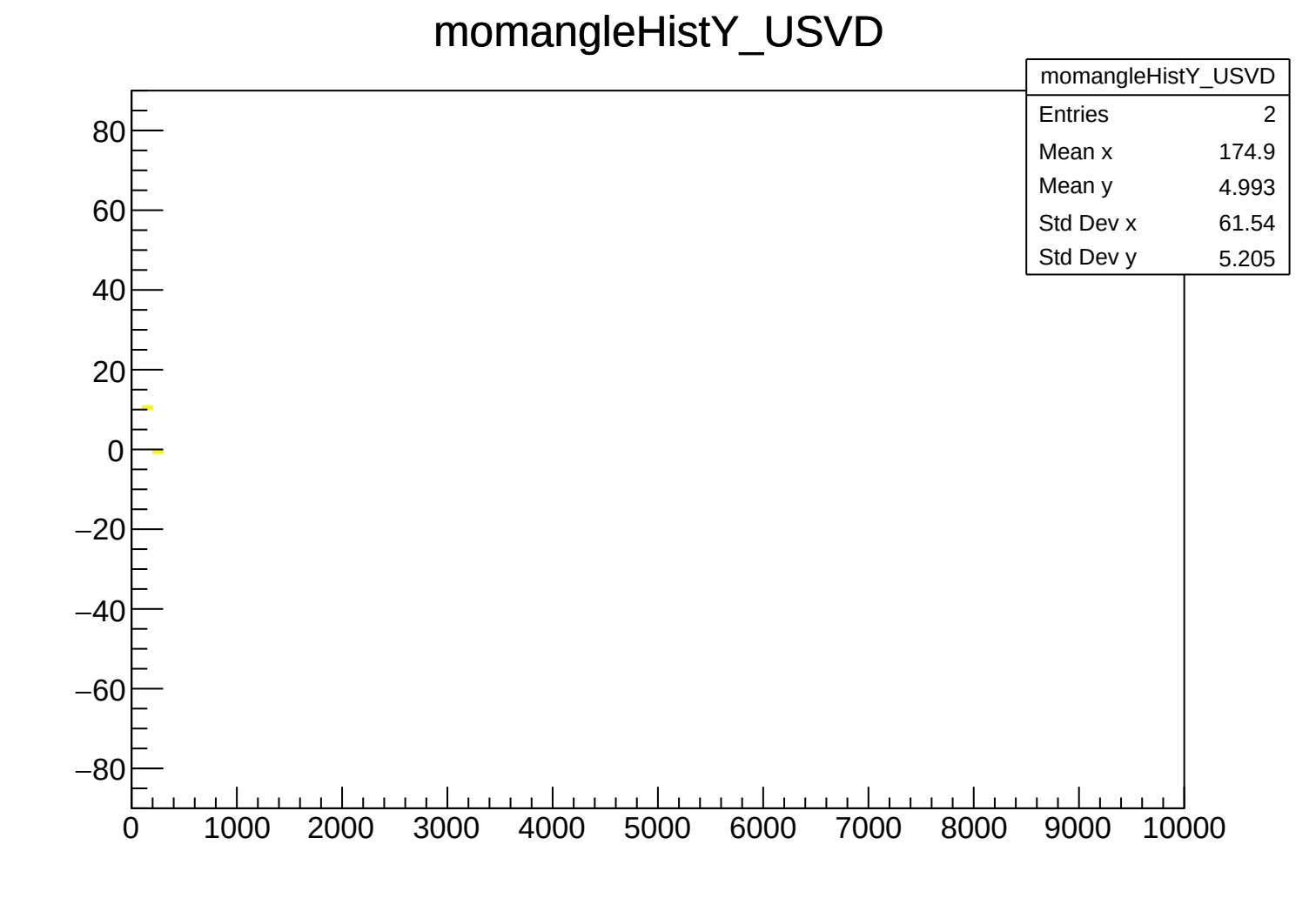

ht_USVD
ht_USVD
Entries 8926
Mean 3.038e−10
Std Dev 9.461e−10
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
×10−6

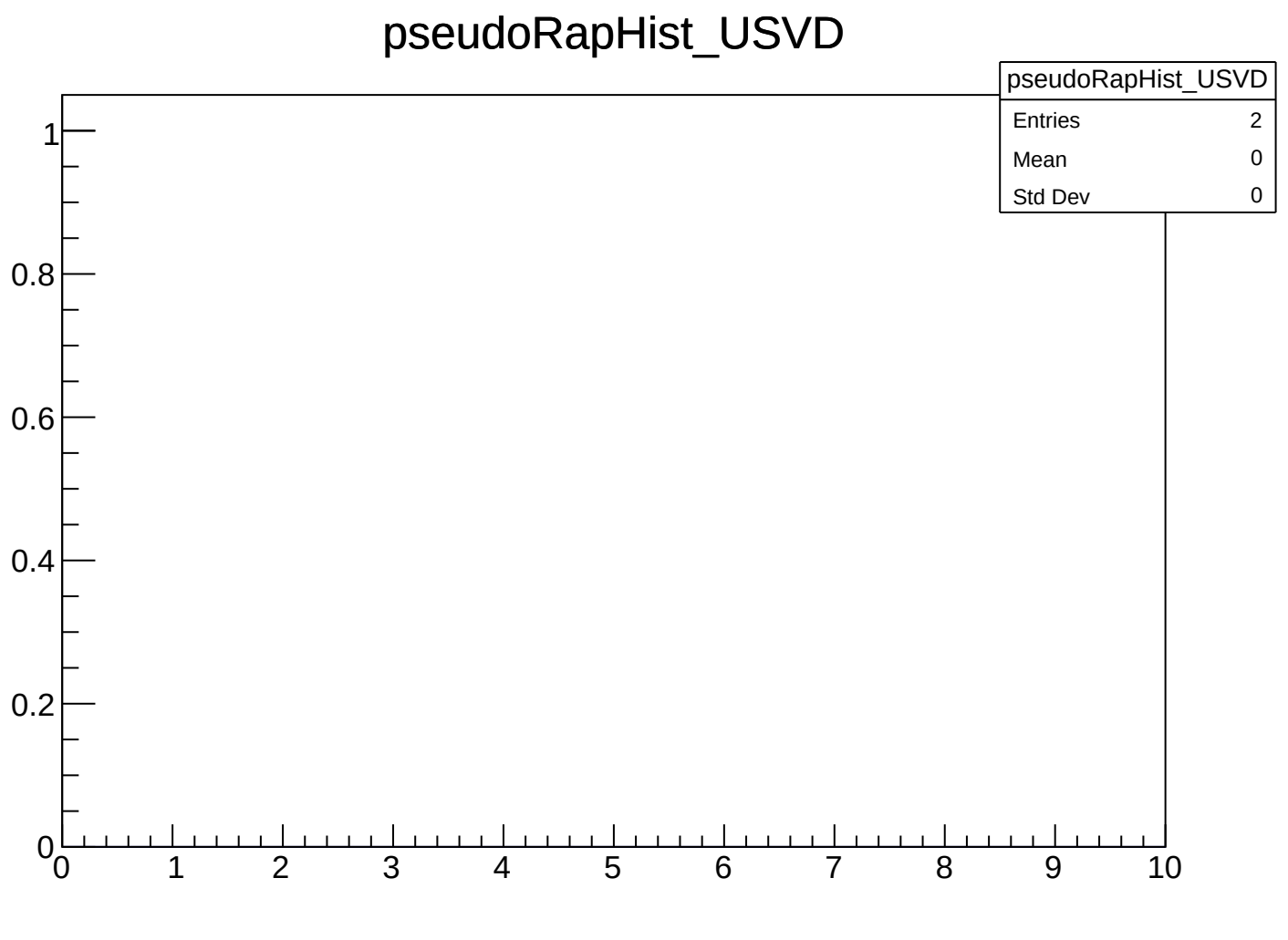

PDG
htemp
Entries 8926
Mean 1.03
Std Dev 1.809
8000
7000
6000
5000
4000
3000
2000
1000
0
proton
pi+
kaon+
pi-
neutron
e+
gamma
e-
kaon0L
anti_proton
lambda
kaon-
kaon0S
mu-
anti_xi0
nu_mu
anti_nu_mu
sigma+
anti_neutron
PDG

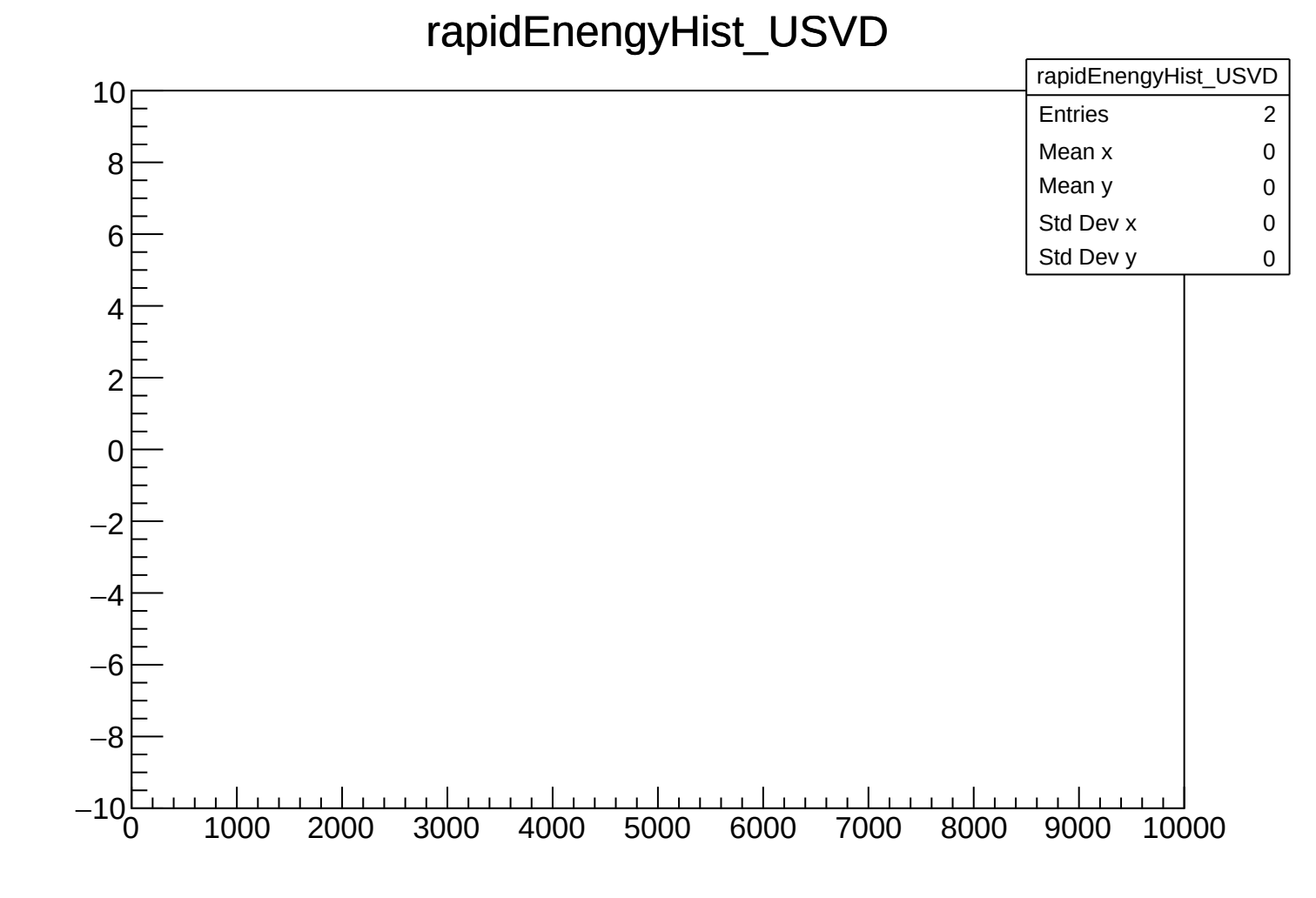

hID_USVD
hID_USVD
Entries 8926
Mean 1.014
Std Dev 6.871
8000
7000
6000
5000
4000
3000
2000
1000
0
−250
−200
−150
−100
−50
0
50
100
150
200
250

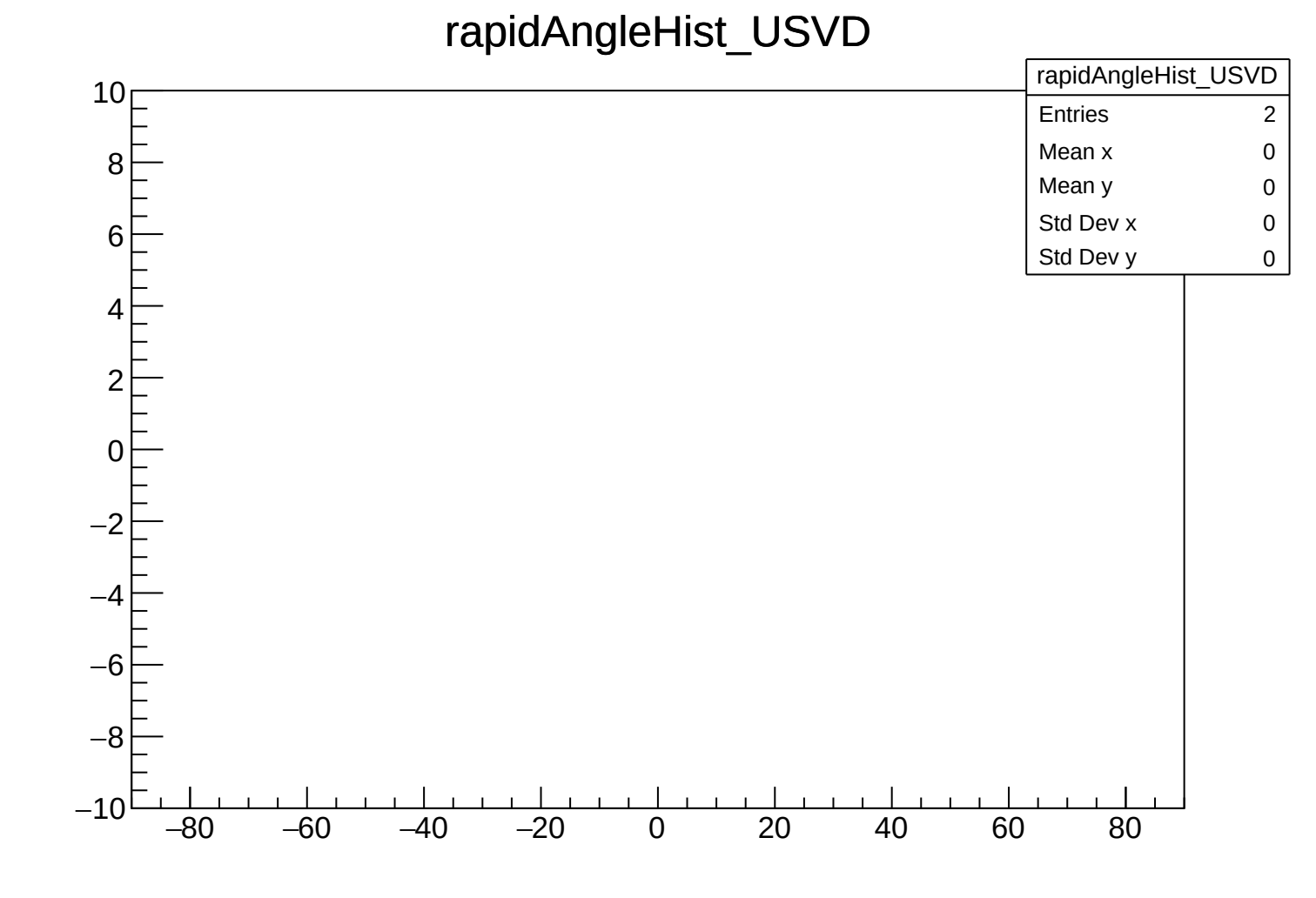

momHist_USVD
momHist_USVD
Entries 2
Mean 174.9
Std Dev 61.54
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

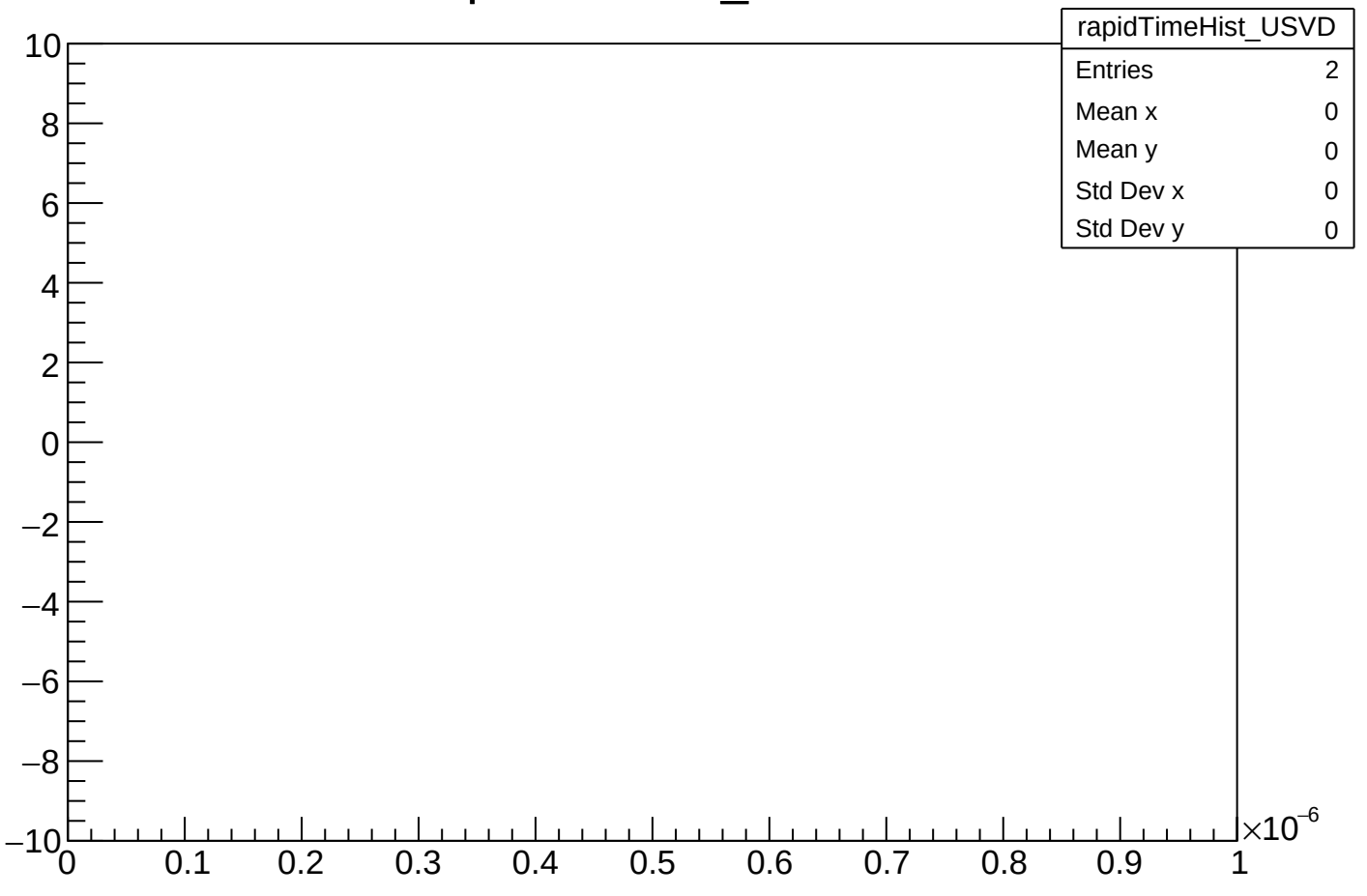

momangleHistX_USVD
momangleHistX_USVD
Entries 2
Mean x 174.9
Mean y −12.26
Std Dev x 61.54
Std Dev y 5
80
60
40
20
0
−20
−40
−60
−80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

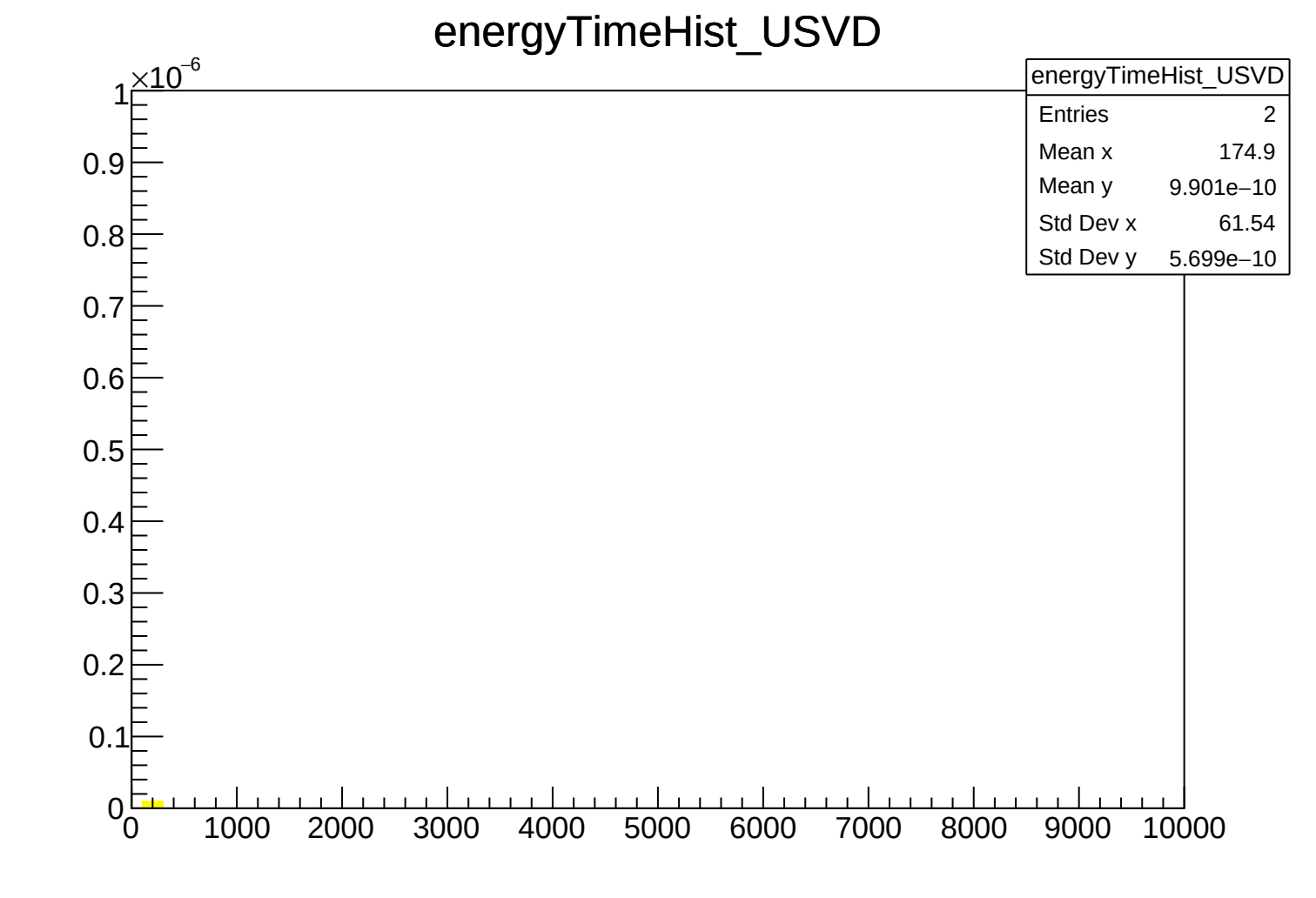

momangleHistY_USVD
momangleHistY_USVD
Entries 2
Mean x 174.9
Mean y 4.993
Std Dev x 61.54
Std Dev y 5.205
80
60
40
20
0
−20
−40
−60
−80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

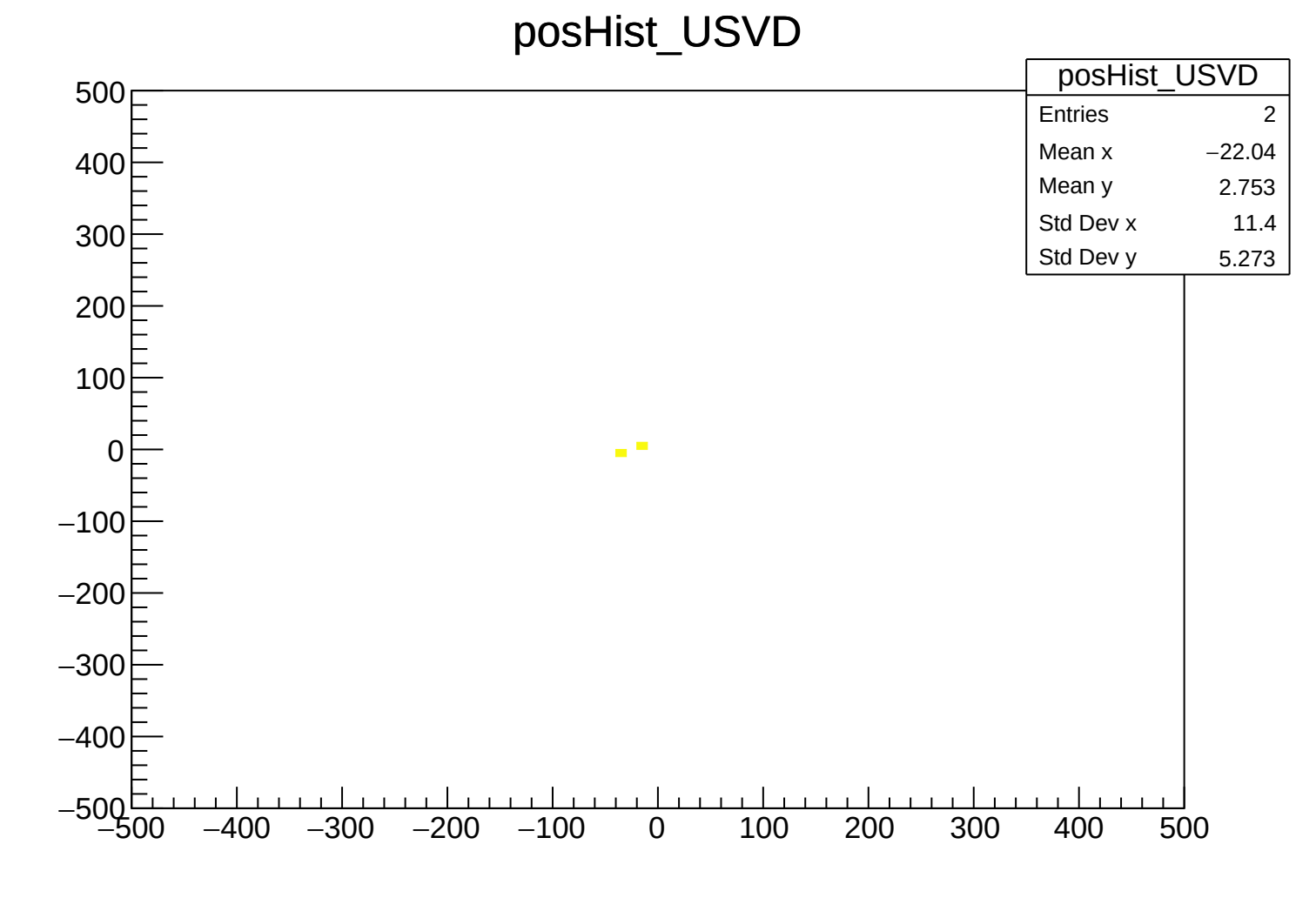

pseudoRapHist_USVD
pseudoRapHist_USVD
Entries 2
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0 1 2 3 4 5 6 7 8 9 10

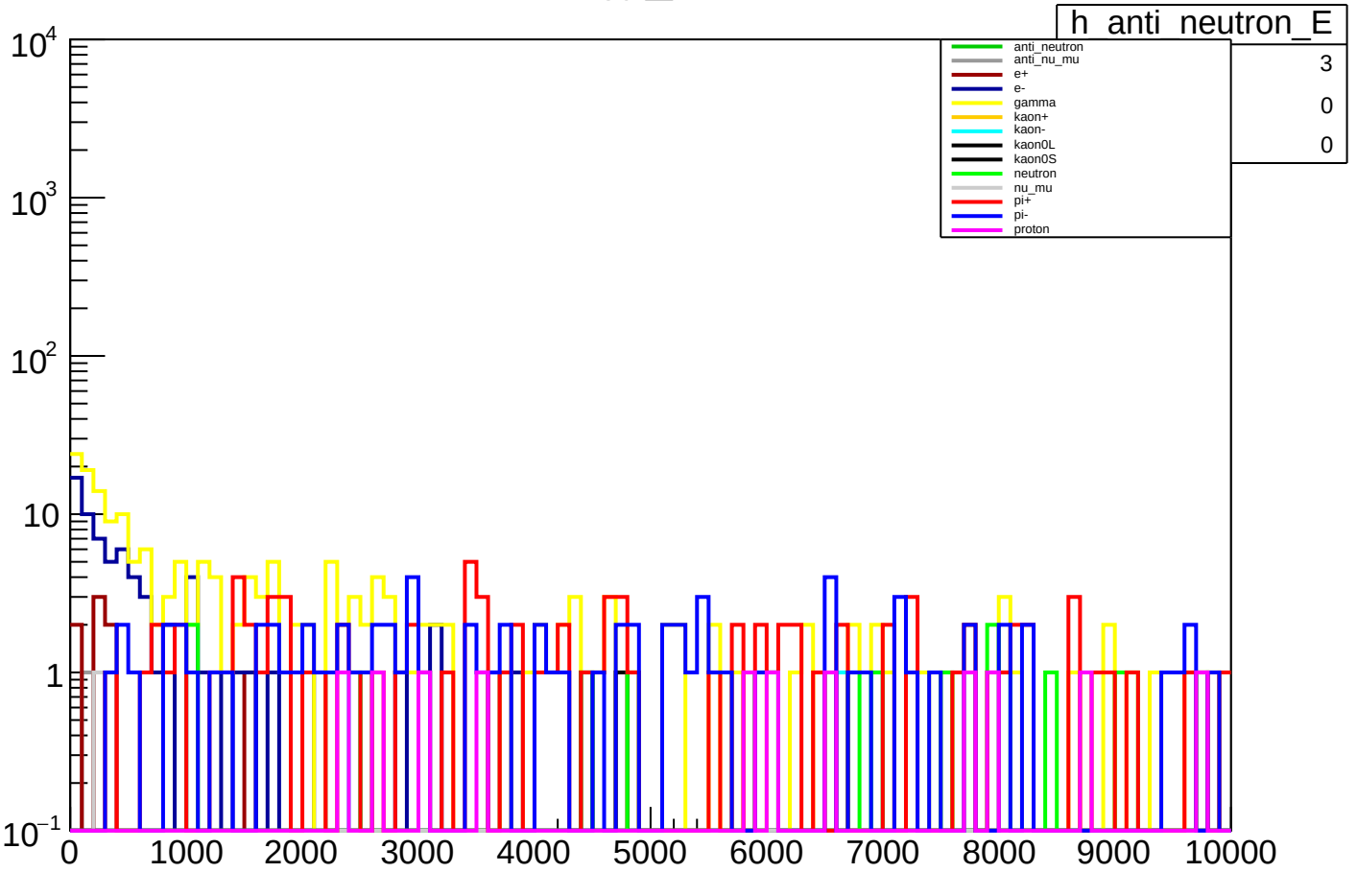

rapidEnengyHist_USVD
rapidEnengyHist_USVD
Entries 2
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

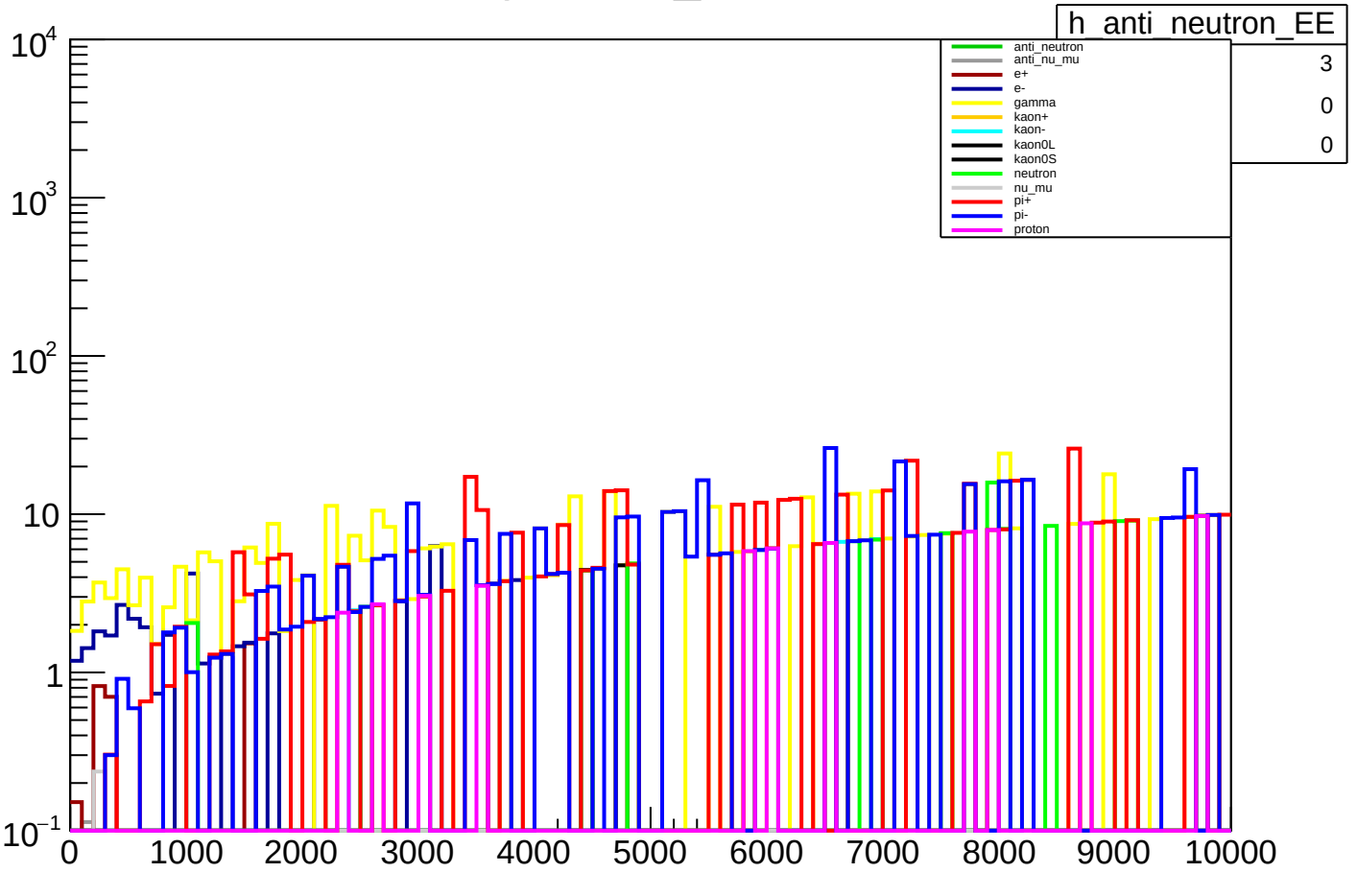

rapidAngleHist_USVD
rapidAngleHist_USVD
Entries 2
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
10
8
6
4
2
0
−2
−4
−6
−8
−10
−80
−60
−40
−20
0
20
40
60
80

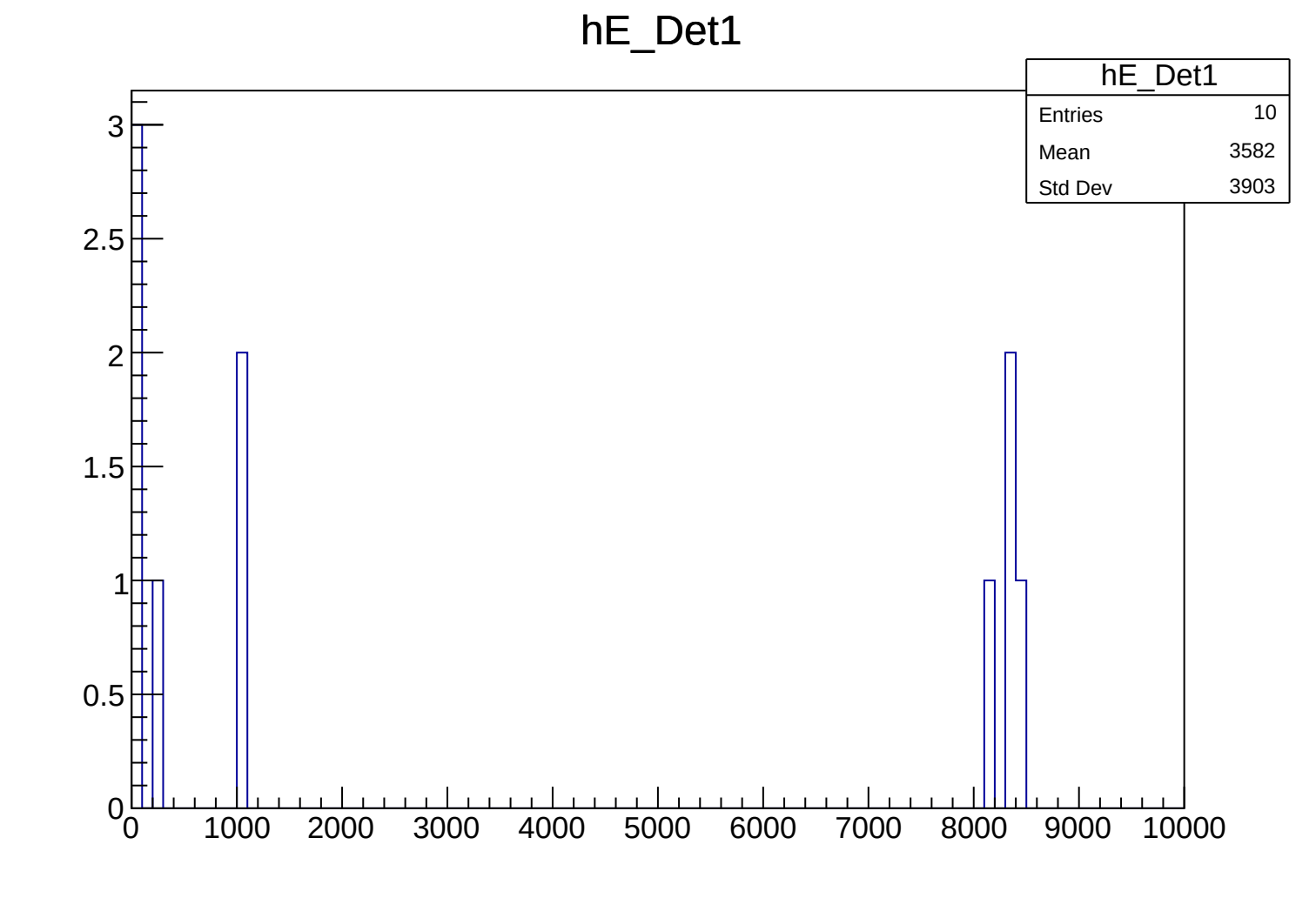

rapidTimeHist_USVD
rapidTimeHist_USVD
Entries 2
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
×10^−6

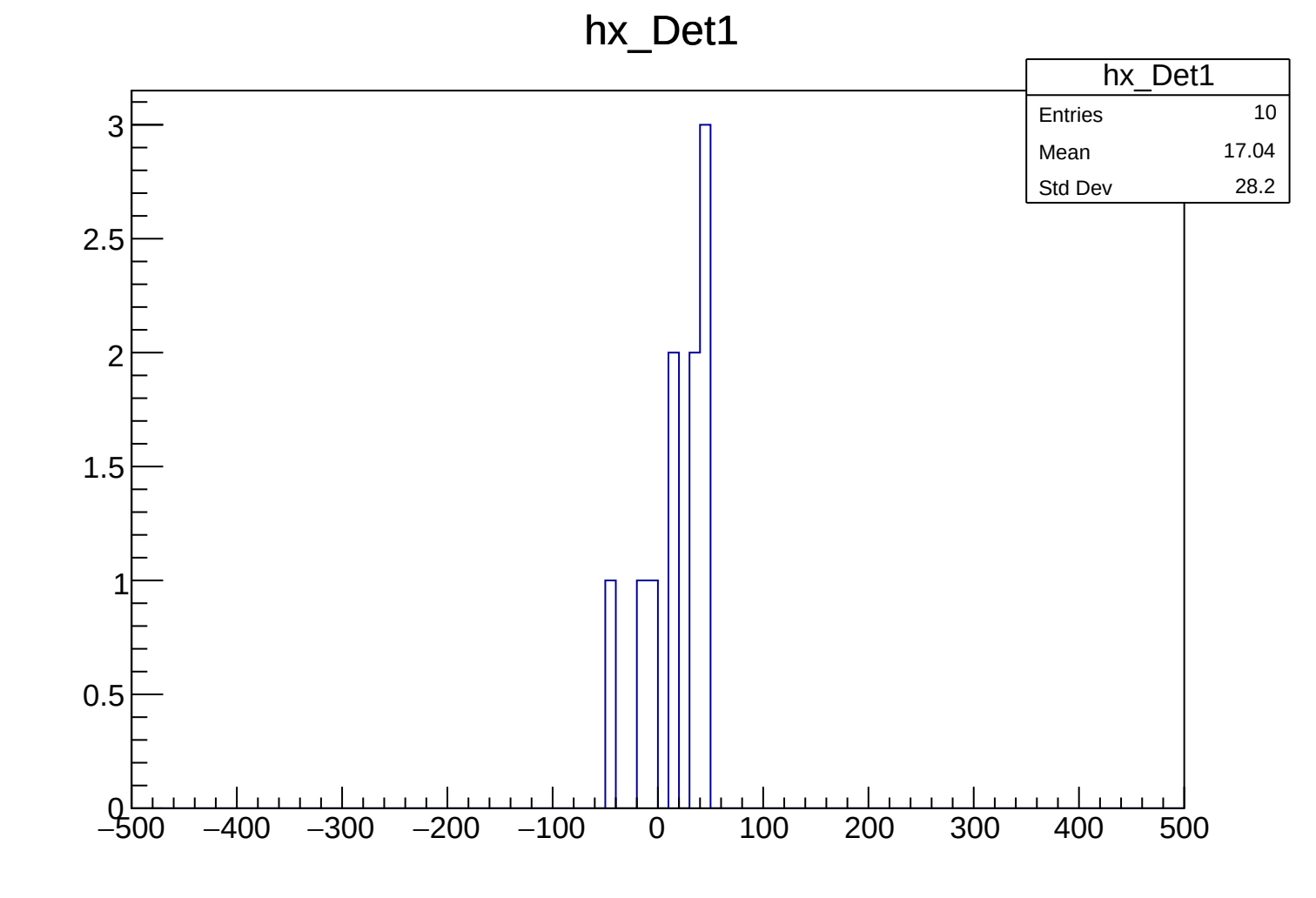

energyTimeHist_USVD
×10⁻⁶
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
energyTimeHist_USVD
Entries 2
Mean x 174.9
Mean y 9.901e−10
Std Dev x 61.54
Std Dev y 5.699e−10

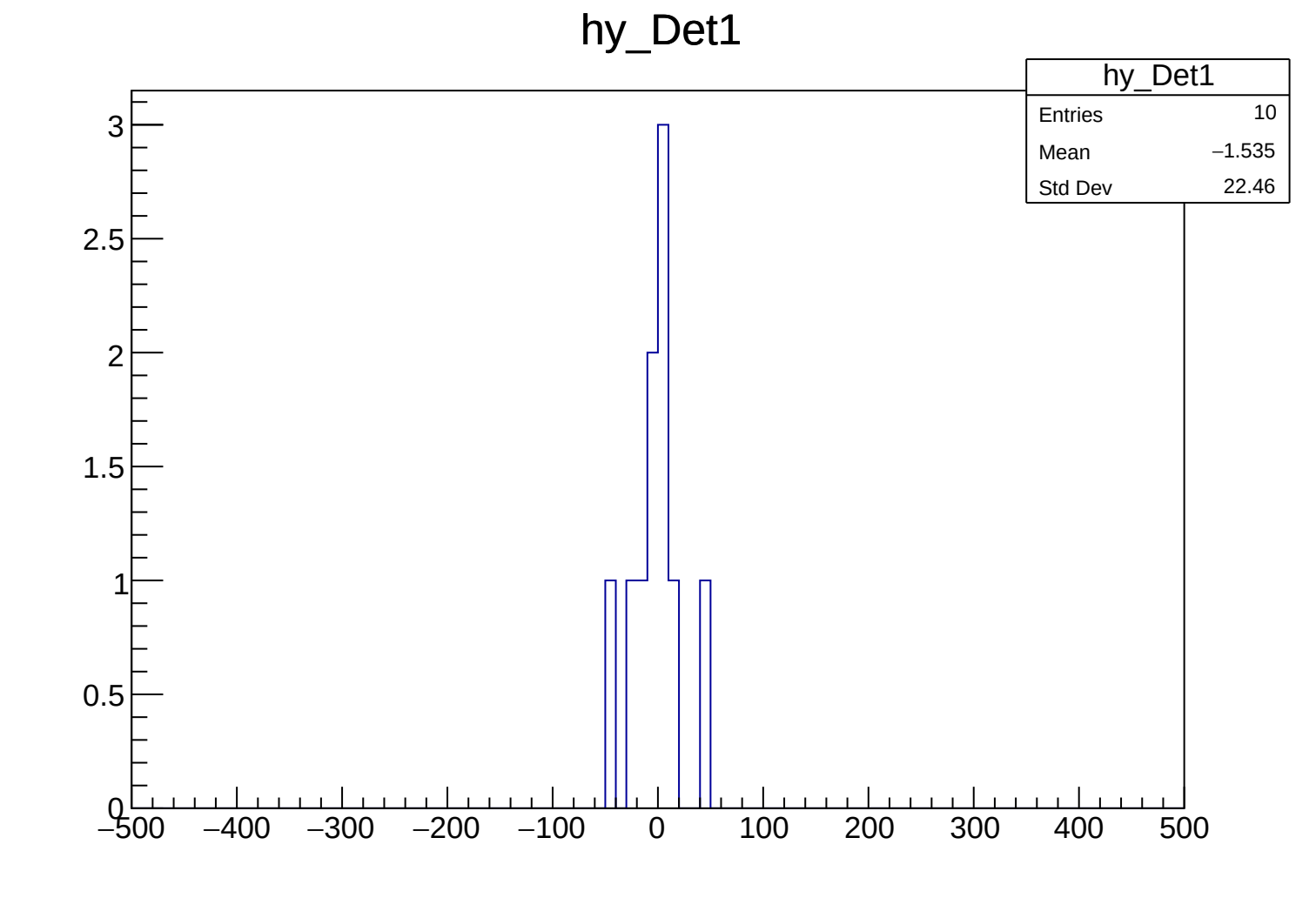

posHist_USVD
posHist_USVD
Entries 2
Mean x −22.04
Mean y 2.753
Std Dev x 11.4
Std Dev y 5.273
500
400
300
200
100
0
−100
−200
−300
−400
−500
−500 −400 −300 −200 −100 0 100 200 300 400 500

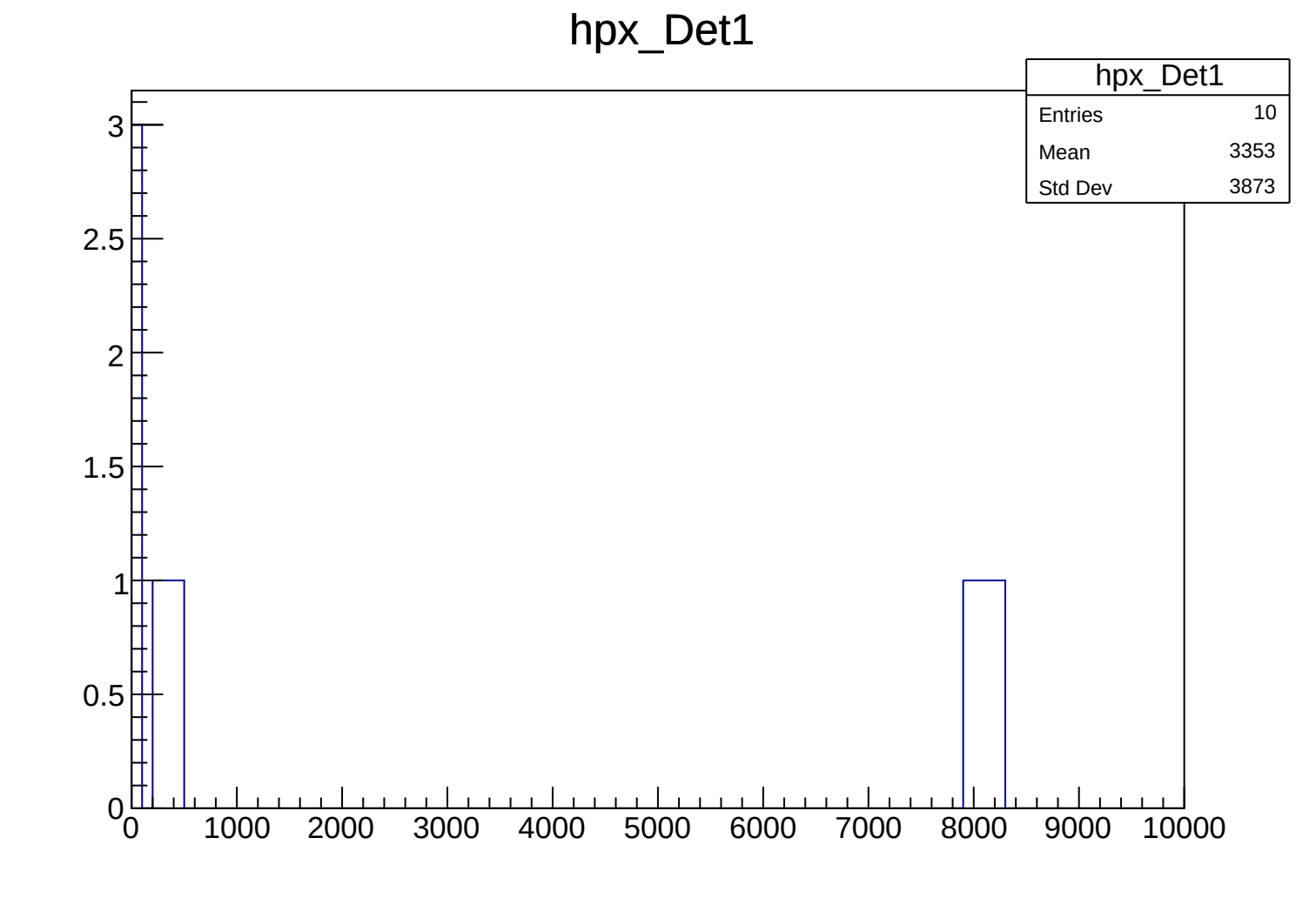

Energy_USVD
h_anti_neutron_E
3
0
0
anti_neutron
anti_nu_mu
e+
e-
gamma
kaon+
kaon-
kaon0L
kaon0S
neutron
nu_mu
pi+
pi-
proton
10^4
10^3
10^2
10
1
10^{-1}
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

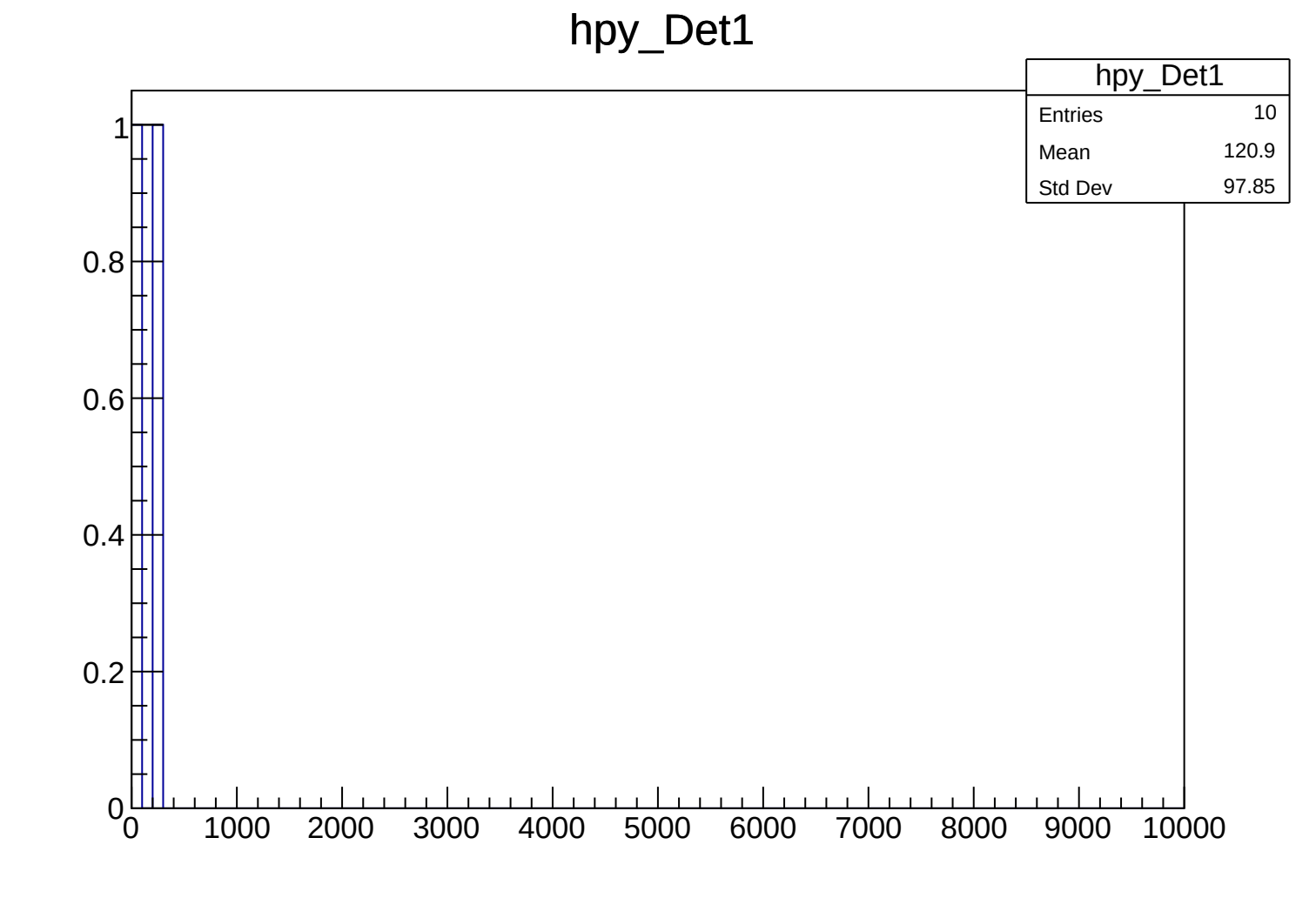

Spectrum_USVD
h_anti_neutron_EE
3
0
0
anti_neutron
anti_nu_mu
e+
e-
gamma
kaon+
kaon-
kaon0L
kaon0S
neutron
nu_mu
pi+
pi-
proton
10^4
10^3
10^2
10
1
10^{-1}
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

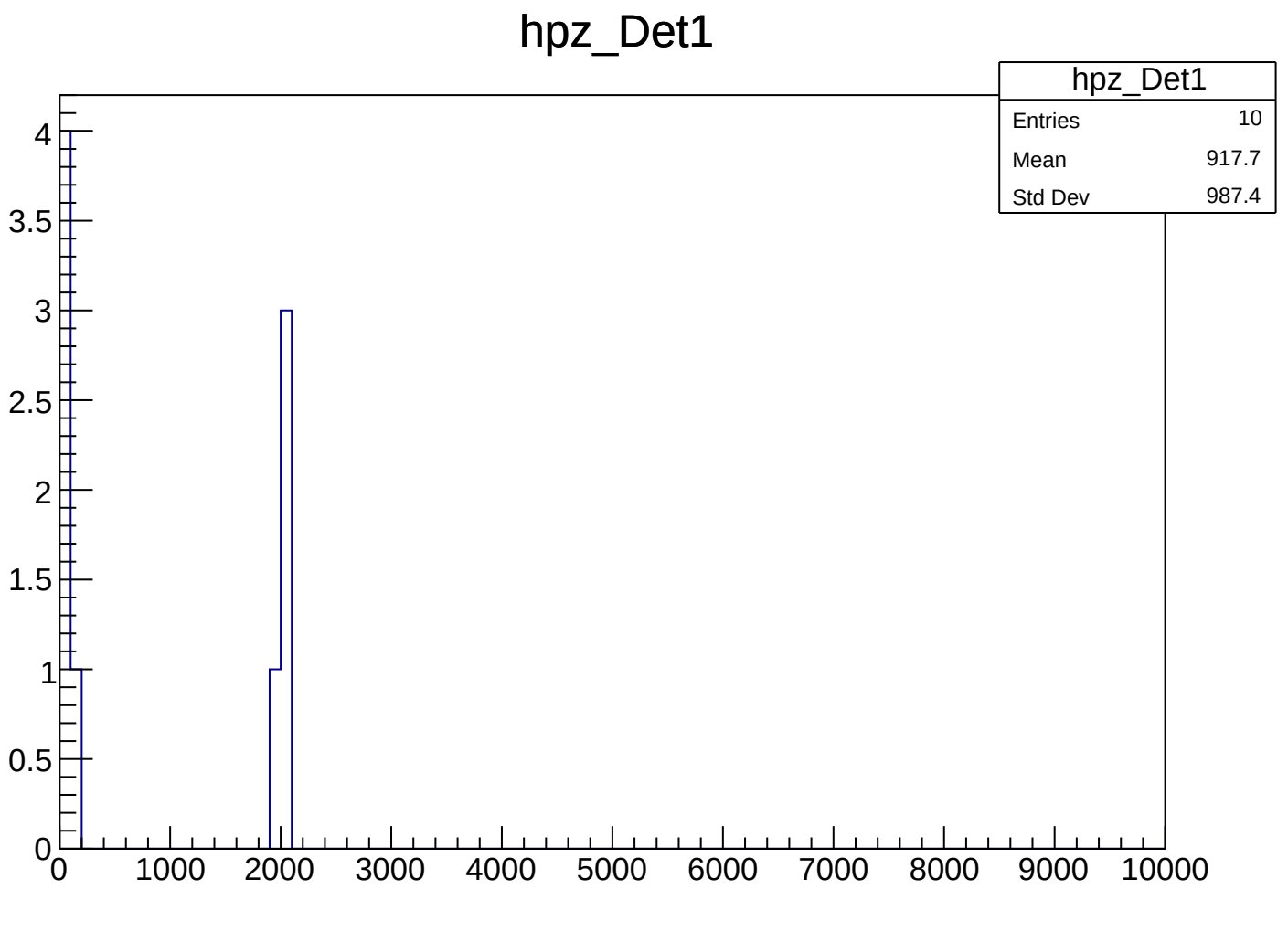

hE_Det1
hE_Det1
Entries 10
Mean 3582
Std Dev 3903
3
2.5
2
1.5
1
0.5
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

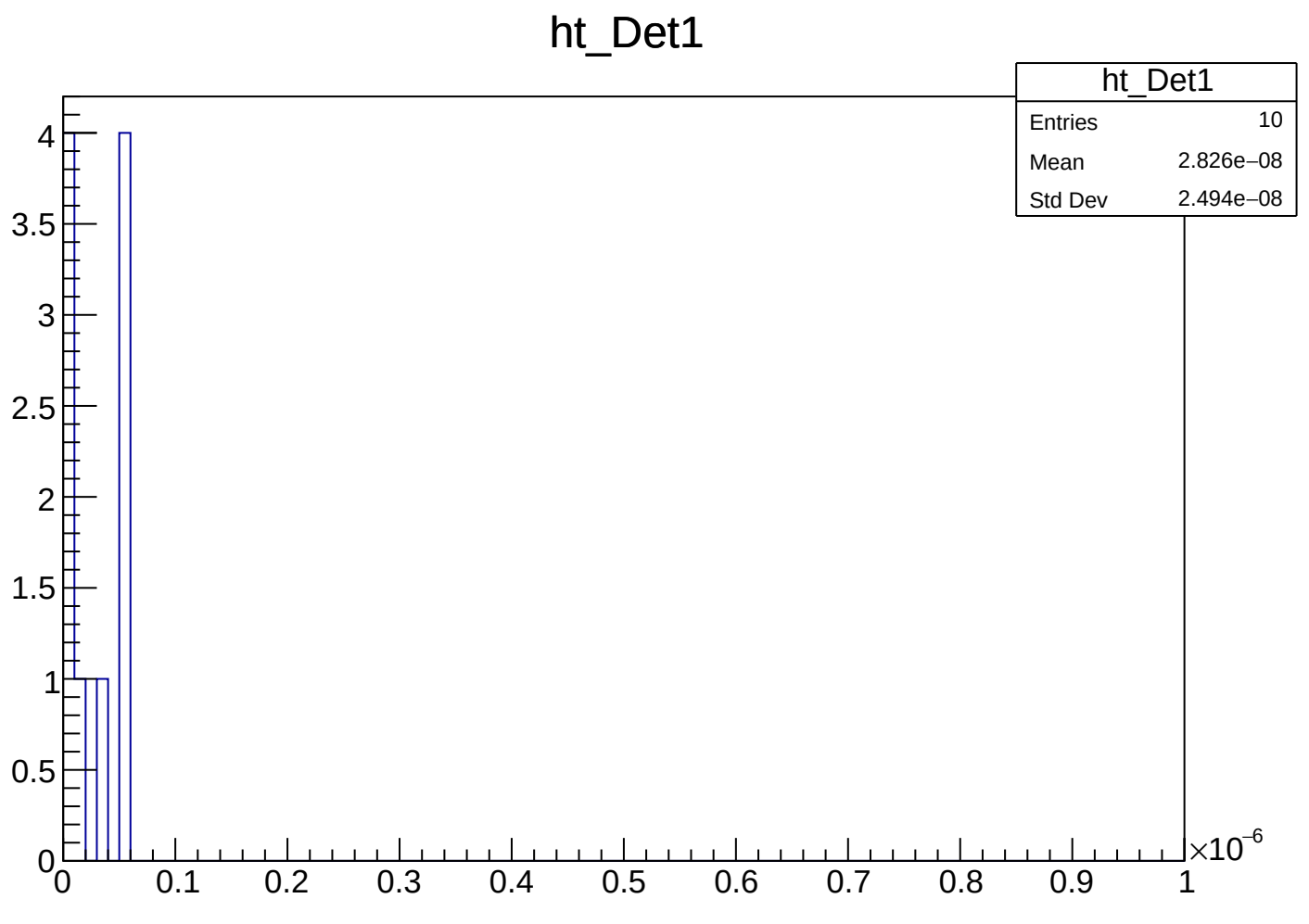

hx_Det1
hx_Det1
Entries 10
Mean 17.04
Std Dev 28.2
3
2.5
2
1.5
1
0.5
0
−500
−400
−300
−200
−100
0
100
200
300
400
500

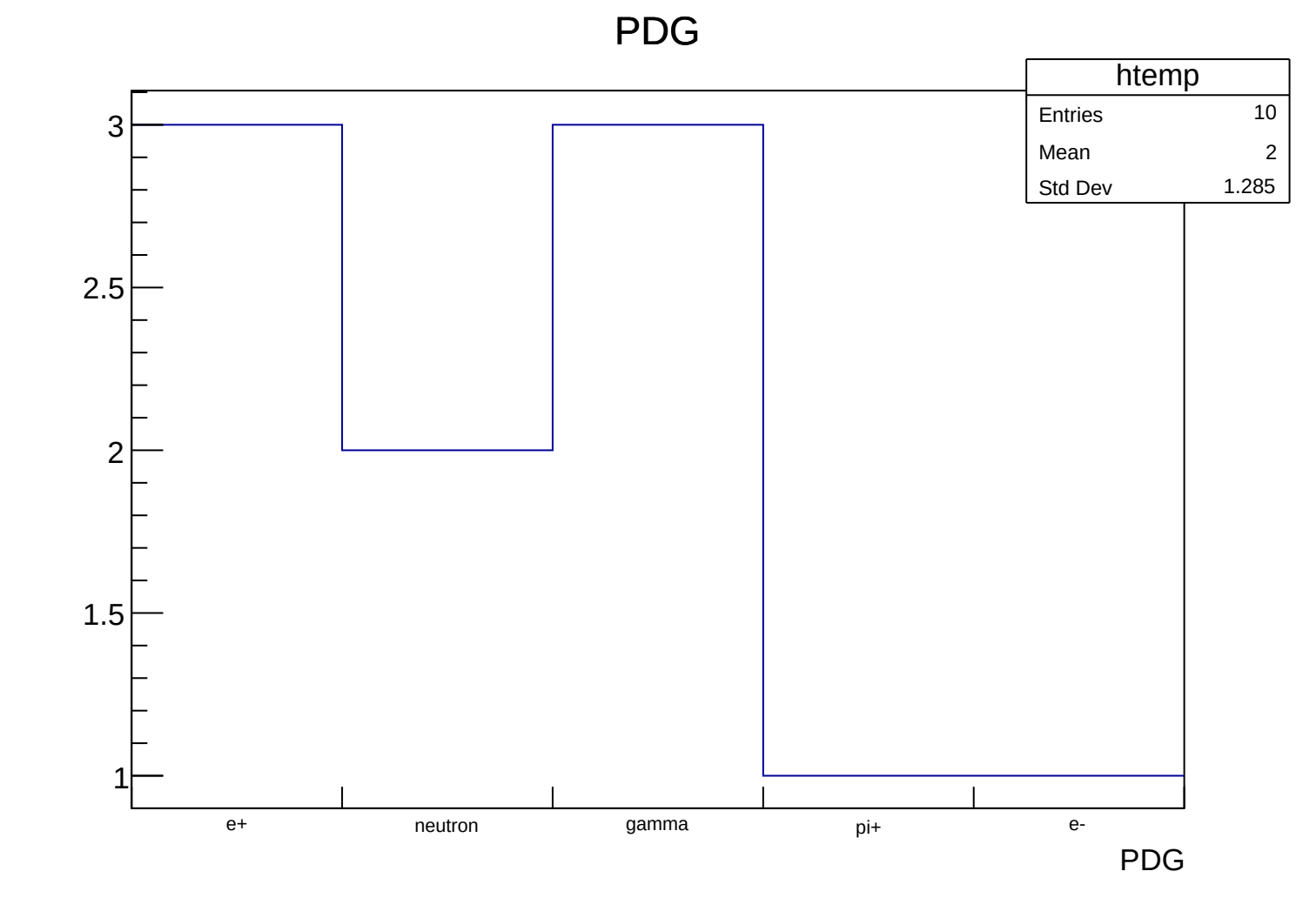

hy_Det1
hy_Det1
Entries 10
Mean –1.535
Std Dev 22.46
3
2.5
2
1.5
1
0.5
0
–500
–400
–300
–200
–100
0
100
200
300
400
500

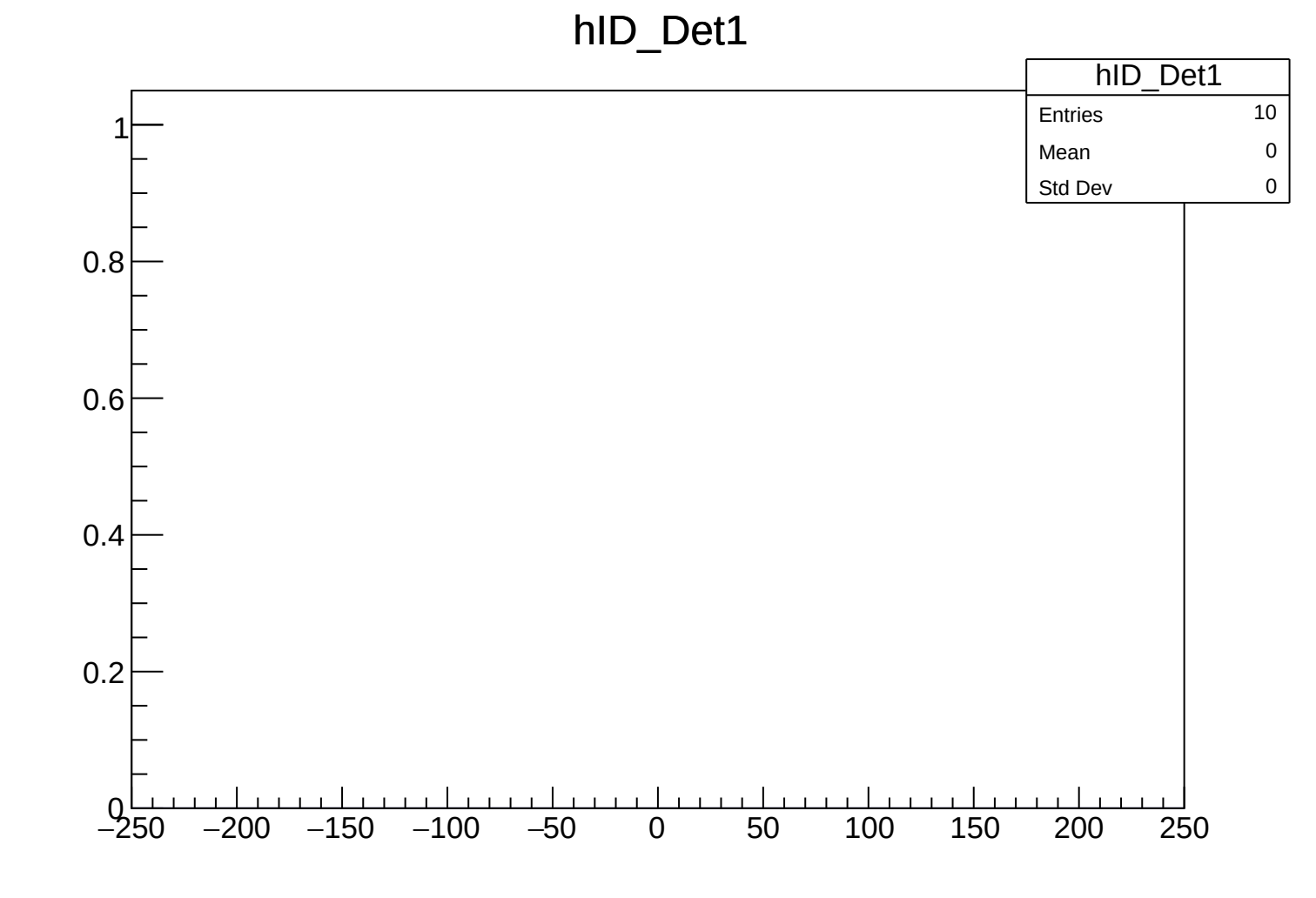

hpx_Det1
hpx_Det1
Entries 10
Mean 3353
Std Dev 3873
3
2.5
2
1.5
1
0.5
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

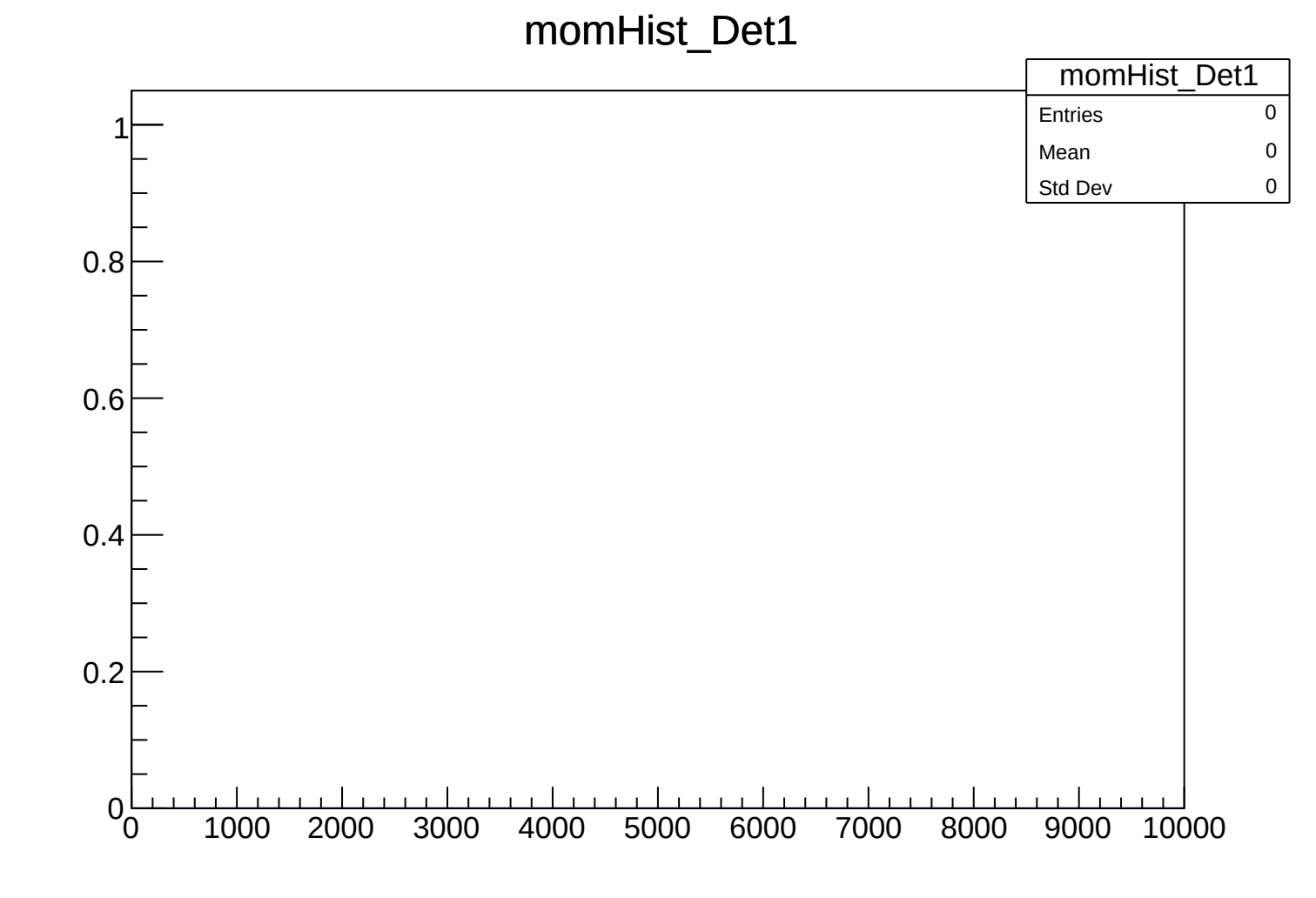

hpy_Det1
hpy_Det1
Entries 10
Mean 120.9
Std Dev 97.85
1
0.8
0.6
0.4
0.2
0
0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

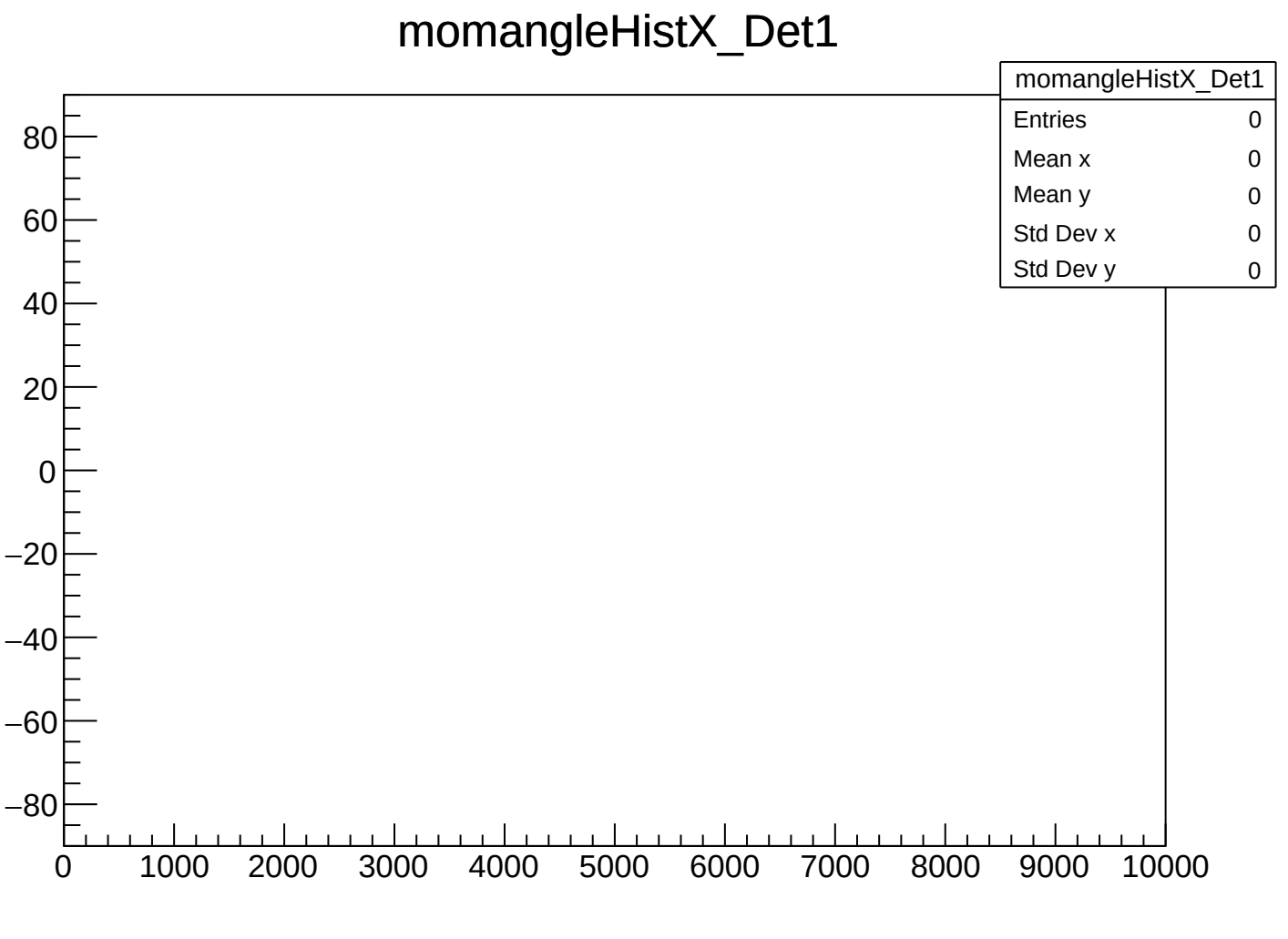

hpz_Det1
hpz_Det1
Entries 10
Mean 917.7
Std Dev 987.4
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

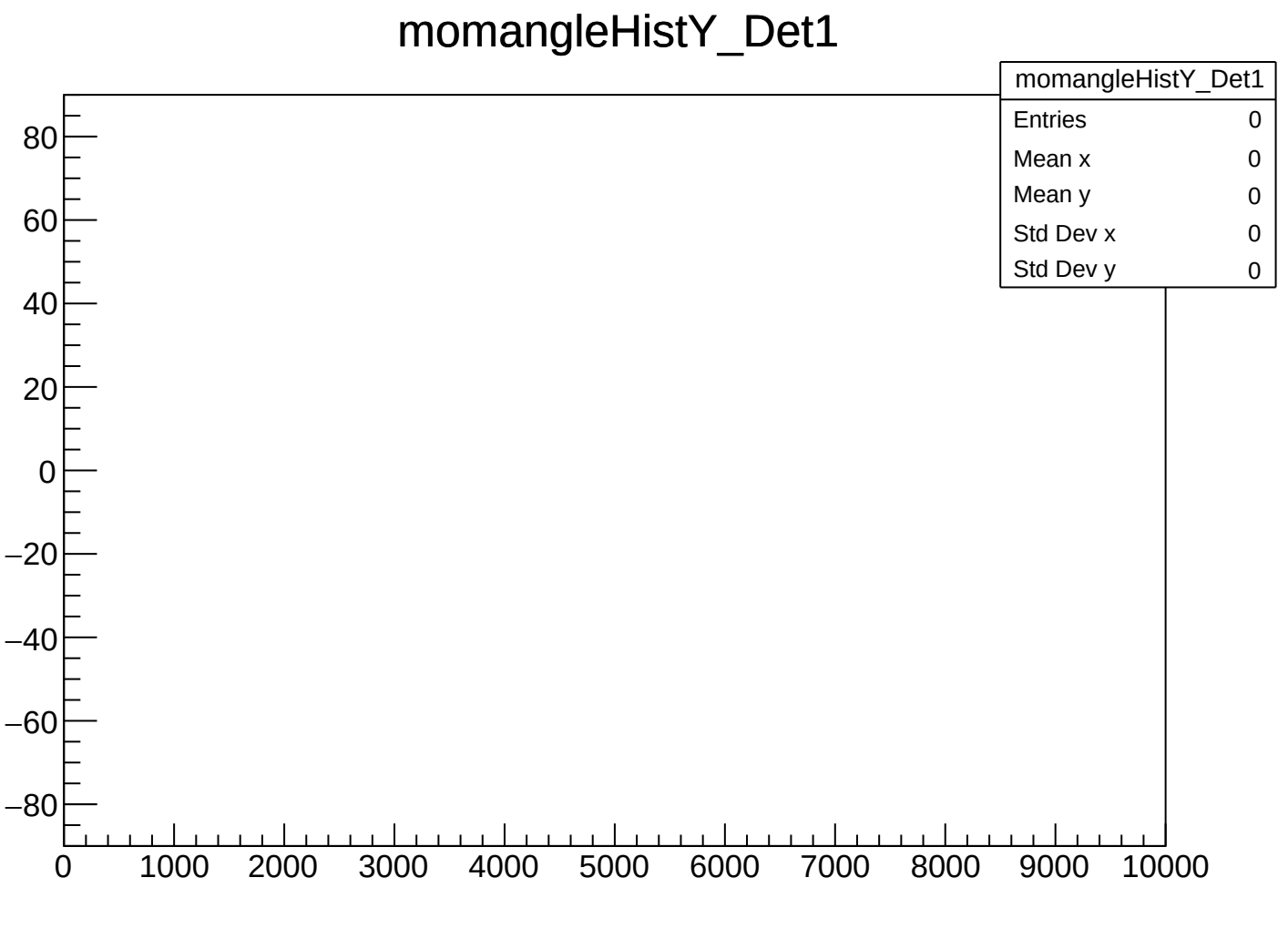

ht_Det1
ht_Det1
Entries 10
Mean 2.826e−08
Std Dev 2.494e−08
4
3.5
3
2.5
2
1.5
1
0.5
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
×10−6

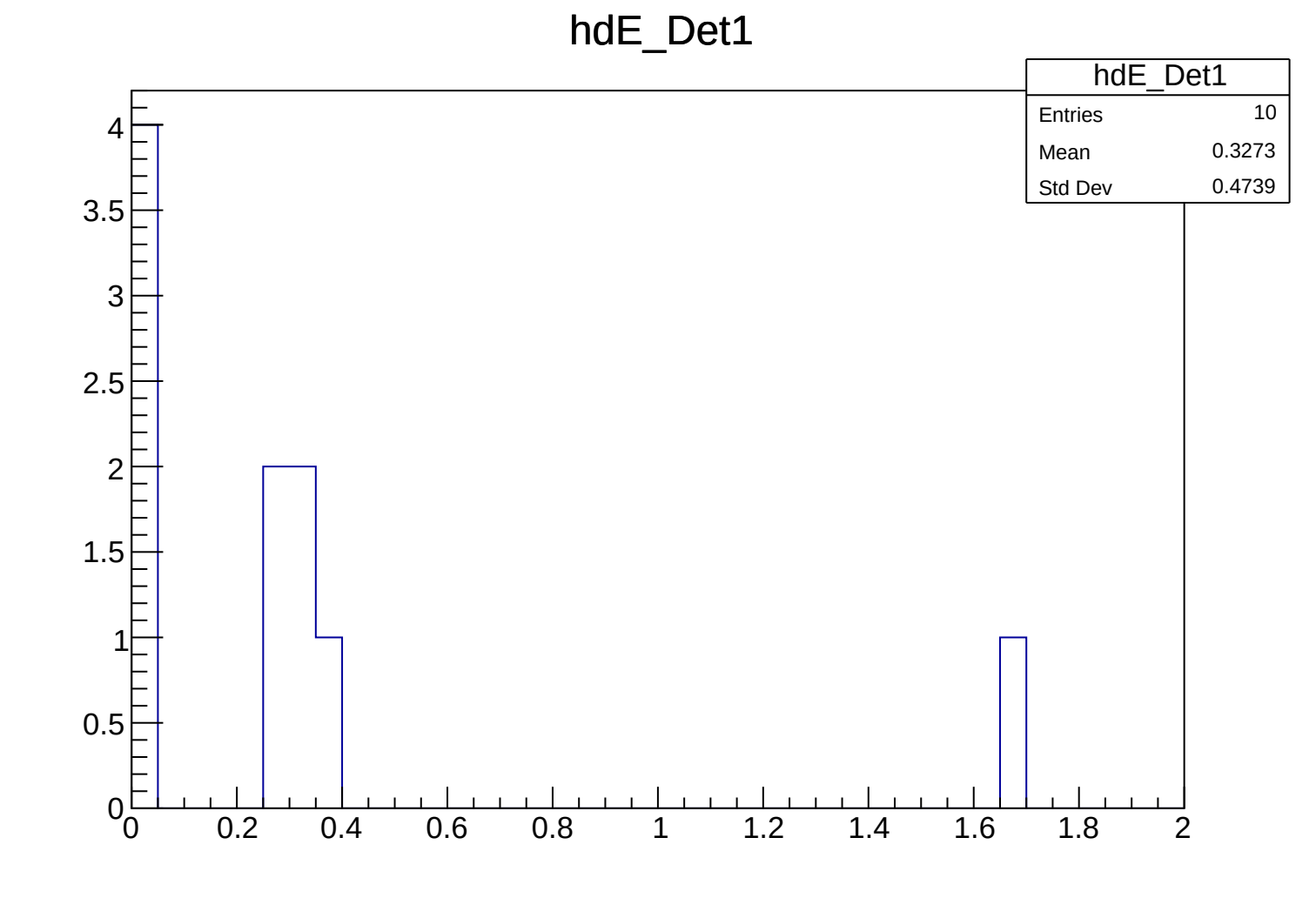

PDG
htemp
Entries 10
Mean 2
Std Dev 1.285
3
2.5
2
1.5
1
e+
neutron
gamma
pi+
e-
PDG

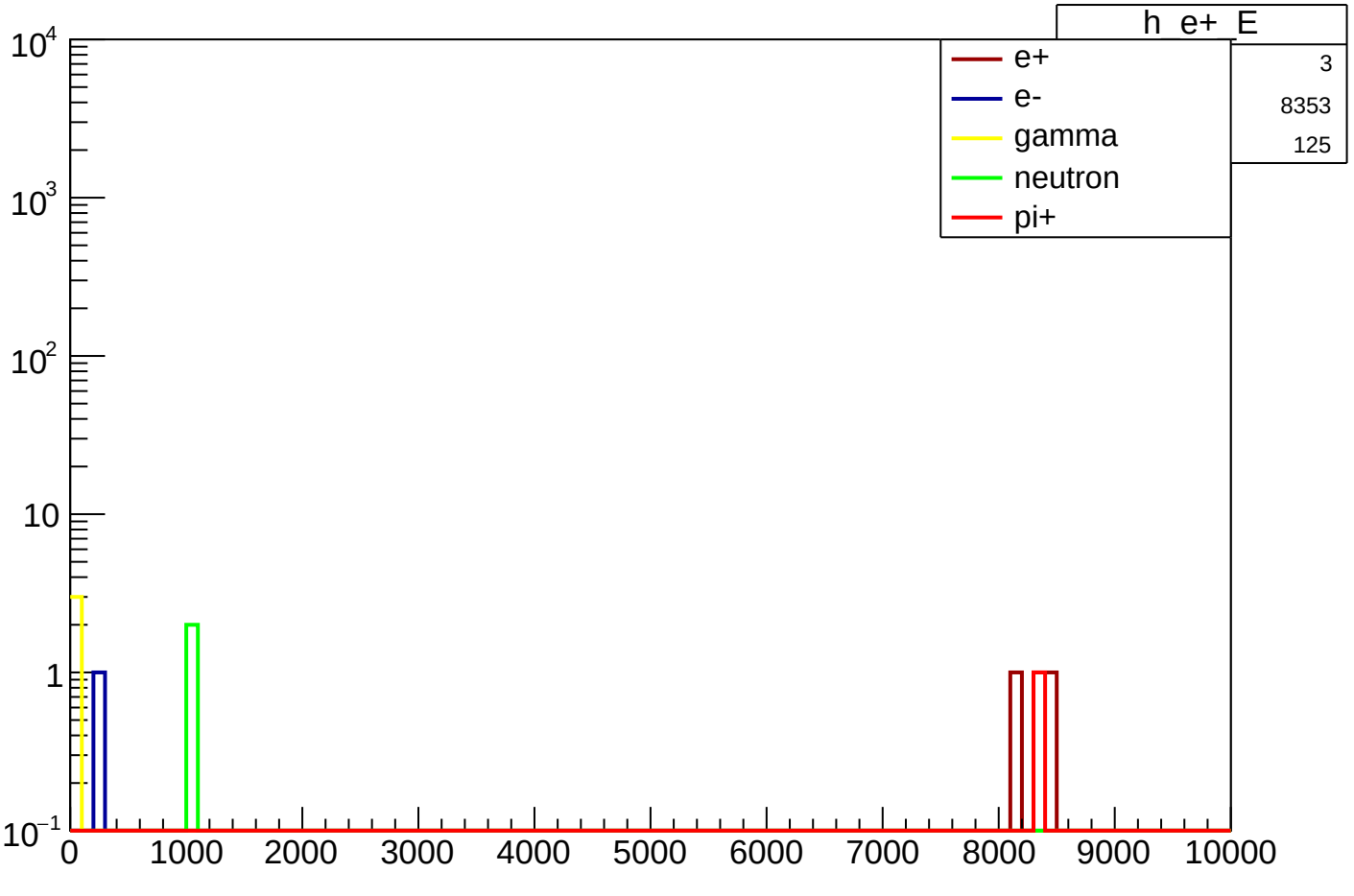

hID_Det1
hID_Det1
Entries 10
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−250
−200
−150
−100
−50
0
50
100
150
200
250

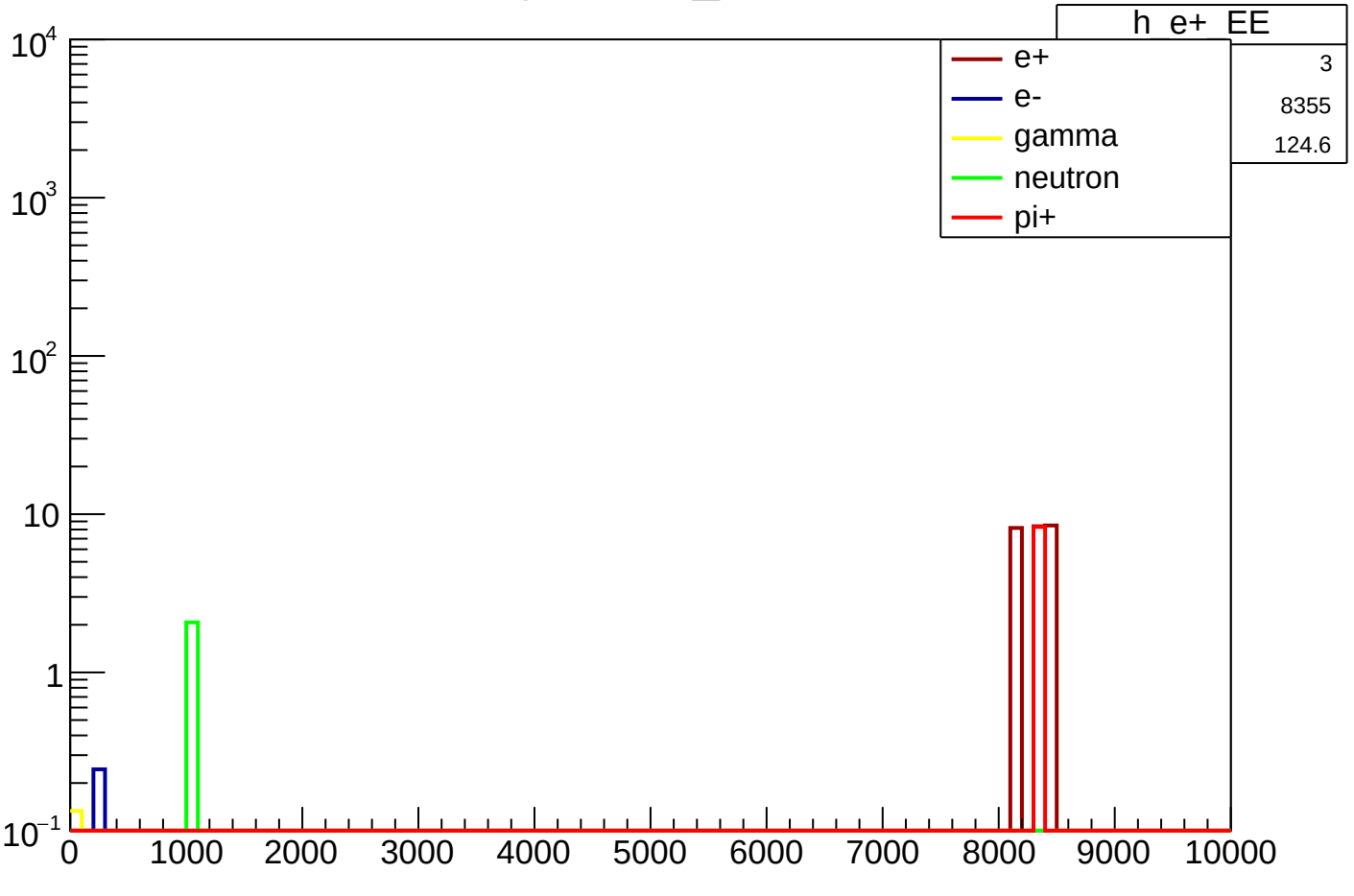

momHist_Det1
momHist_Det1
Entries 0
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

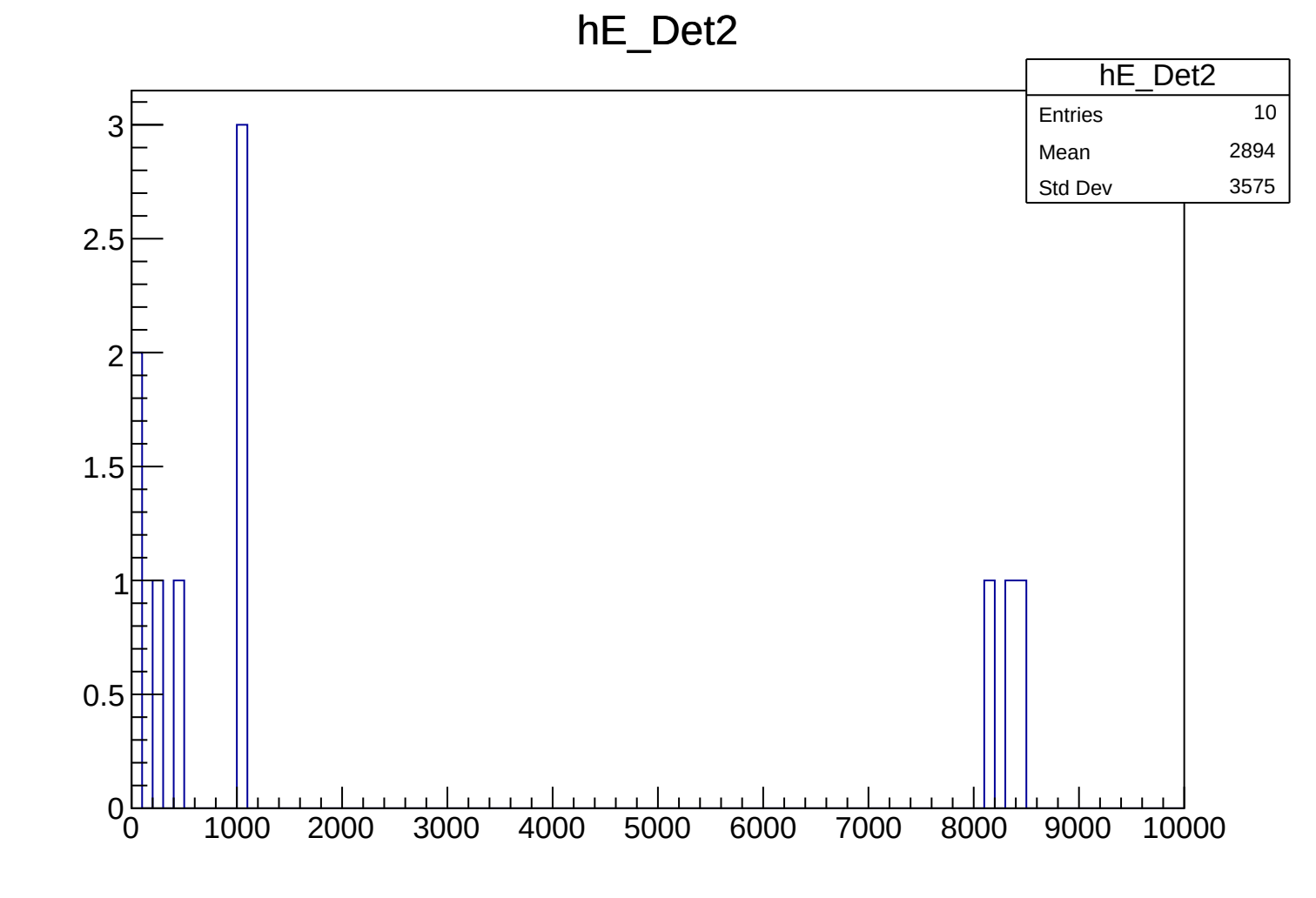

momangleHistX_Det1
momangleHistX_Det1
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
–20
–40
–60
–80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

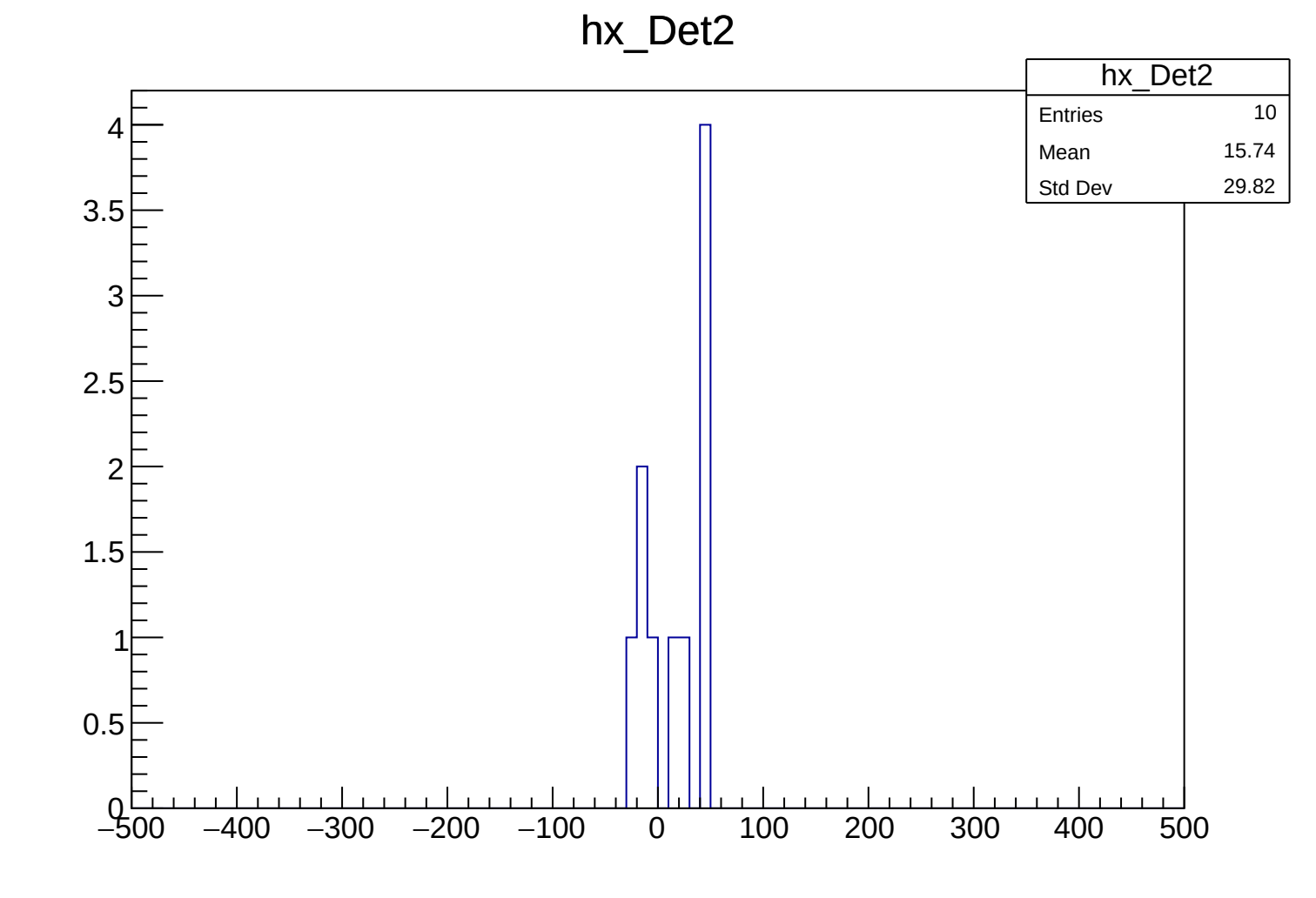

momangleHistY_Det1
momangleHistY_Det1
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
–20
–40
–60
–80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

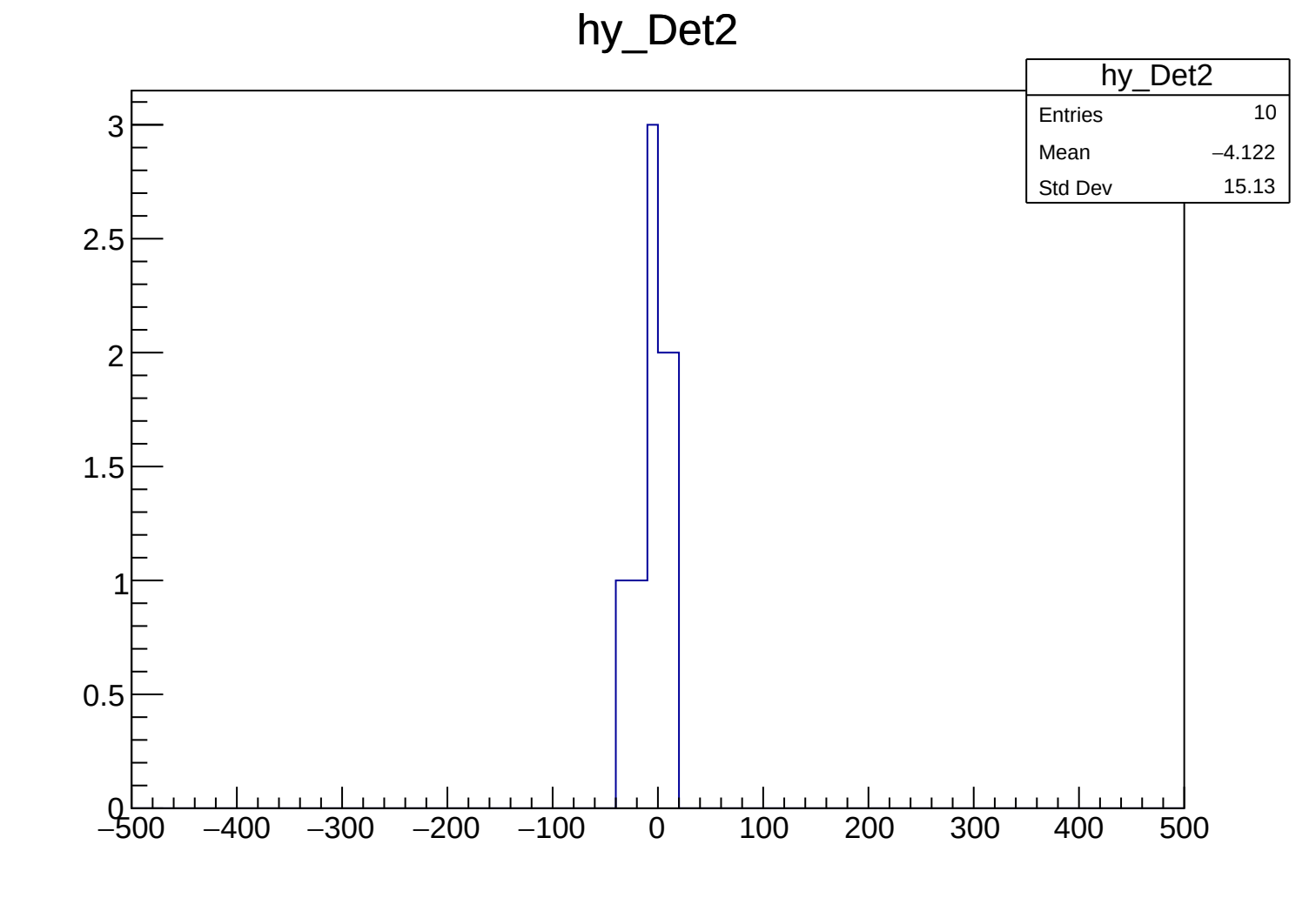

hdE_Det1
hdE_Det1
Entries 10
Mean 0.3273
Std Dev 0.4739
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

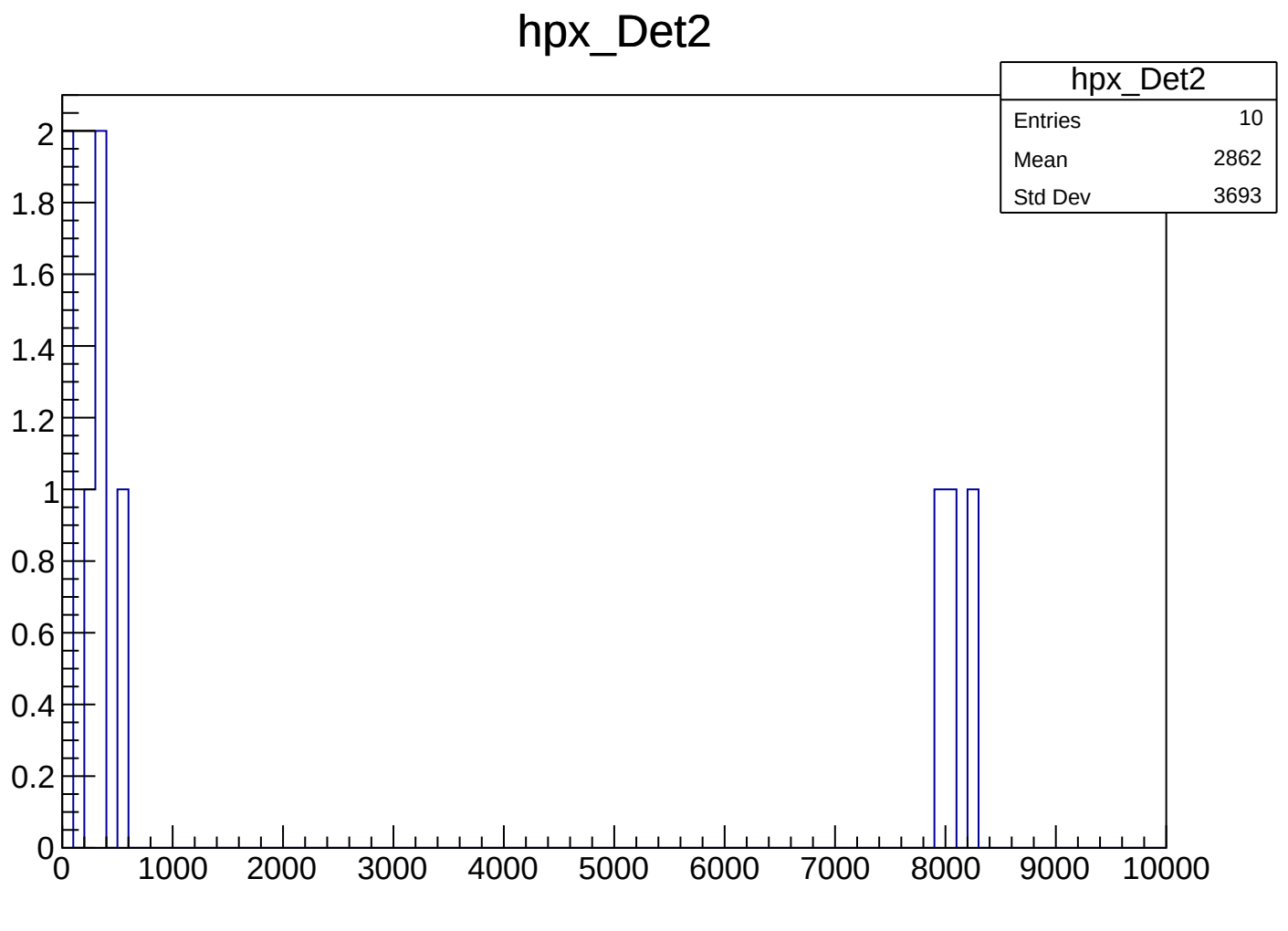

Energy_Det1
h e+ E
3
8353
125
e+
e-
gamma
neutron
pi+
10^4
10^3
10^2
10
1
10^{-1}
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

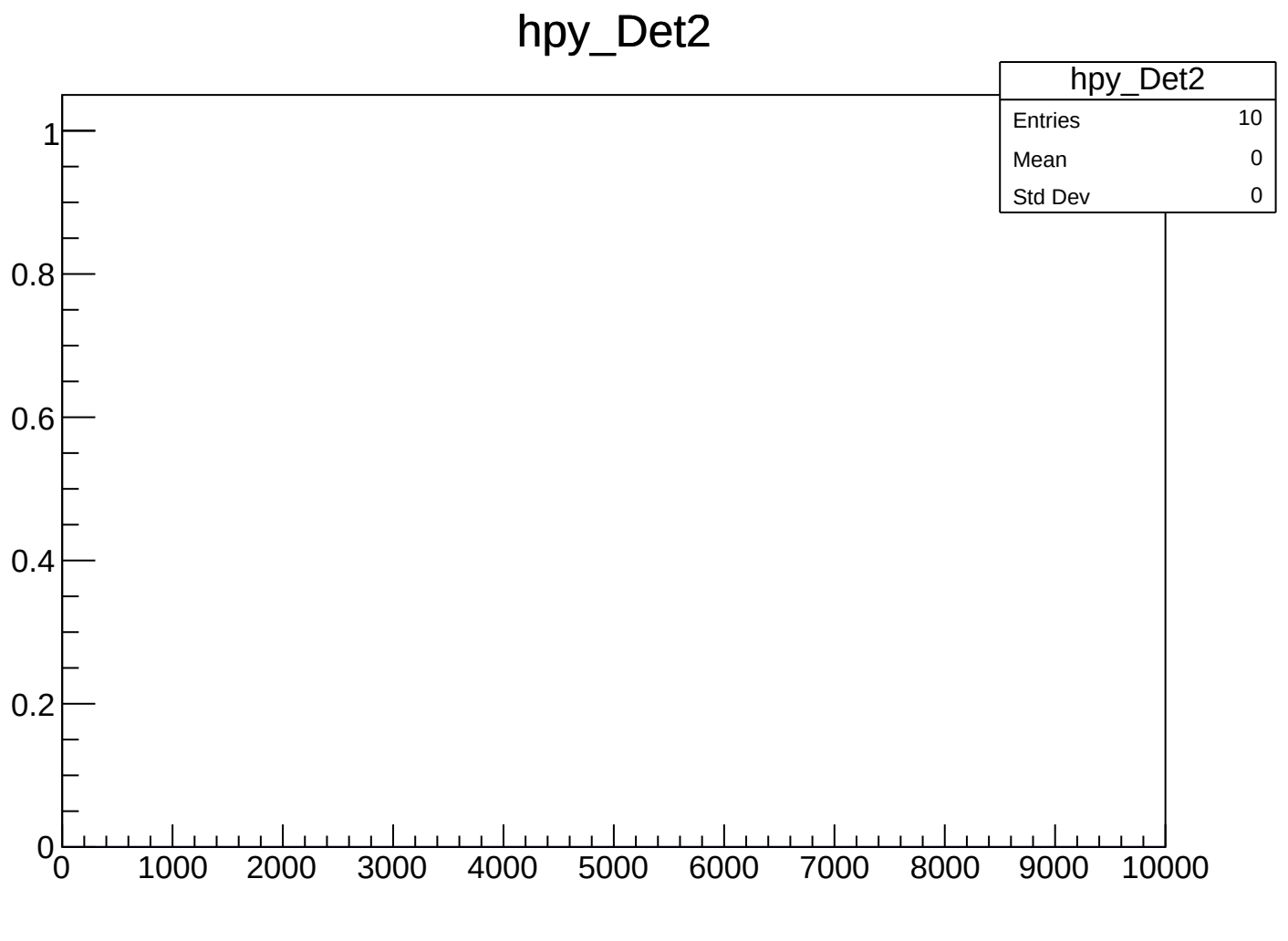

Spectrum_Det1
h_e+_EE
3
8355
124.6
e+
e-
gamma
neutron
pi+
10^4
10^3
10^2
10
1
10^-1
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

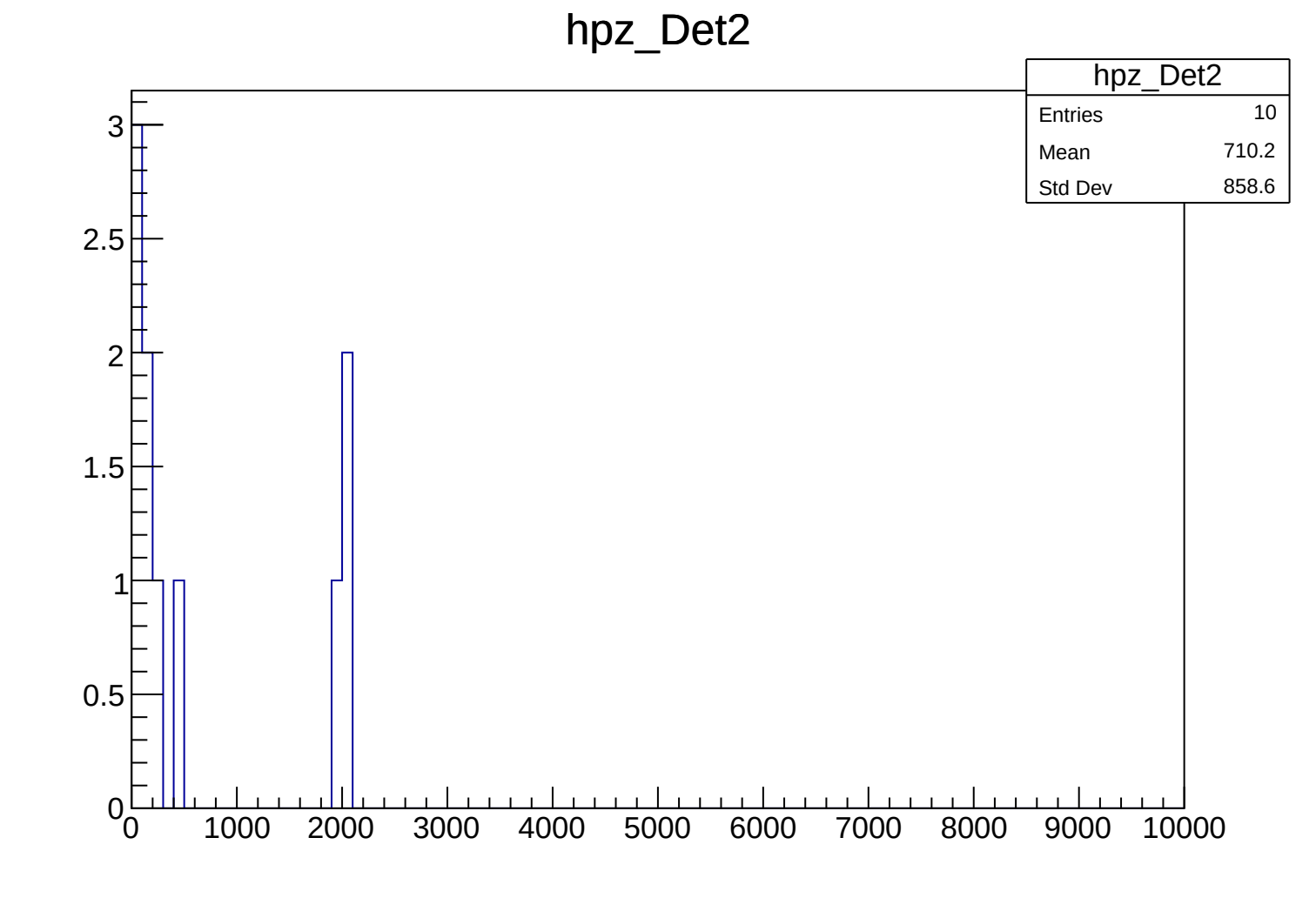

hE_Det2
hE_Det2
Entries 10
Mean 2894
Std Dev 3575
3
2.5
2
1.5
1
0.5
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

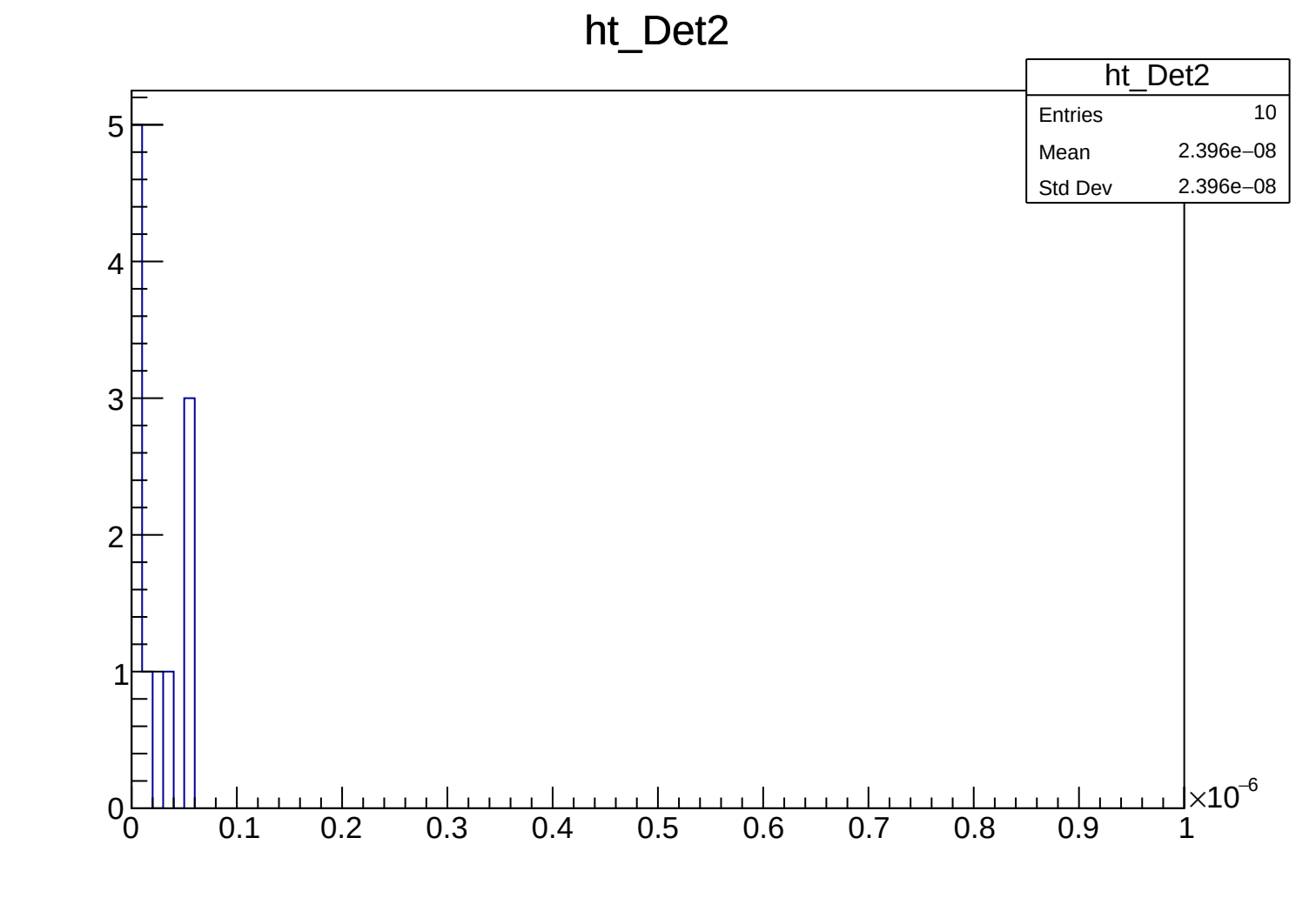

hx_Det2
hx_Det2
Entries 10
Mean 15.74
Std Dev 29.82
4
3.5
3
2.5
2
1.5
1
0.5
0
−500
−400
−300
−200
−100
0
100
200
300
400
500

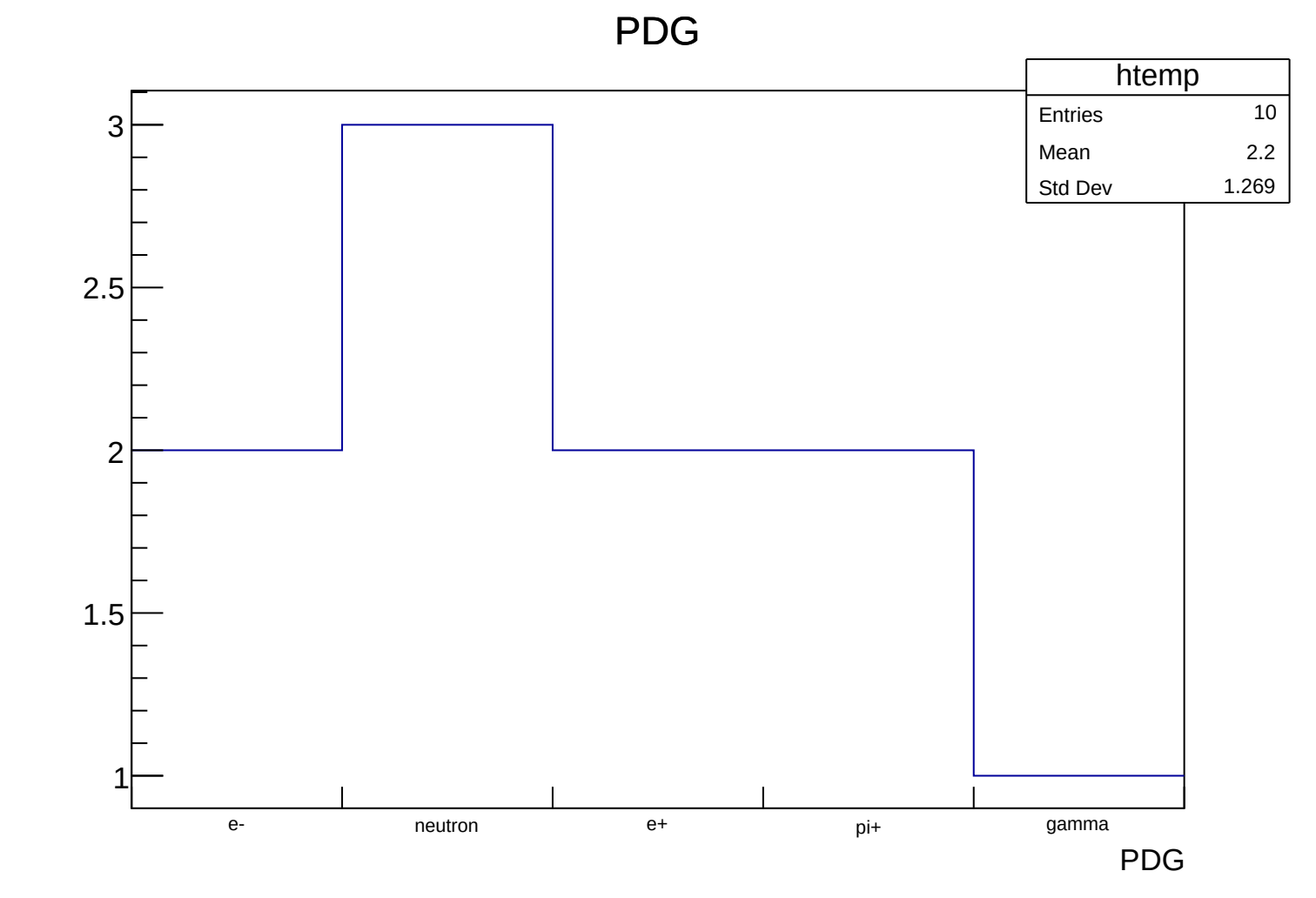

hy_Det2
hy_Det2
Entries 10
Mean –4.122
Std Dev 15.13
3
2.5
2
1.5
1
0.5
0
–500
–400
–300
–200
–100
0
100
200
300
400
500

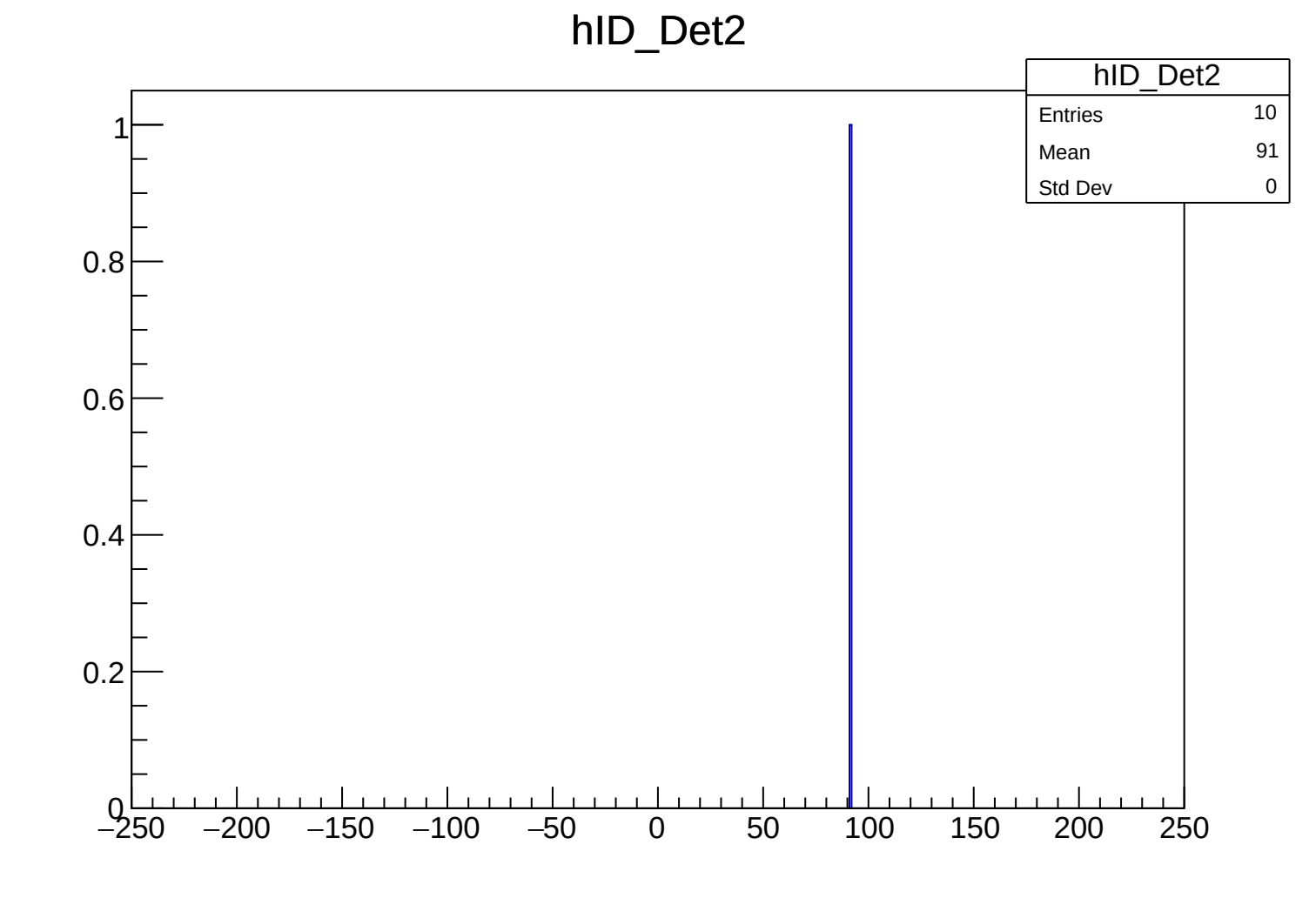

hpx_Det2
hpx_Det2
Entries 10
Mean 2862
Std Dev 3693
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

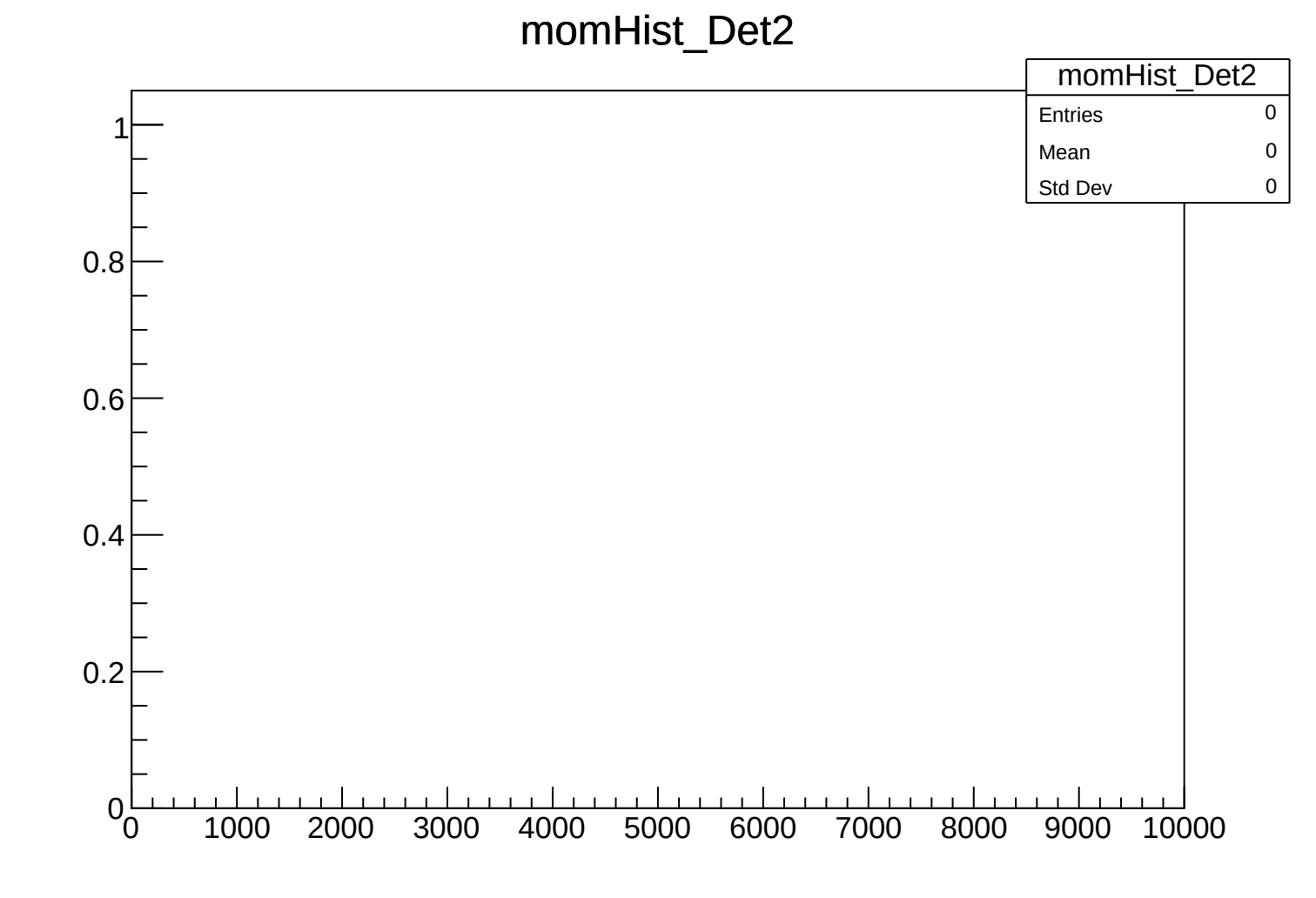

hpy_Det2
hpy_Det2
Entries 10
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

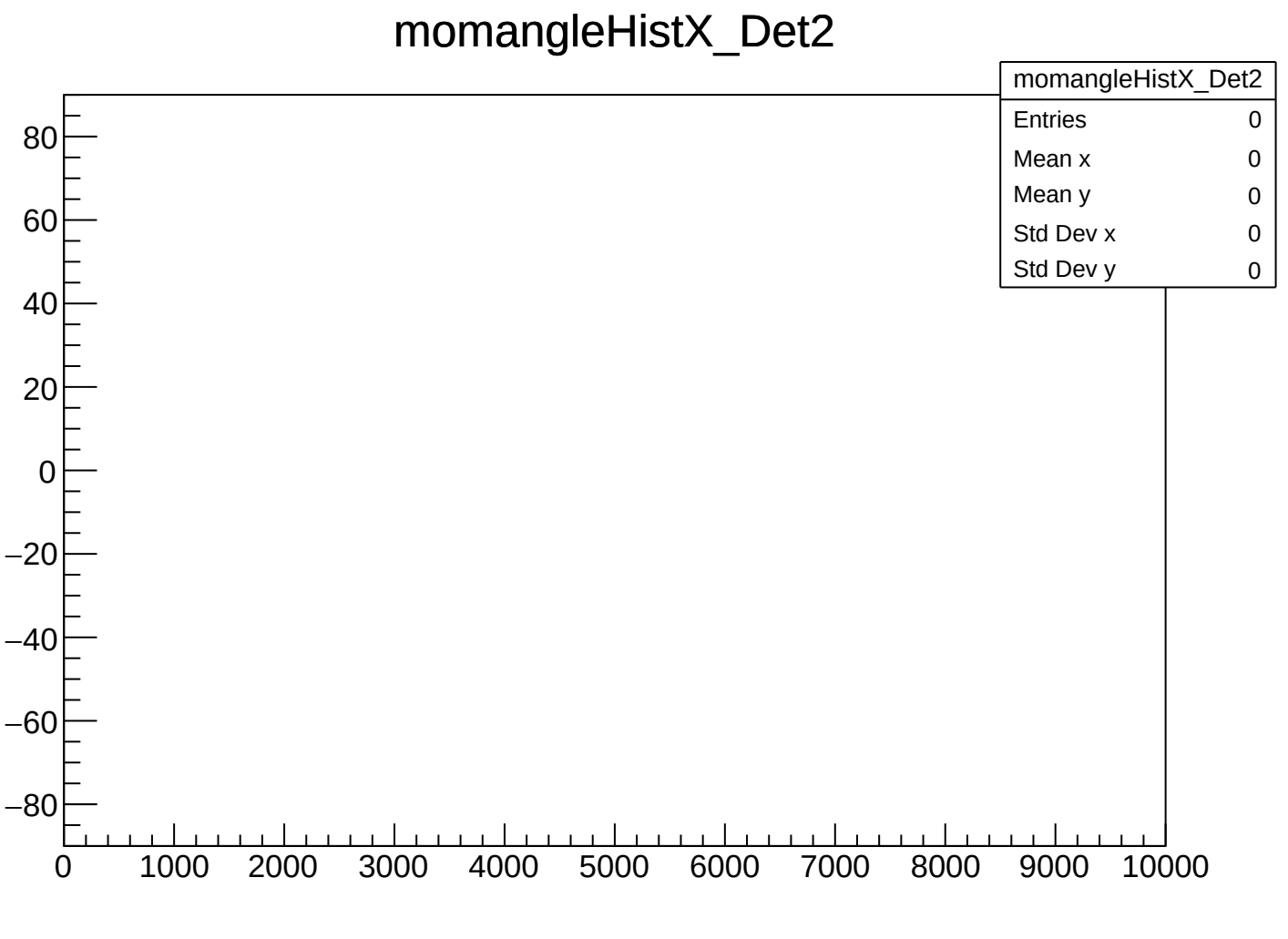

hpz_Det2
hpz_Det2
Entries 10
Mean 710.2
Std Dev 858.6
3
2.5
2
1.5
1
0.5
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

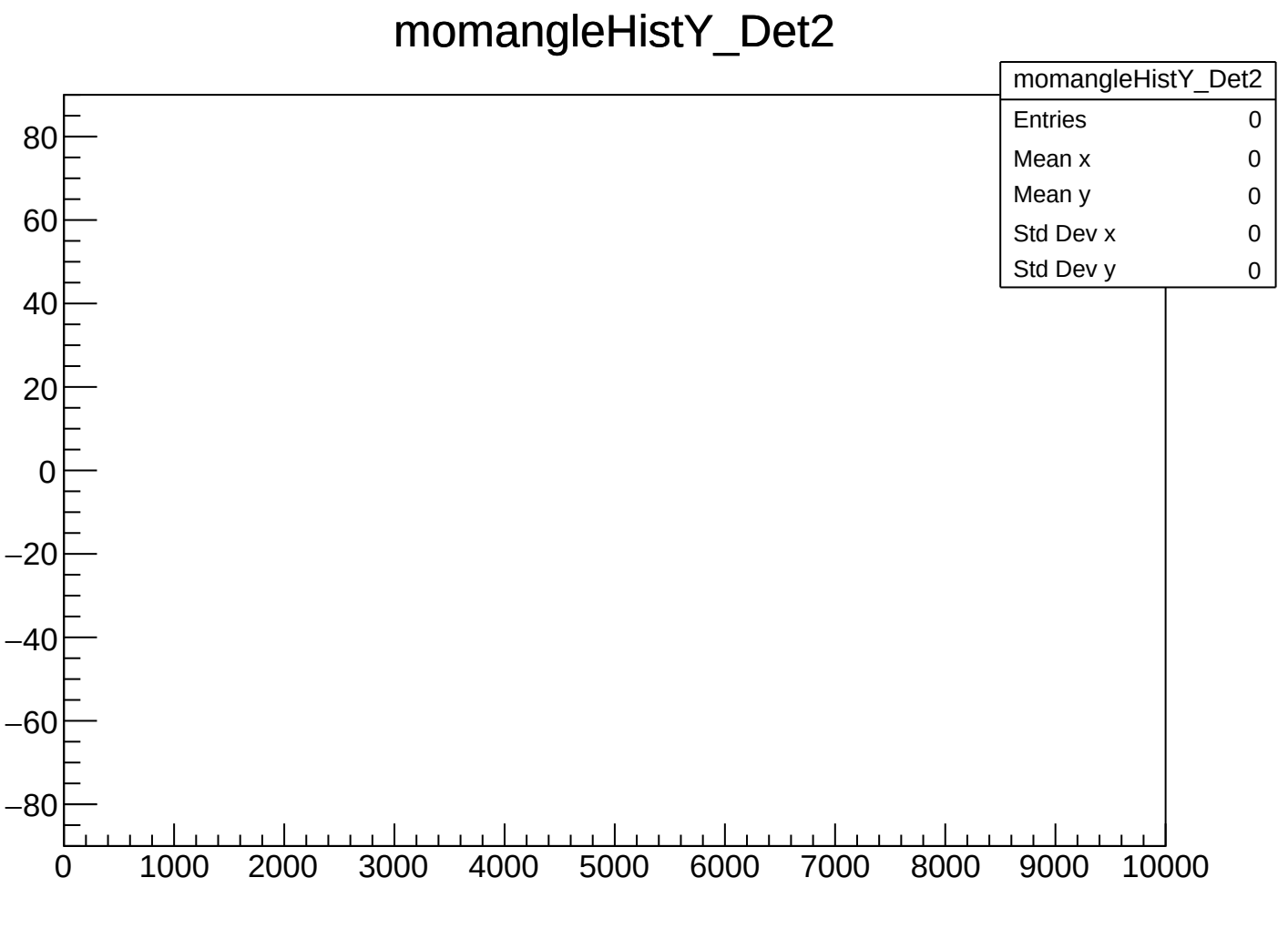

ht_Det2
ht_Det2
Entries 10
Mean 2.396e−08
Std Dev 2.396e−08
5
4
3
2
1
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
×10−6

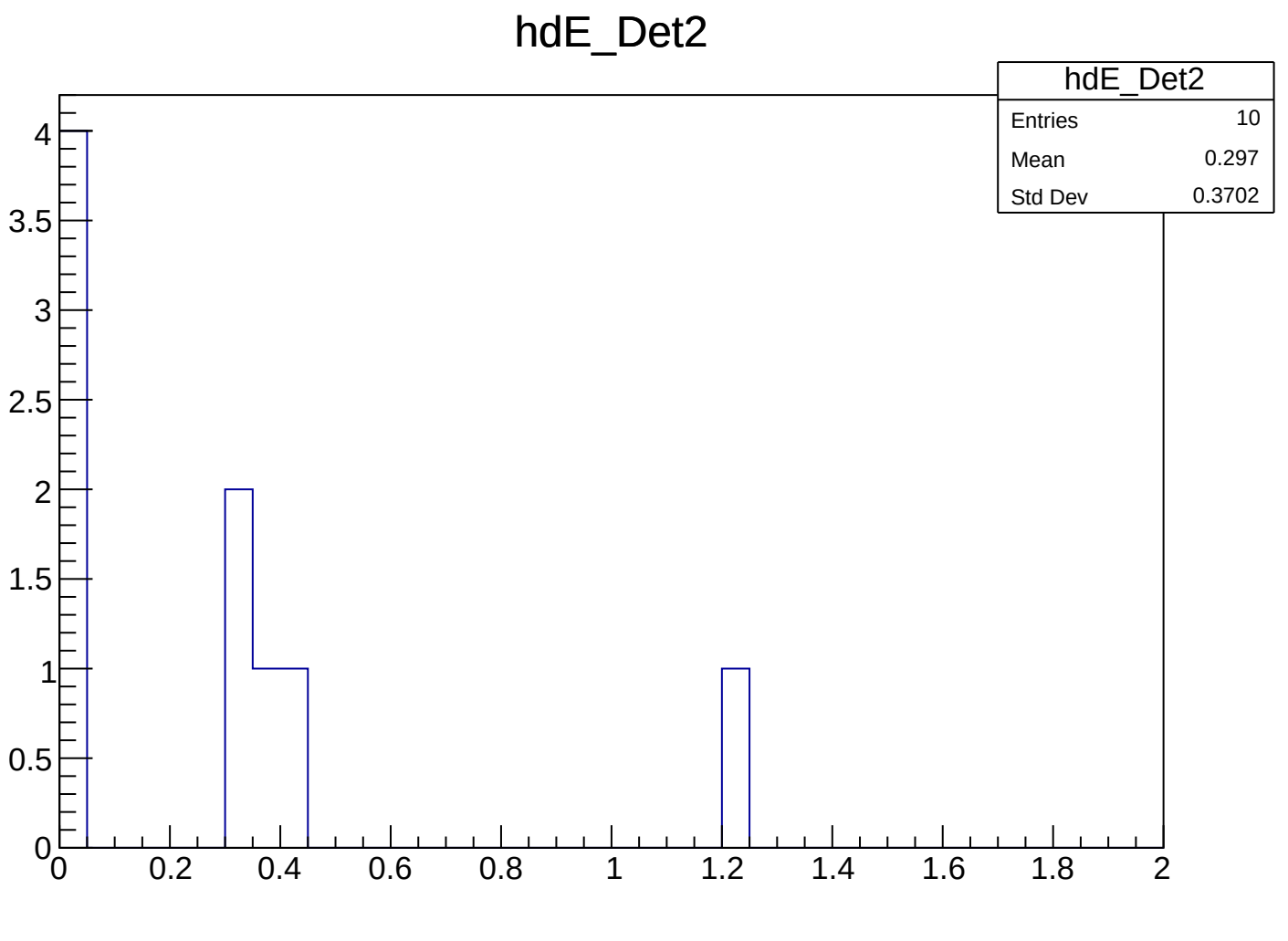

PDG
htemp
Entries 10
Mean 2.2
Std Dev 1.269
3
2.5
2
1.5
1
e-
neutron
e+
pi+
gamma
PDG

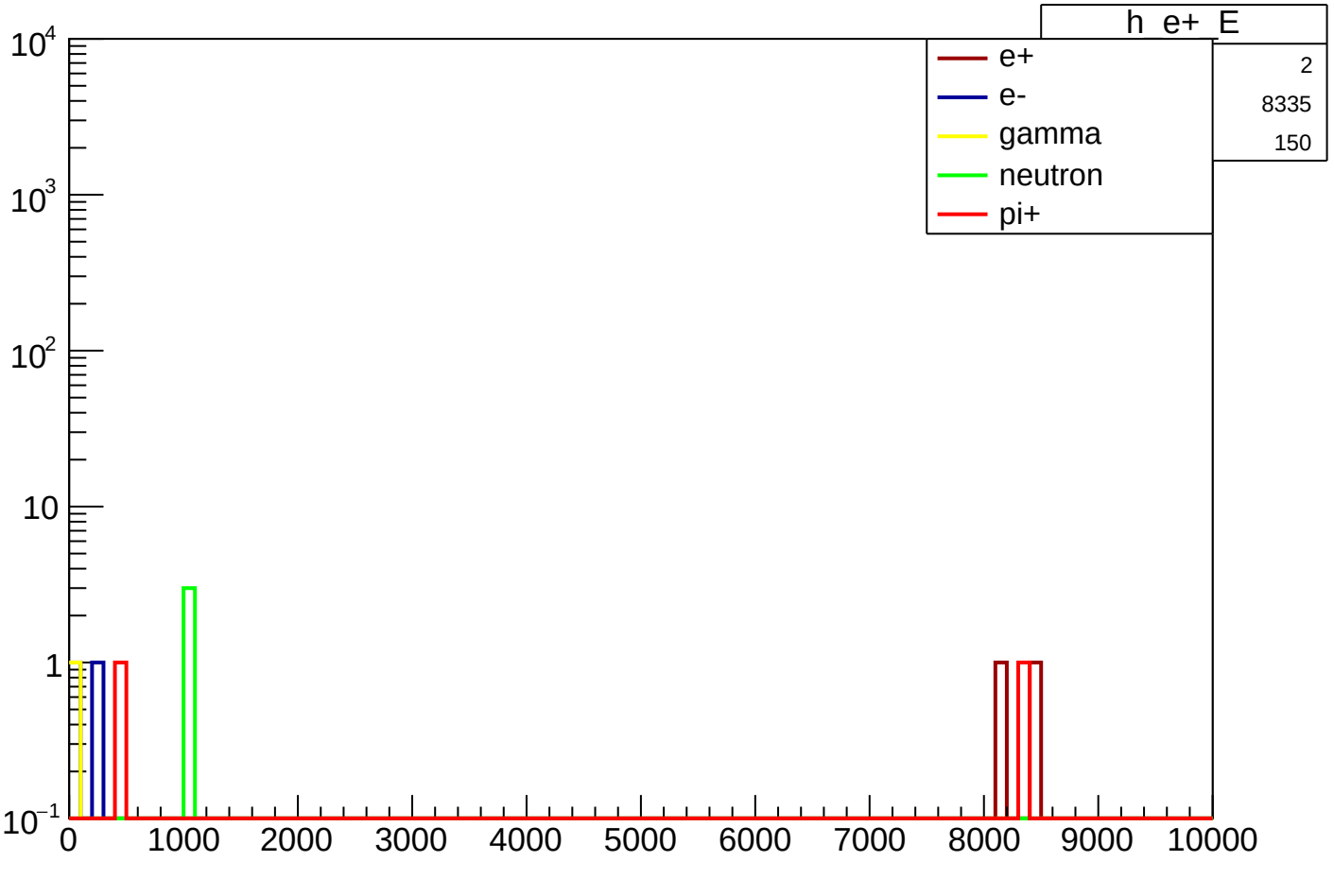

hID_Det2
hID_Det2
Entries 10
Mean 91
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−250
−200
−150
−100
−50
0
50
100
150
200
250

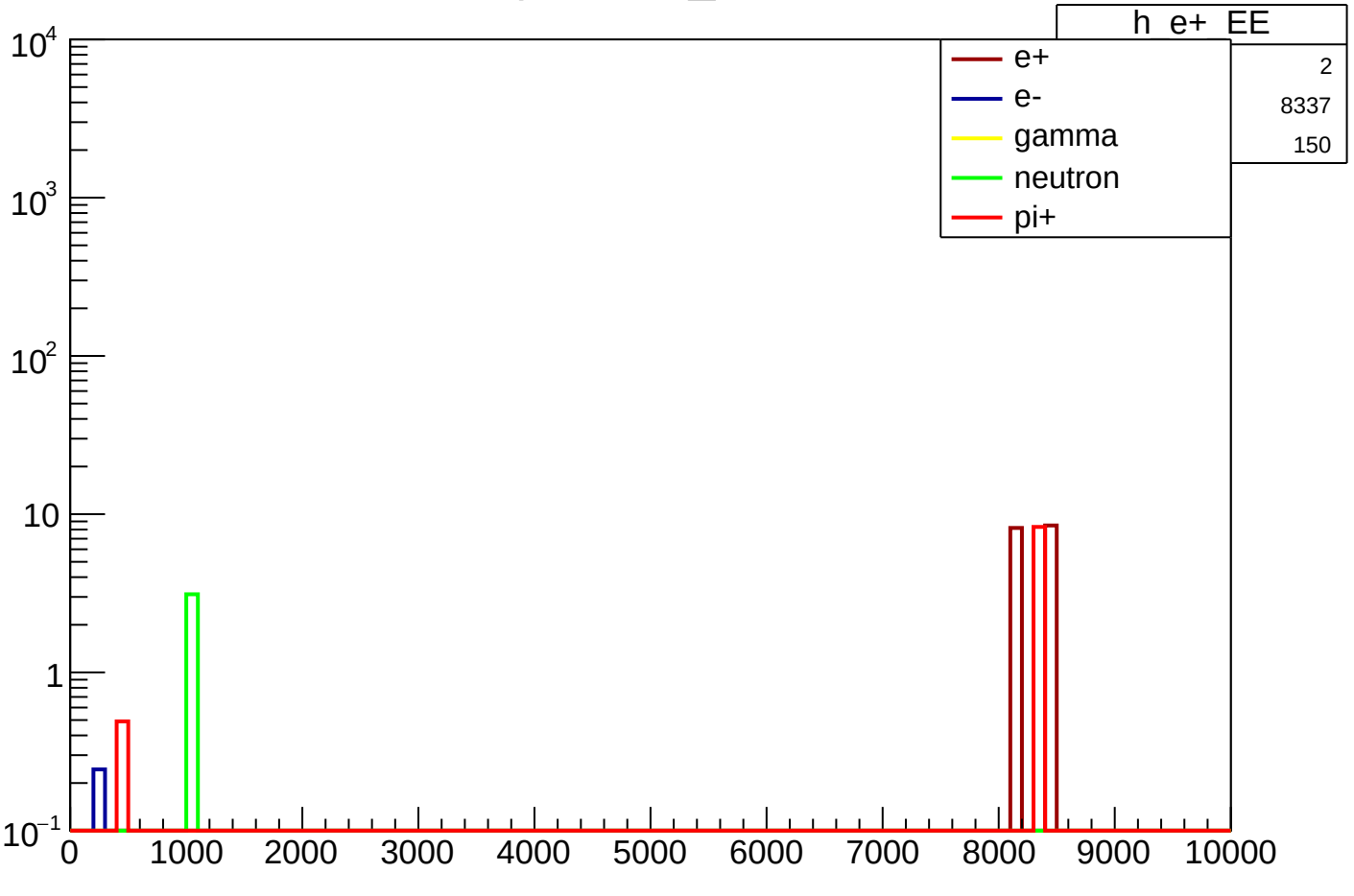

momHist_Det2
momHist_Det2
Entries 0
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

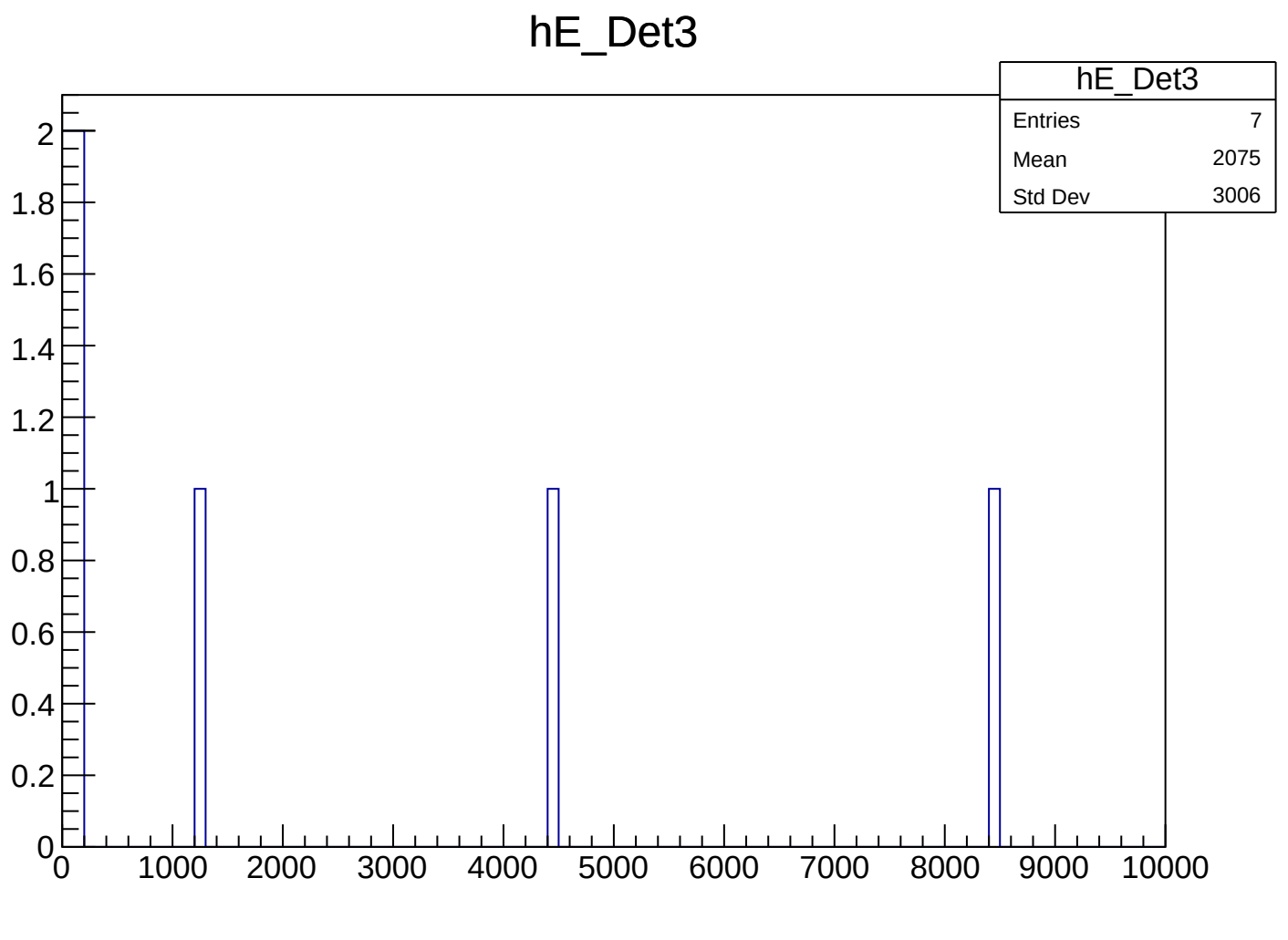

momangleHistX_Det2
momangleHistX_Det2
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
–20
–40
–60
–80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

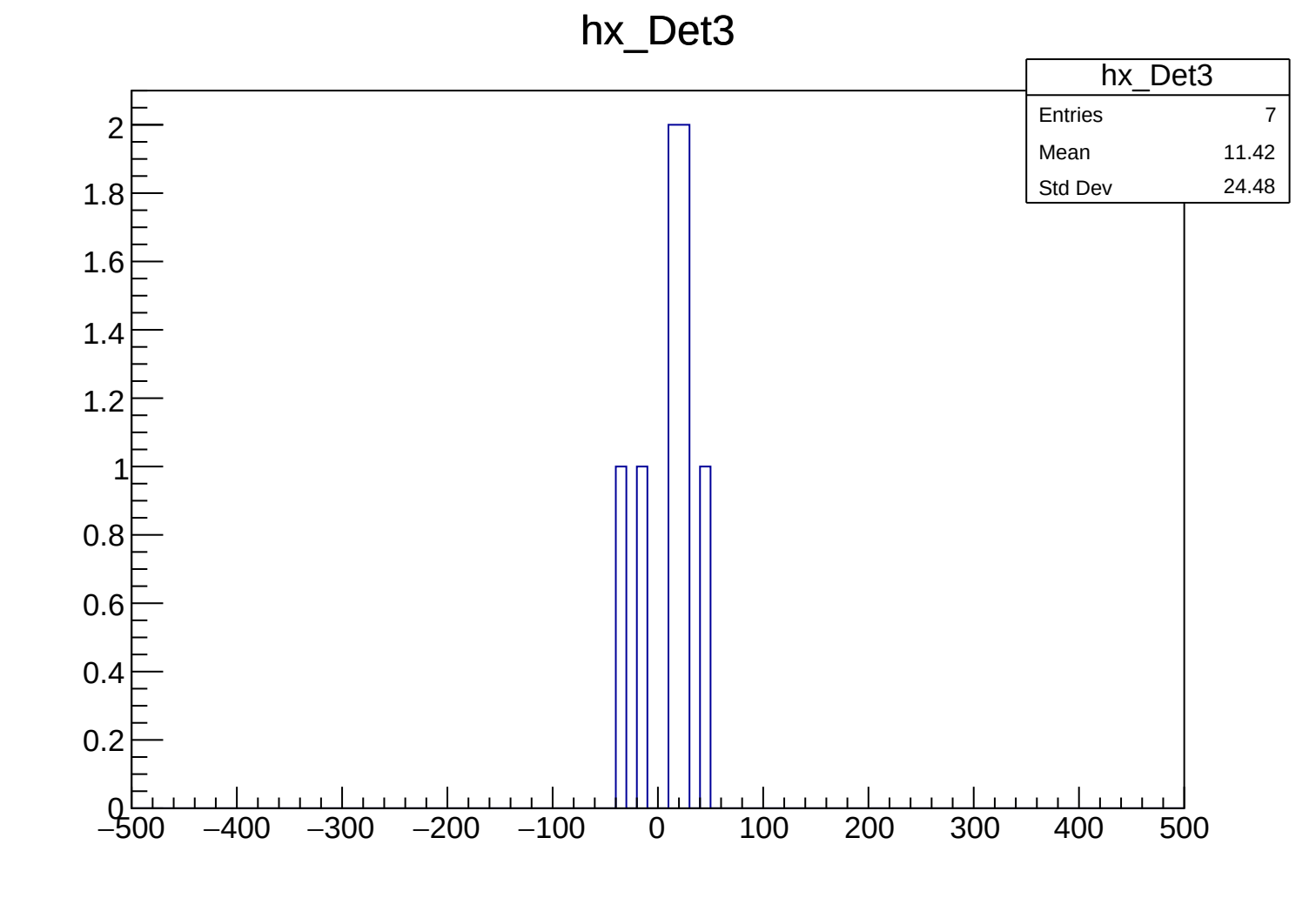

momangleHistY_Det2
momangleHistY_Det2
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
−20
−40
−60
−80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

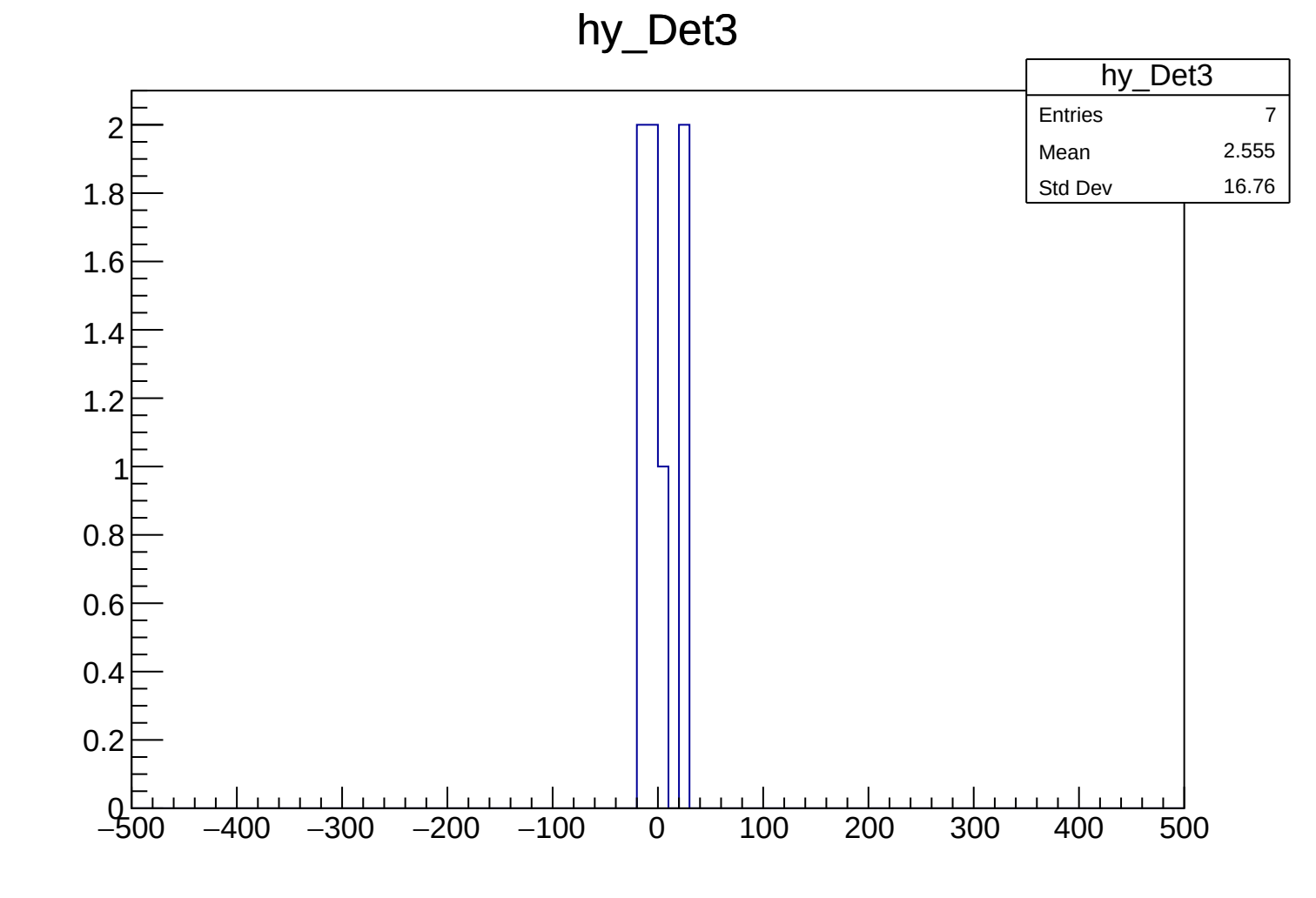

hdE_Det2
hdE_Det2
Entries 10
Mean 0.297
Std Dev 0.3702
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

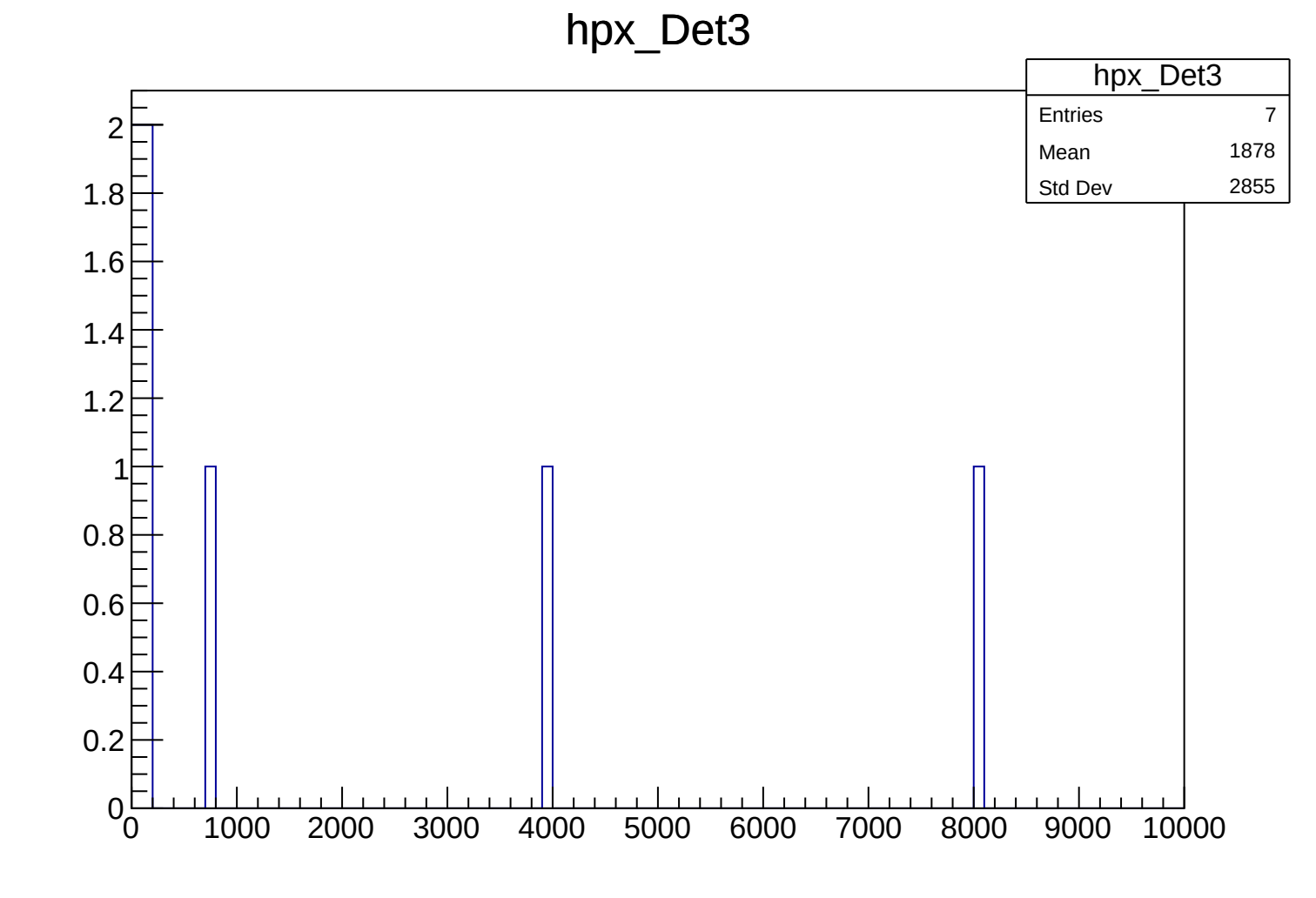

Energy_Det2
h e+ E
2
8335
150
e+
e-
gamma
neutron
pi+
10^4
10^3
10^2
10
1
10^-1
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

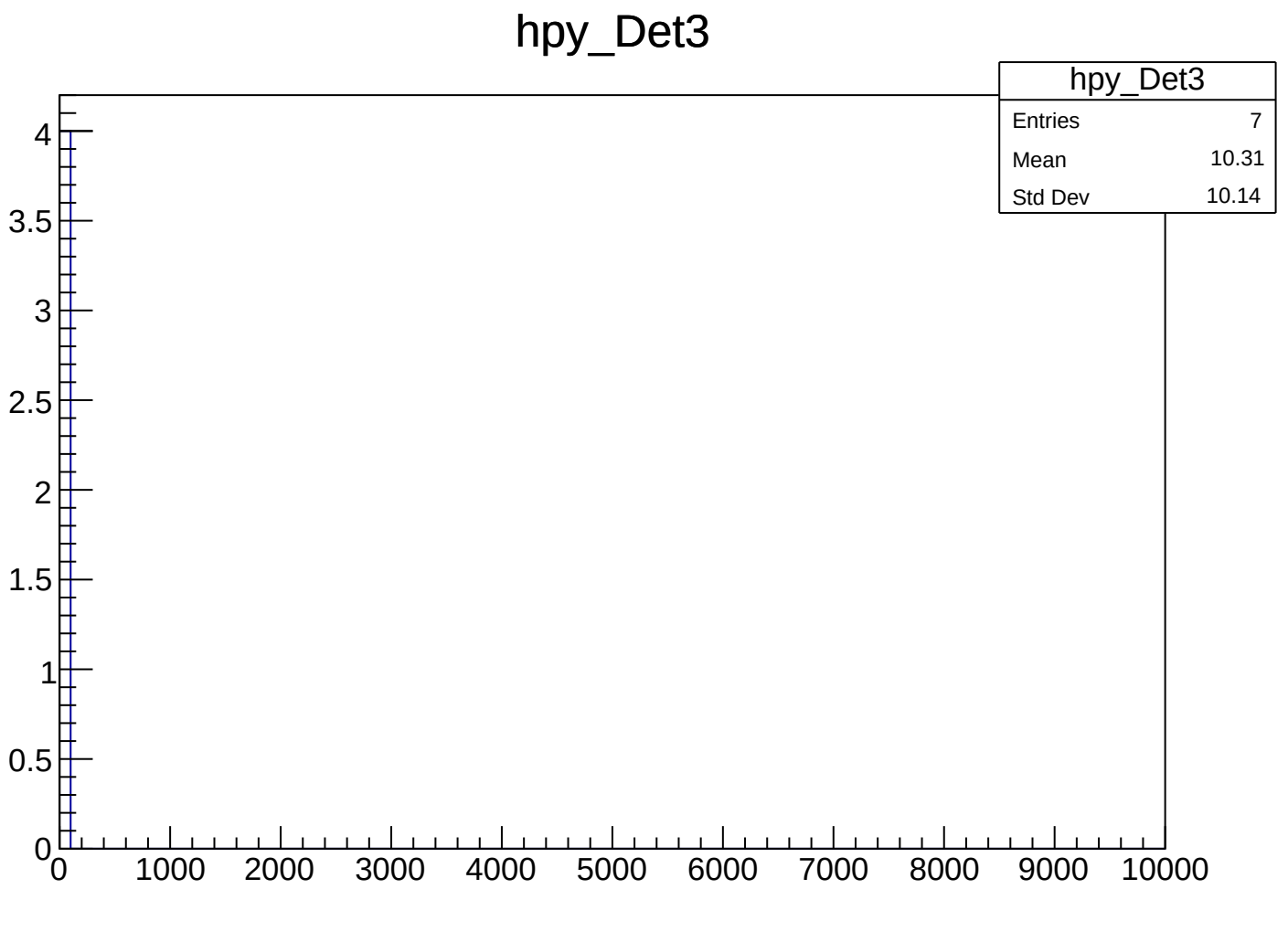

Spectrum_Det2
h_e+_EE
2
8337
150
e+
e-
gamma
neutron
pi+
10^4
10^3
10^2
10
1
10^-1
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

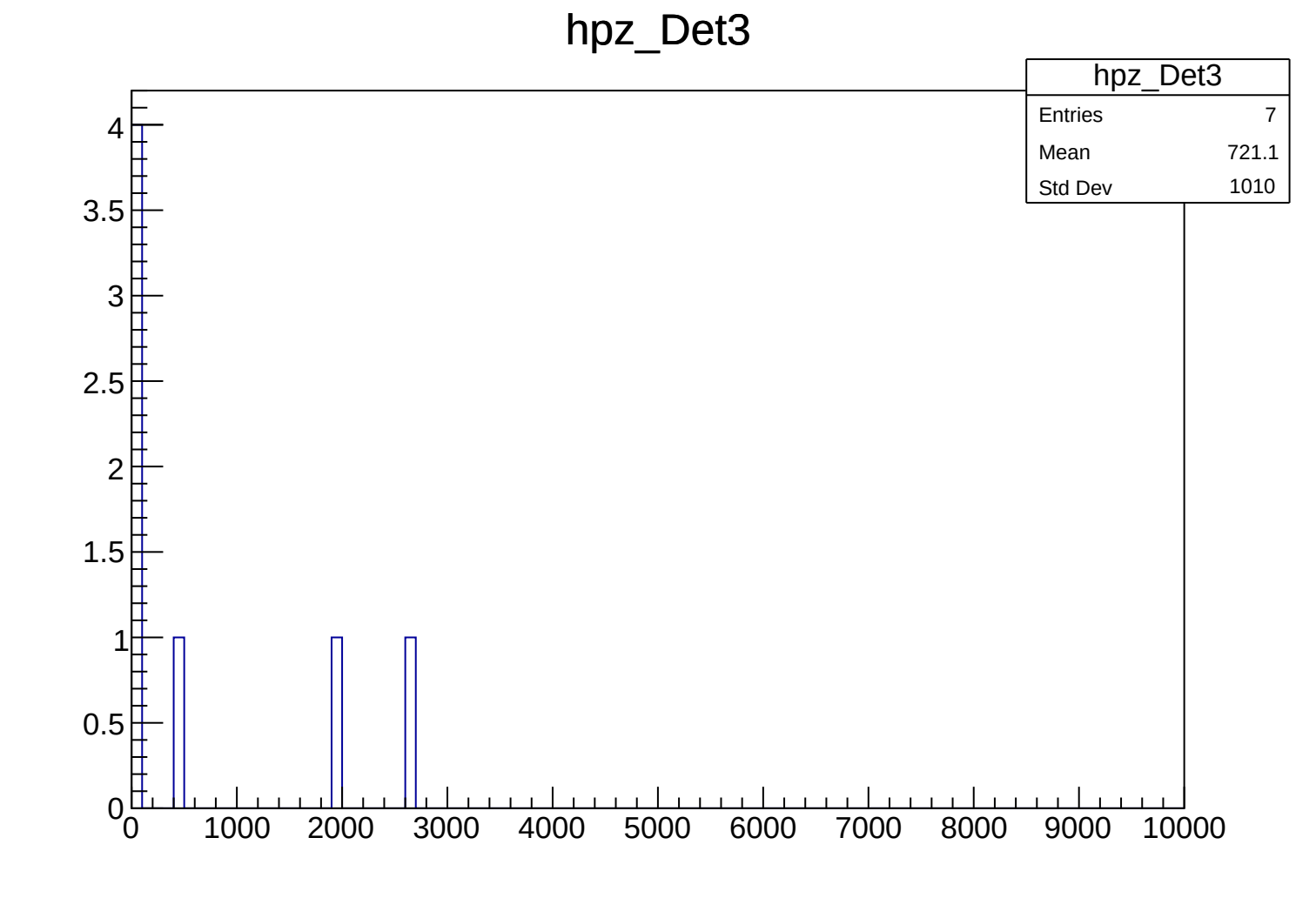

hE_Det3
hE_Det3
Entries 7
Mean 2075
Std Dev 3006
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

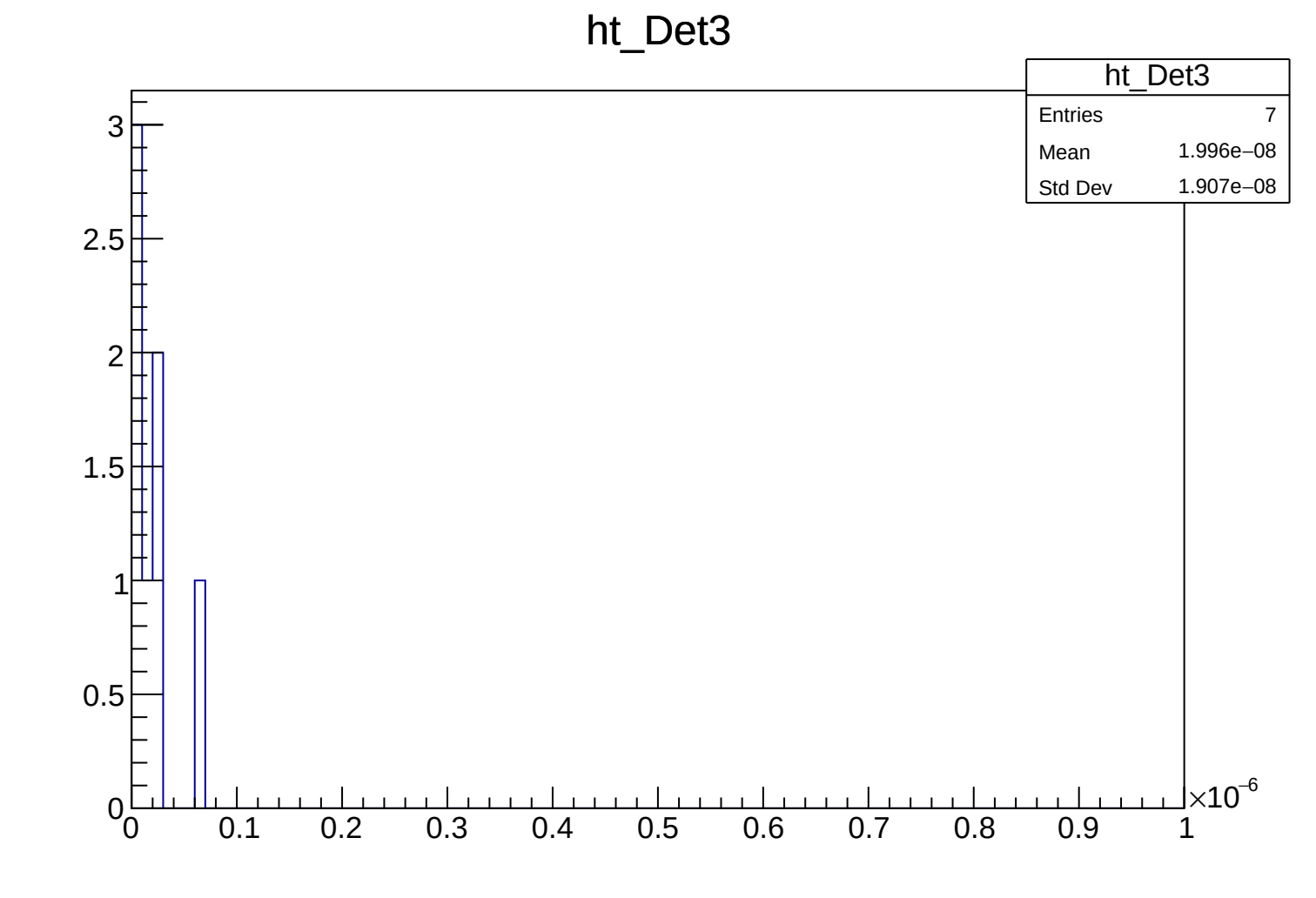

hx_Det3
hx_Det3
Entries 7
Mean 11.42
Std Dev 24.48
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−500
−400
−300
−200
−100
0
100
200
300
400
500

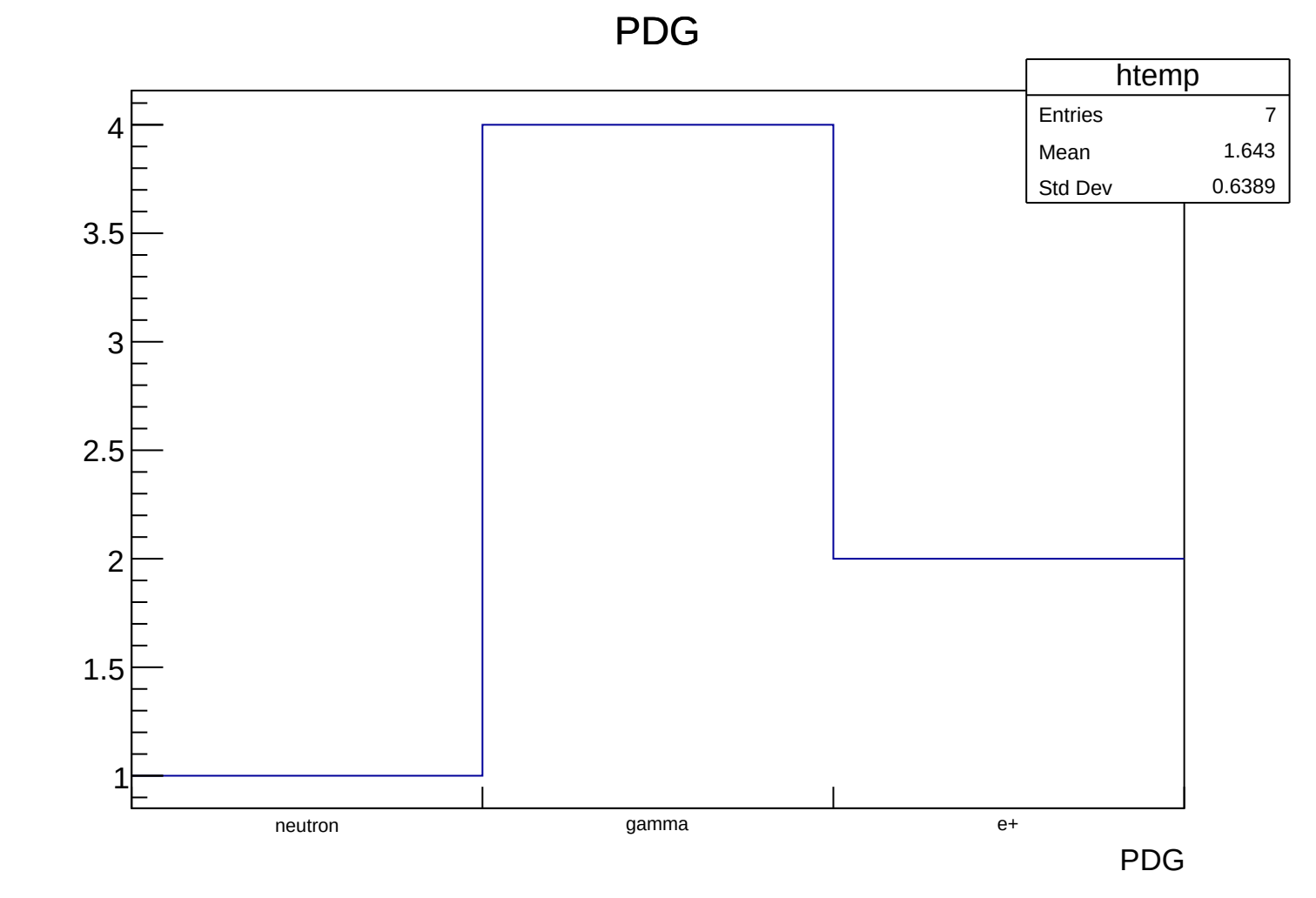

hy_Det3
hy_Det3
Entries 7
Mean 2.555
Std Dev 16.76
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−500
−400
−300
−200
−100
0
100
200
300
400
500

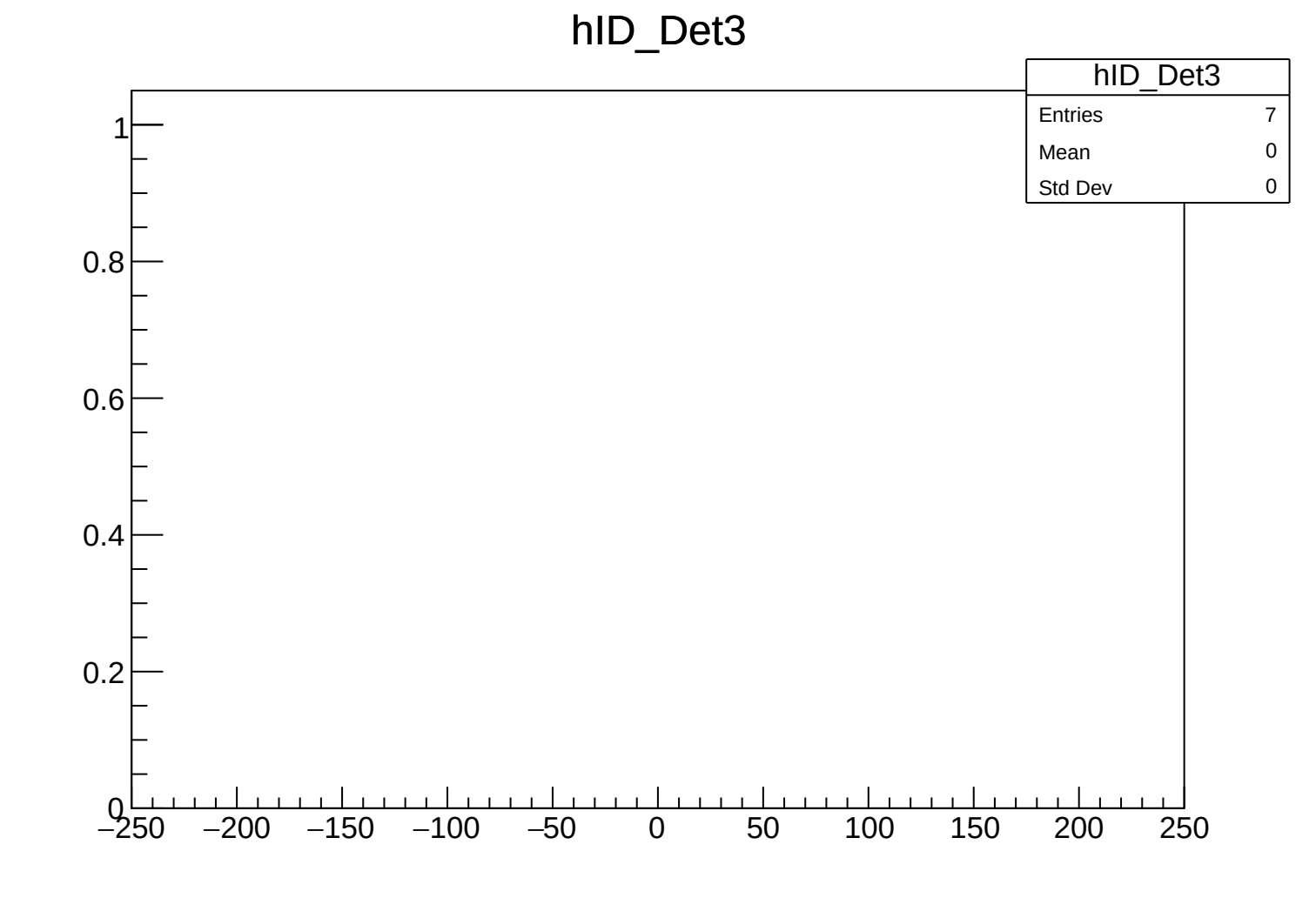

hpx_Det3
hpx_Det3
Entries 7
Mean 1878
Std Dev 2855
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

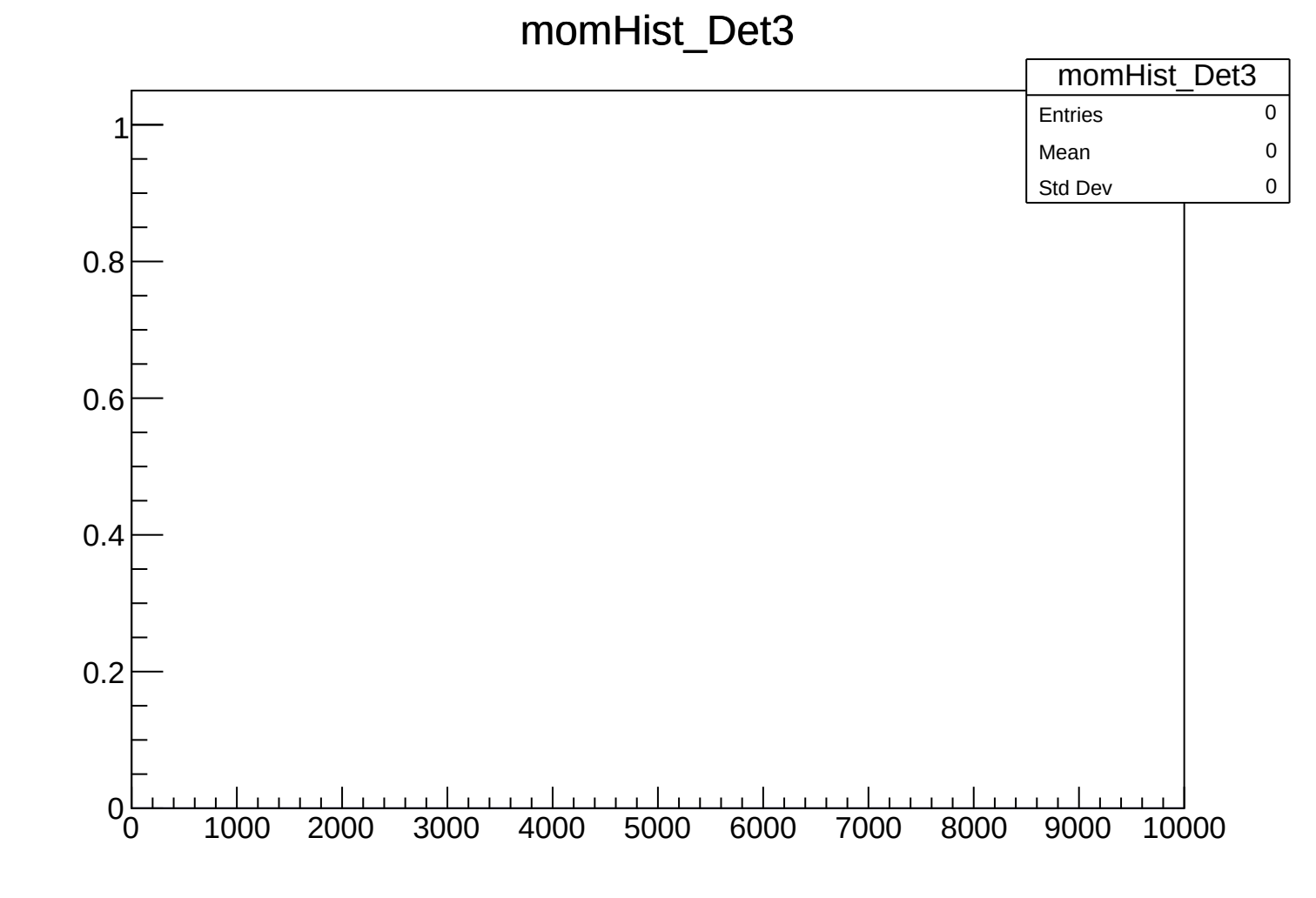

hpy_Det3
hpy_Det3
Entries 7
Mean 10.31
Std Dev 10.14
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

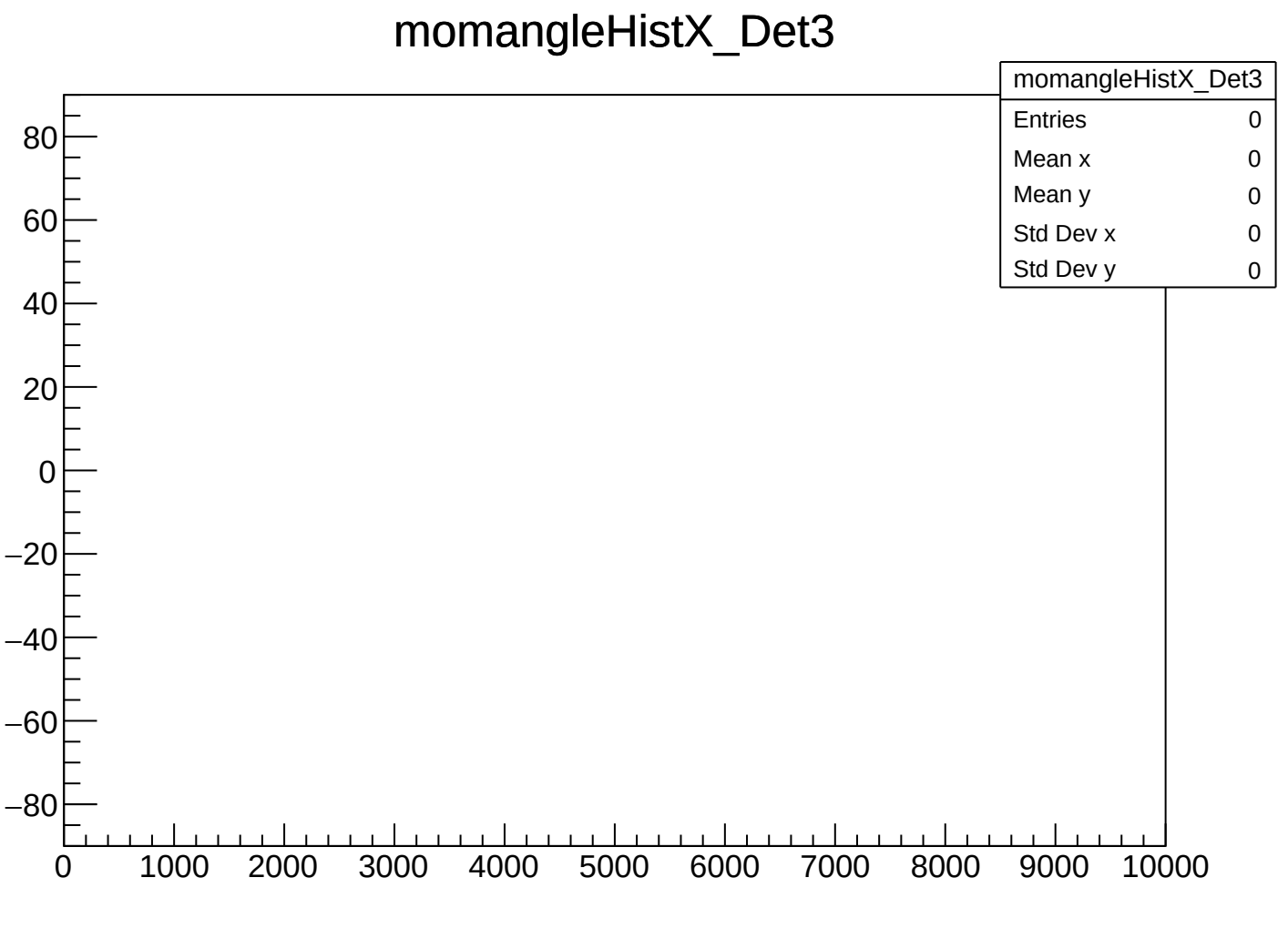

hpz_Det3
hpz_Det3
Entries 7
Mean 721.1
Std Dev 1010
4
3.5
3
2.5
2
1.5
1
0.5
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

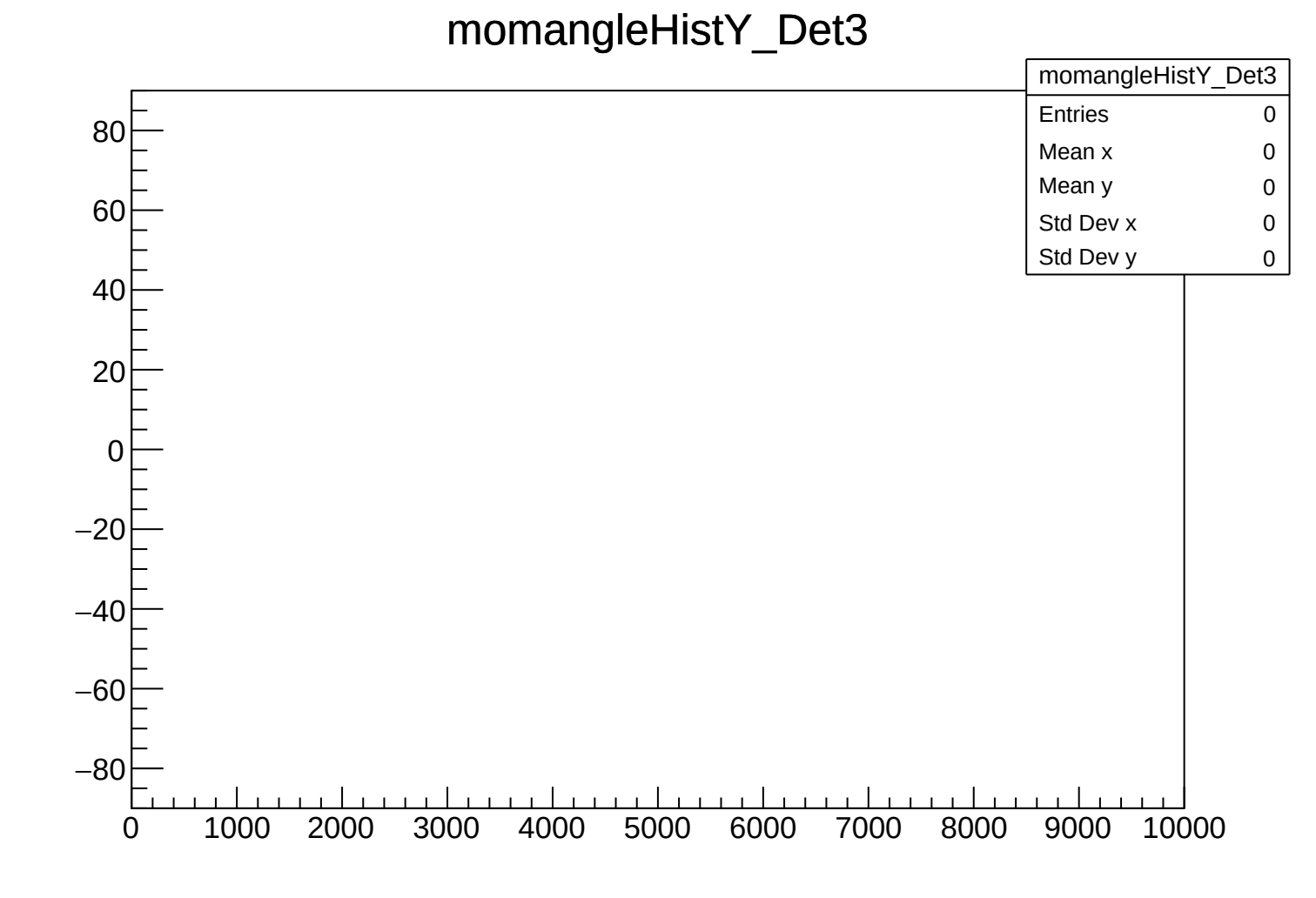

ht_Det3
ht_Det3
Entries 7
Mean 1.996e−08
Std Dev 1.907e−08
3
2.5
2
1.5
1
0.5
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
×10−6

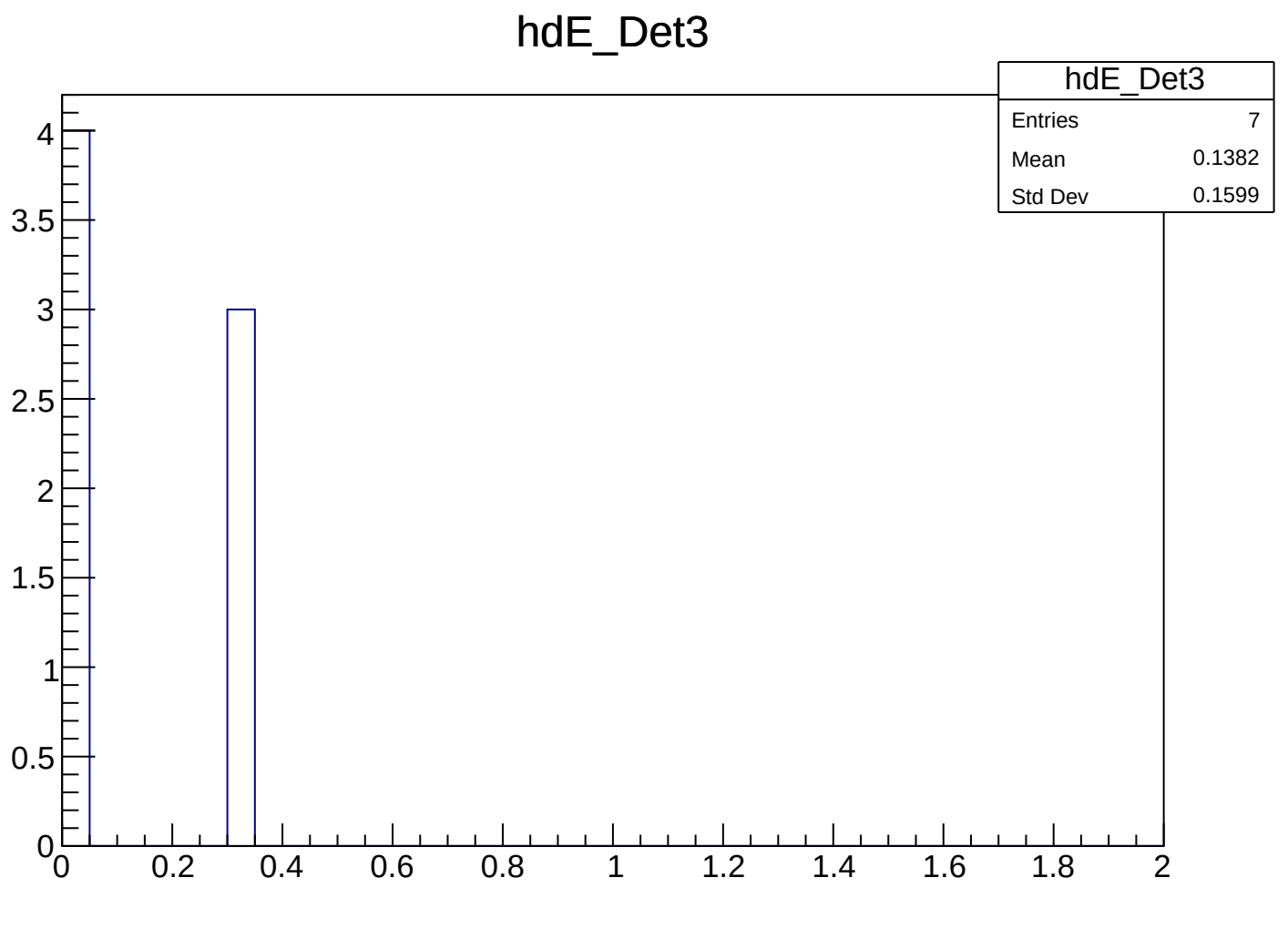

PDG
htemp
Entries 7
Mean 1.643
Std Dev 0.6389
4
3.5
3
2.5
2
1.5
1
neutron
gamma
e+
PDG

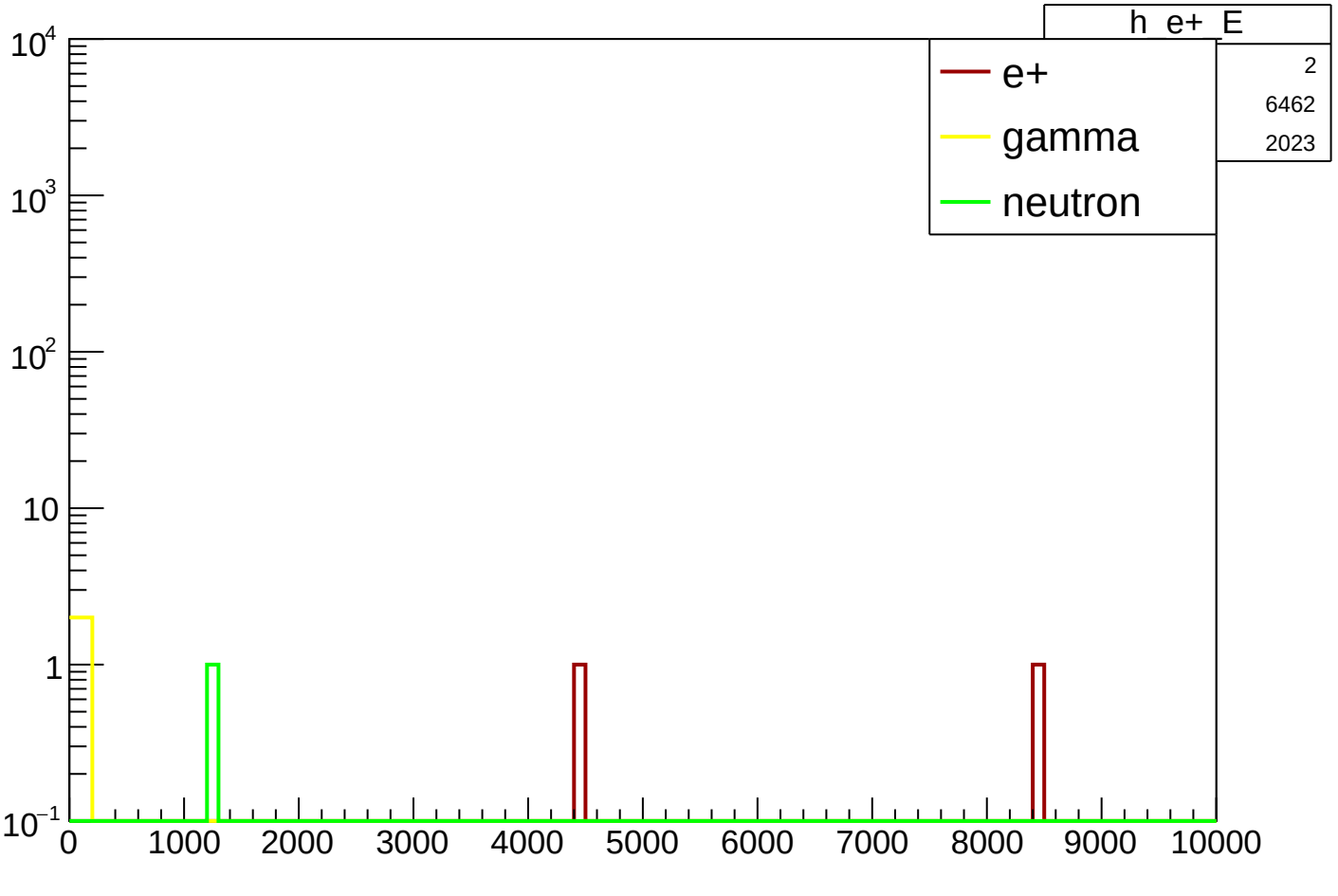

hID_Det3
hID_Det3
Entries 7
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−250
−200
−150
−100
−50
0
50
100
150
200
250

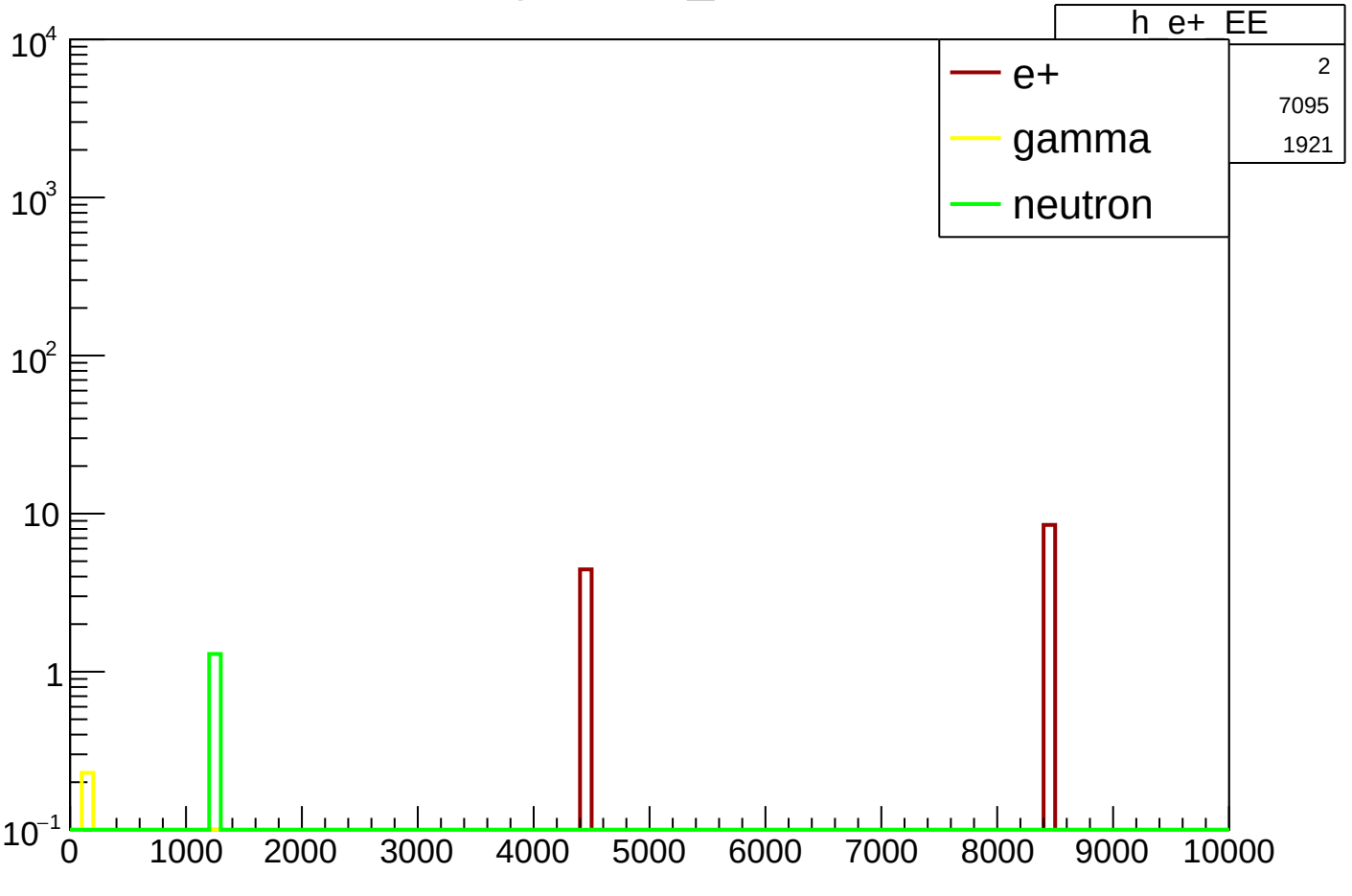

momHist_Det3
momHist_Det3
Entries 0
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

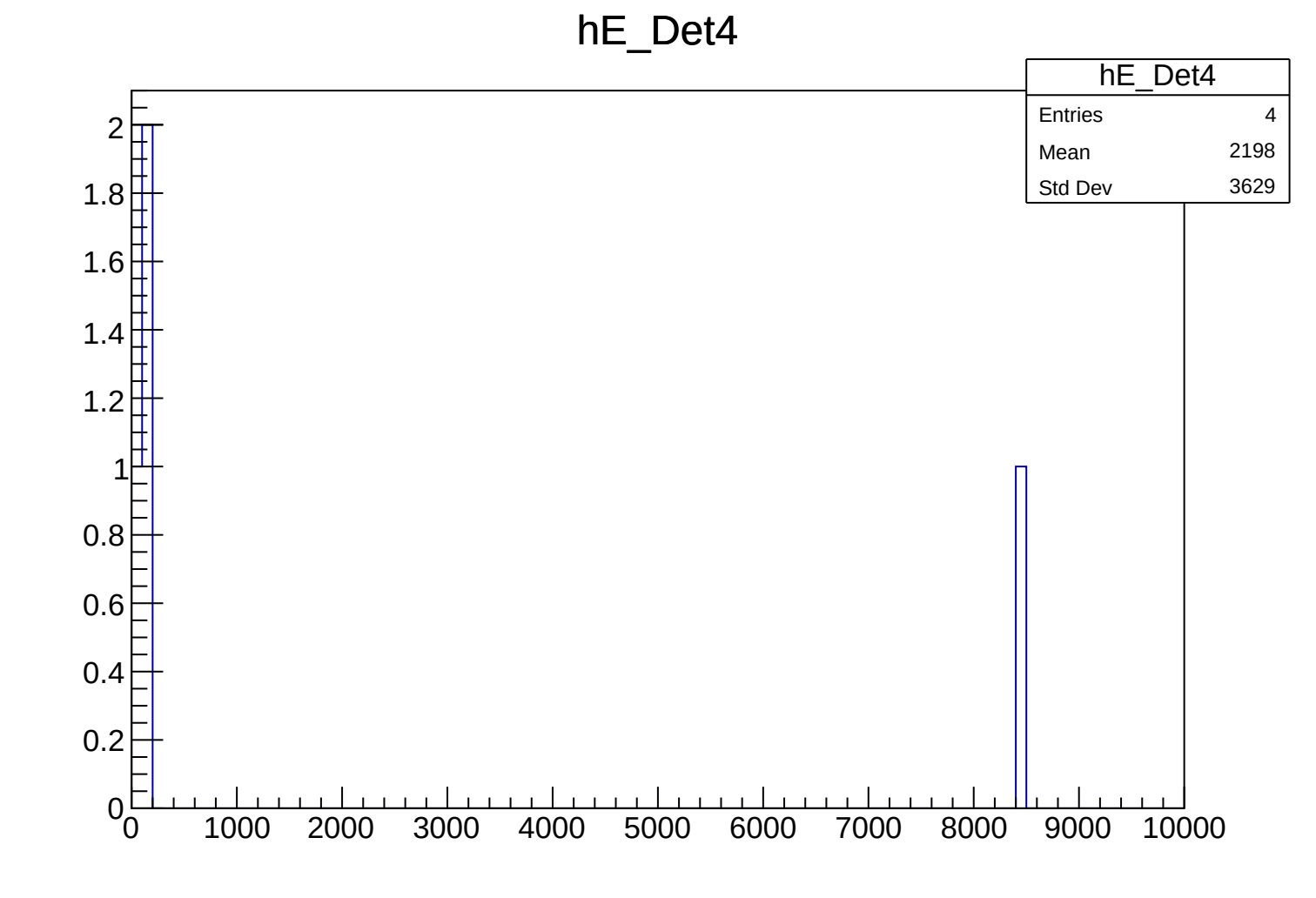

momangleHistX_Det3
momangleHistX_Det3
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
–20
–40
–60
–80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

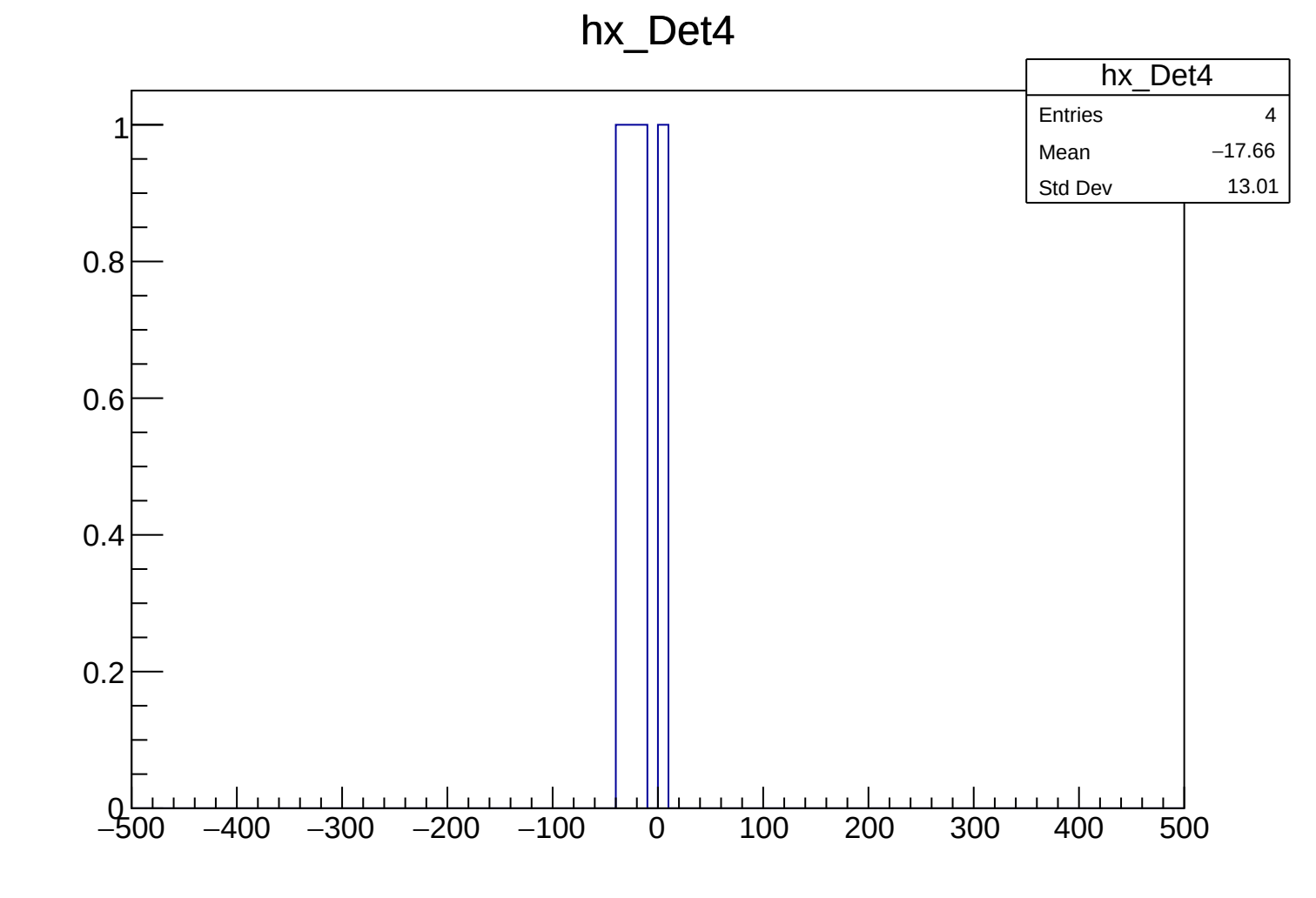

momangleHistY_Det3
momangleHistY_Det3
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
−20
−40
−60
−80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

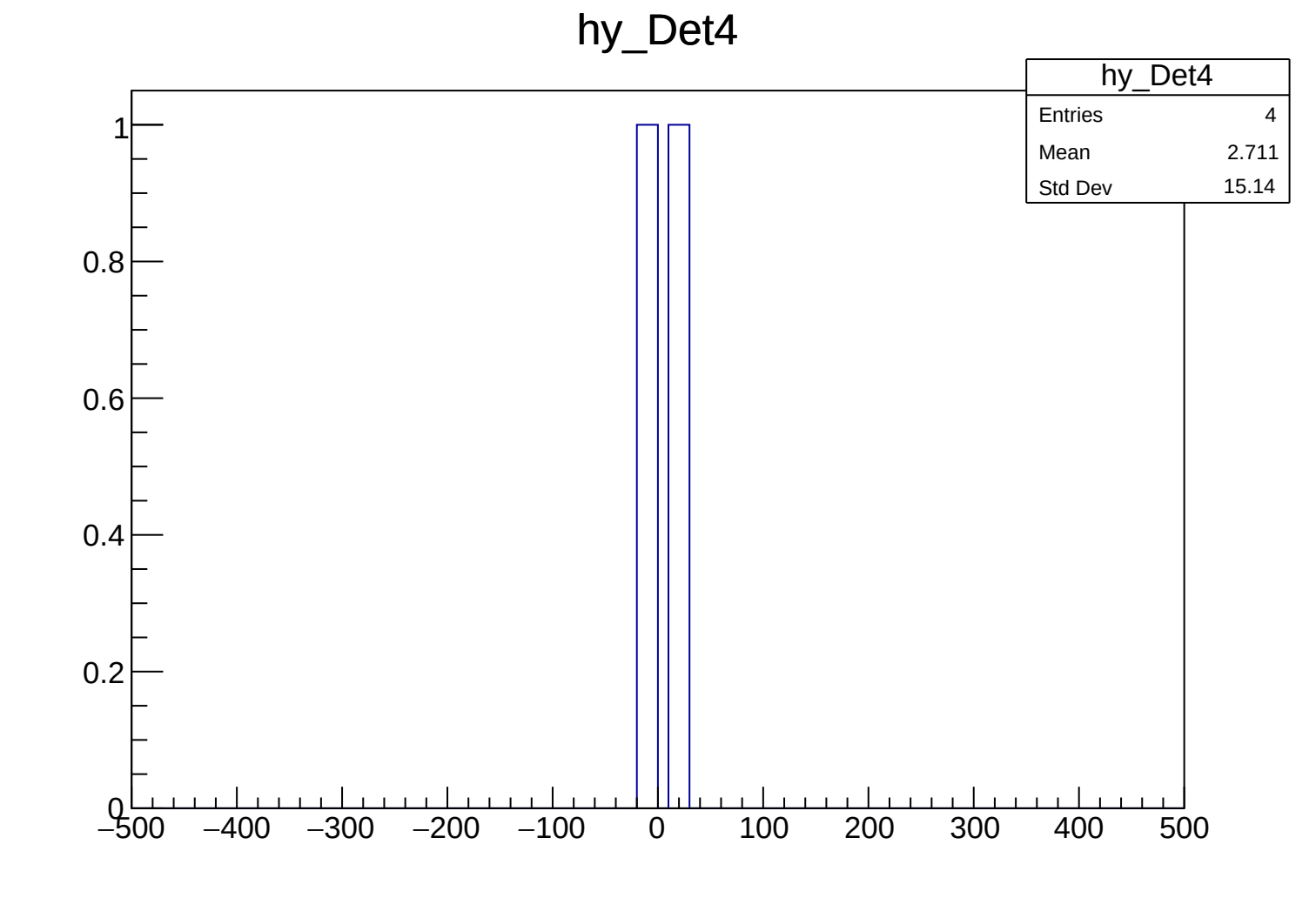

hdE_Det3
hdE_Det3
Entries 7
Mean 0.1382
Std Dev 0.1599
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

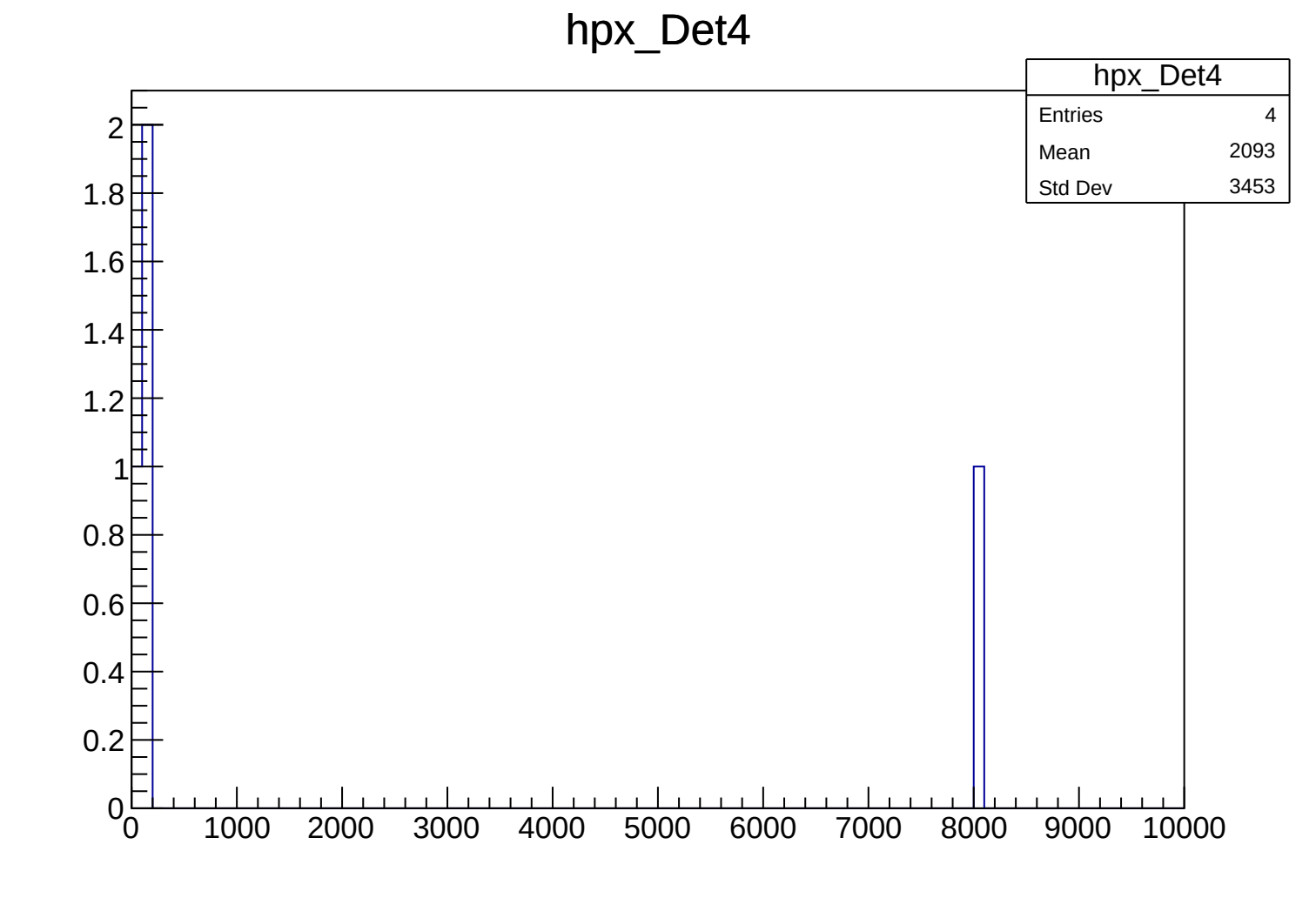

Energy_Det3
h e+ E
2
6462
2023
e+
gamma
neutron
10^4
10^3
10^2
10
1
10^{-1}
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

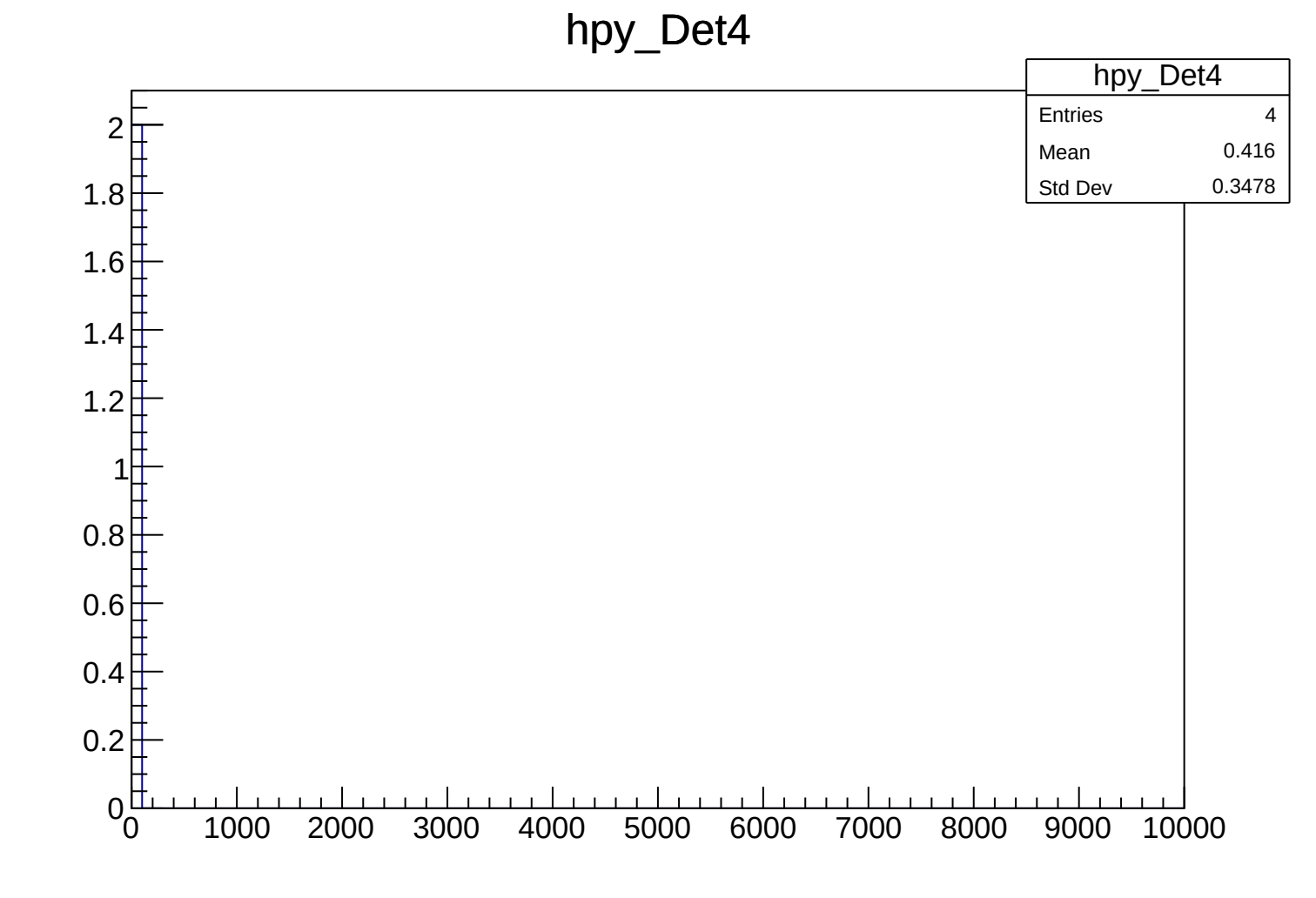

Spectrum_Det3
h_e+_EE
2
7095
1921
e+
gamma
neutron
10^4
10^3
10^2
10
1
10^-1
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

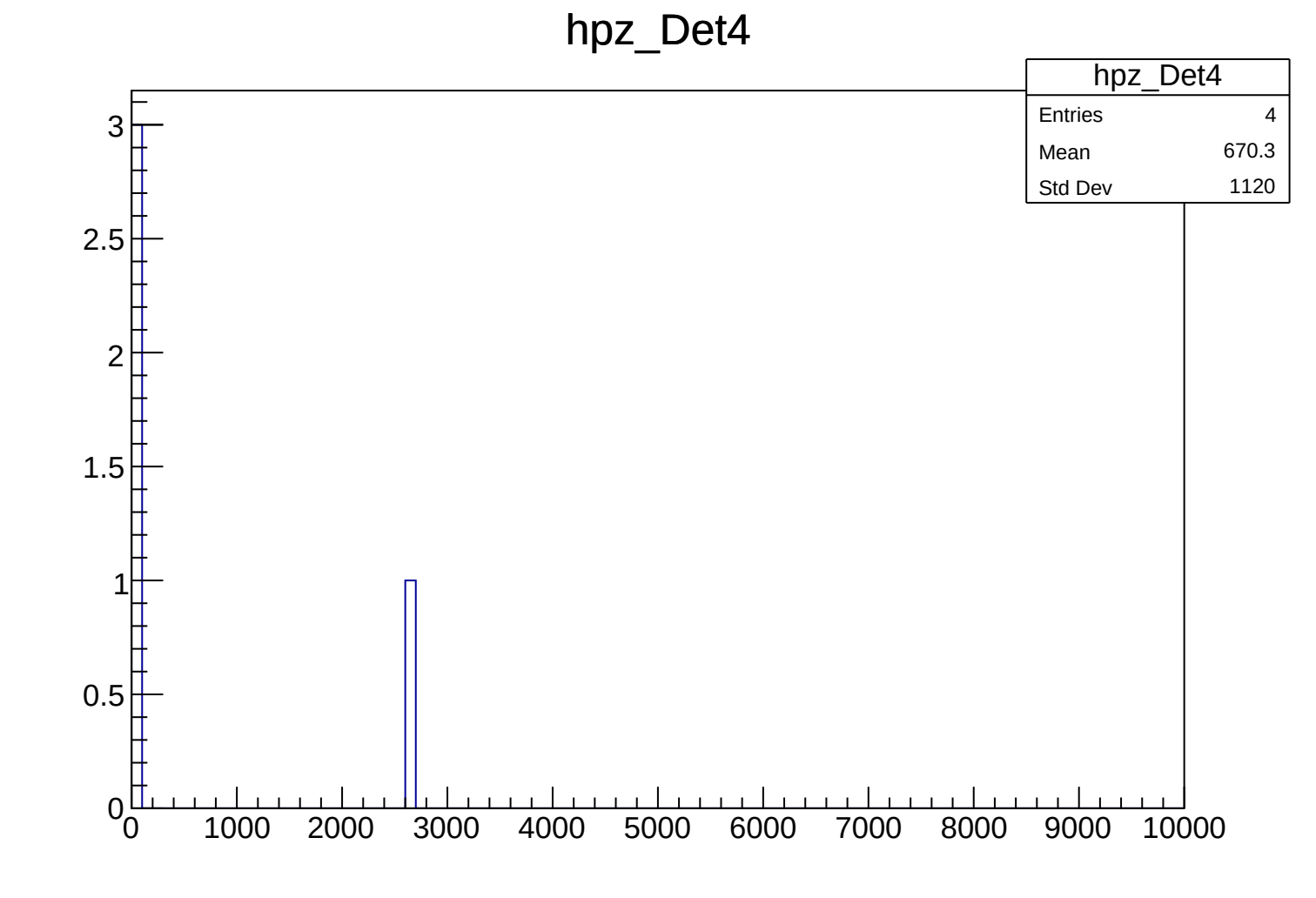

hE_Det4
hE_Det4
Entries 4
Mean 2198
Std Dev 3629
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

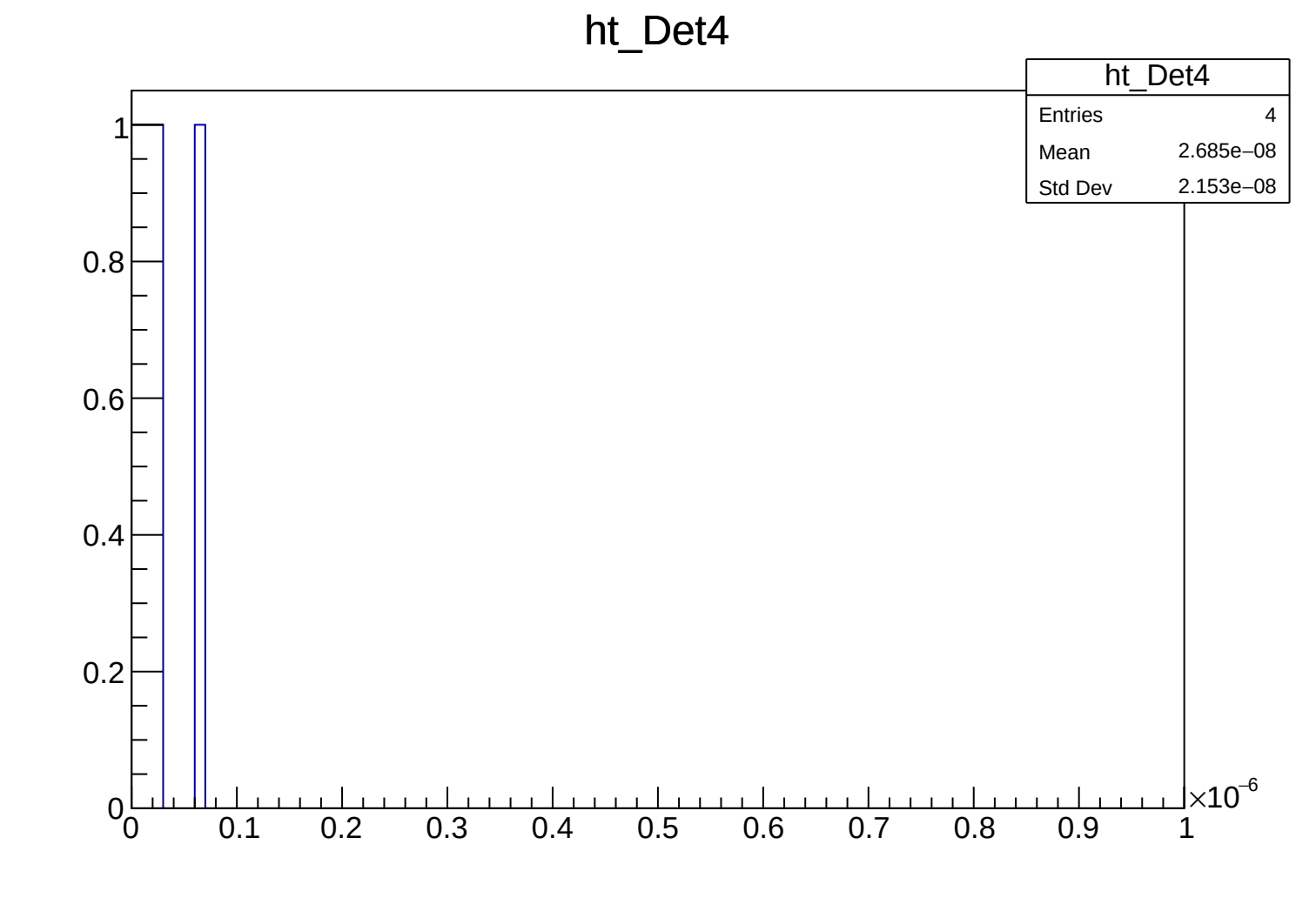

hx_Det4
hx_Det4
Entries 4
Mean –17.66
Std Dev 13.01
1
0.8
0.6
0.4
0.2
0
–500
–400
–300
–200
–100
0
100
200
300
400
500

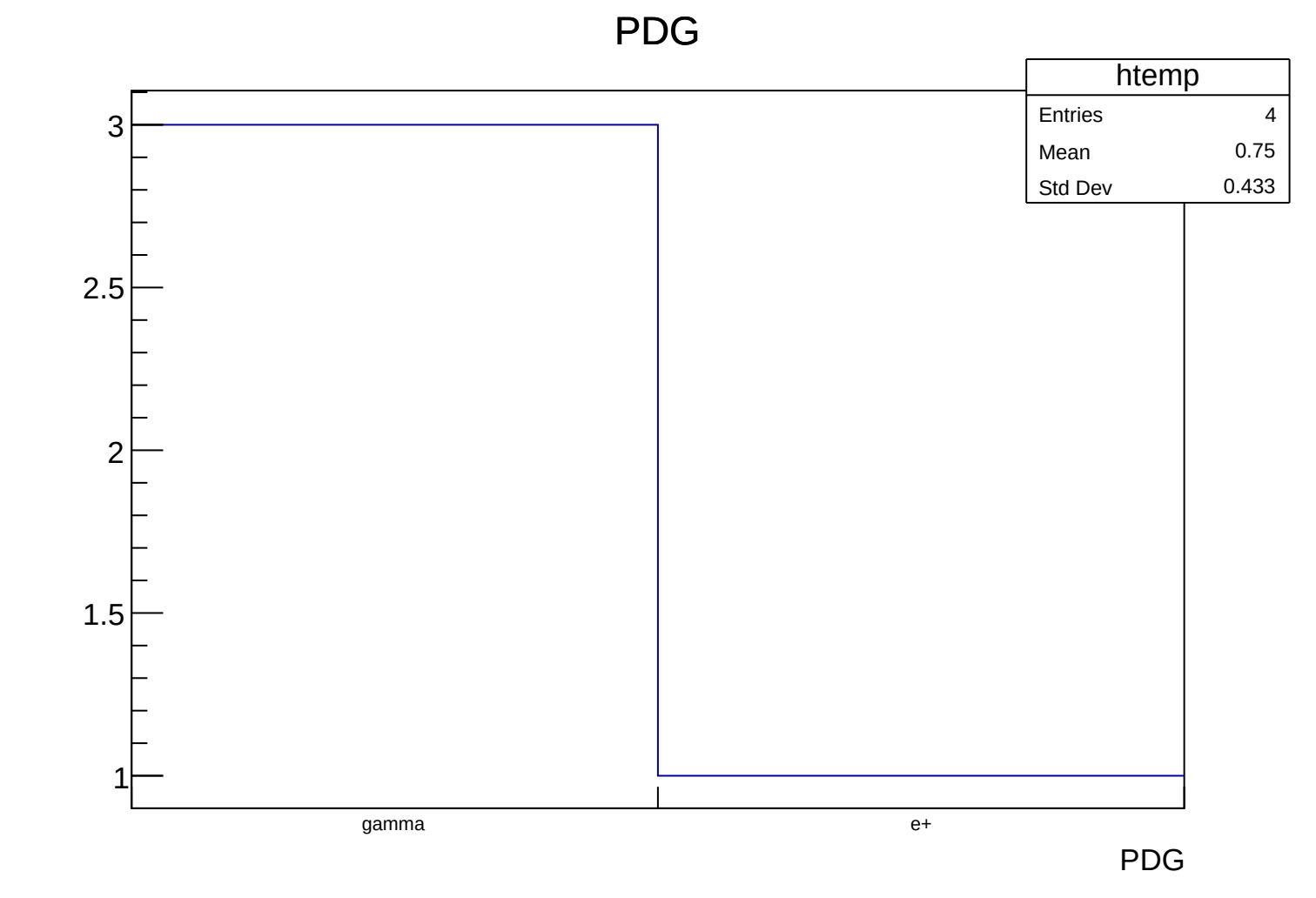

hy_Det4
hy_Det4
Entries 4
Mean 2.711
Std Dev 15.14
1
0.8
0.6
0.4
0.2
0
−500
−400
−300
−200
−100
0
100
200
300
400
500

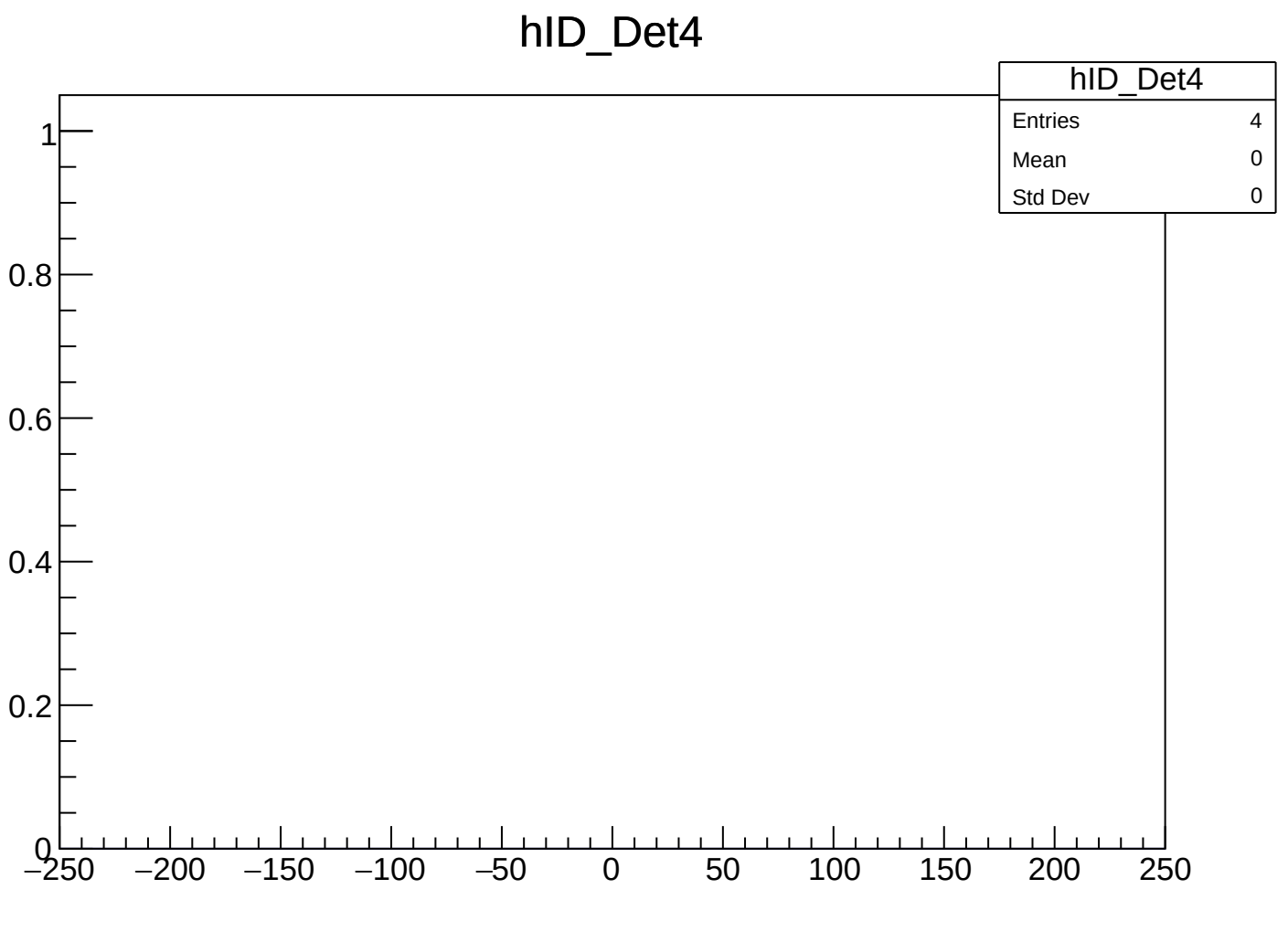

hpx_Det4
hpx_Det4
Entries 4
Mean 2093
Std Dev 3453
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

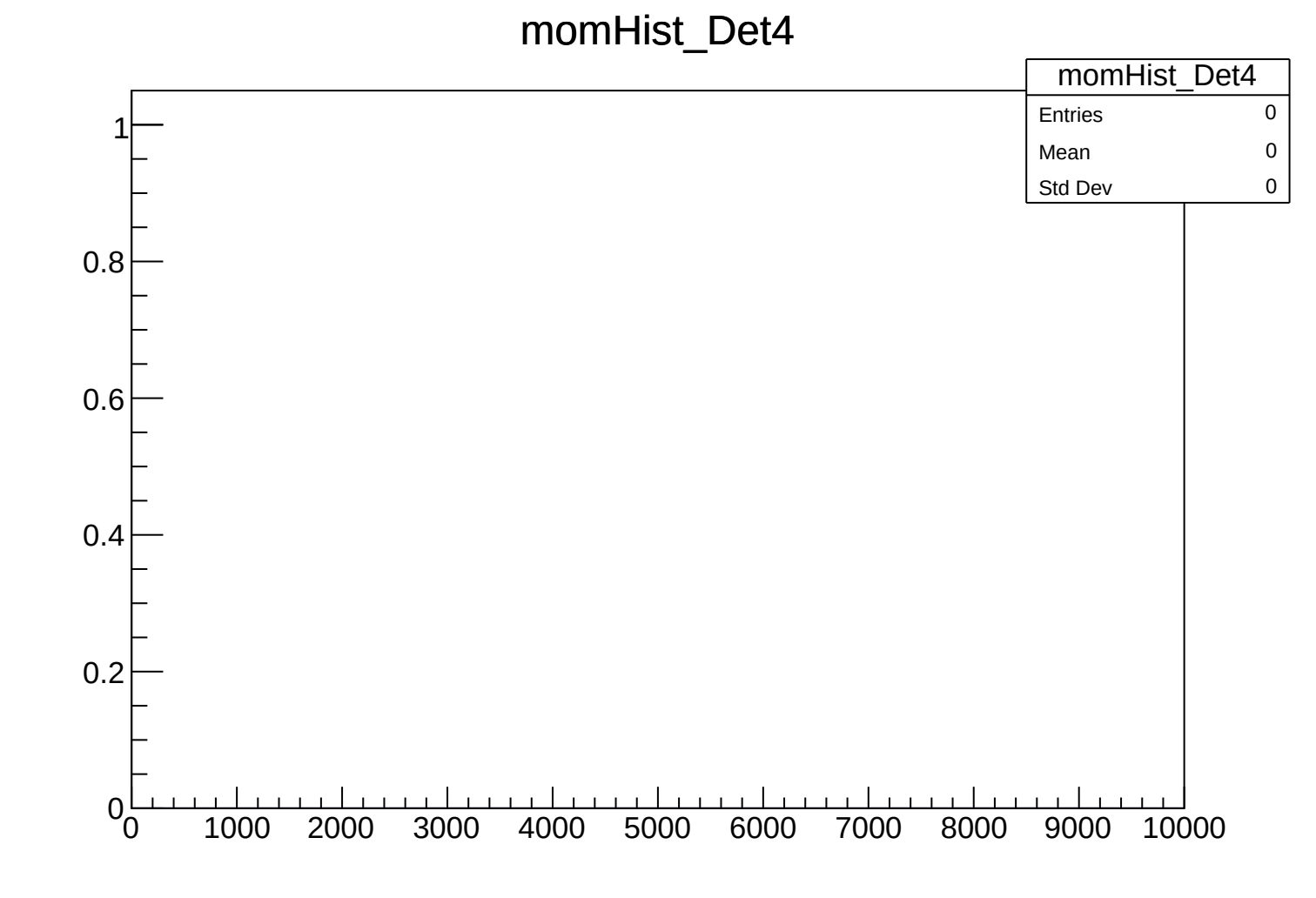

hpy_Det4
hpy_Det4
Entries 4
Mean 0.416
Std Dev 0.3478
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

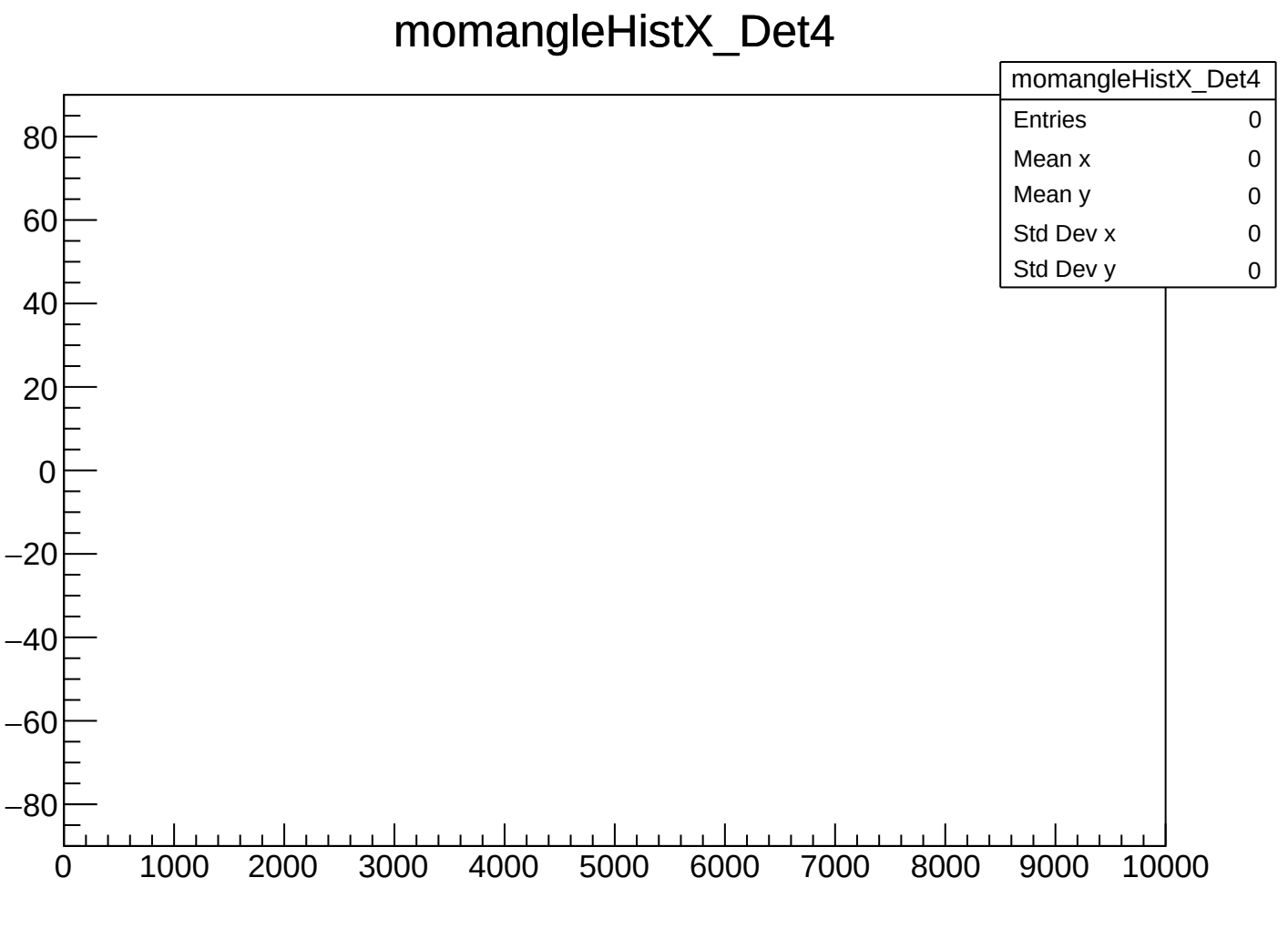

hpz_Det4
hpz_Det4
Entries 4
Mean 670.3
Std Dev 1120
3
2.5
2
1.5
1
0.5
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

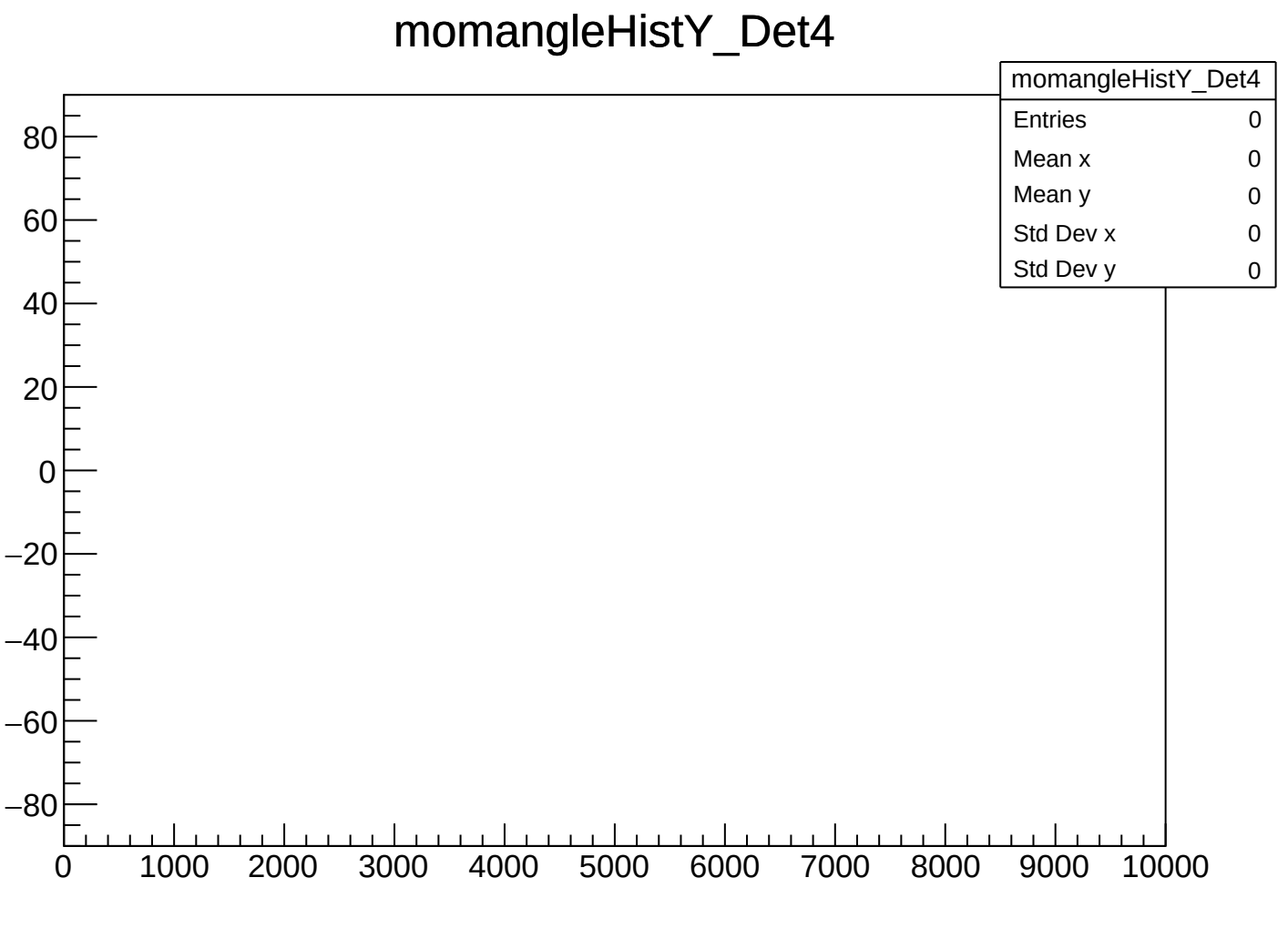

ht_Det4
ht_Det4
Entries 4
Mean 2.685e−08
Std Dev 2.153e−08
1
0.8
0.6
0.4
0.2
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
×10−6

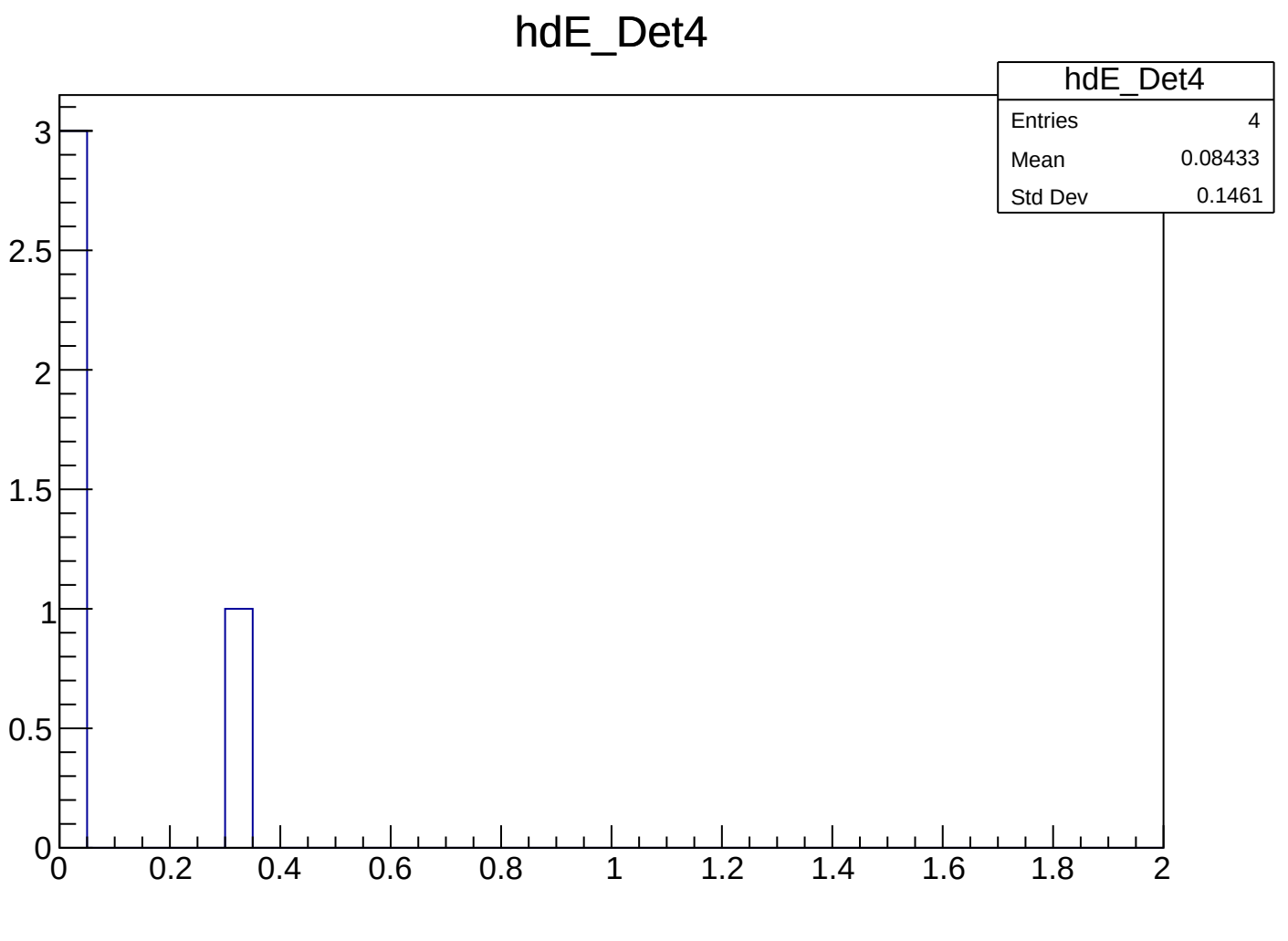

PDG
htemp
Entries 4
Mean 0.75
Std Dev 0.433
3
2.5
2
1.5
1
gamma
e+
PDG

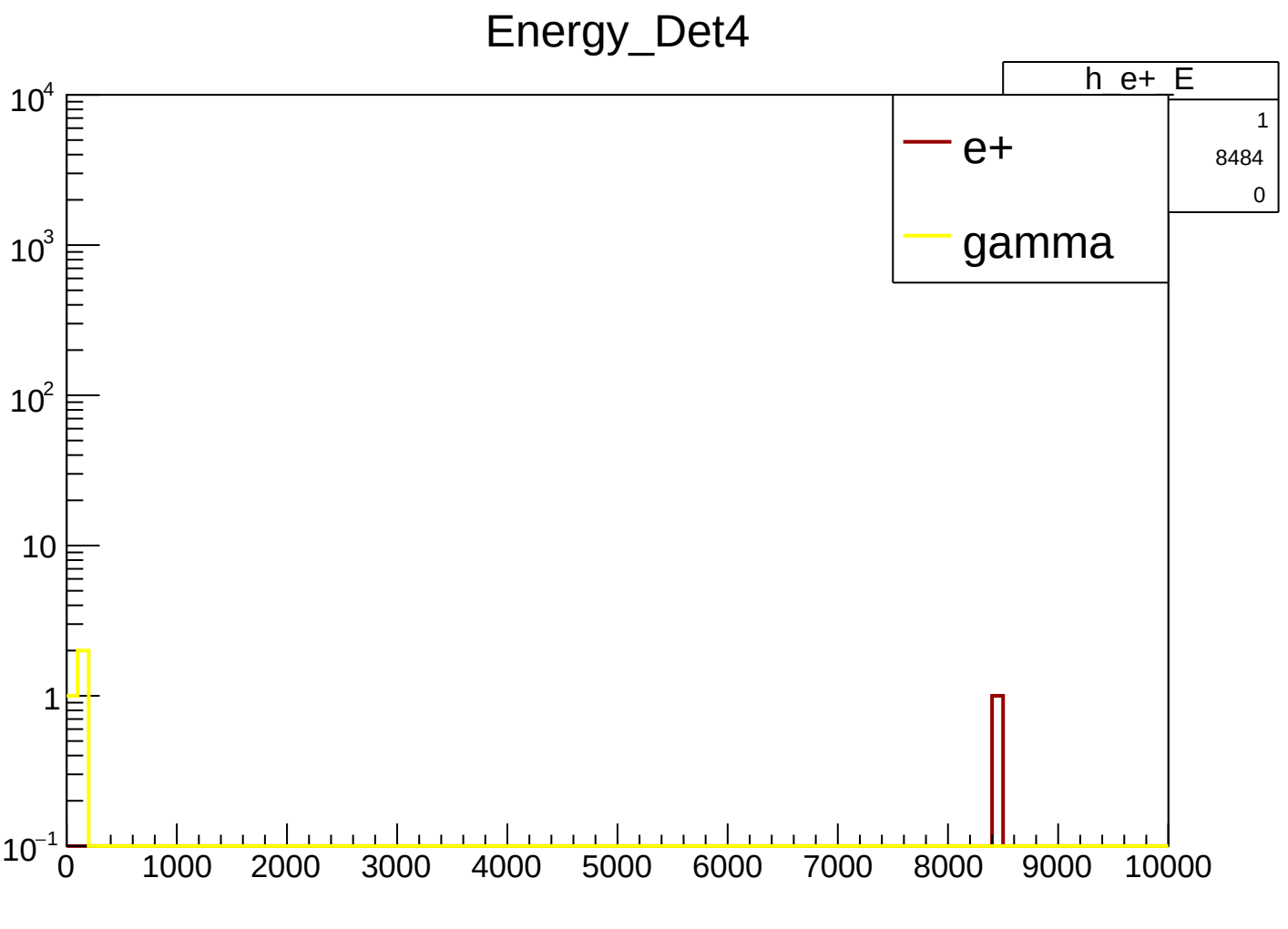

hID_Det4
hID_Det4
Entries 4
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−250
−200
−150
−100
−50
0
50
100
150
200
250

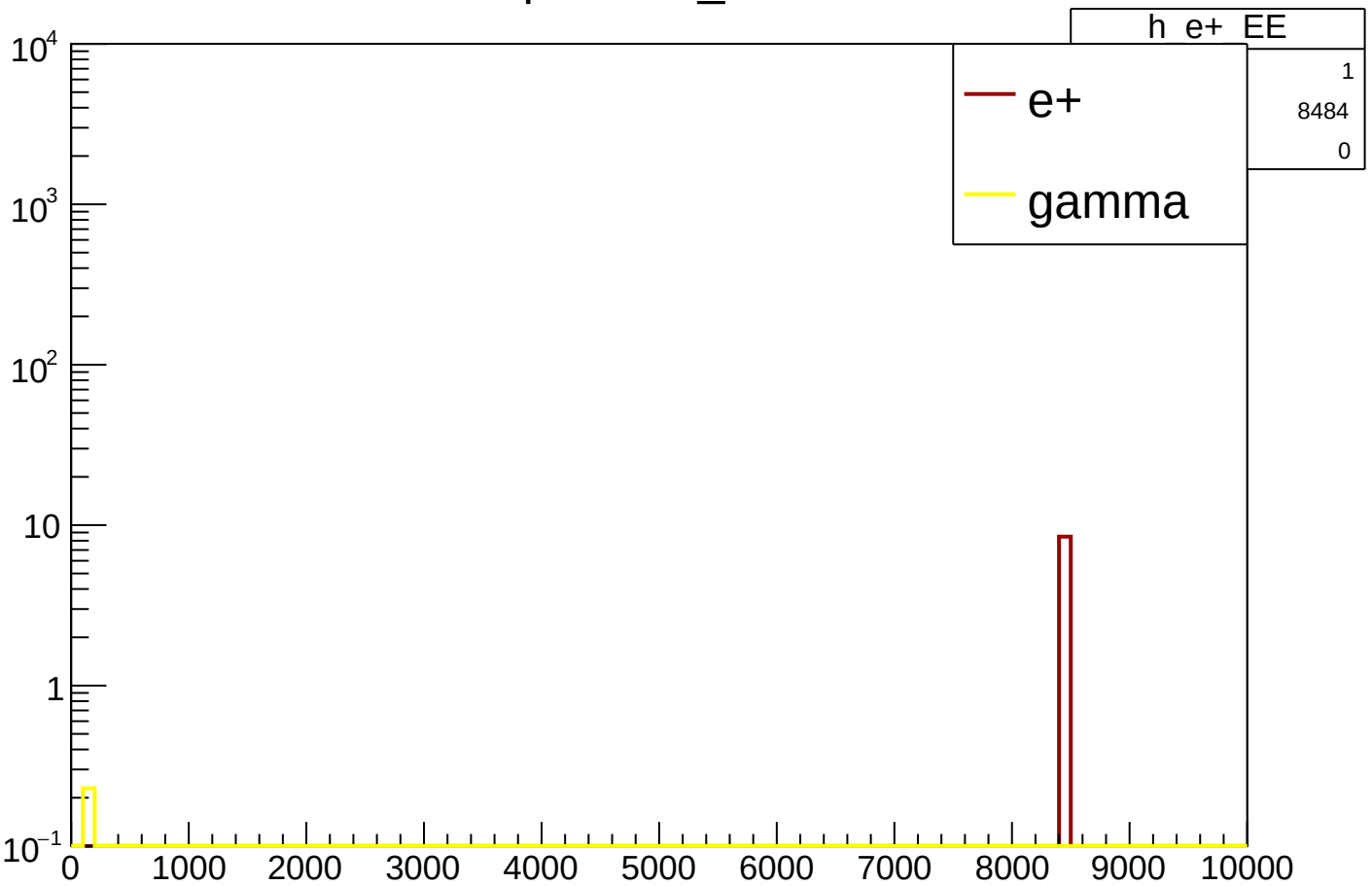

momHist_Det4
momHist_Det4
Entries 0
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

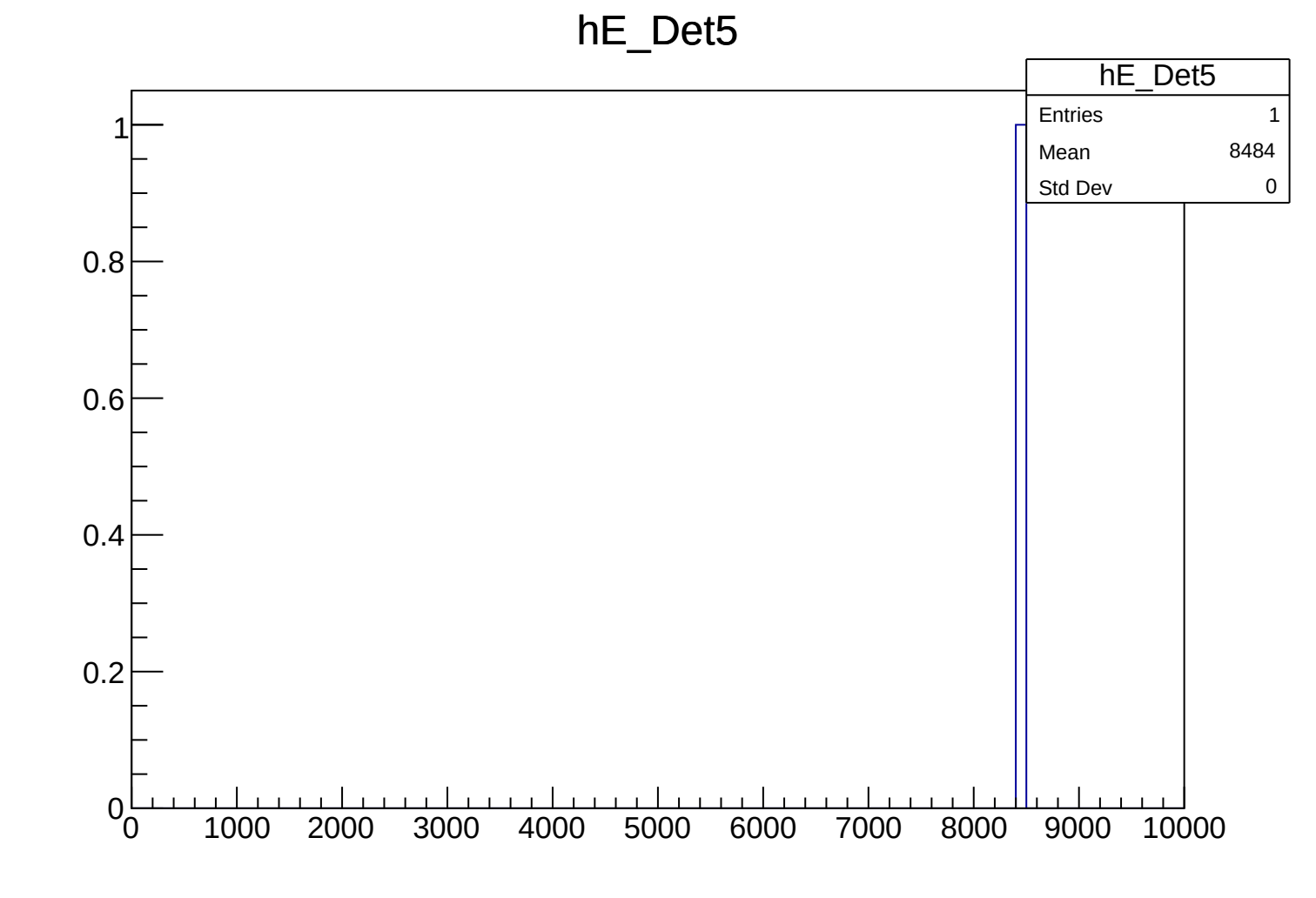

momangleHistX_Det4
momangleHistX_Det4
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
–20
–40
–60
–80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


momangleHistY_Det4
momangleHistY_Det4
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
−20
−40
−60
−80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


hdE_Det4
hdE_Det4
Entries 4
Mean 0.08433
Std Dev 0.1461
3
2.5
2
1.5
1
0.5
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2


Energy_Det4
h e+ E
1
8484
0
e+
gamma
10^4
10^3
10^2
10
1
10^{-1}
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


Spectrum_Det4
h_e+_EE
1
8484
0
e+
gamma
10^4
10^3
10^2
10
1
10^{-1}
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


hE_Det5
hE_Det5
Entries 1
Mean 8484
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
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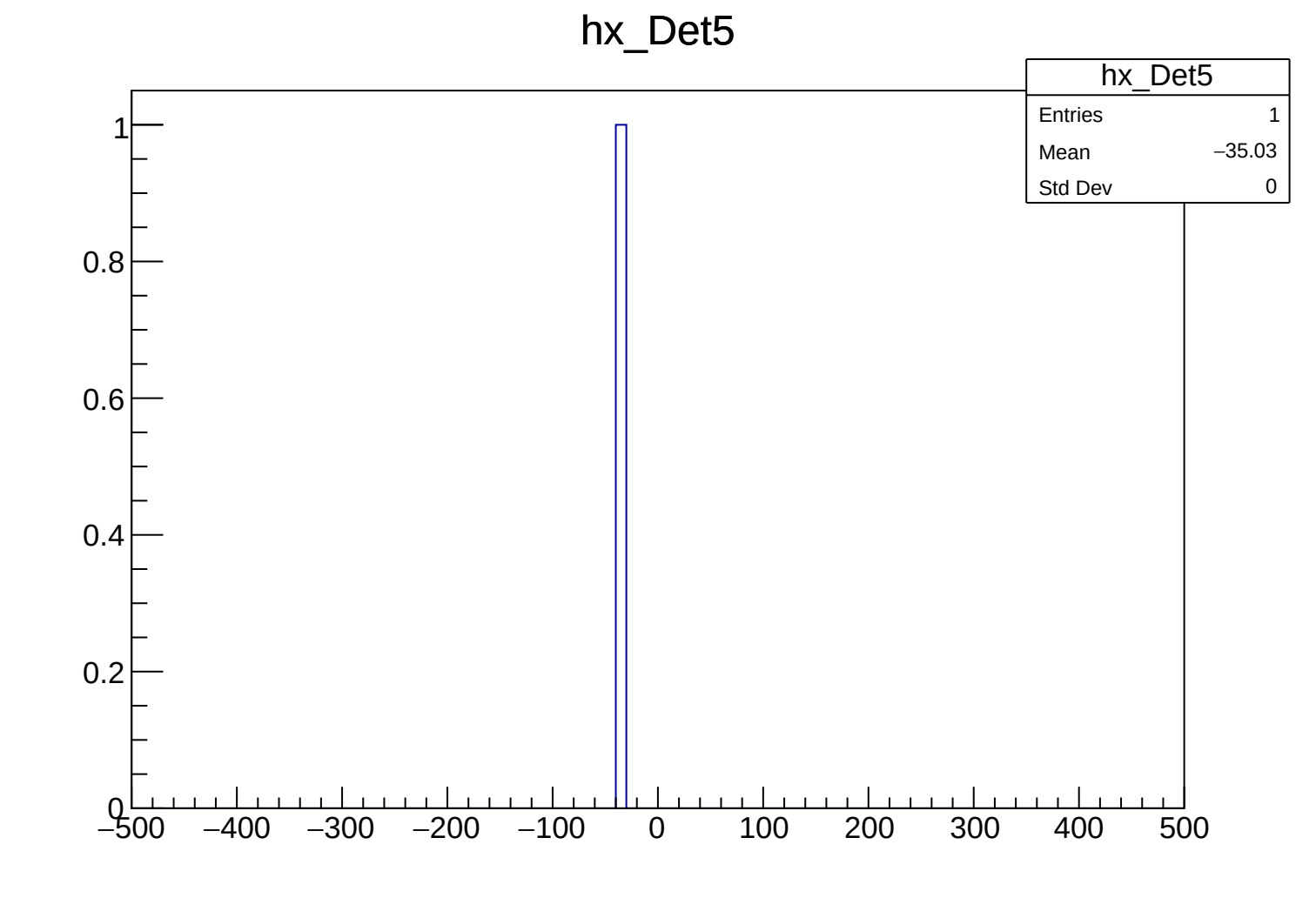
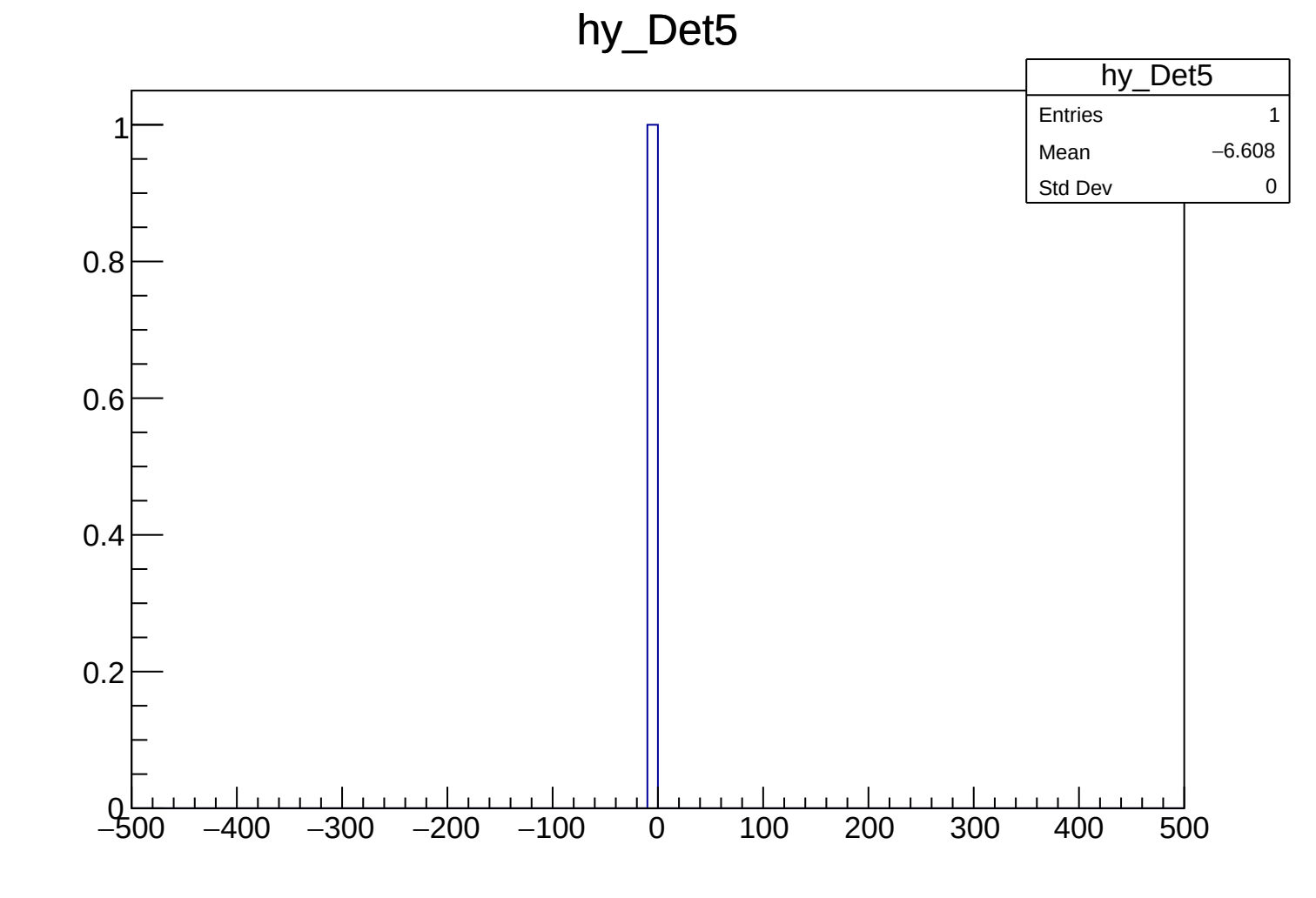
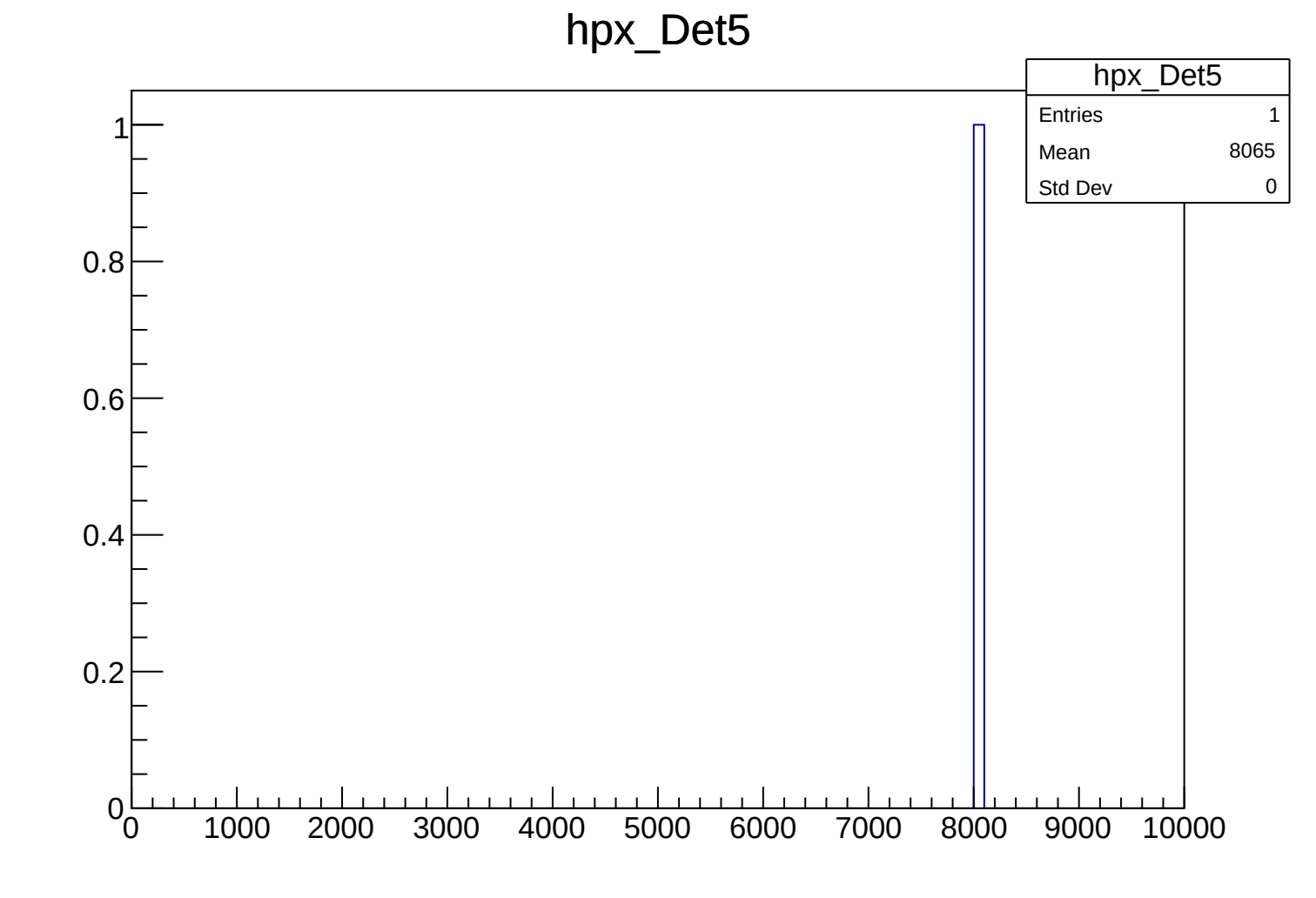
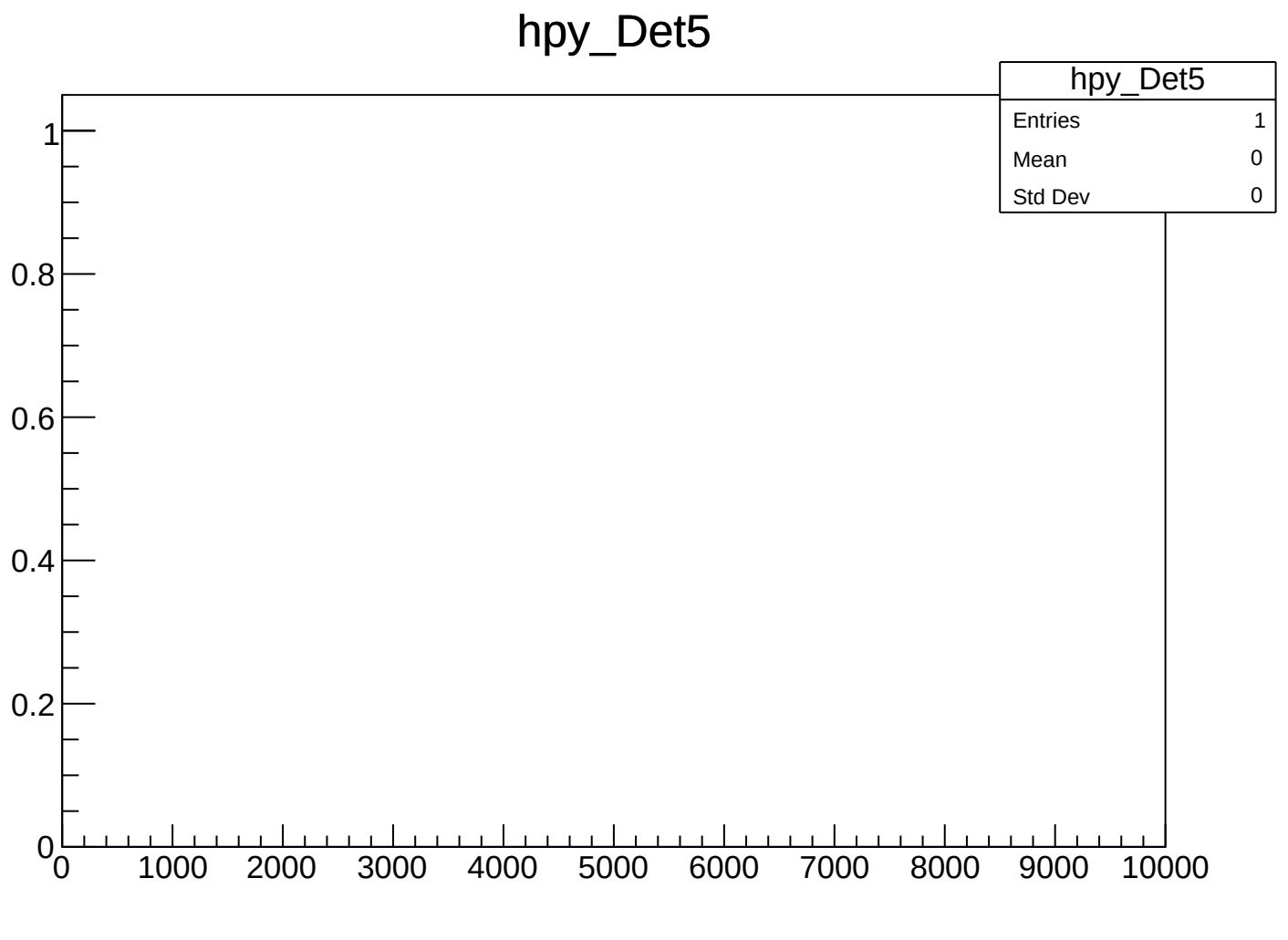
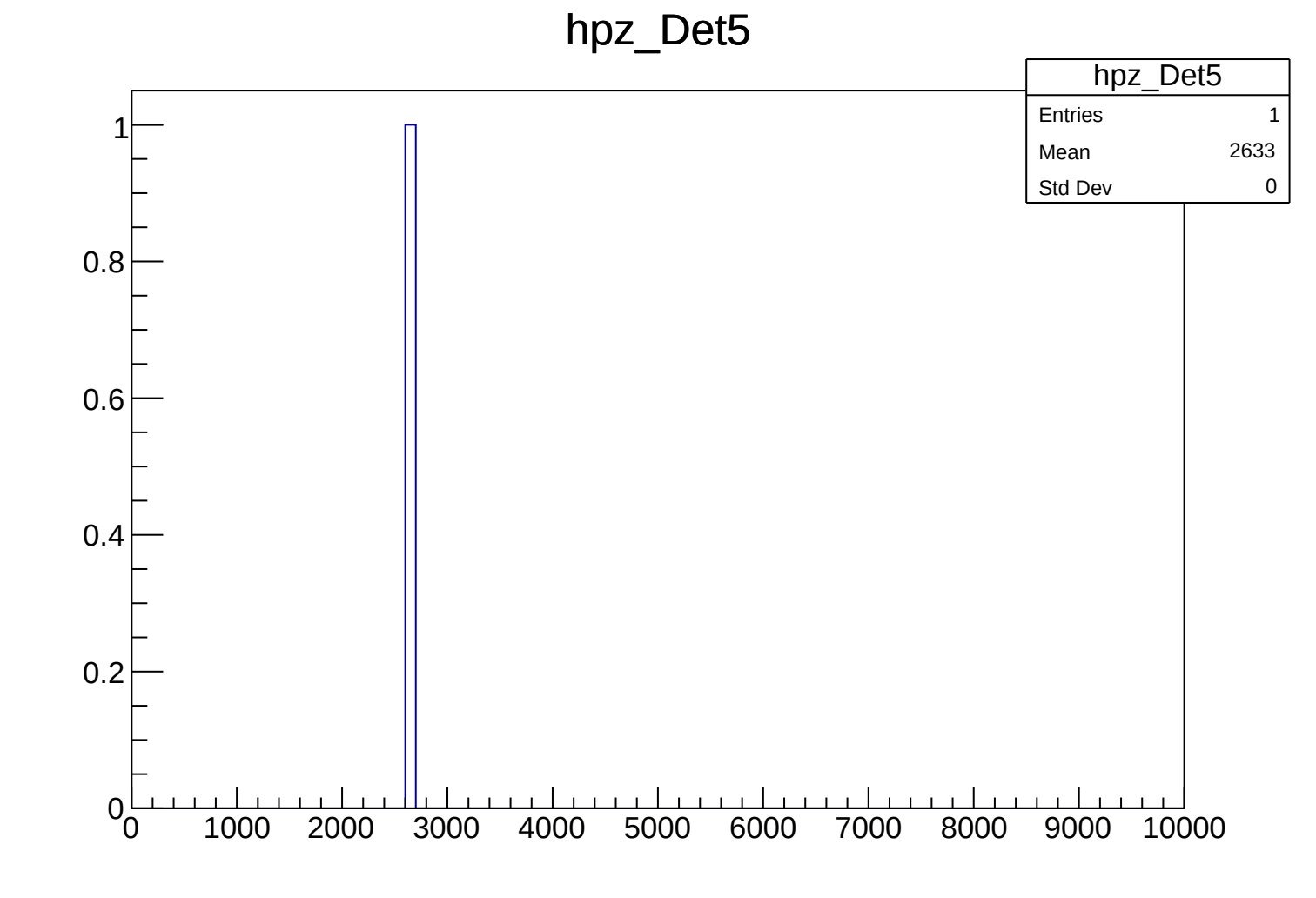
8000
9000
10000

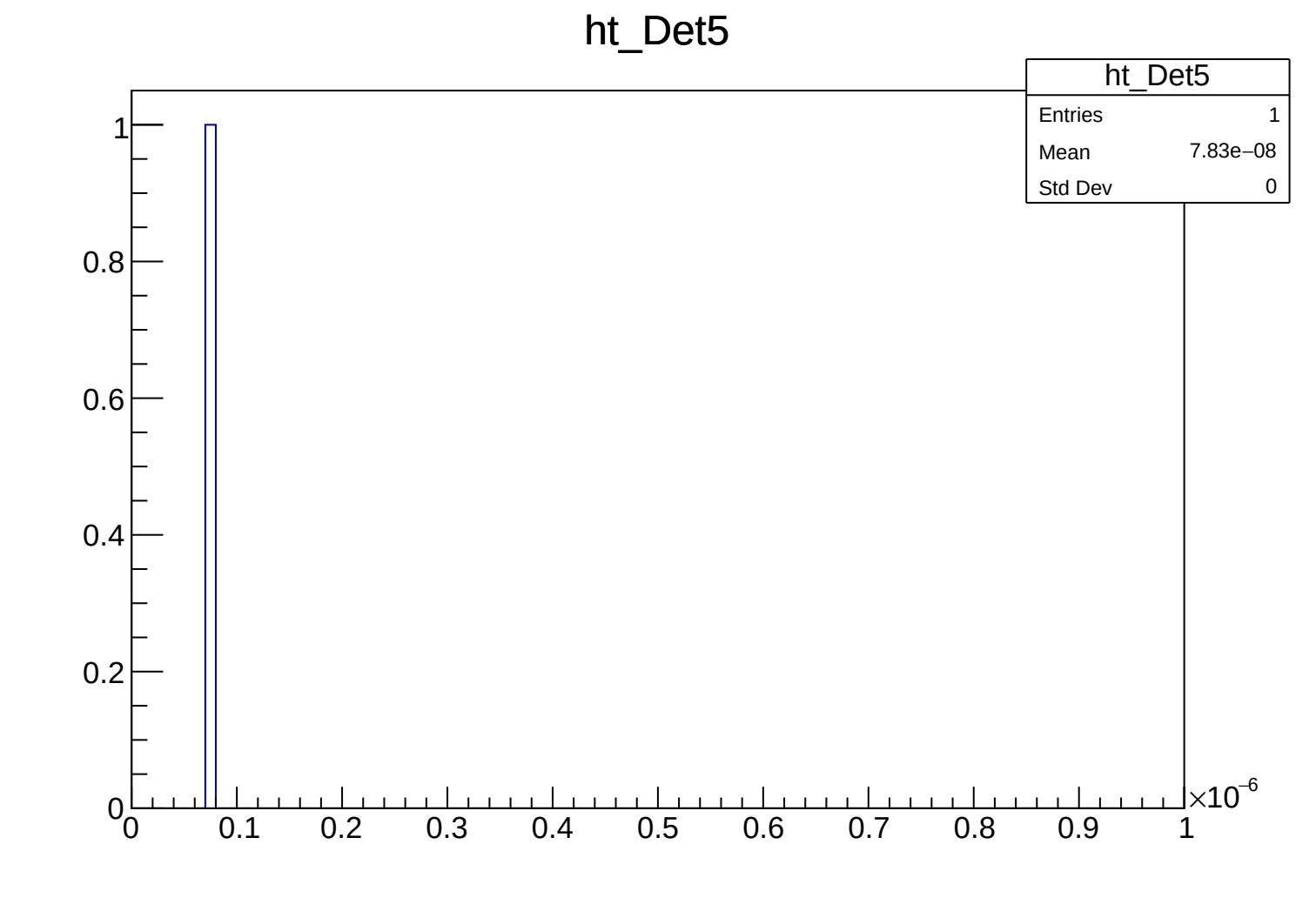

hx_Det5
hx_Det5
Entries 1
Mean −35.03
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−500
−400
−300
−200
−100
0
100
200
300
400
500

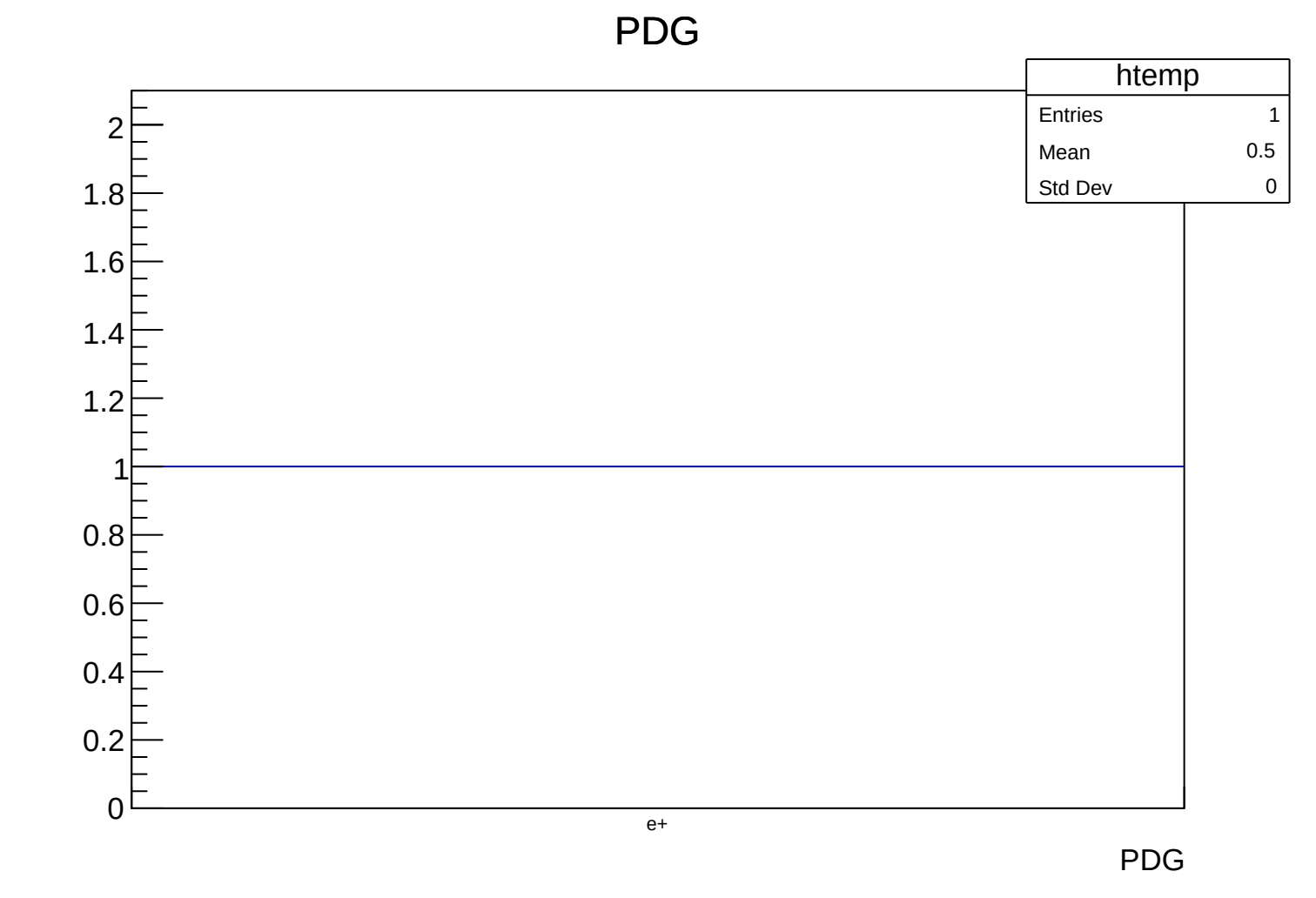

hy_Det5
hy_Det5
Entries 1
Mean −6.608
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−500
−400
−300
−200
−100
0
100
200
300
400
500

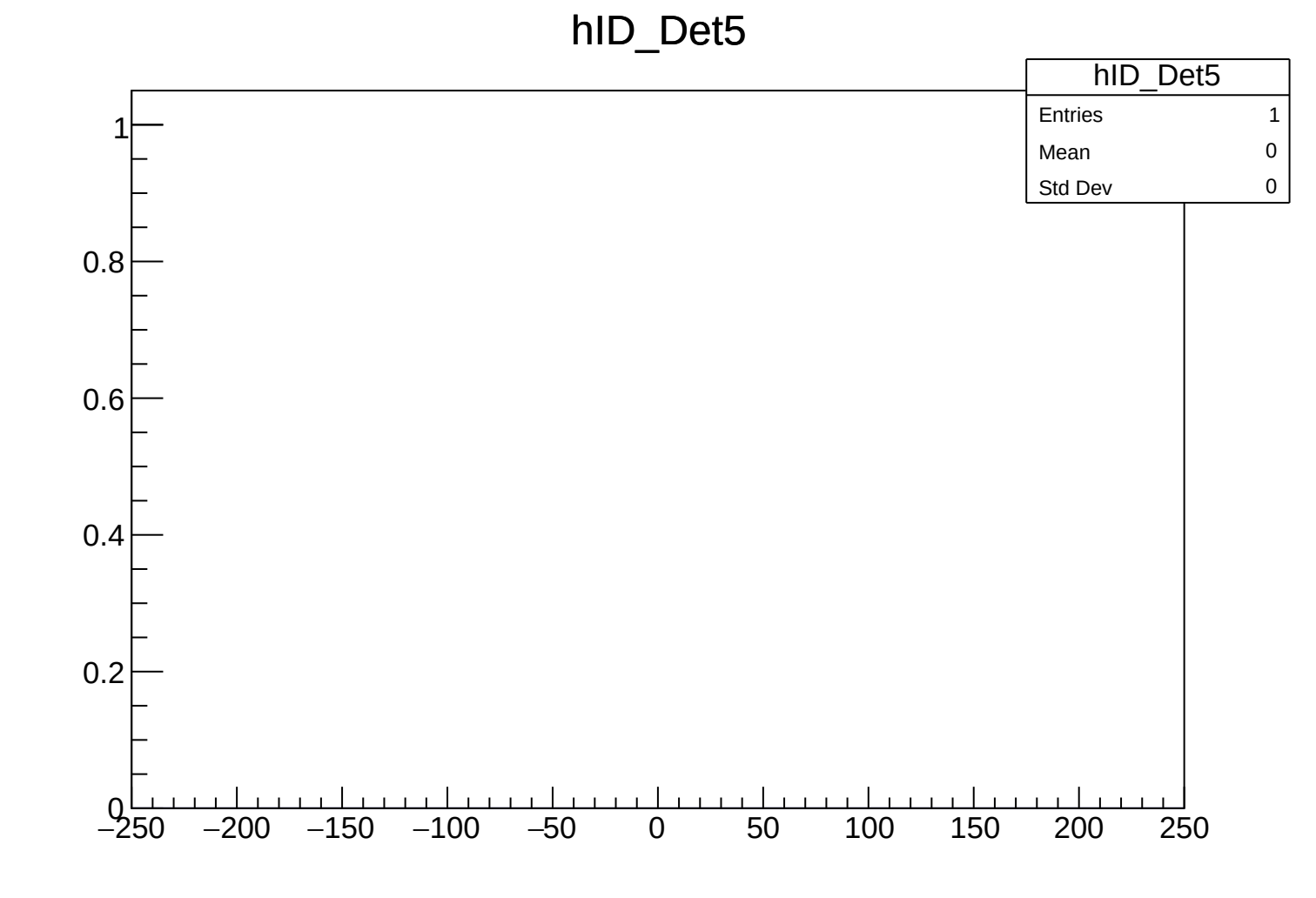

hpx_Det5
hpx_Det5
Entries 1
Mean 8065
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

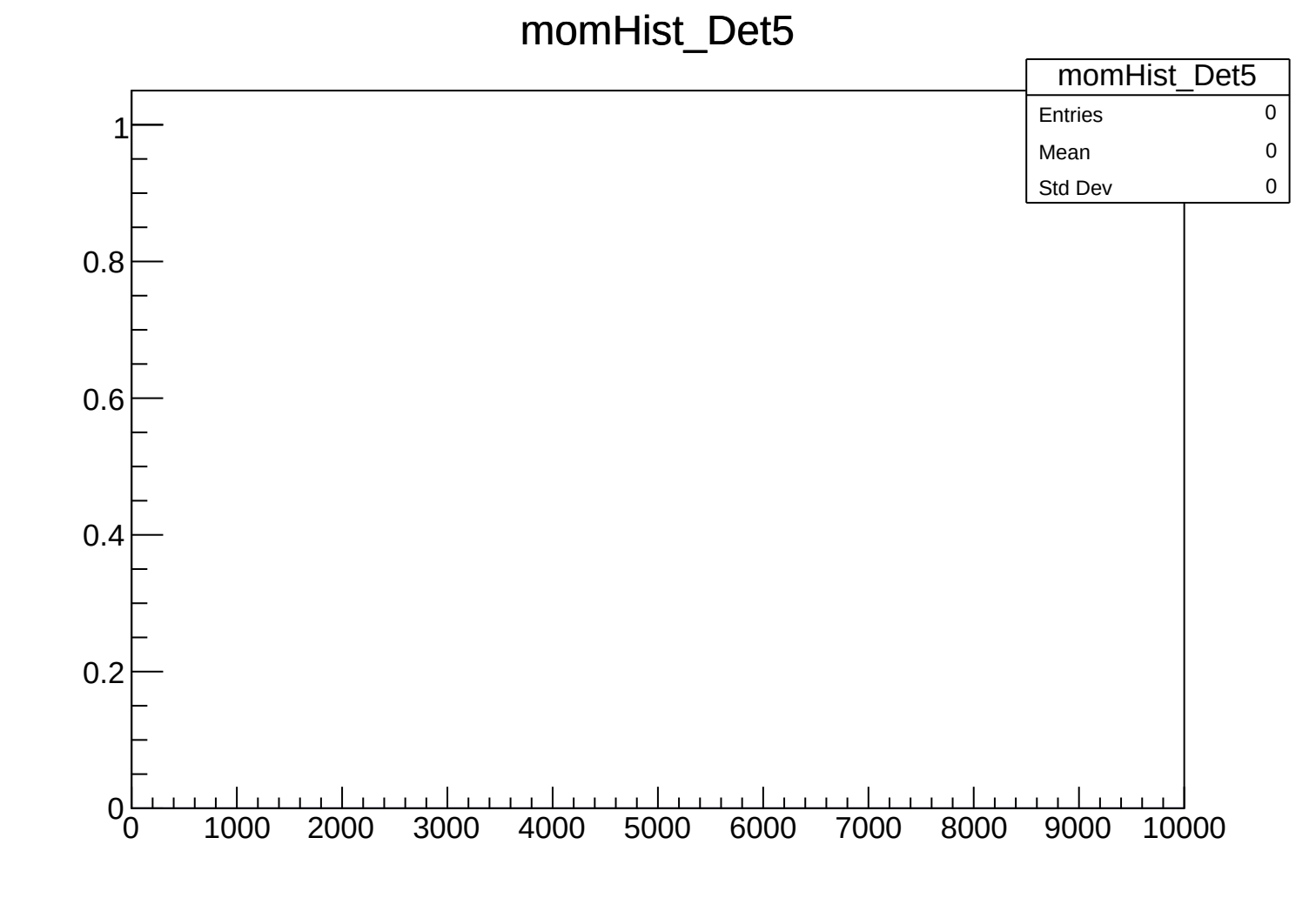

hpy_Det5
hpy_Det5
Entries 1
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


hpz_Det5
hpz_Det5
Entries 1
Mean 2633
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


ht_Det5
ht_Det5
Entries 1
Mean 7.83e−08
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
×10−6


PDG
htemp
Entries 1
Mean 0.5
Std Dev 0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
e+
PDG


hID_Det5
hID_Det5
Entries 1
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−250
−200
−150
−100
−50
0
50
100
150
200
250


momHist_Det5
momHist_Det5
Entries 0
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
1000
2000
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4000
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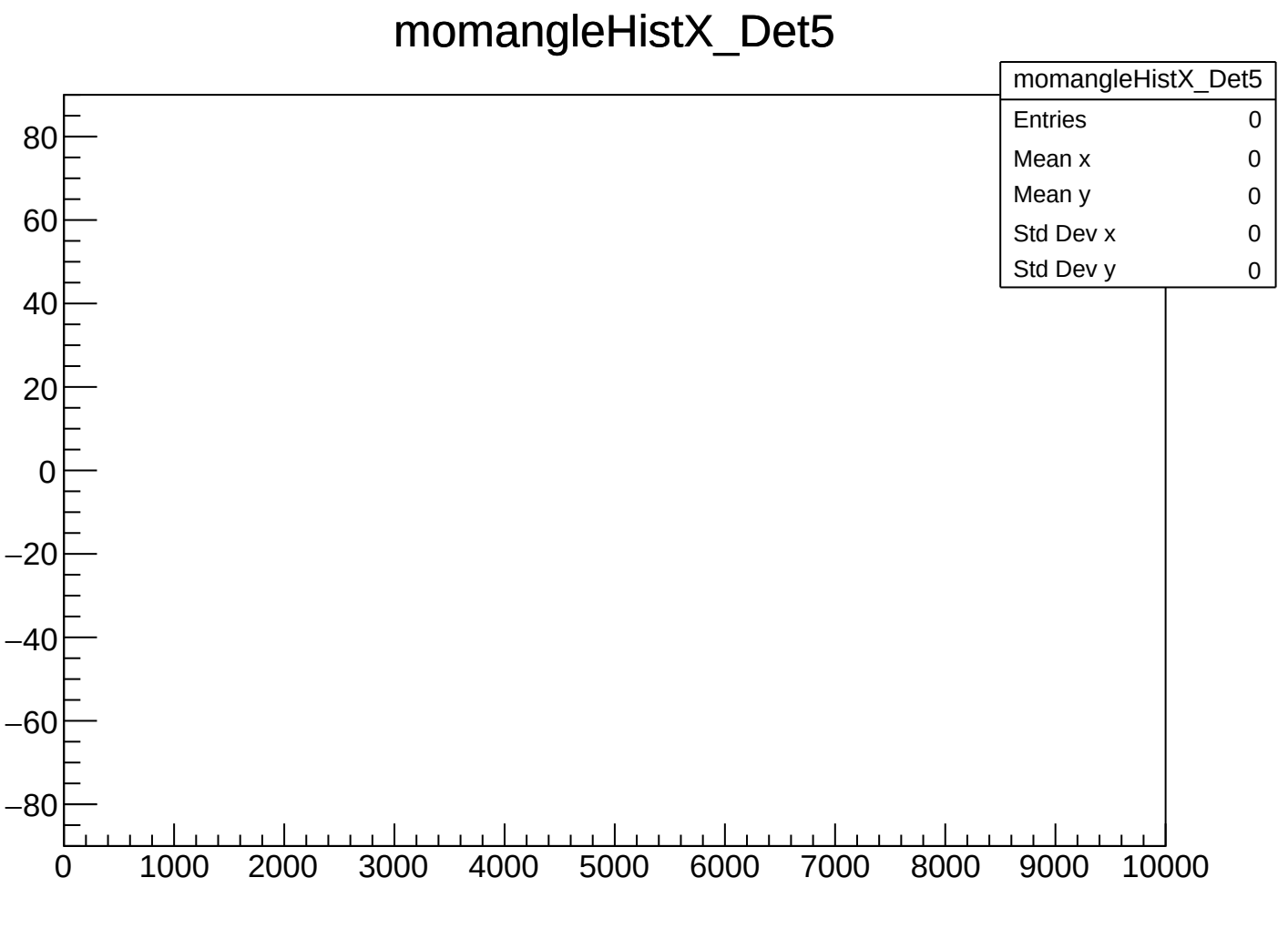
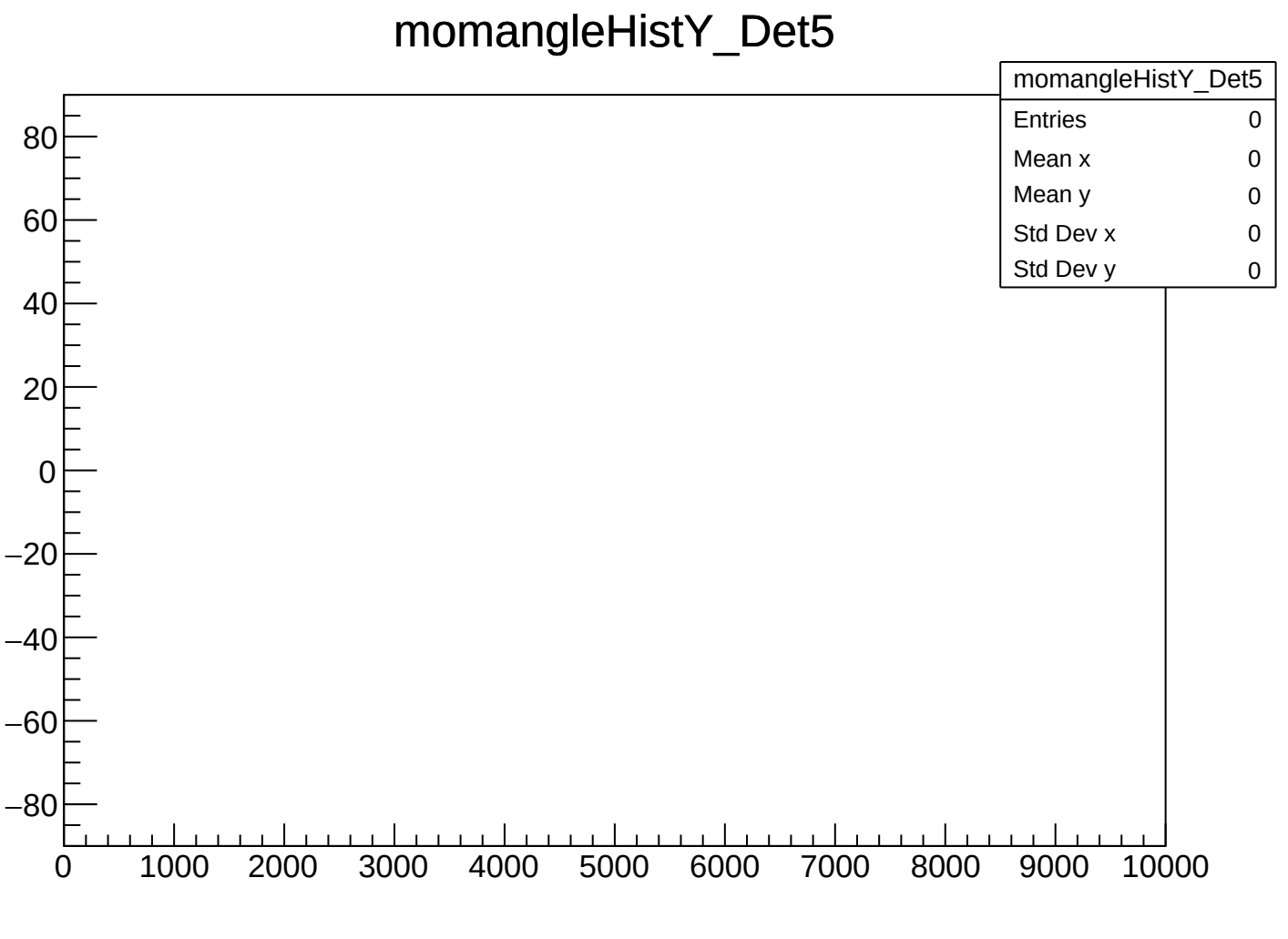
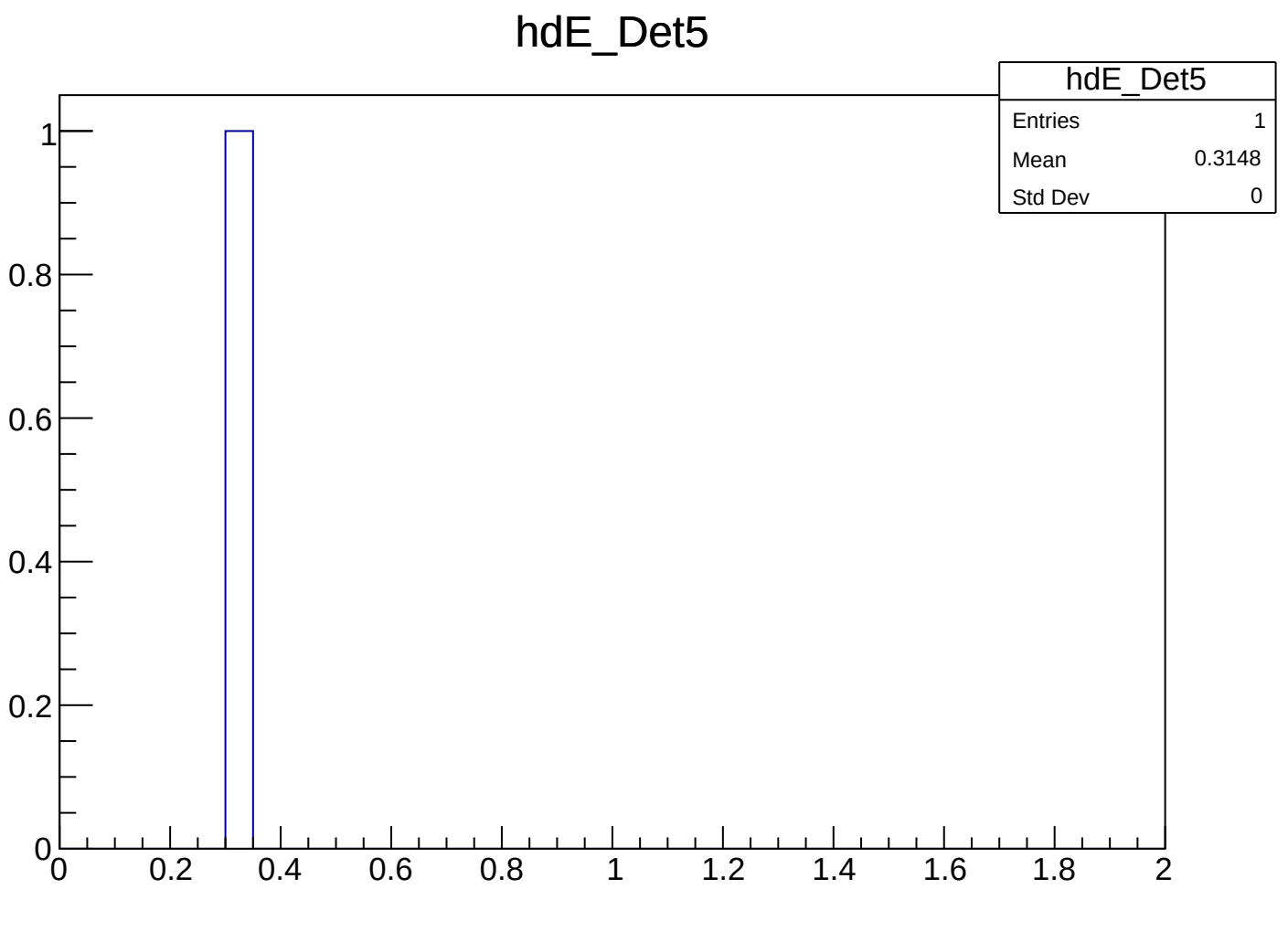
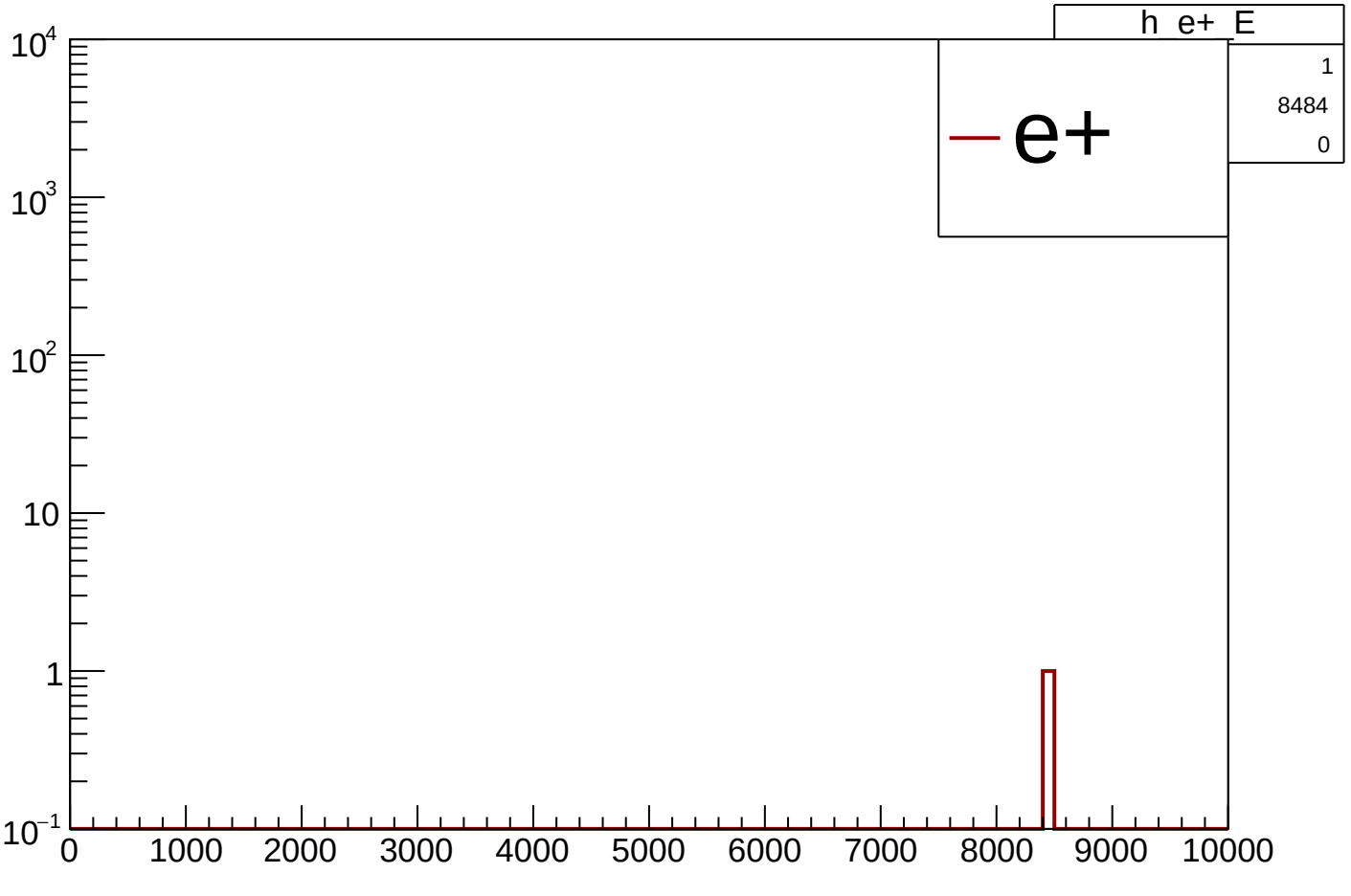
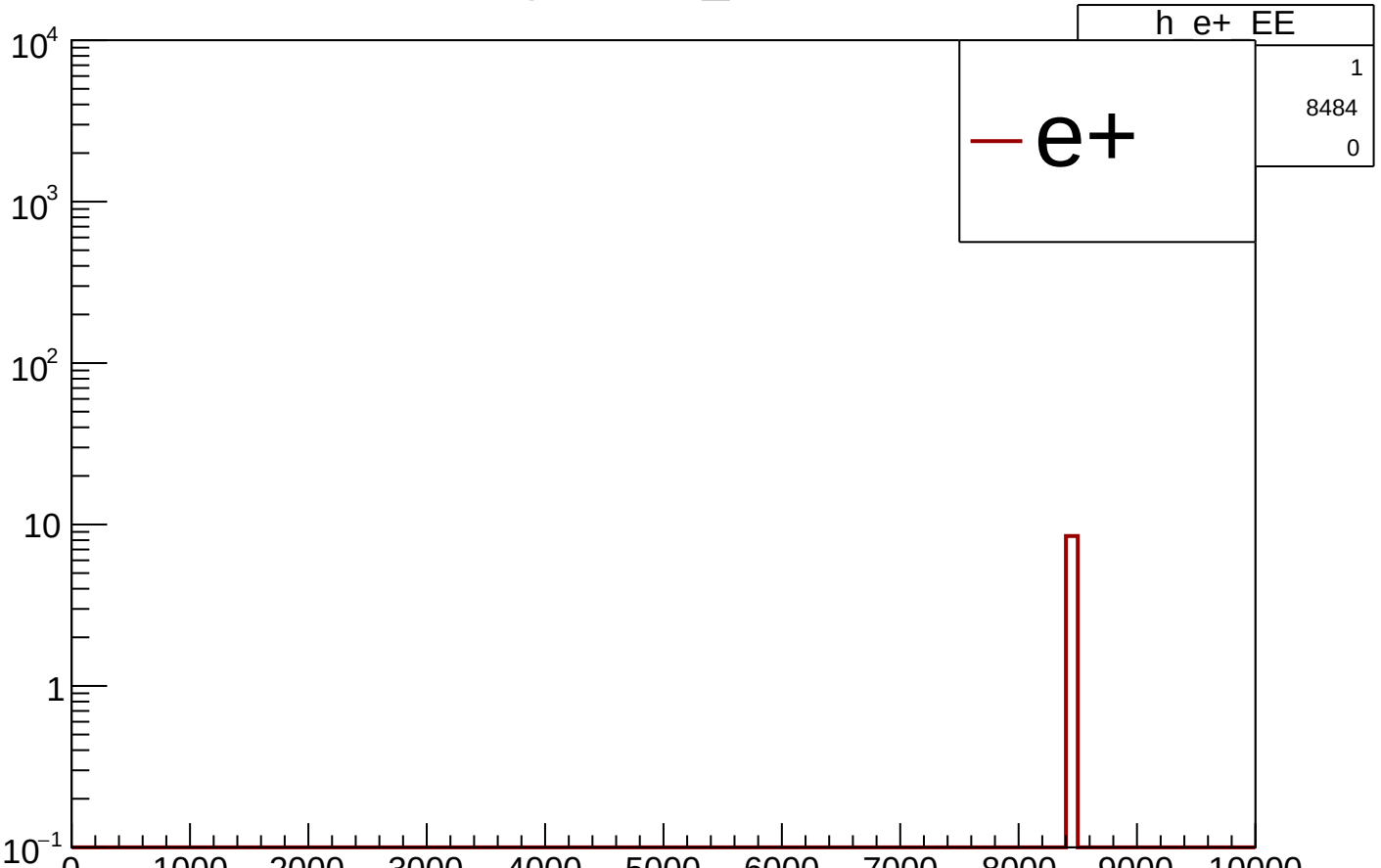
7000
8000
9000
10000

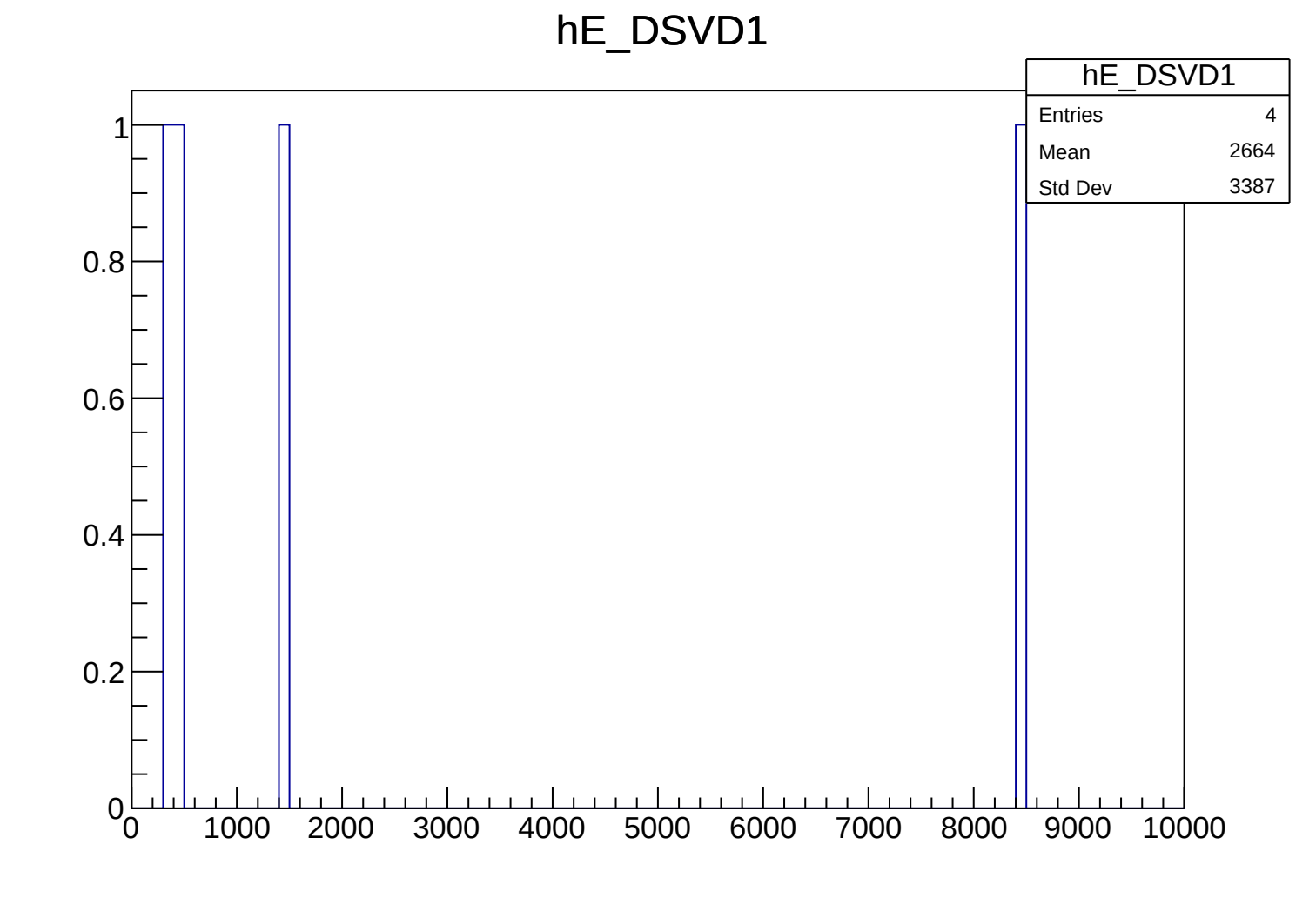

momangleHistX_Det5
momangleHistX_Det5
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
–20
–40
–60
–80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

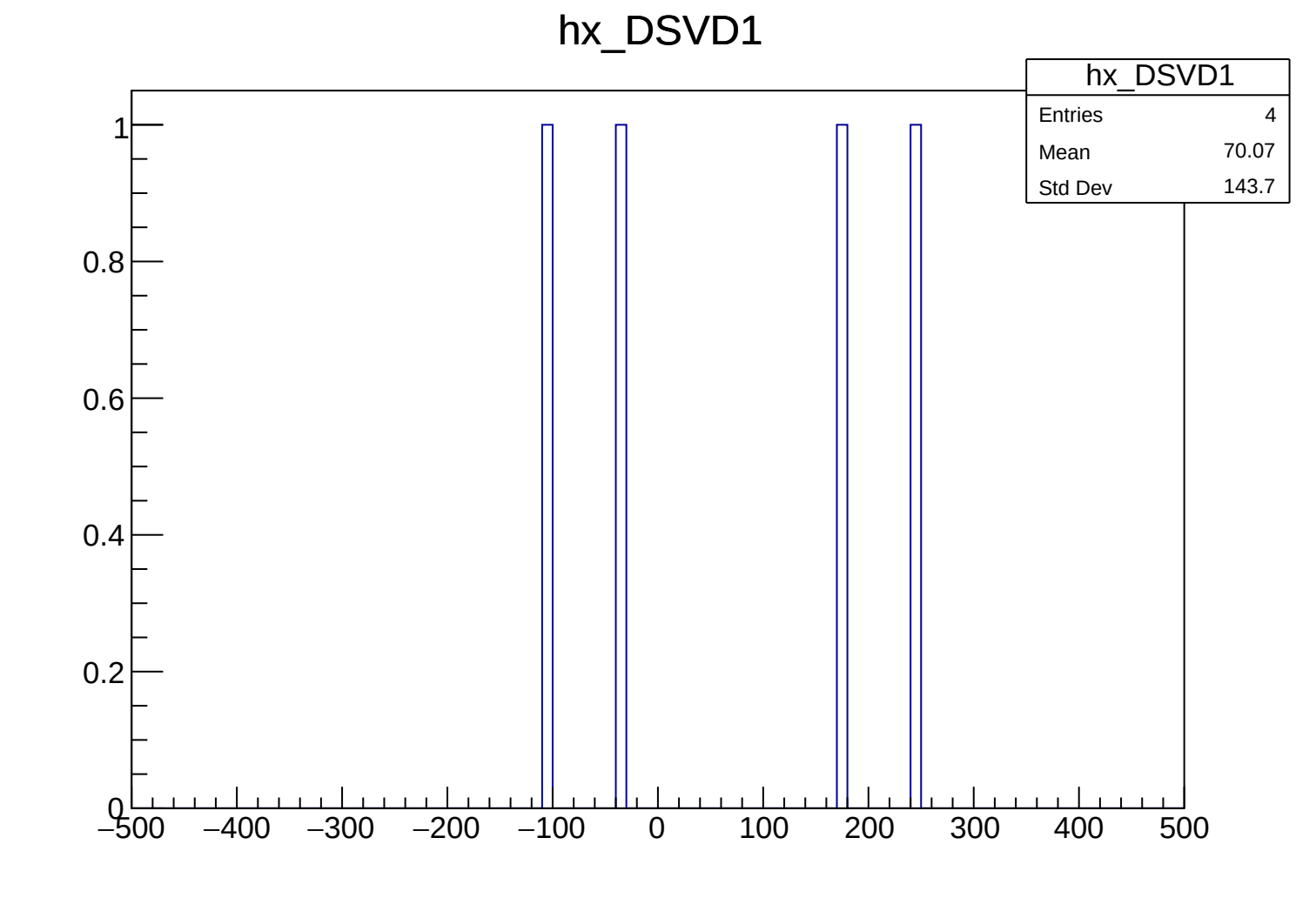

momangleHistY_Det5
momangleHistY_Det5
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
–20
–40
–60
–80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

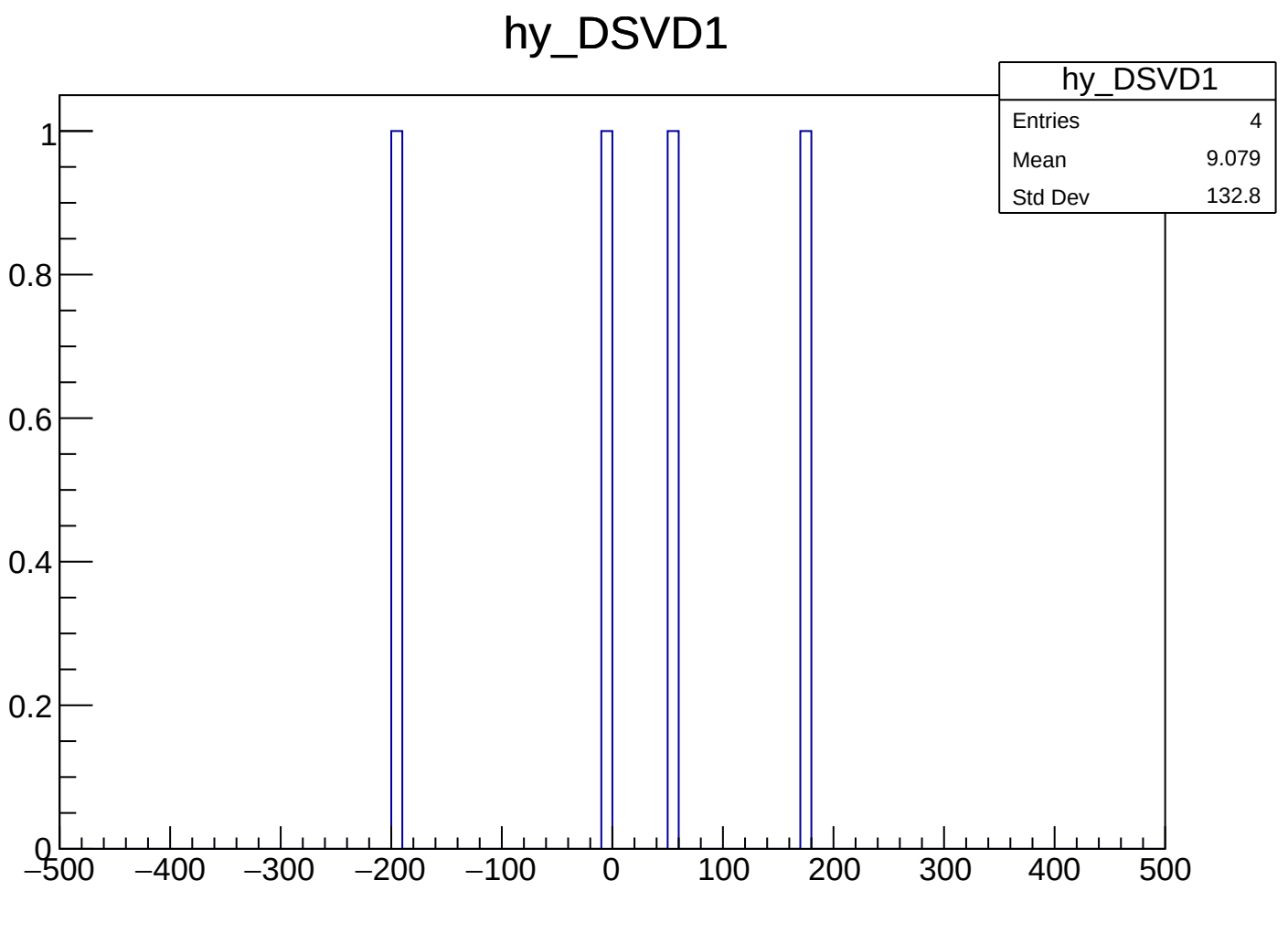

hdE_Det5
hdE_Det5
Entries 1
Mean 0.3148
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

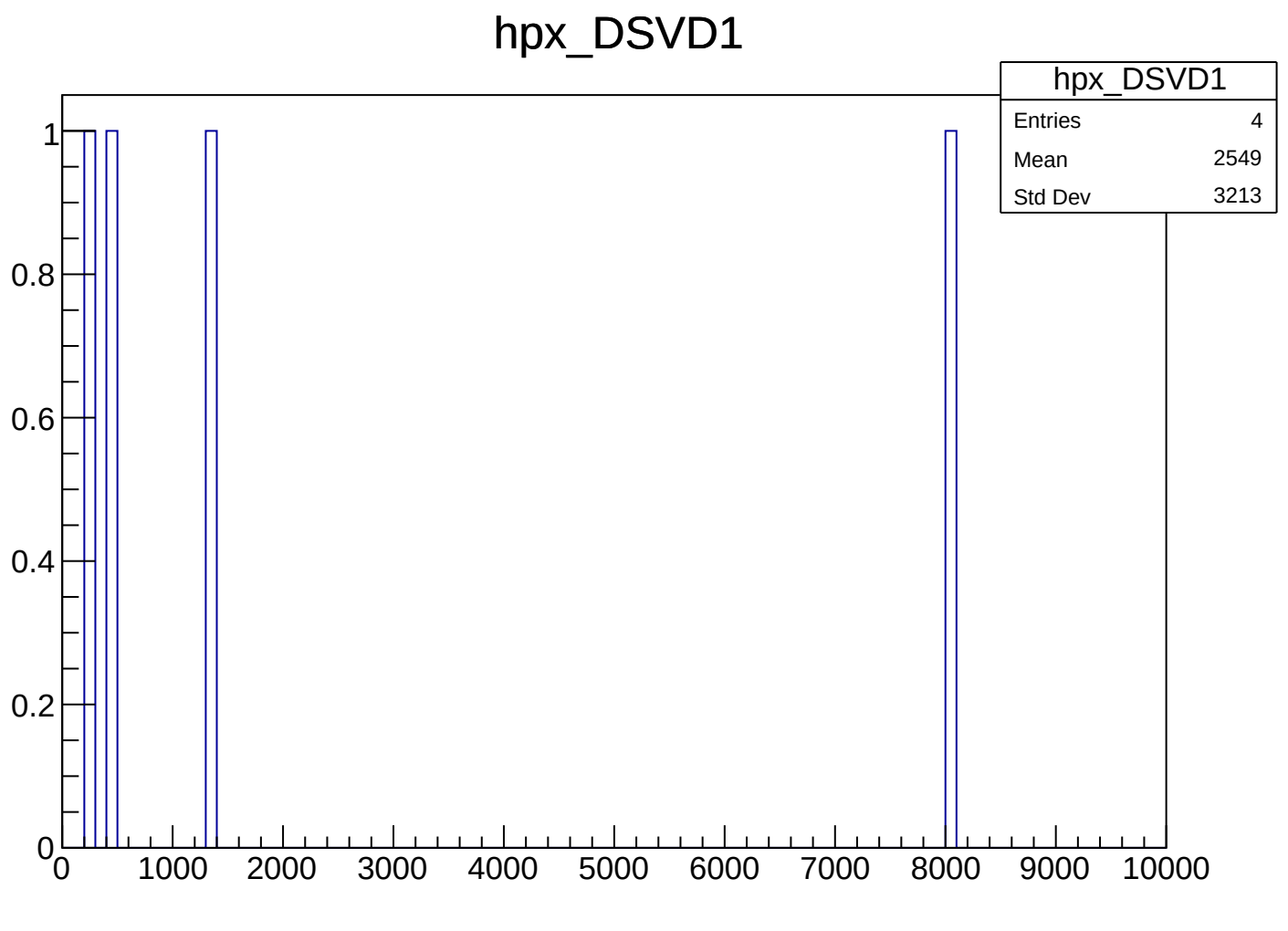

Energy_Det5
h e+ E
1
8484
0
e+
10^4
10^3
10^2
10
1
10^{-1}
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


Spectrum_Det5
h_e+_EE
1
8484
0
e+
10^4
10^3
10^2
10
1
10^{-1}
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


hE_DSVD1
hE_DSVD1
Entries 4
Mean 2664
Std Dev 3387
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


hx_DSVD1
hx_DSVD1
Entries 4
Mean 70.07
Std Dev 143.7
1
0.8
0.6
0.4
0.2
0
−500
−400
−300
−200
−100
0
100
200
300
400
500


hy_DSVD1
hy_DSVD1
Entries 4
Mean 9.079
Std Dev 132.8
1
0.8
0.6
0.4
0.2
0
−500
−400
−300
−200
−100
0
100
200
300
400
500


hpx_DSVD1
hpx_DSVD1
Entries 4
Mean 2549
Std Dev 3213
1
0.8
0.6
0.4
0.2
0
0
1000
2000
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4000
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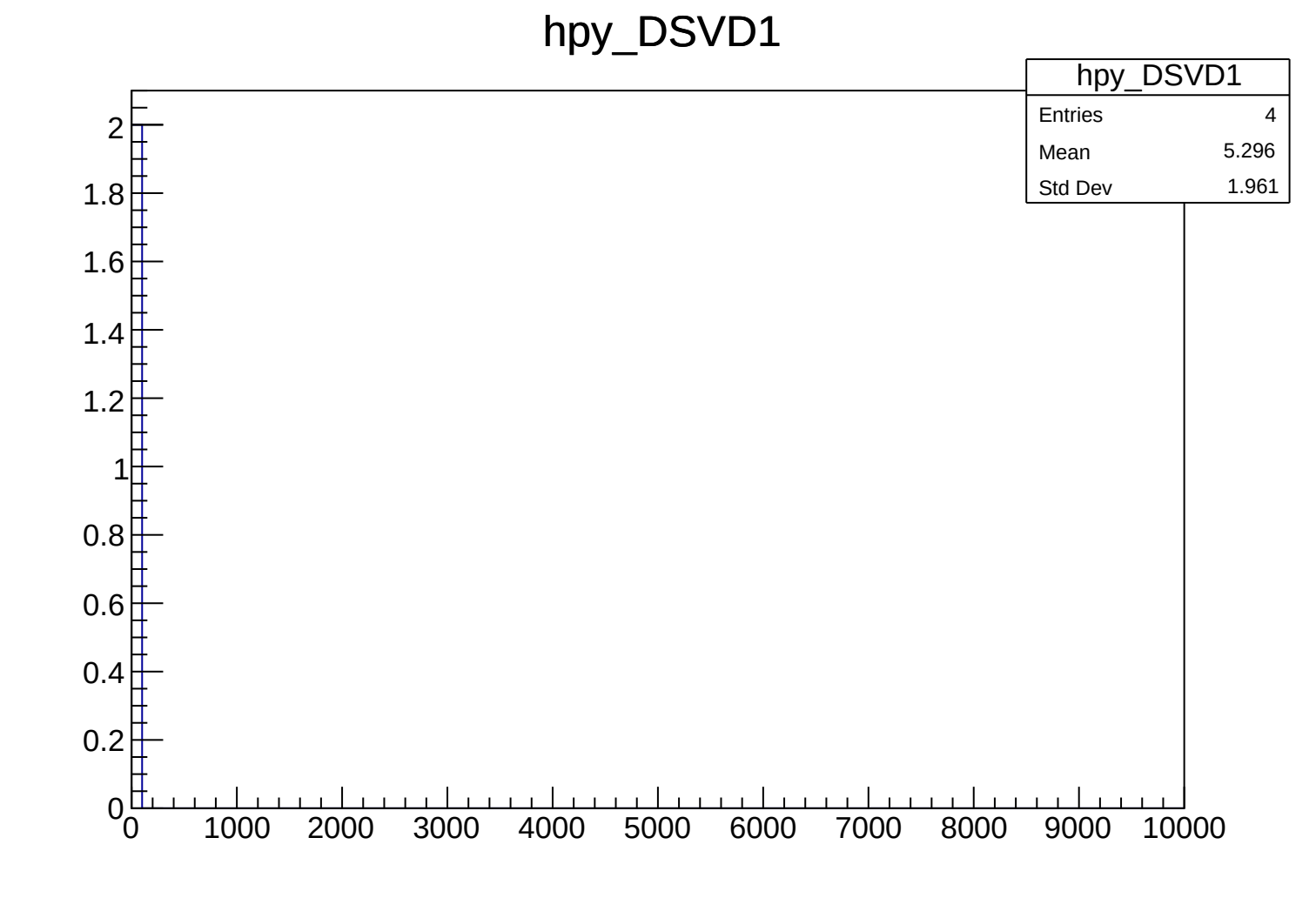
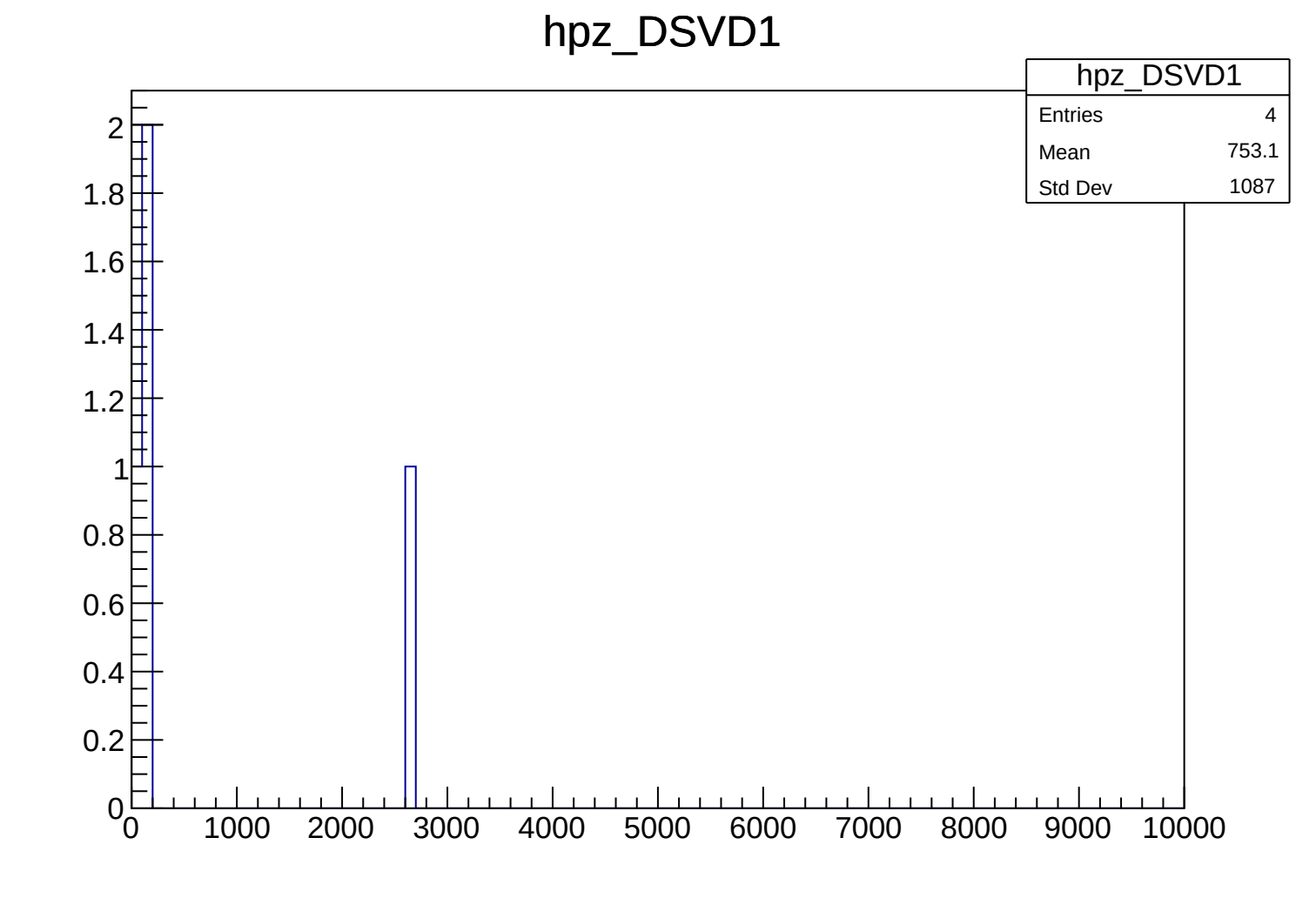
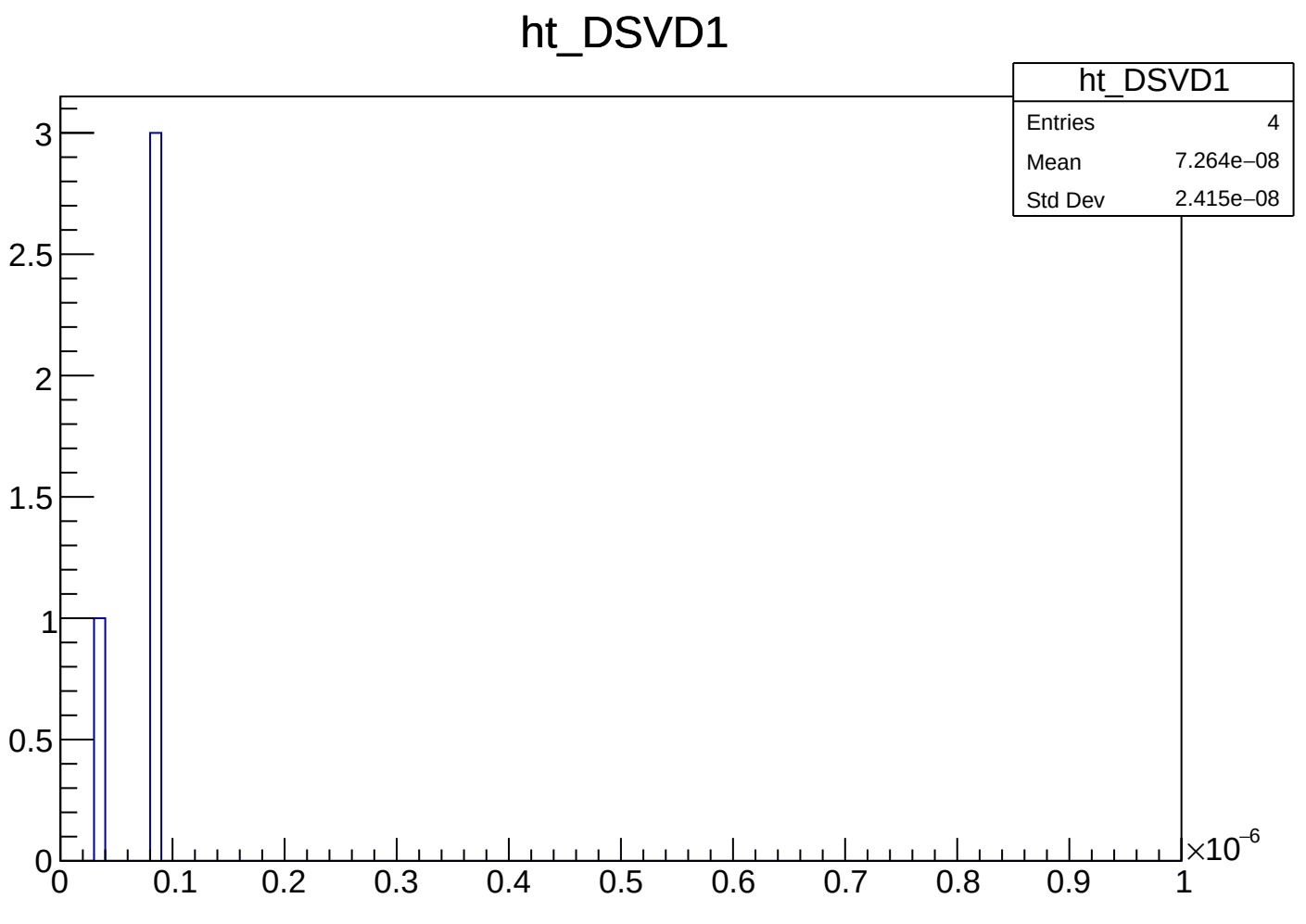
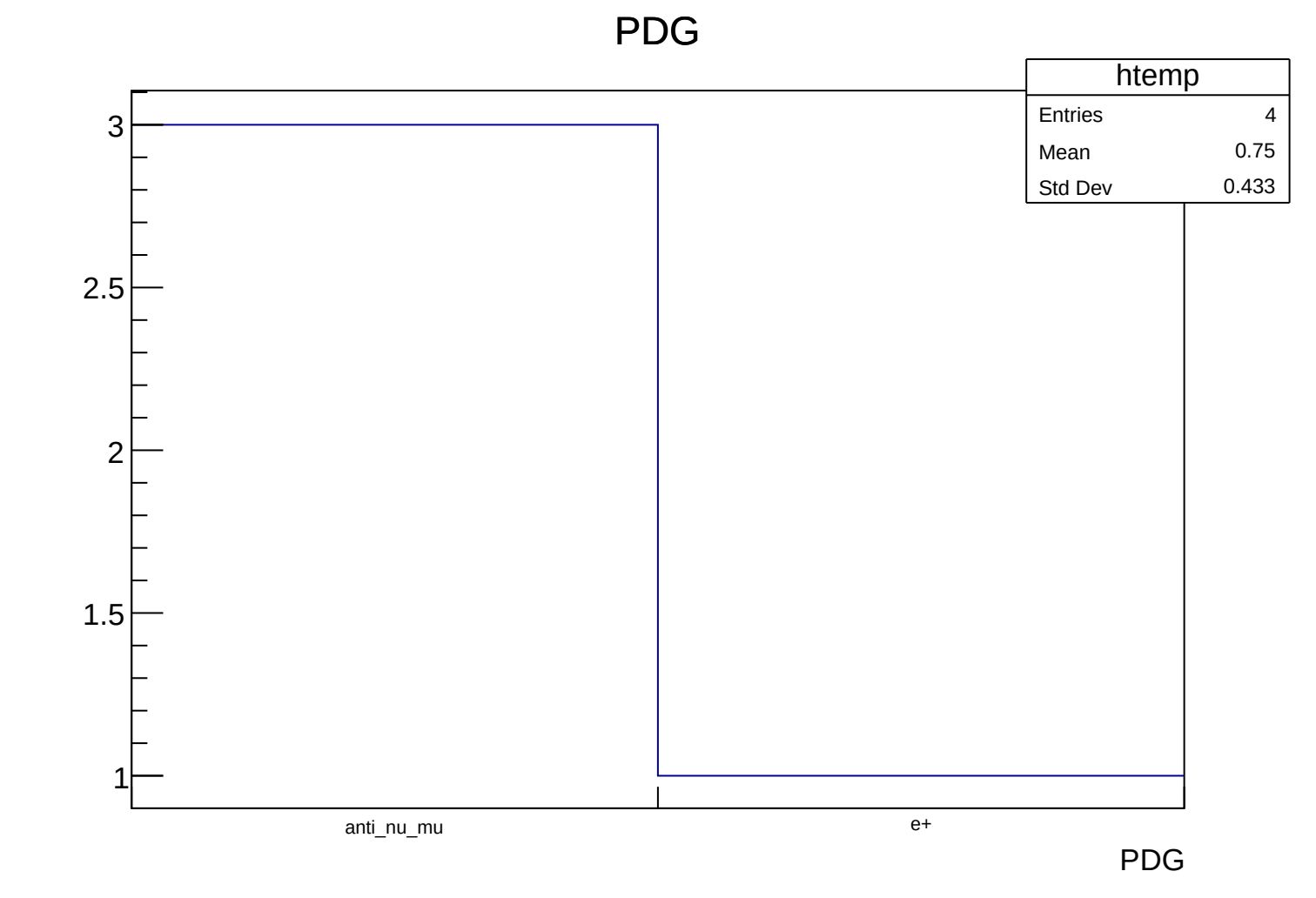
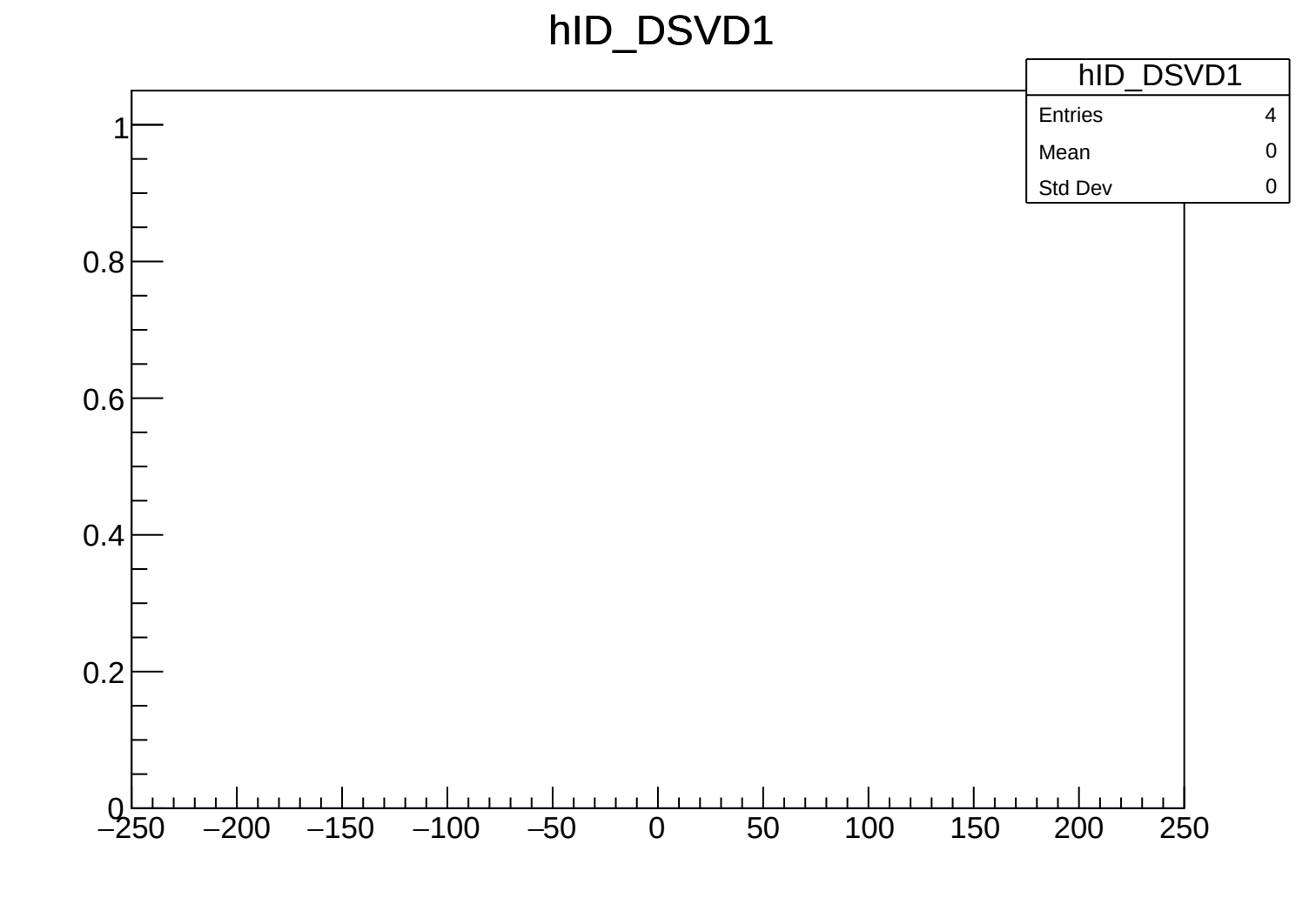
6000
7000
8000
9000
10000

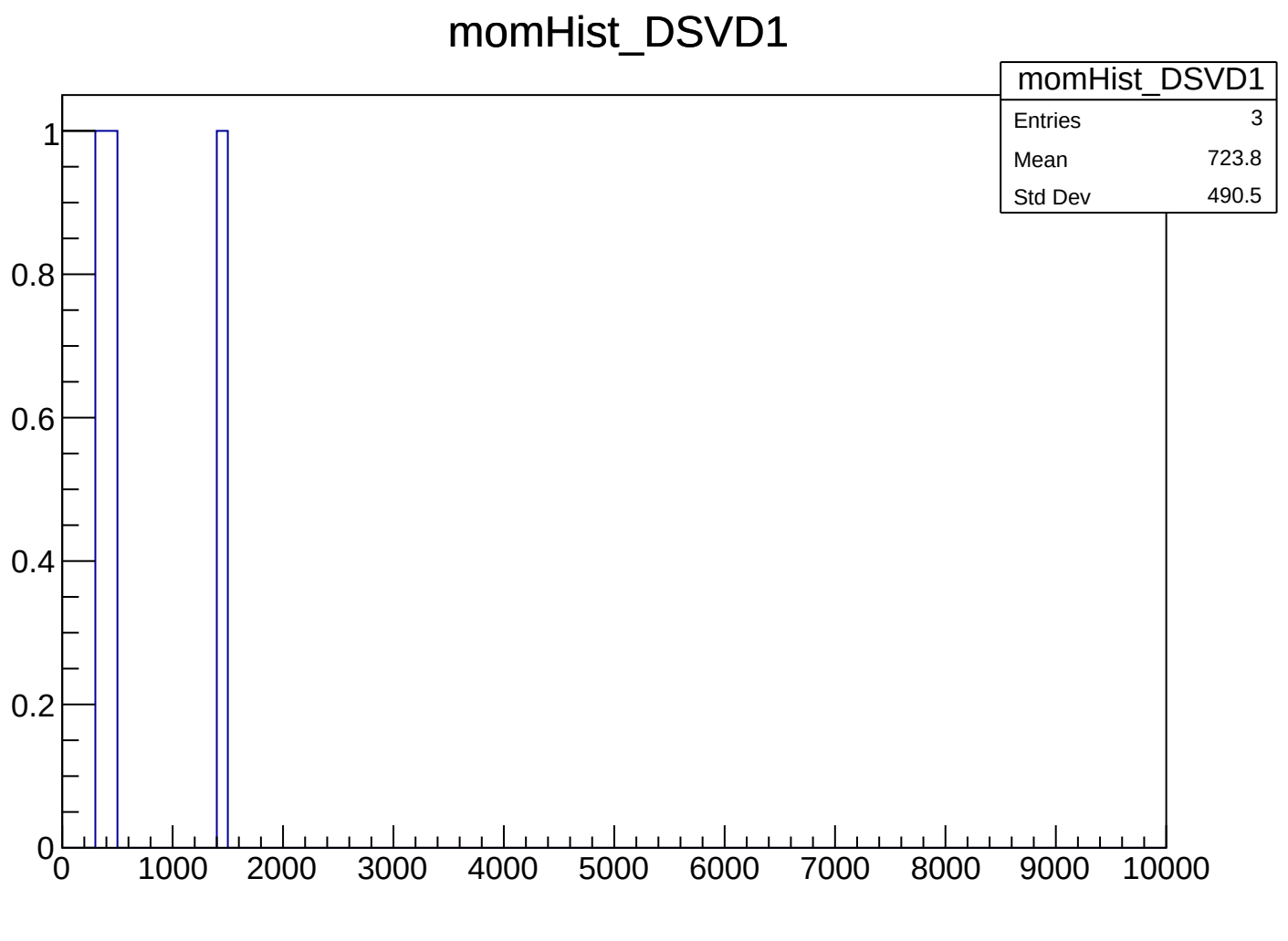

hpy_DSVD1
hpy_DSVD1
Entries 4
Mean 5.296
Std Dev 1.961
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

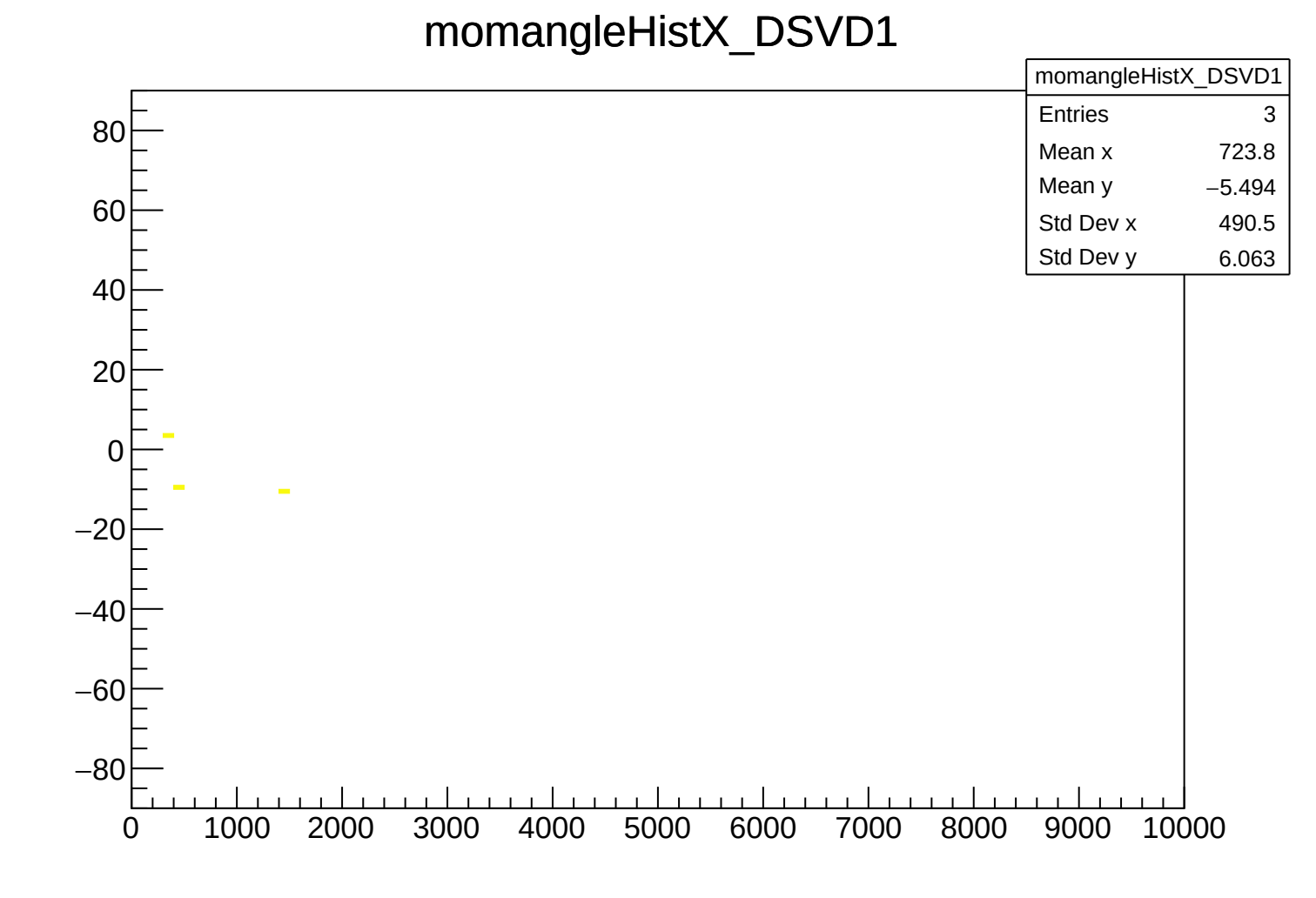

hpz_DSVD1
hpz_DSVD1
Entries 4
Mean 753.1
Std Dev 1087
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

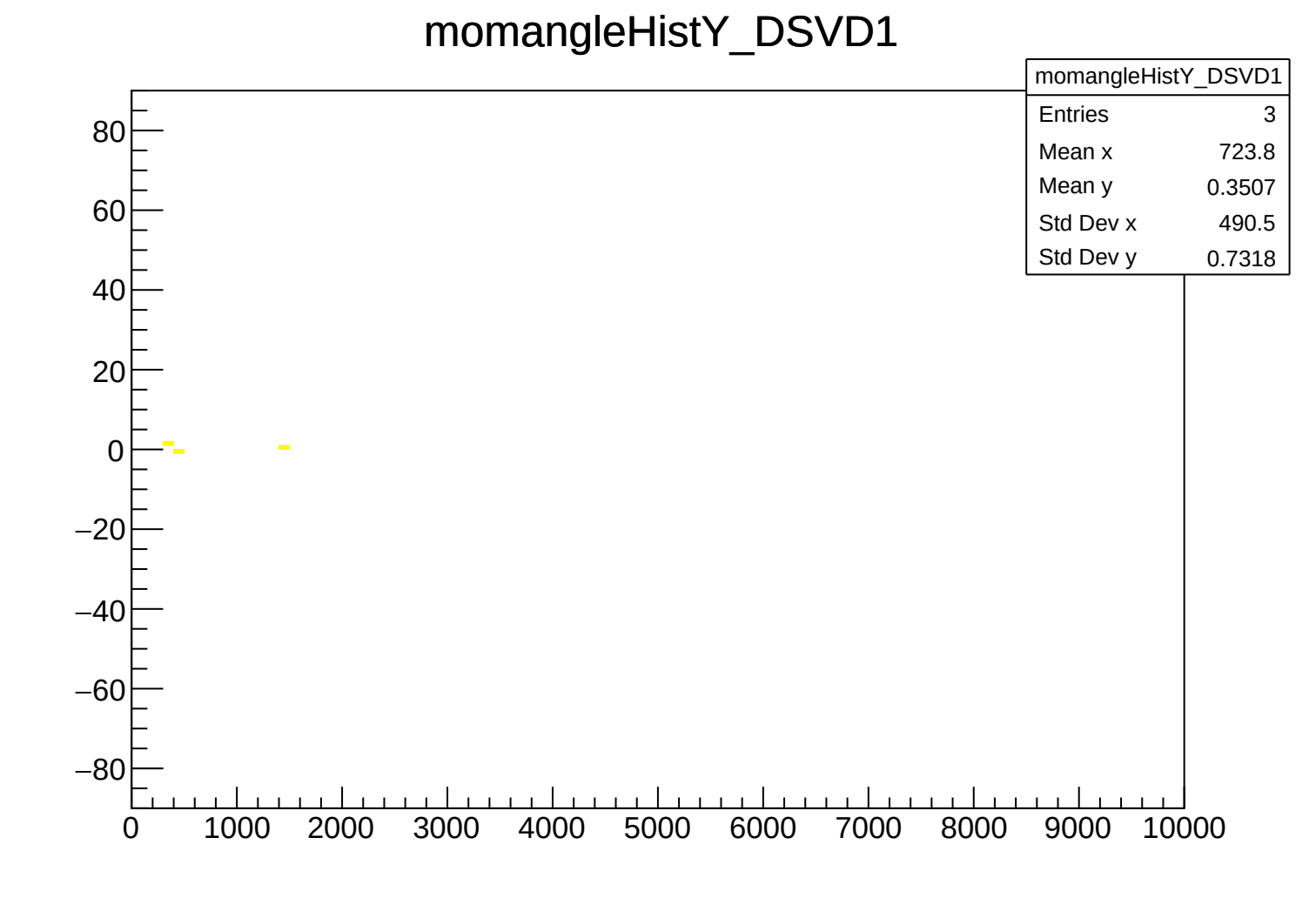

ht_DSVD1
ht_DSVD1
Entries 4
Mean 7.264e−08
Std Dev 2.415e−08
3
2.5
2
1.5
1
0.5
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
×10−6

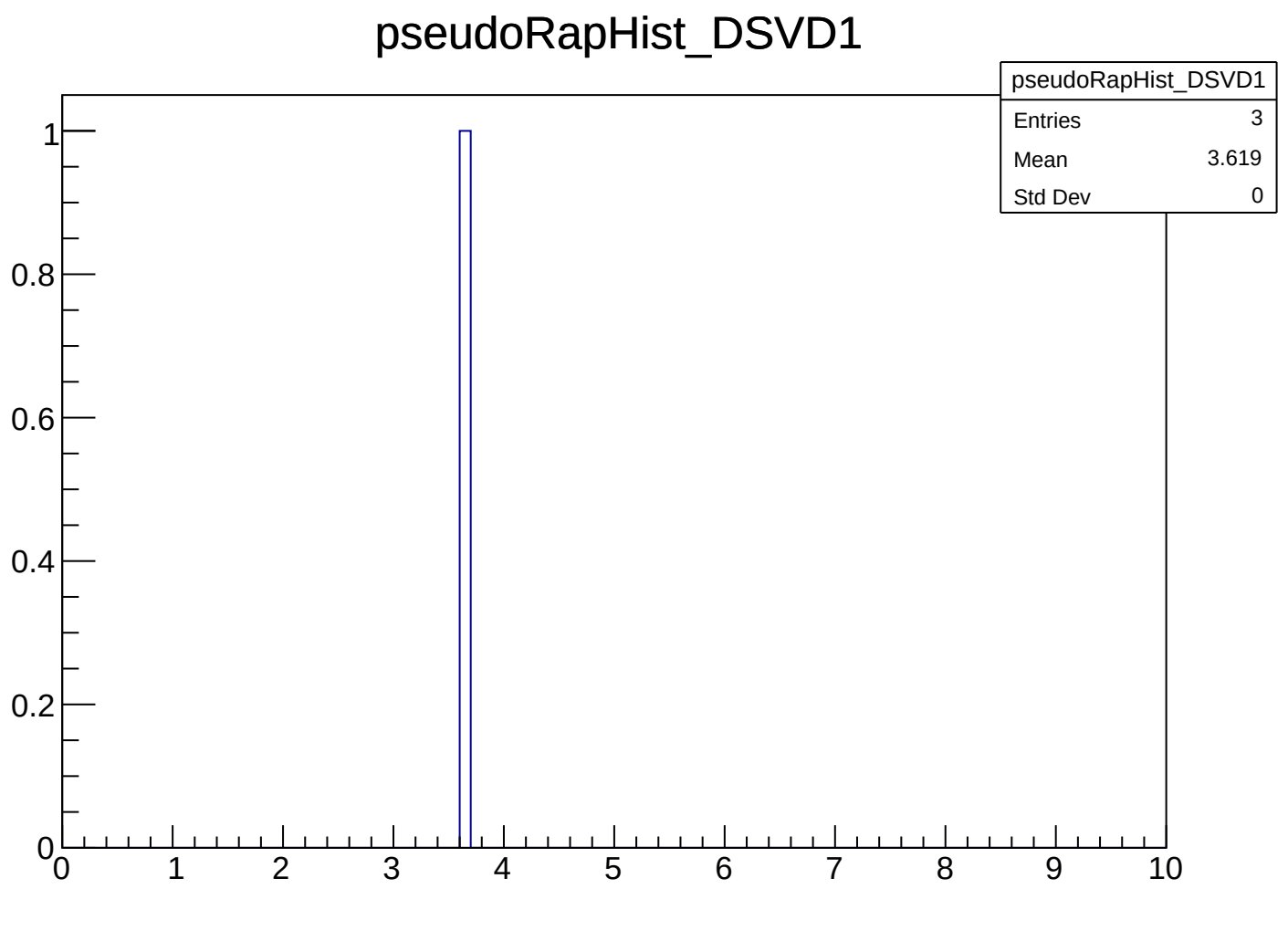

PDG
htemp
Entries 4
Mean 0.75
Std Dev 0.433
3
2.5
2
1.5
1
anti_nu_mu
e+
PDG

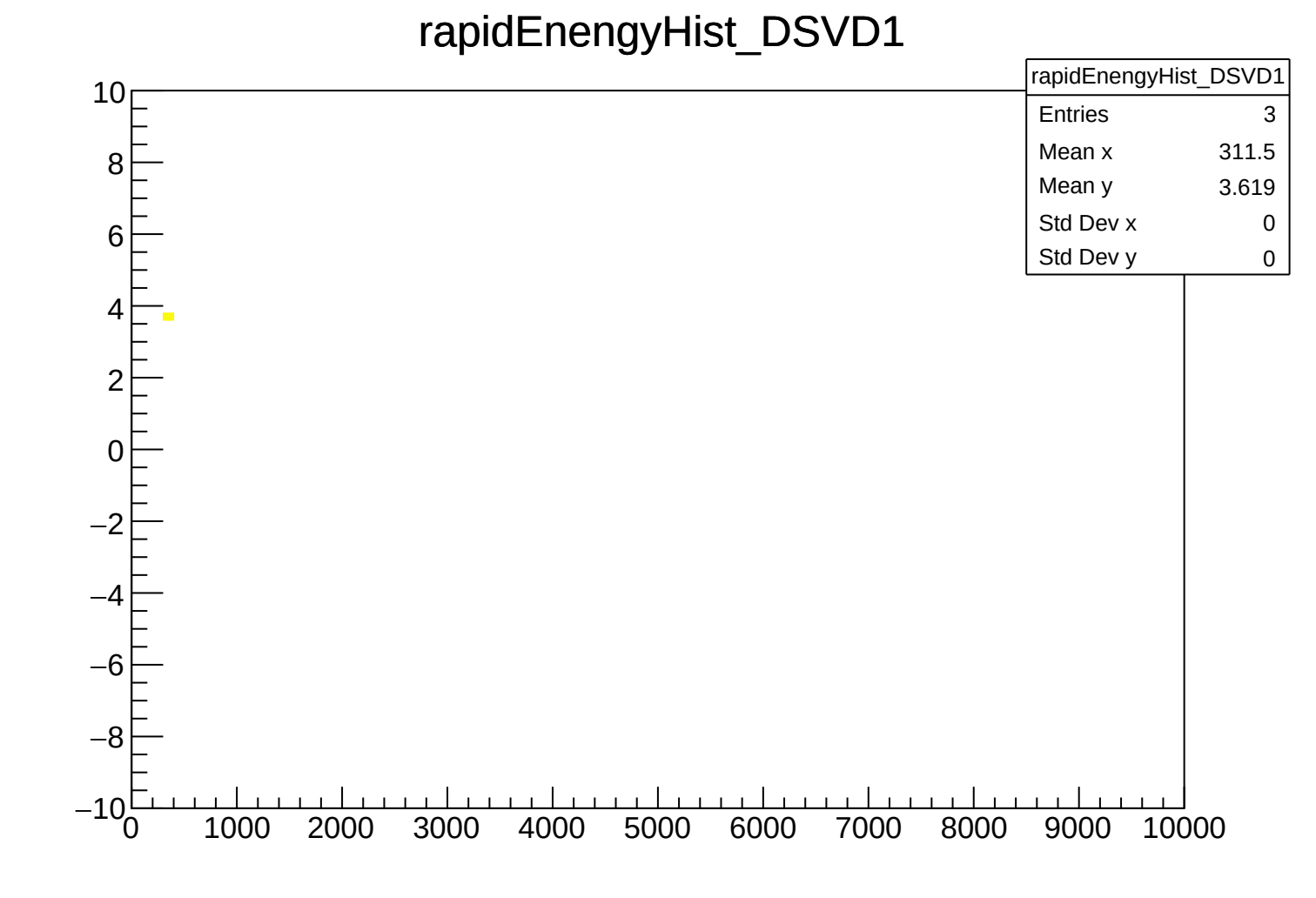

hID_DSVD1
hID_DSVD1
Entries 4
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−250
−200
−150
−100
−50
0
50
100
150
200
250

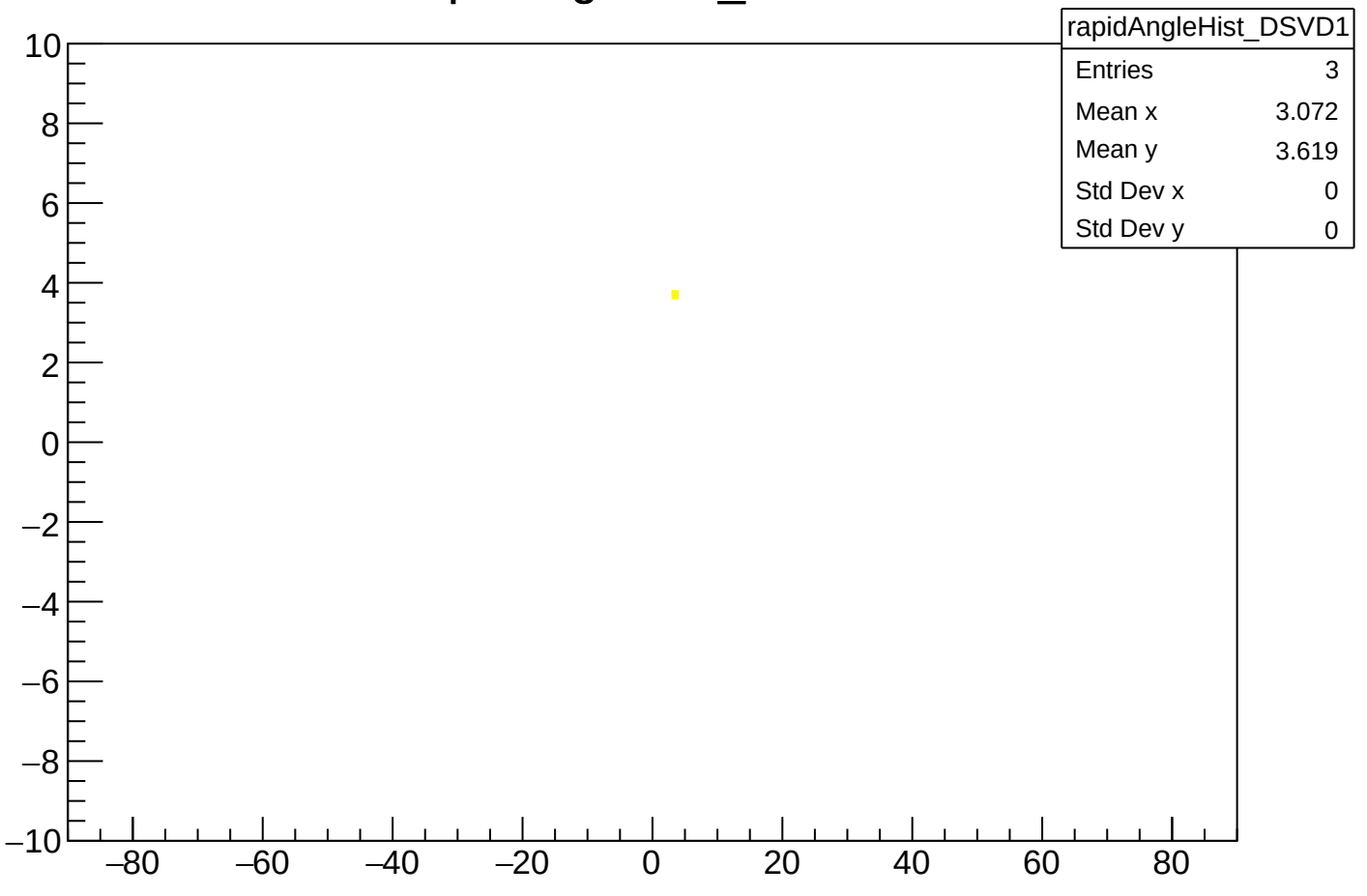

momHist_DSVD1
momHist_DSVD1
Entries 3
Mean 723.8
Std Dev 490.5
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

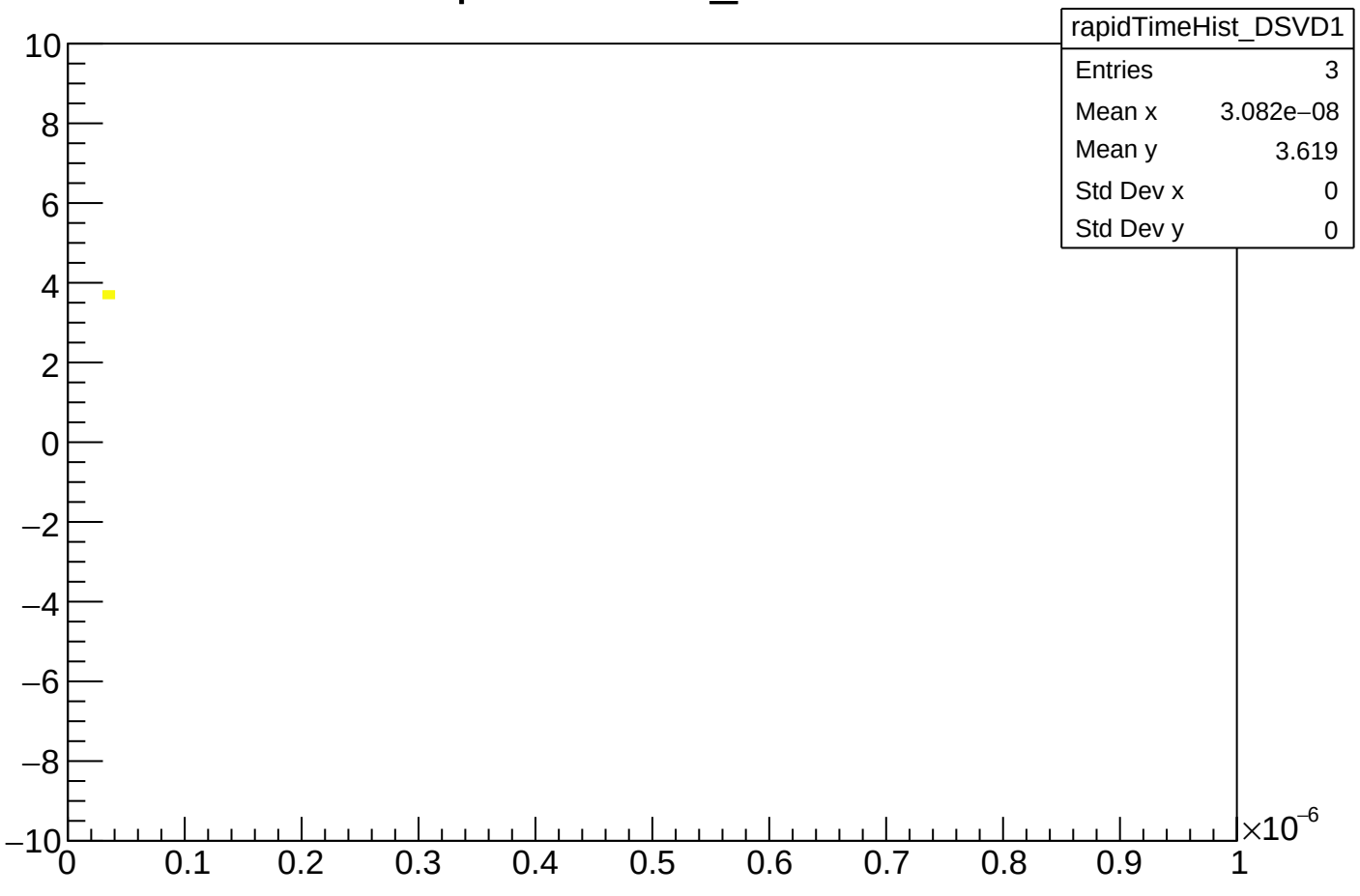

momangleHistX_DSVD1
momangleHistX_DSVD1
Entries 3
Mean x 723.8
Mean y –5.494
Std Dev x 490.5
Std Dev y 6.063
80
60
40
20
0
–20
–40
–60
–80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

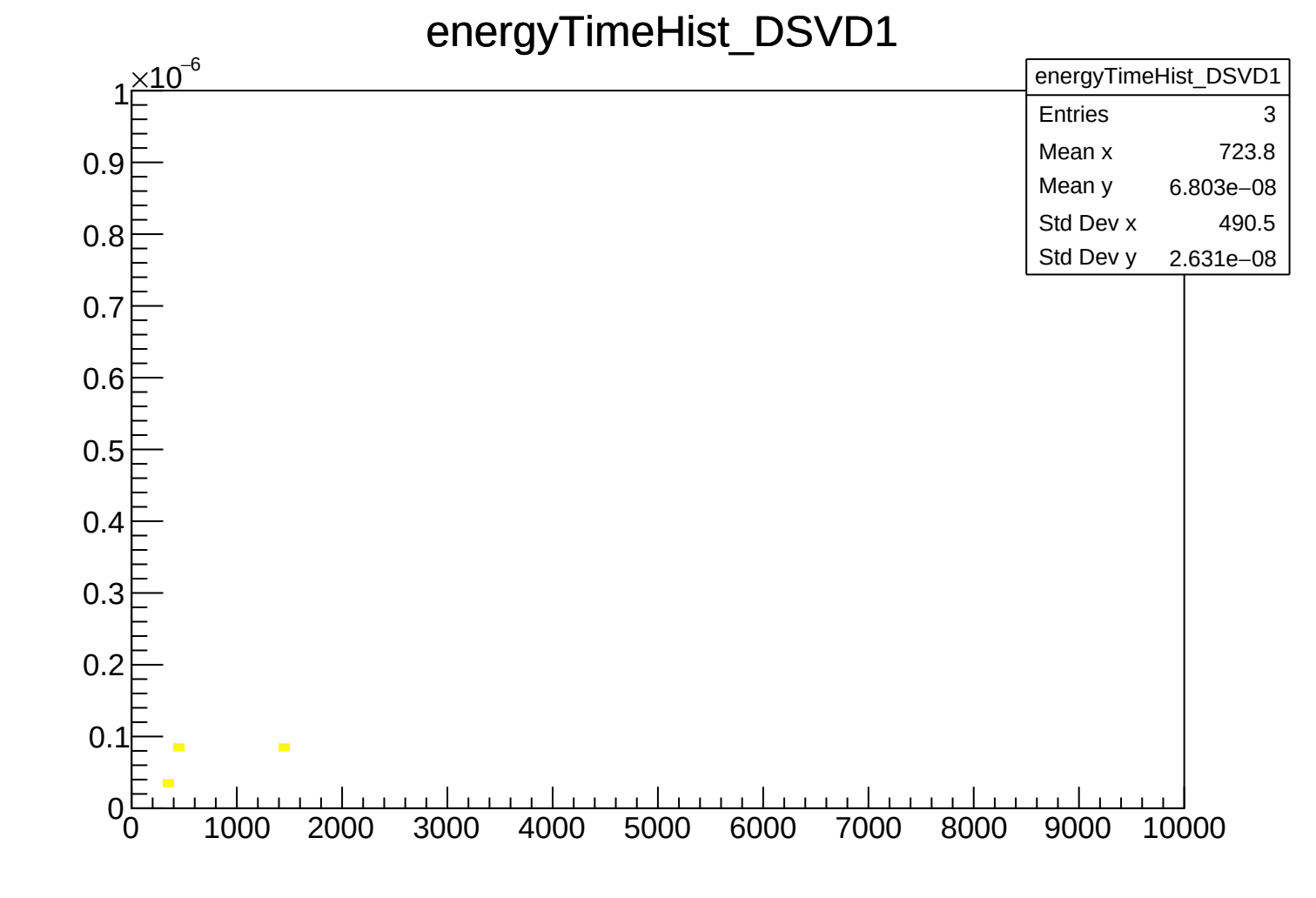

momangleHistY_DSVD1
momangleHistY_DSVD1
Entries 3
Mean x 723.8
Mean y 0.3507
Std Dev x 490.5
Std Dev y 0.7318
80
60
40
20
0
−20
−40
−60
−80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

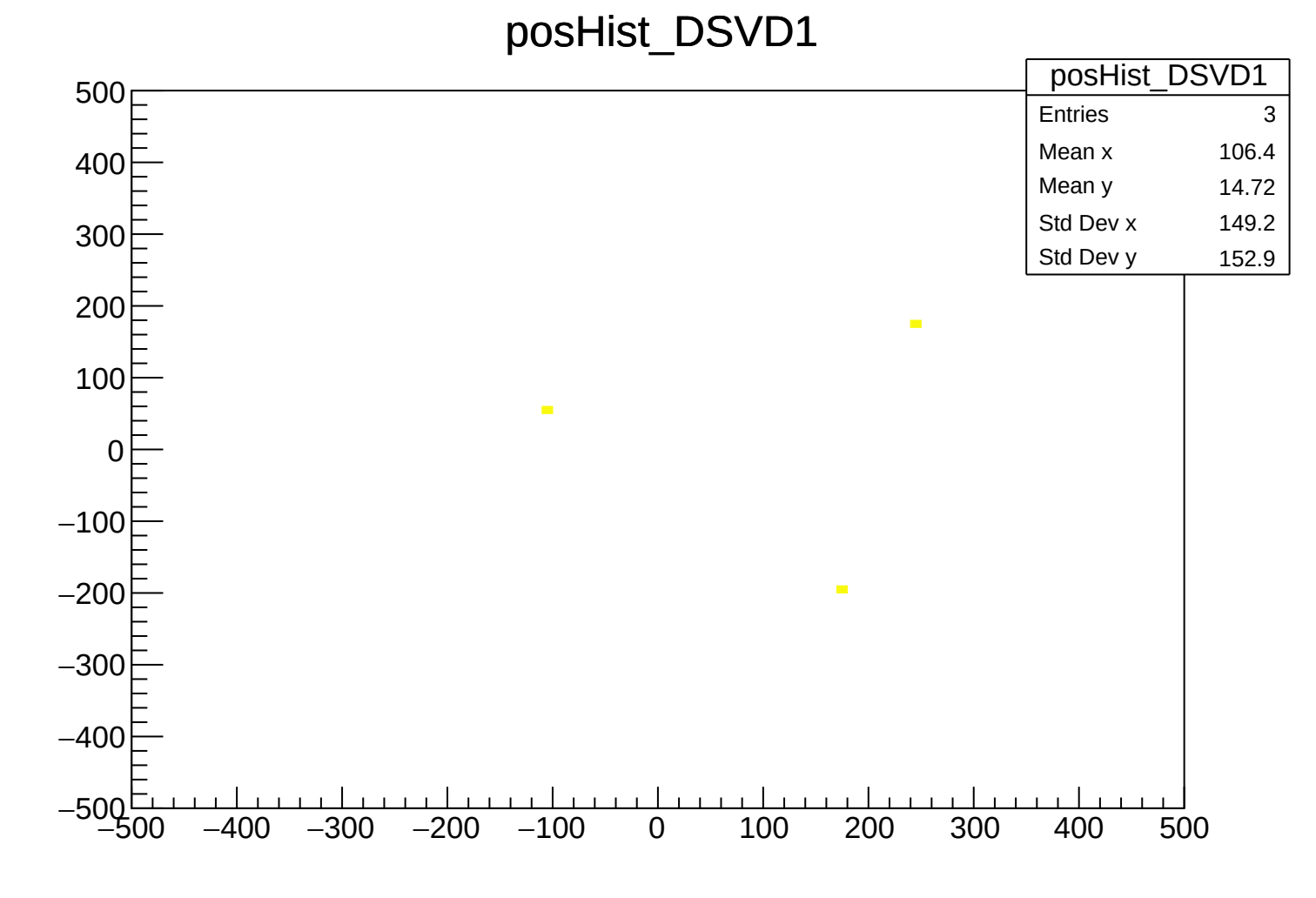

pseudoRapHist_DSVD1
pseudoRapHist_DSVD1
Entries 3
Mean 3.619
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0 1 2 3 4 5 6 7 8 9 10

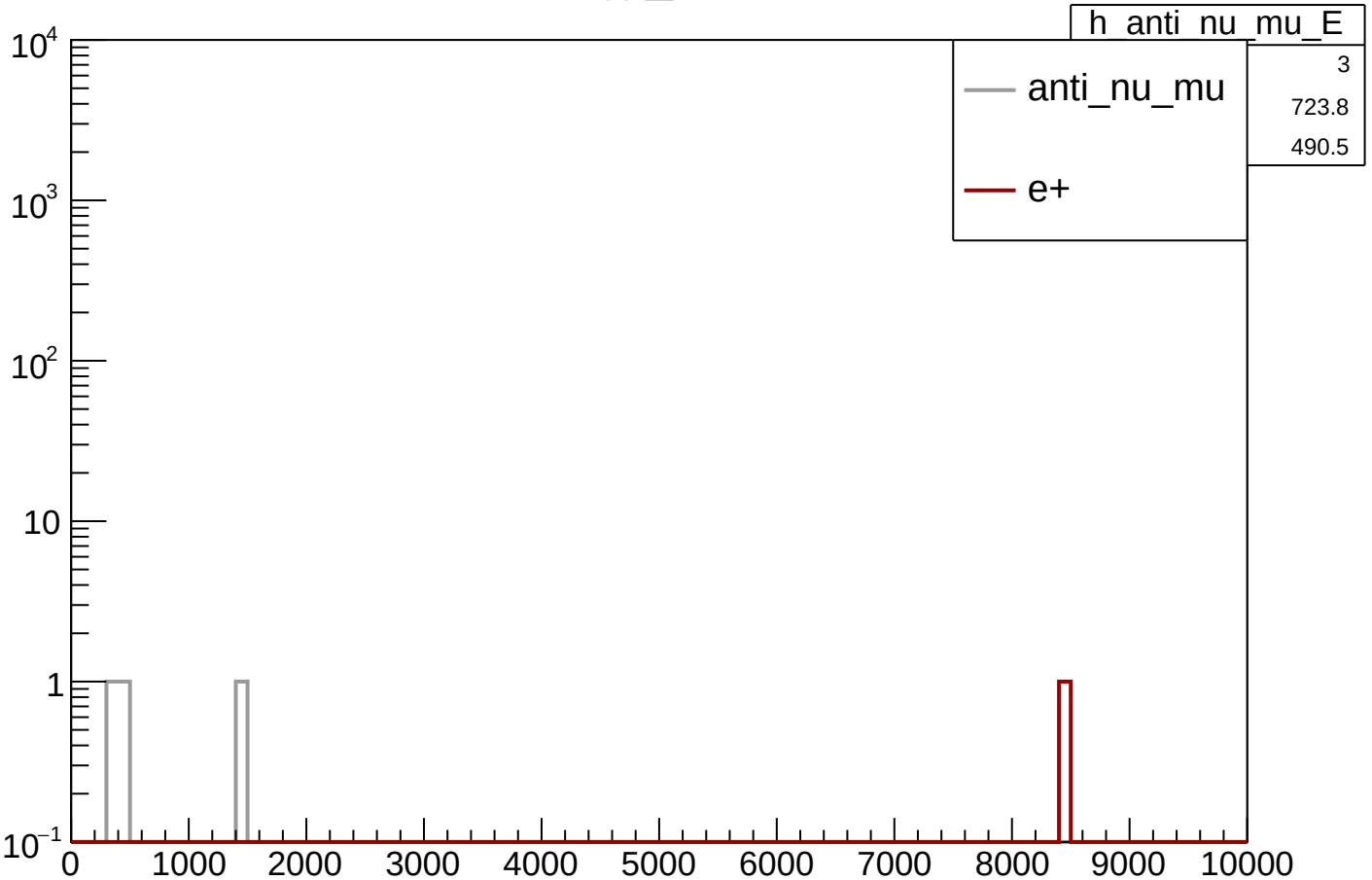

rapidEnengyHist_DSVD1
rapidEnengyHist_DSVD1
Entries 3
Mean x 311.5
Mean y 3.619
Std Dev x 0
Std Dev y 0
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

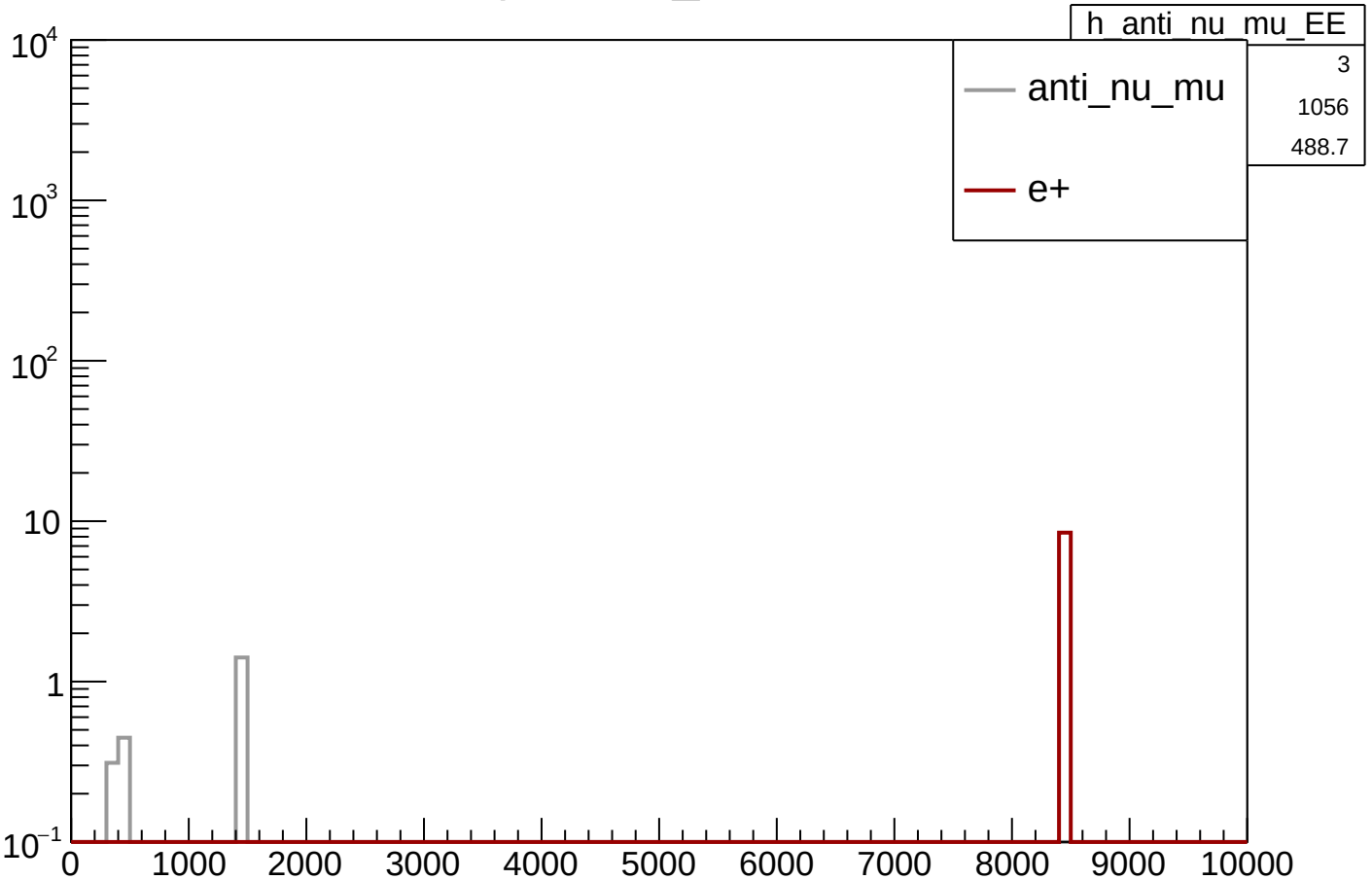

rapidAngleHist_DSVD1
rapidAngleHist_DSVD1
Entries 3
Mean x 3.072
Mean y 3.619
Std Dev x 0
Std Dev y 0
10
8
6
4
2
0
−2
−4
−6
−8
−10
−80
−60
−40
−20
0
20
40
60
80

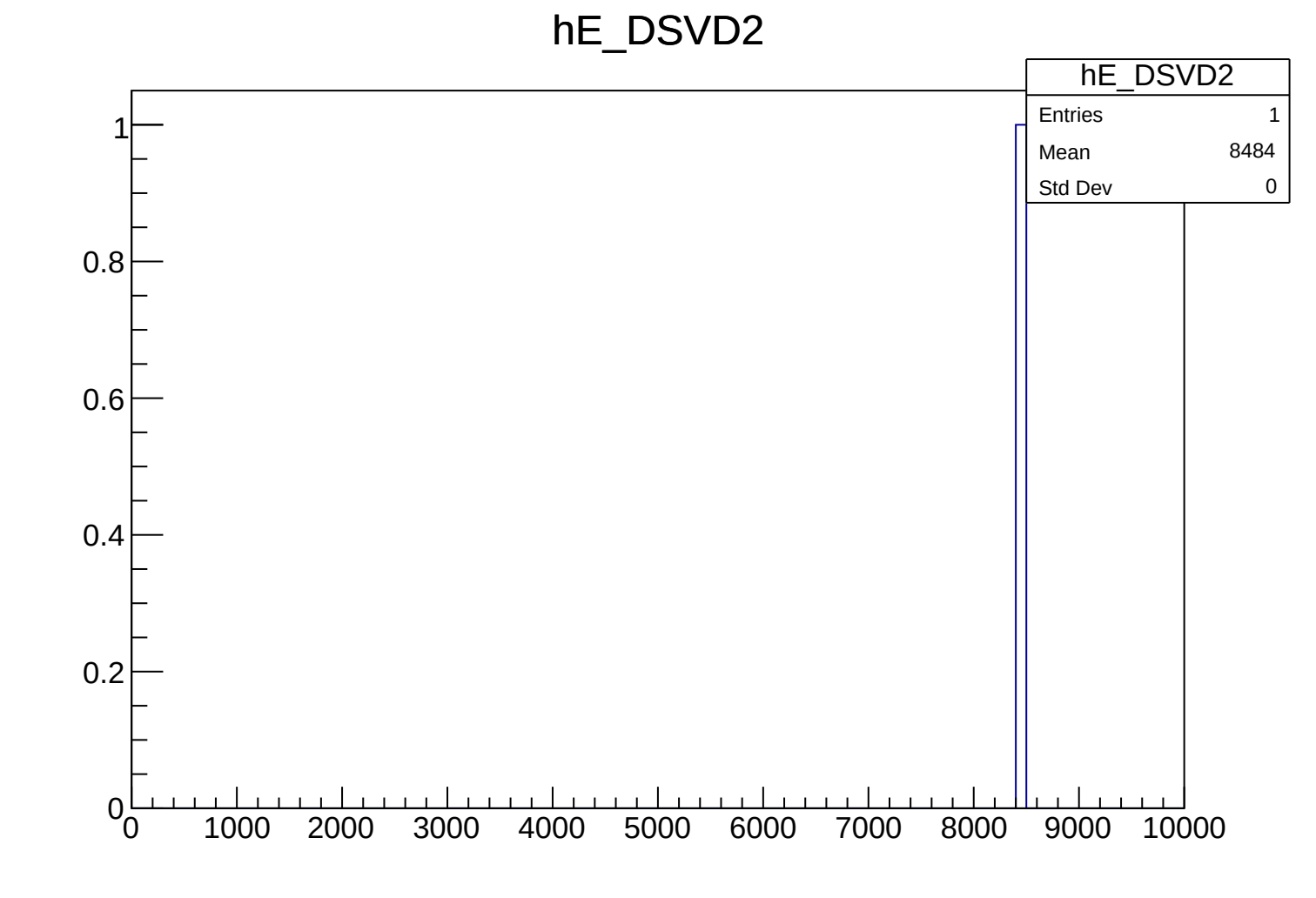

rapidTimeHist_DSVD1
rapidTimeHist_DSVD1
Entries 3
Mean x 3.082e−08
Mean y 3.619
Std Dev x 0
Std Dev y 0
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
×10−6

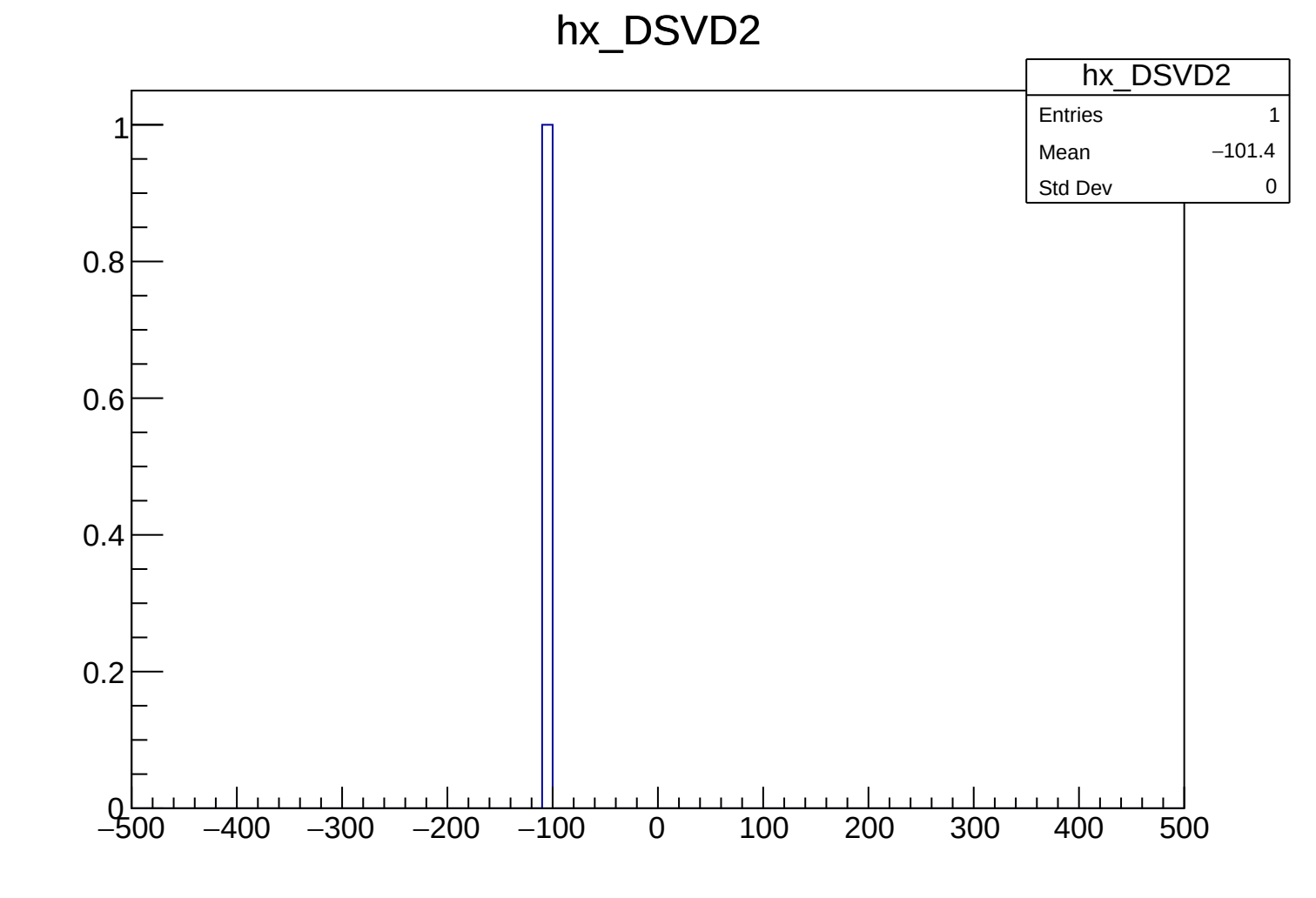

energyTimeHist_DSVD1
×10⁻⁶
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
energyTimeHist_DSVD1
Entries 3
Mean x 723.8
Mean y 6.803e−08
Std Dev x 490.5
Std Dev y 2.631e−08

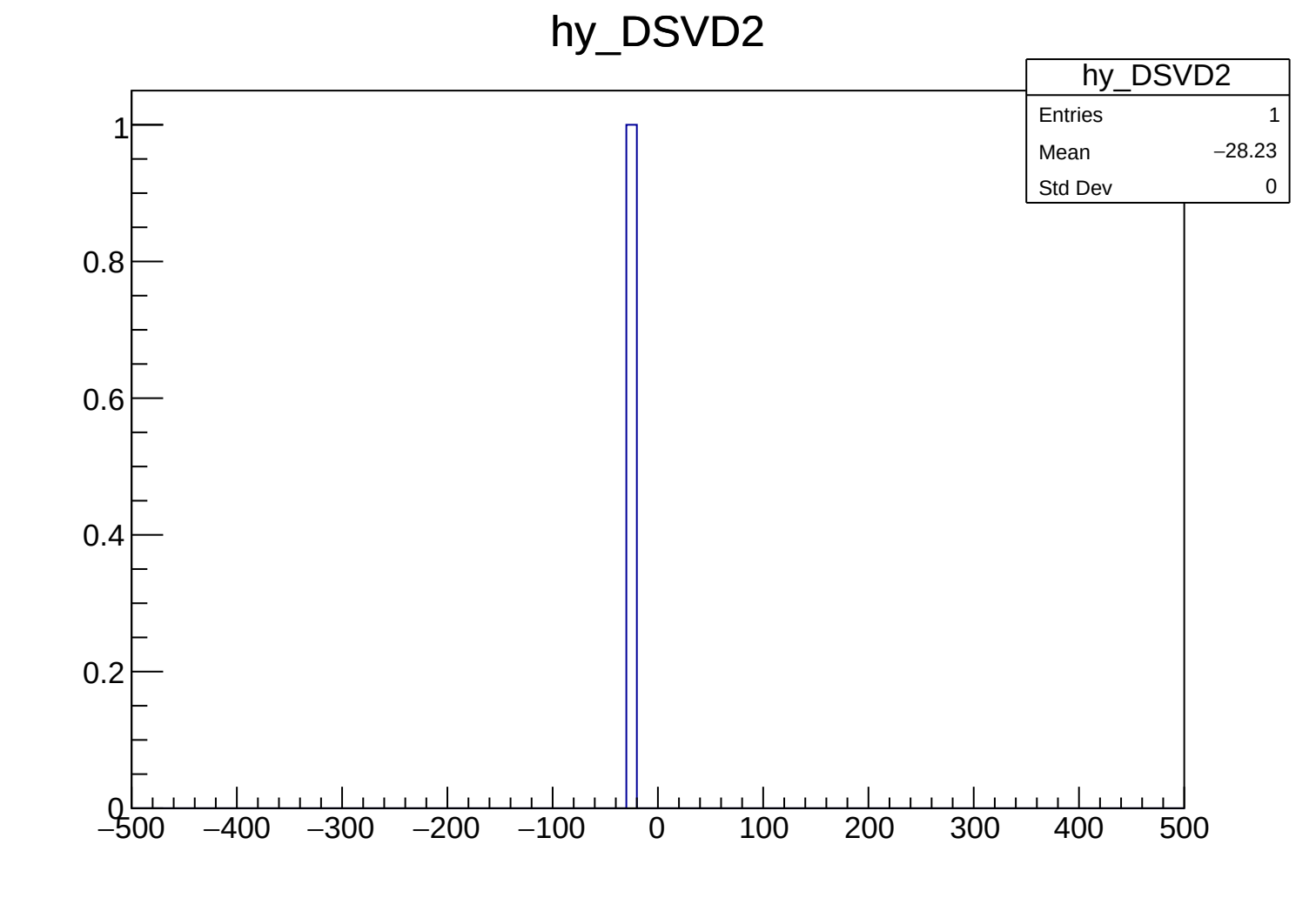

posHist_DSVD1
posHist_DSVD1
Entries 3
Mean x 106.4
Mean y 14.72
Std Dev x 149.2
Std Dev y 152.9
500
400
300
200
100
0
−100
−200
−300
−400
−500
−500
−400
−300
−200
−100
0
100
200
300
400
500

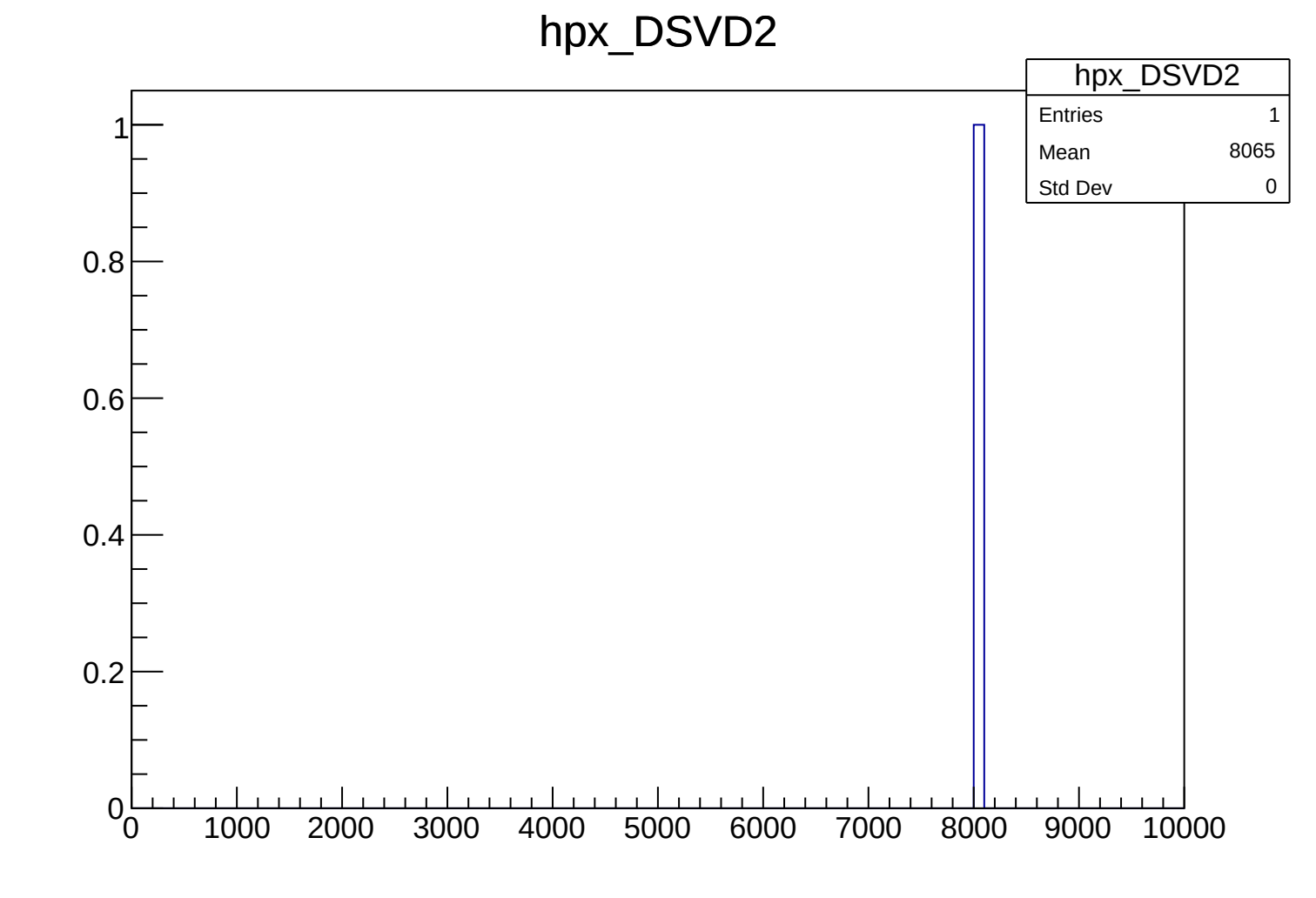

Energy_DSVD1
h_anti_nu_mu_E
3
723.8
490.5
anti_nu_mu
e+
10^4
10^3
10^2
10
1
10^-1
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

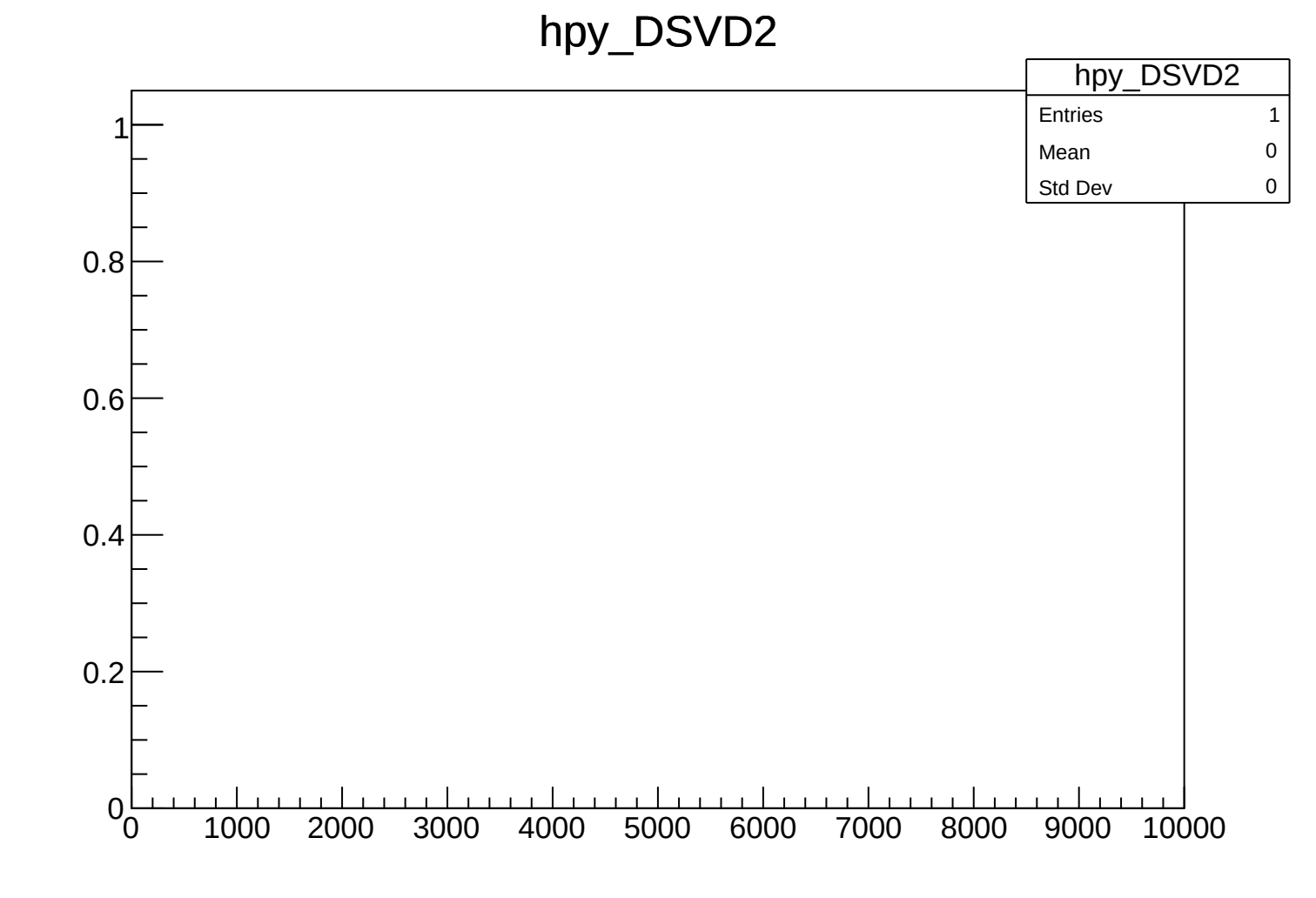

Spectrum_DSVD1
h_anti_nu_mu_EE
3
1056
488.7
anti_nu_mu
e+
10^4
10^3
10^2
10
1
10^-1
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

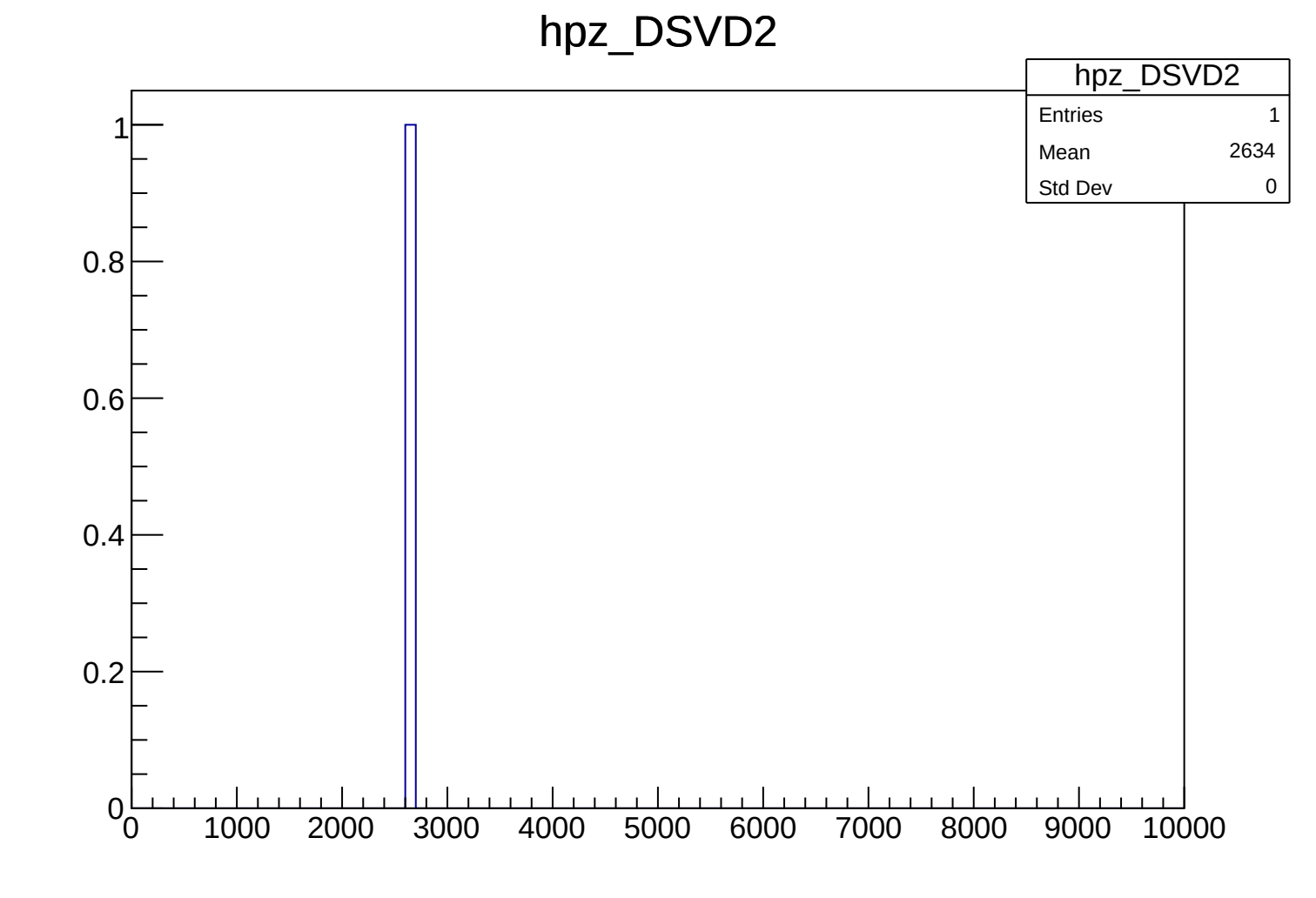

hE_DSVD2
hE_DSVD2
Entries 1
Mean 8484
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

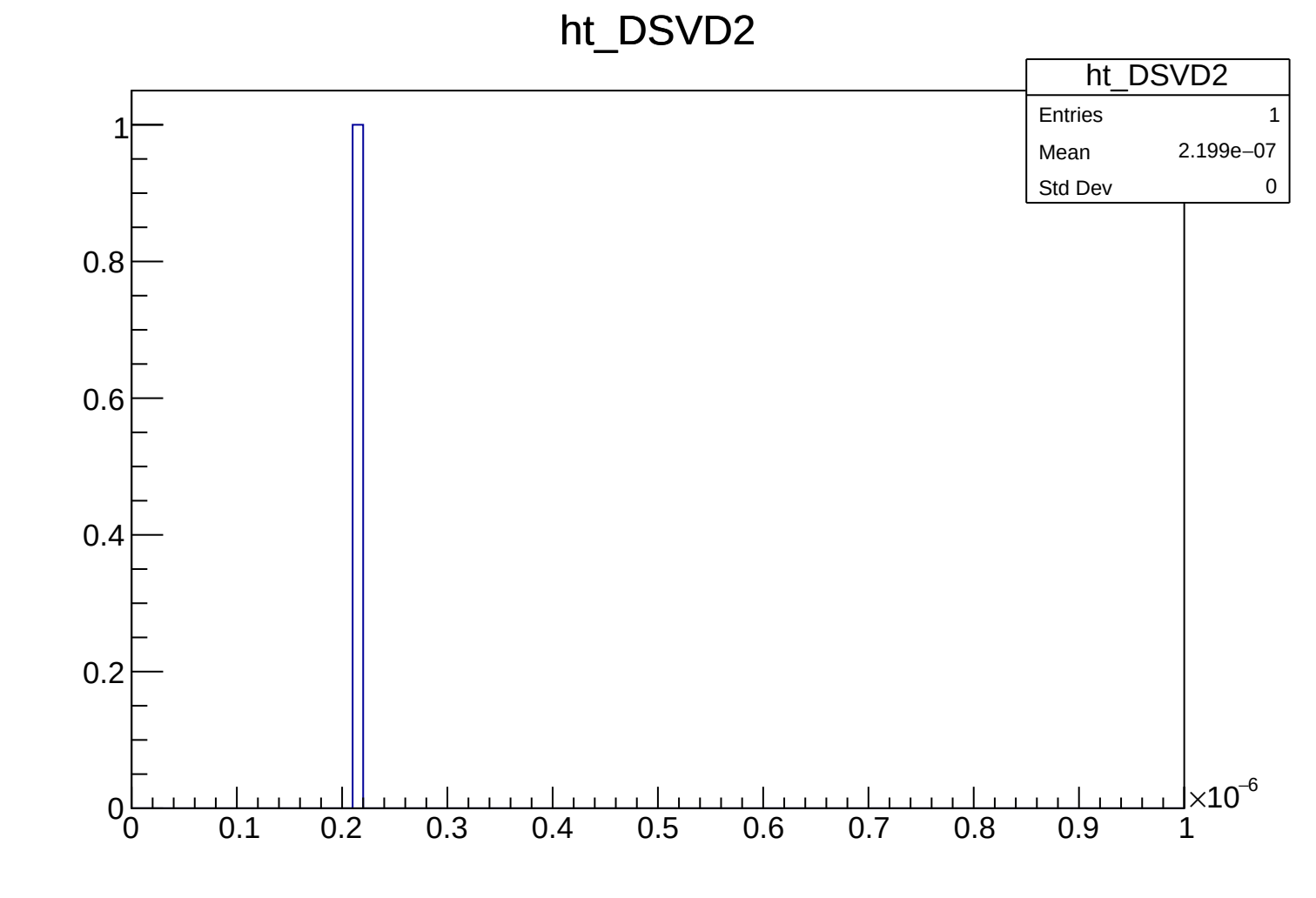

hx_DSVD2
hx_DSVD2
Entries 1
Mean –101.4
Std Dev 0
1
0.8
0.6
0.4
0.2
0
–500
–400
–300
–200
–100
0
100
200
300
400
500

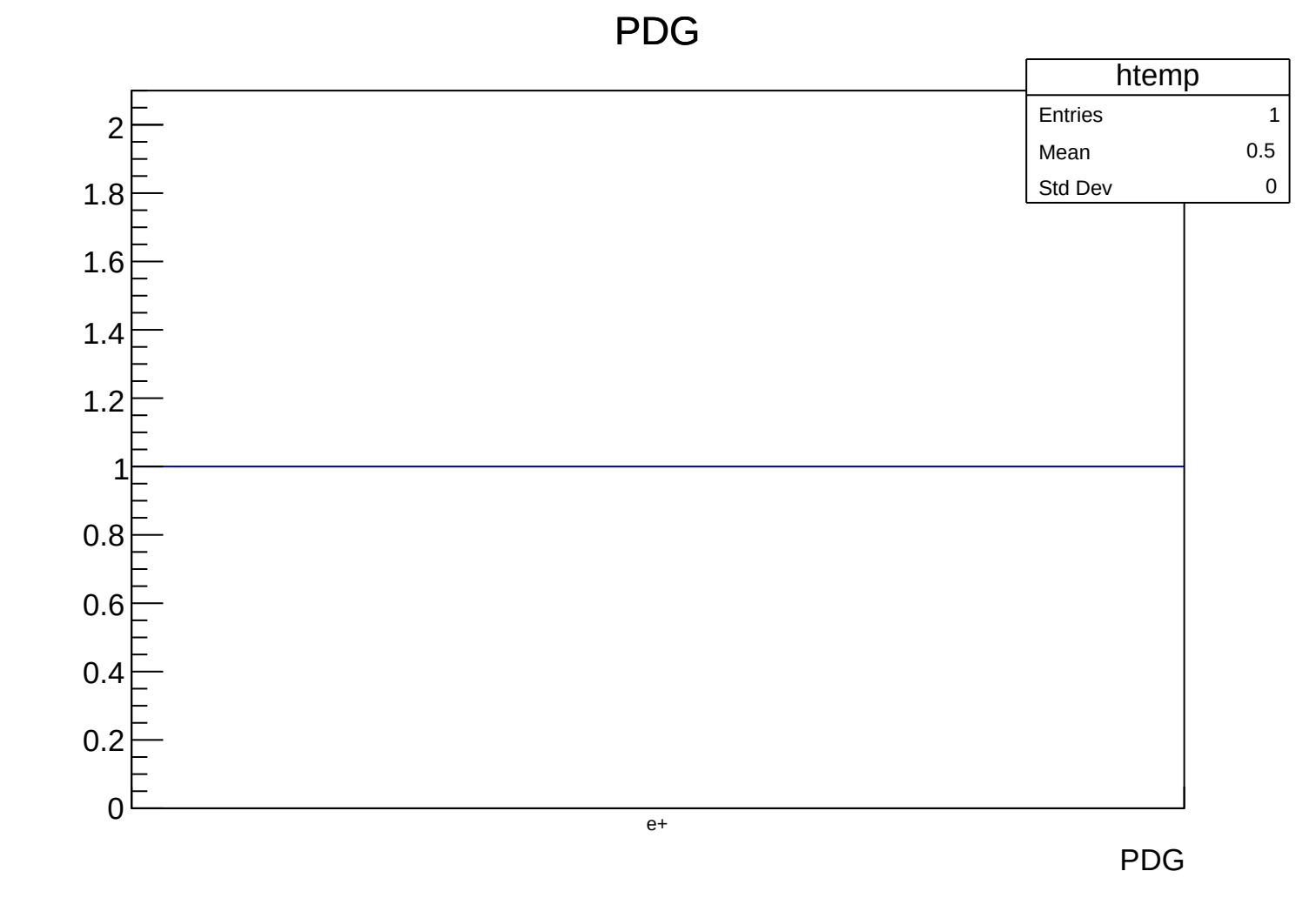

hy_DSVD2
hy_DSVD2
Entries 1
Mean −28.23
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−500
−400
−300
−200
−100
0
100
200
300
400
500

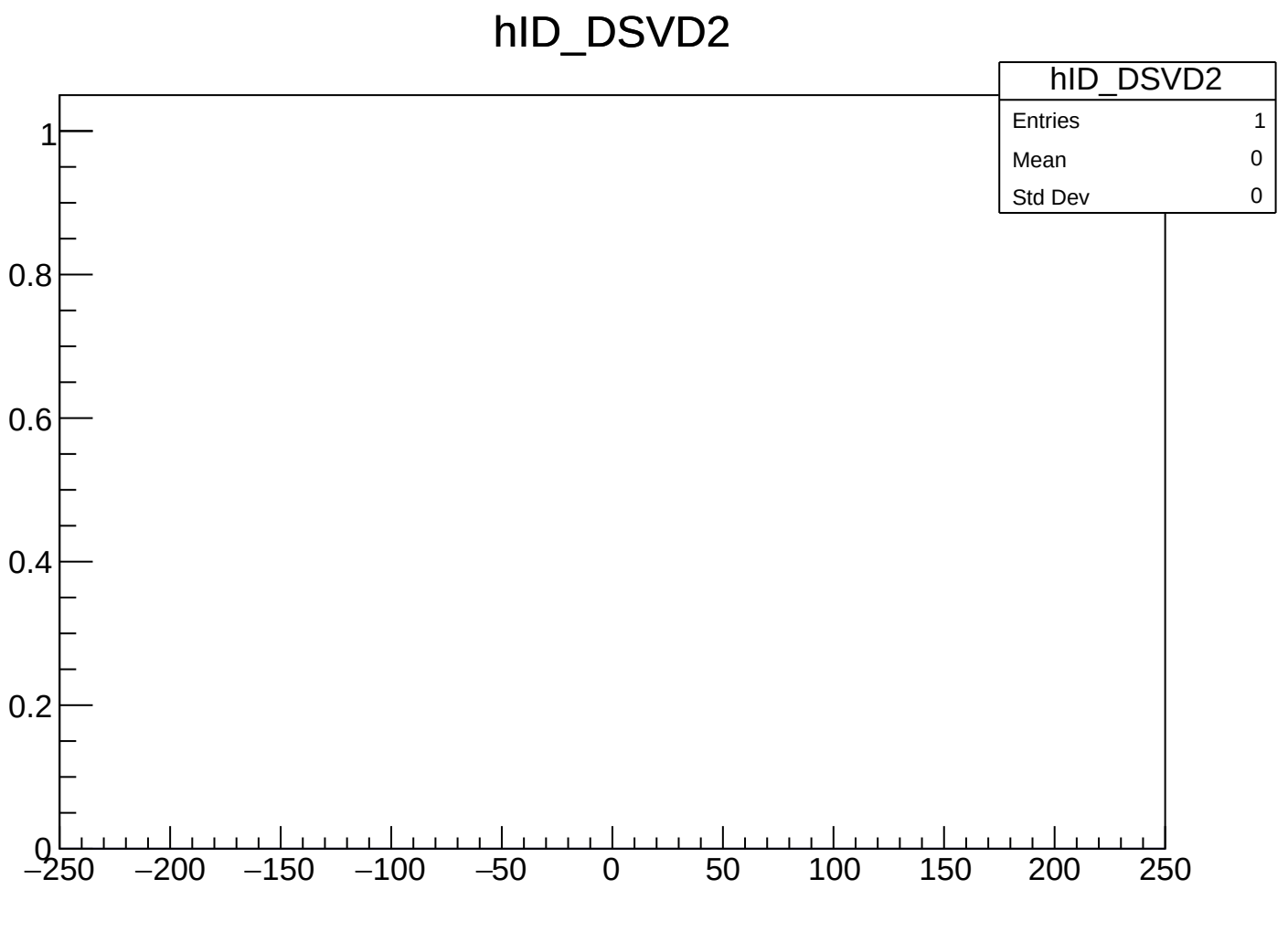

hpx_DSVD2
hpx_DSVD2
Entries 1
Mean 8065
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

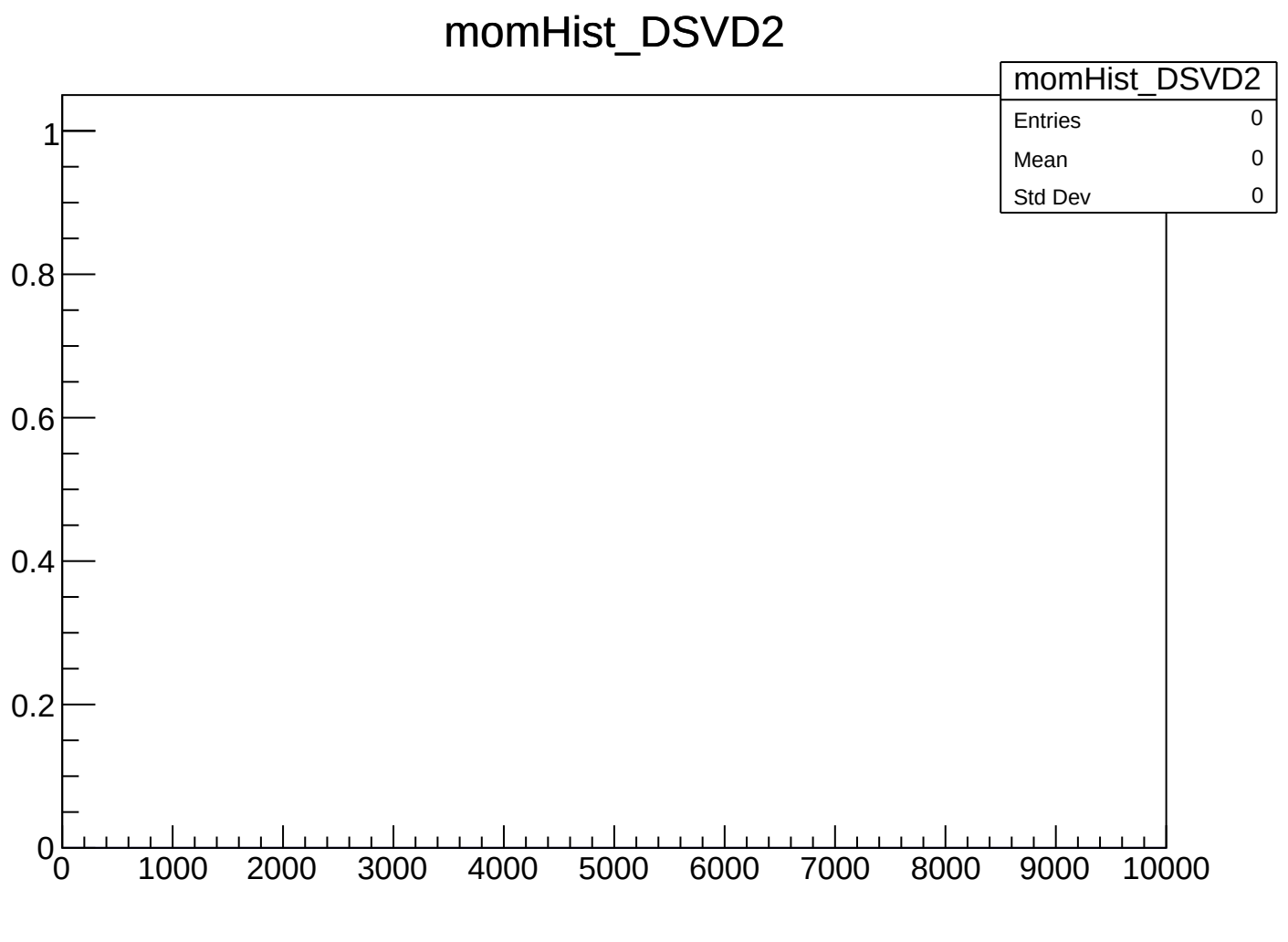

hpy_DSVD2
hpy_DSVD2
Entries 1
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

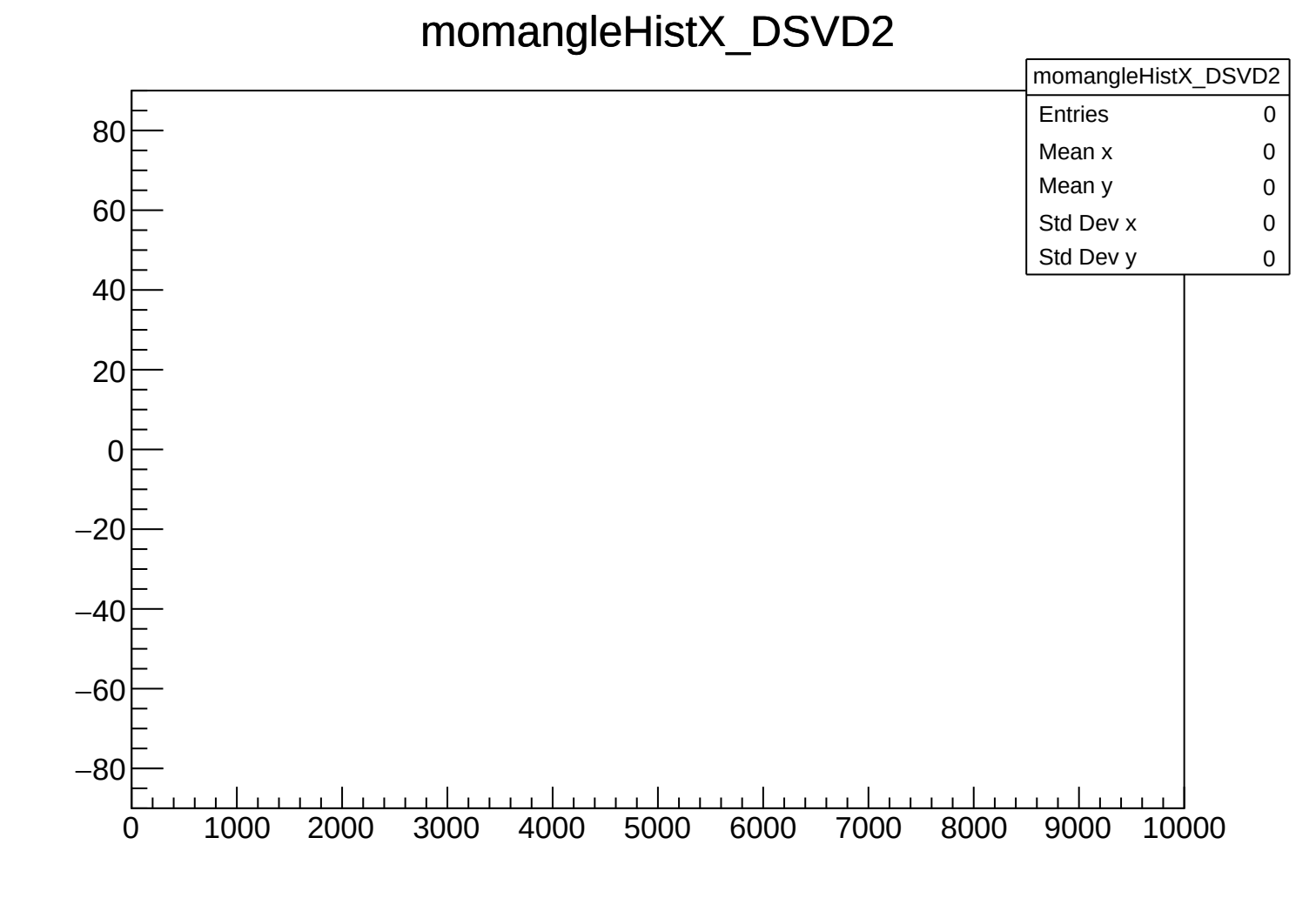

hpz_DSVD2
hpz_DSVD2
Entries 1
Mean 2634
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

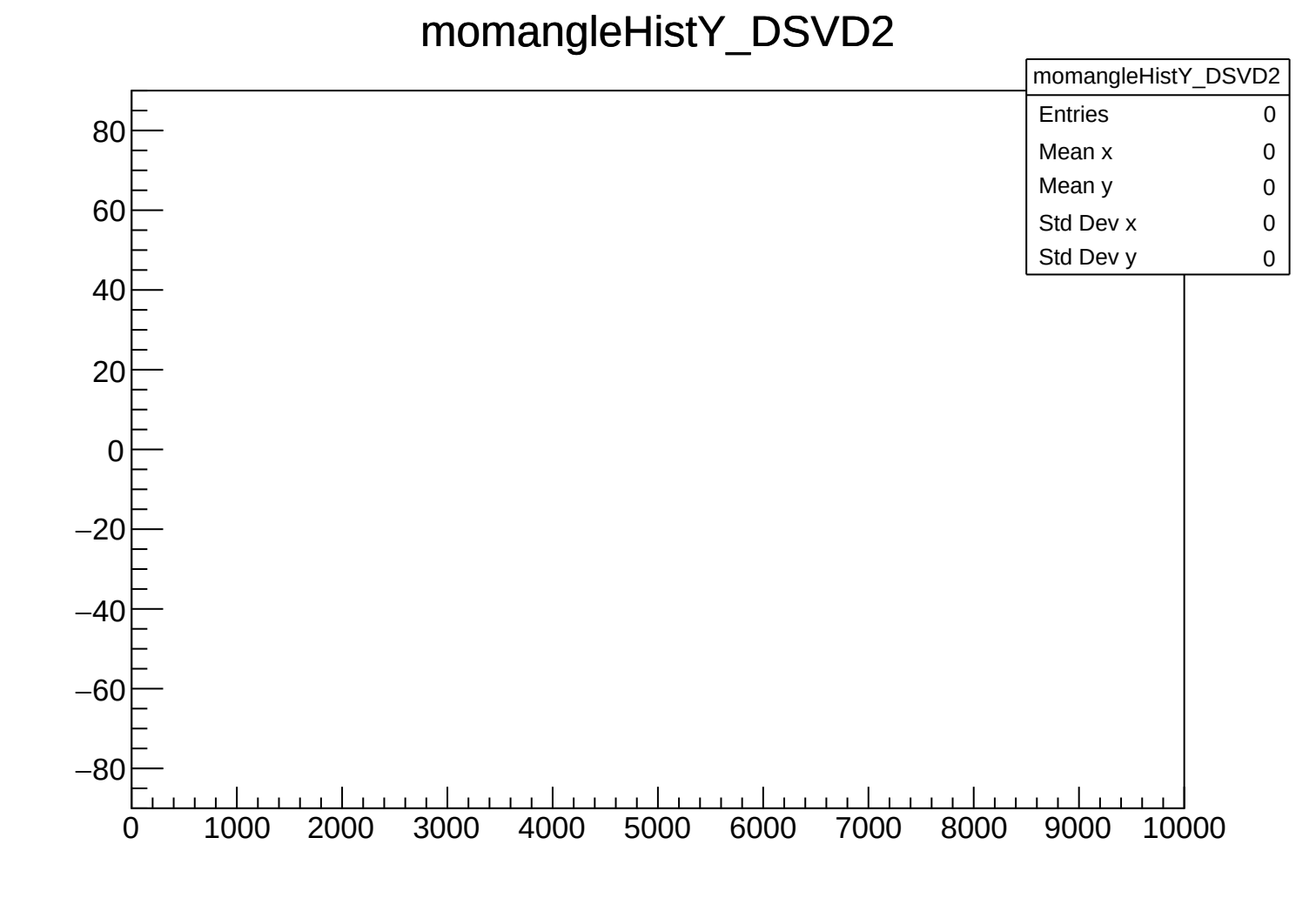

ht_DSVD2
ht_DSVD2
Entries 1
Mean 2.199e−07
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
×10−6

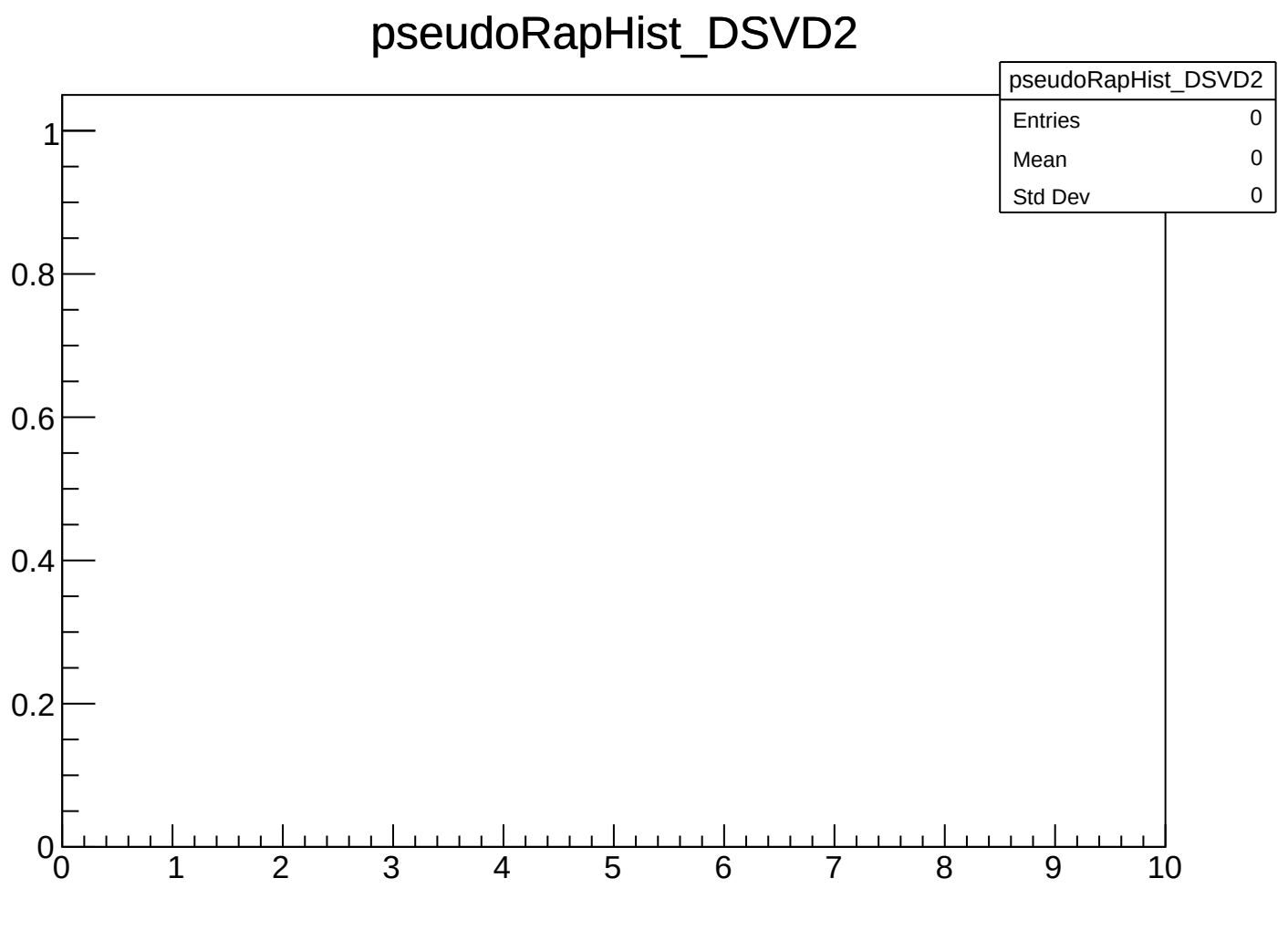

PDG
htemp
Entries 1
Mean 0.5
Std Dev 0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
e+
PDG

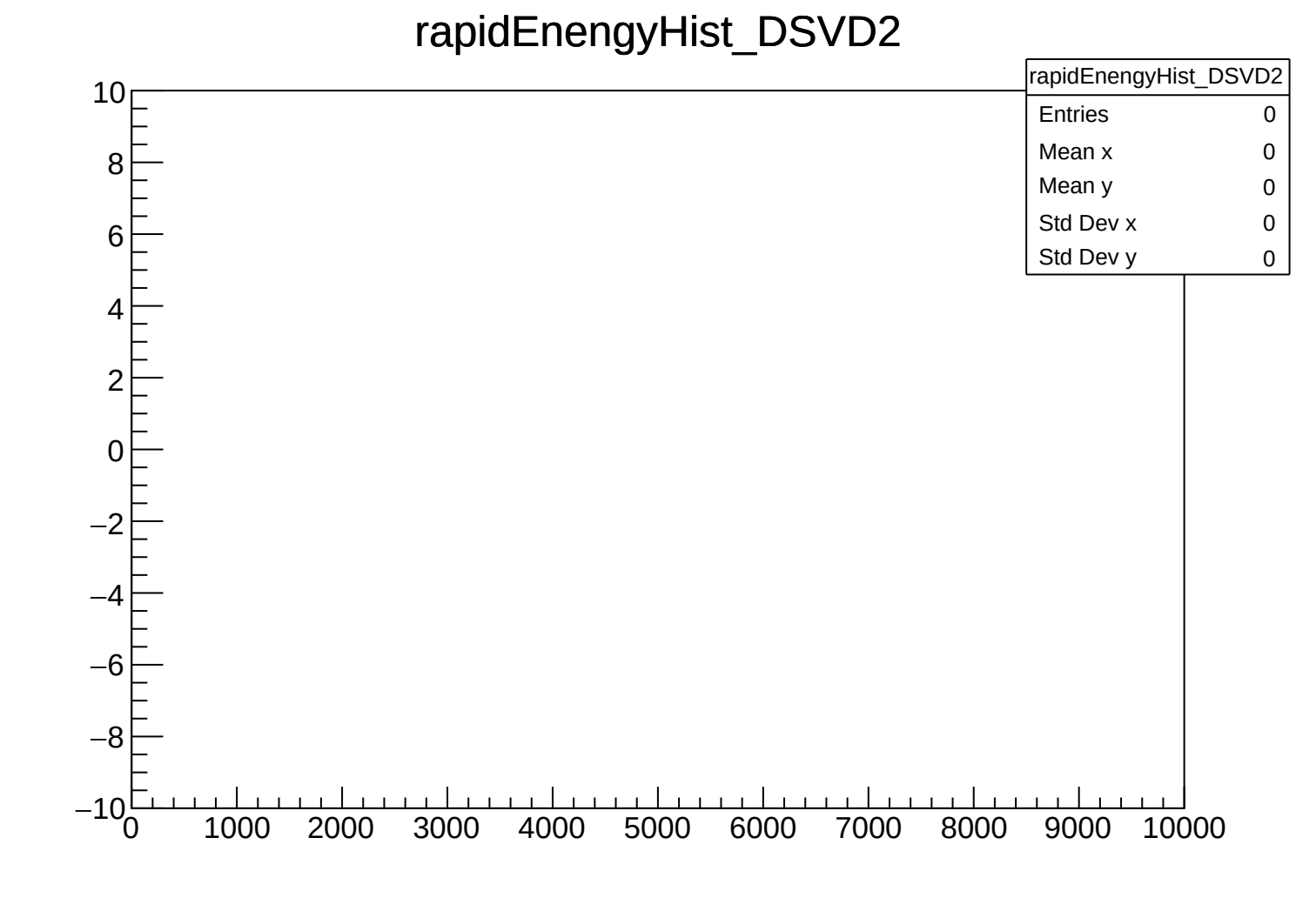

hID_DSVD2
hID_DSVD2
Entries 1
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−250
−200
−150
−100
−50
0
50
100
150
200
250

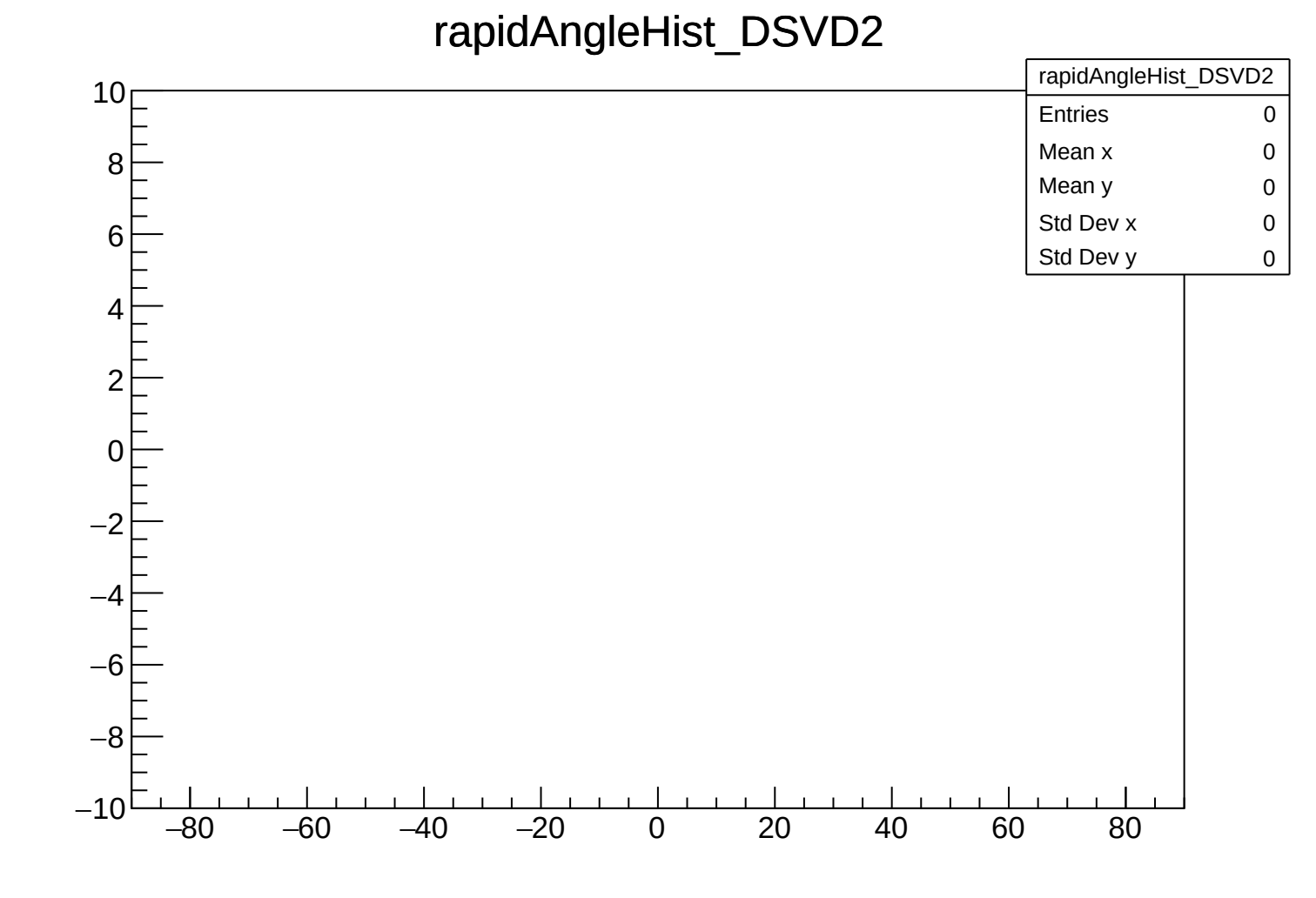

momHist_DSVD2
momHist_DSVD2
Entries 0
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

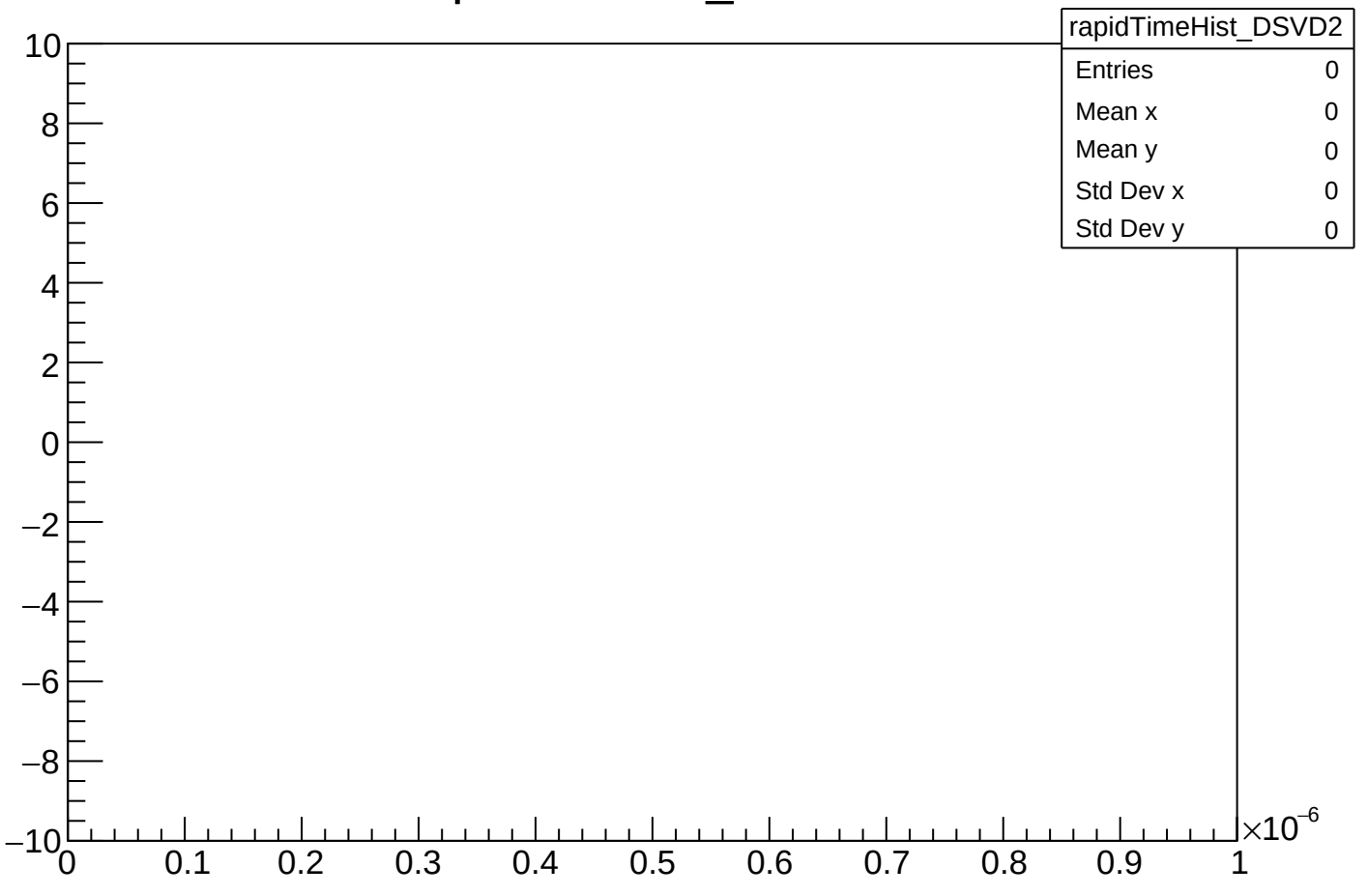

momangleHistX_DSVD2
momangleHistX_DSVD2
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
−20
−40
−60
−80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

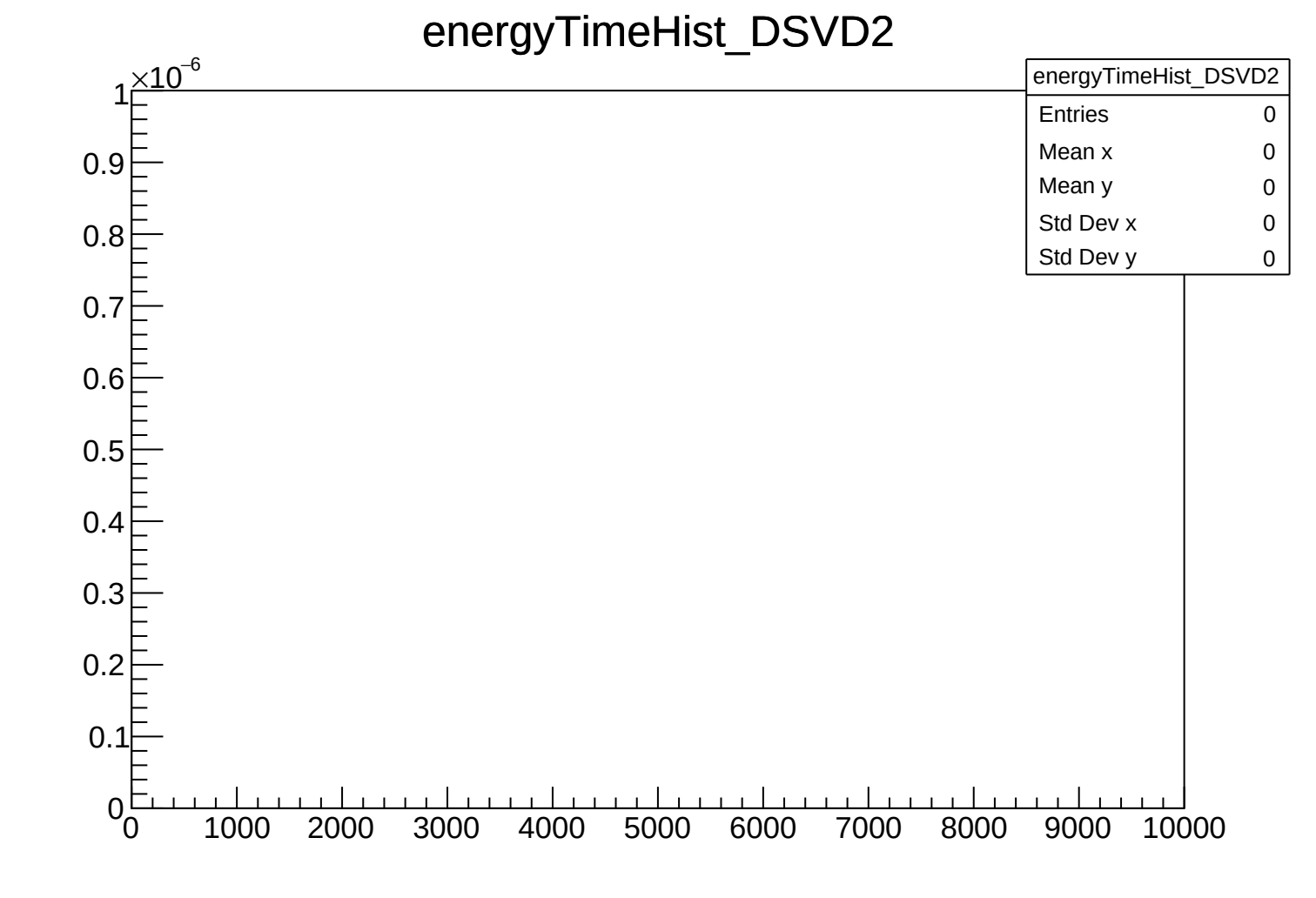

momangleHistY_DSVD2
momangleHistY_DSVD2
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
80
60
40
20
0
−20
−40
−60
−80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

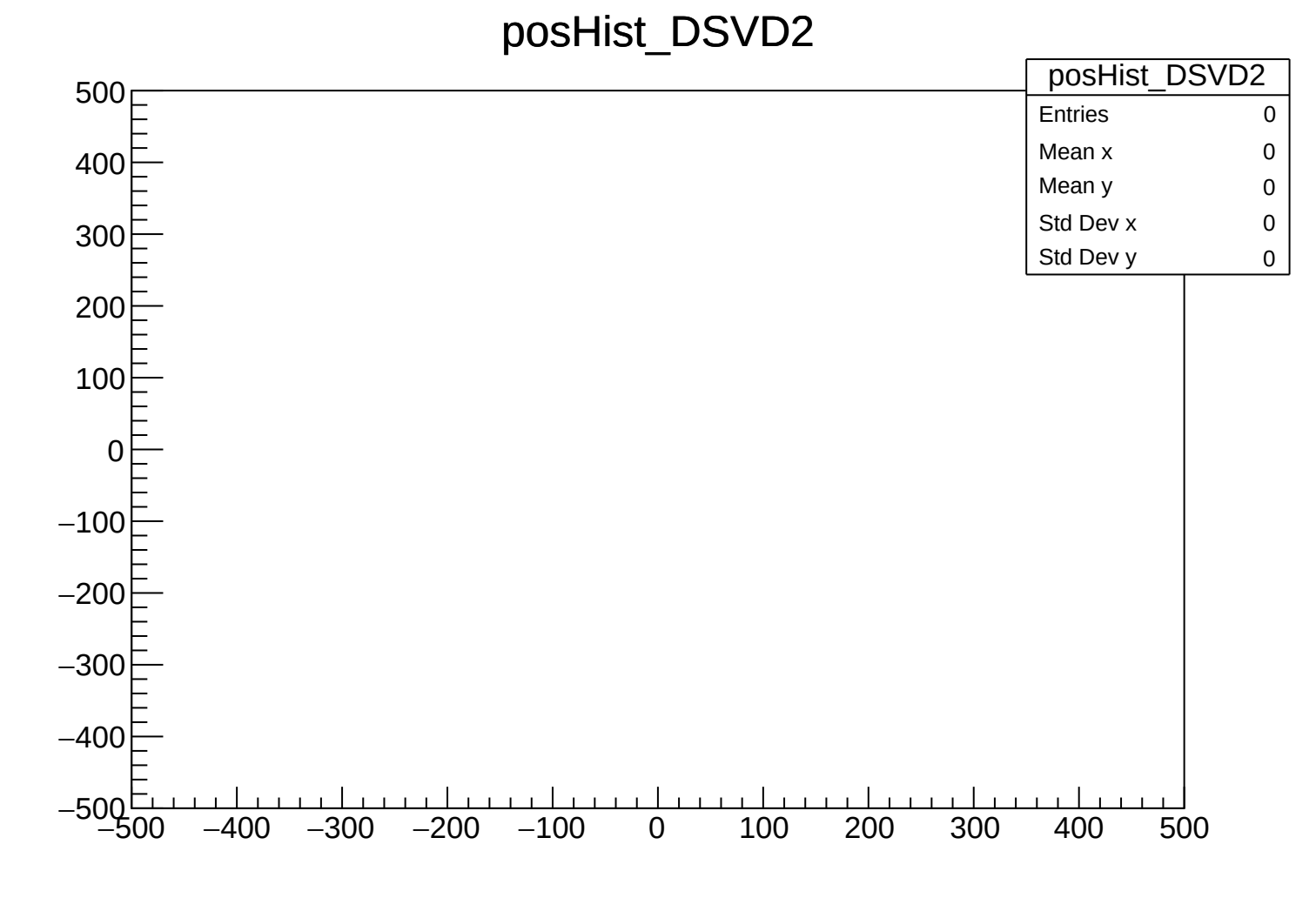

pseudoRapHist_DSVD2
pseudoRapHist_DSVD2
Entries 0
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
0 1 2 3 4 5 6 7 8 9 10

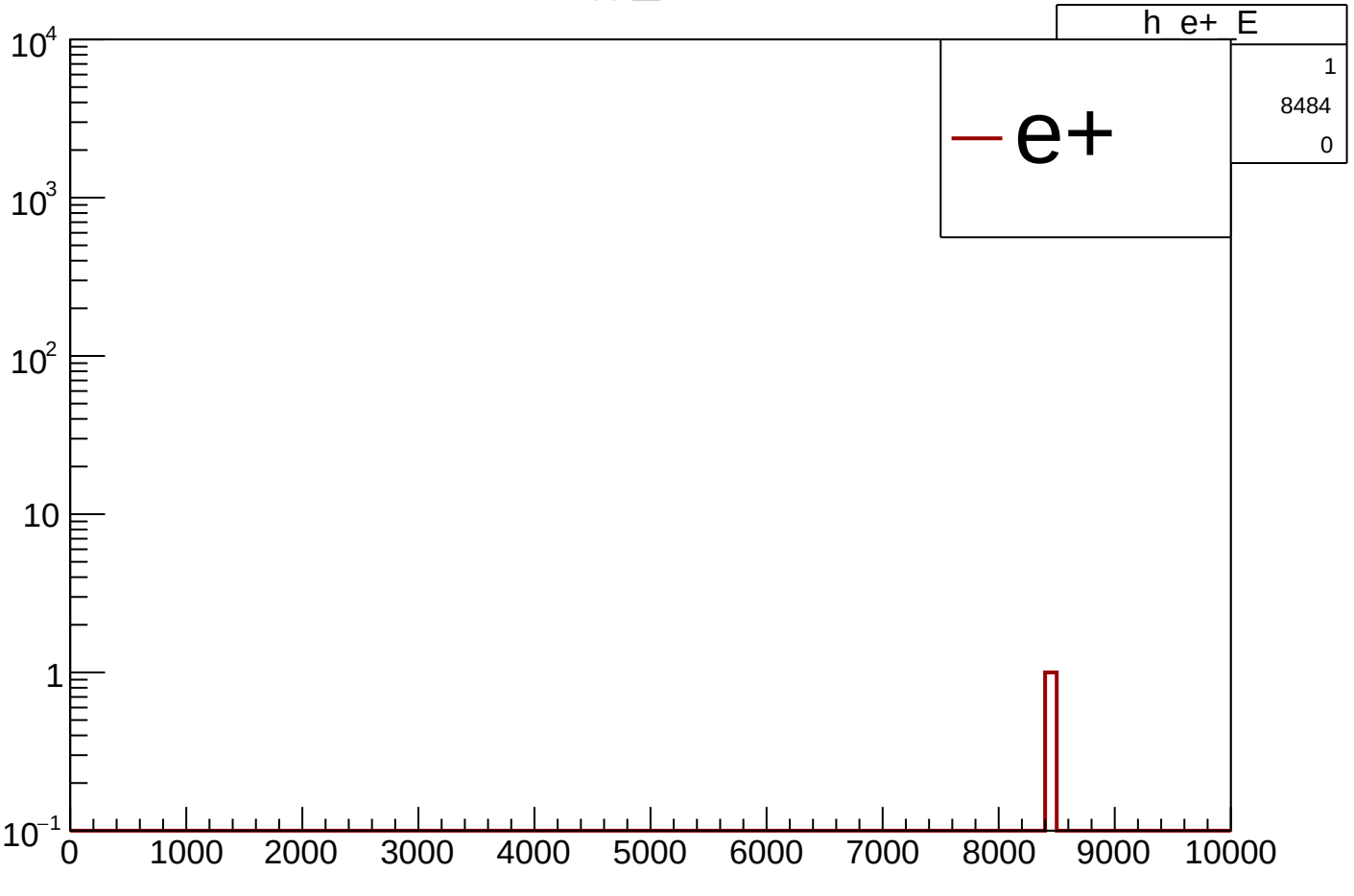

rapidEnengyHist_DSVD2
rapidEnengyHist_DSVD2
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

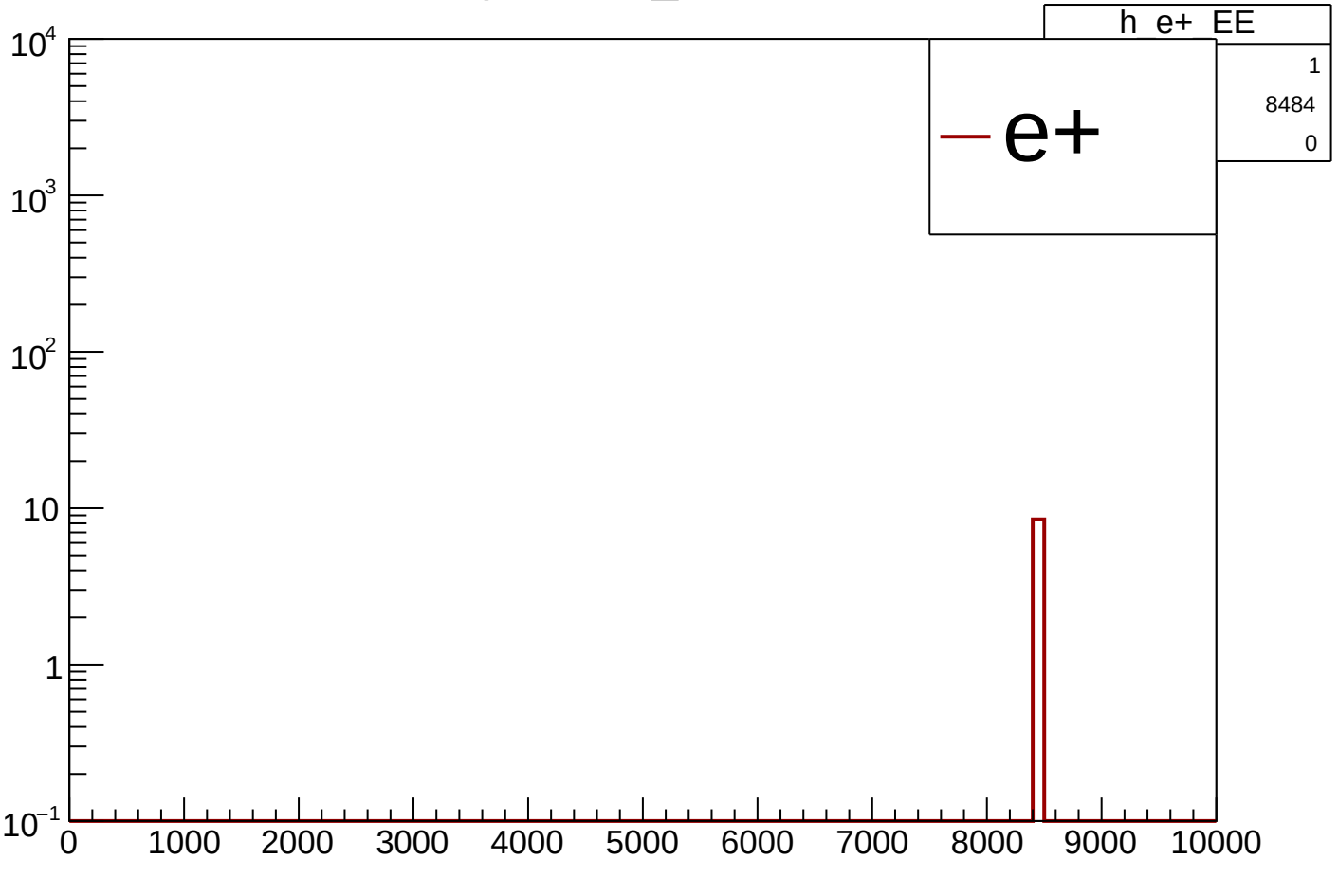

rapidAngleHist_DSVD2
rapidAngleHist_DSVD2
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
10
8
6
4
2
0
−2
−4
−6
−8
−10
−80
−60
−40
−20
0
20
40
60
80

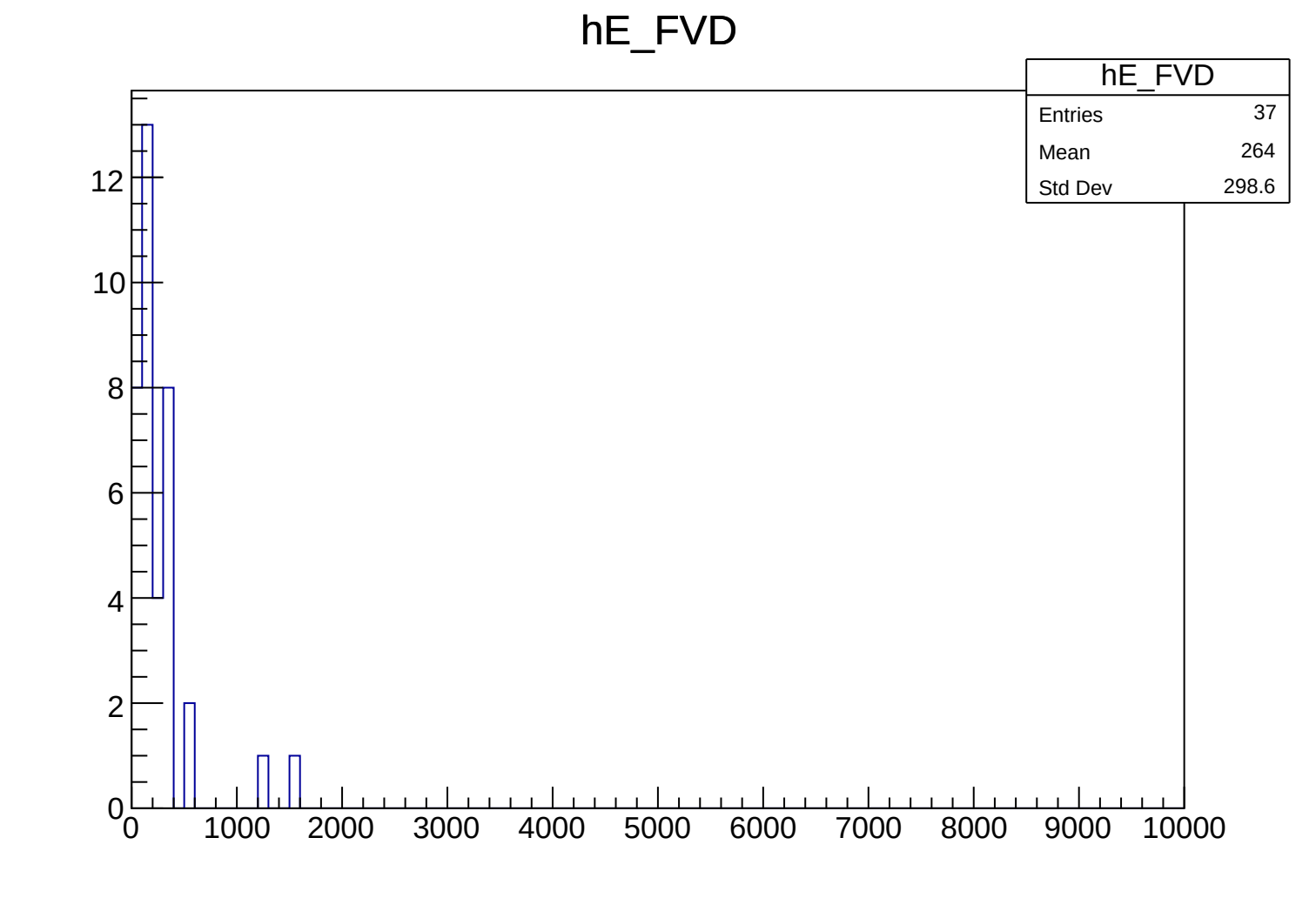

rapidTimeHist_DSVD2
rapidTimeHist_DSVD2
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
×10−6

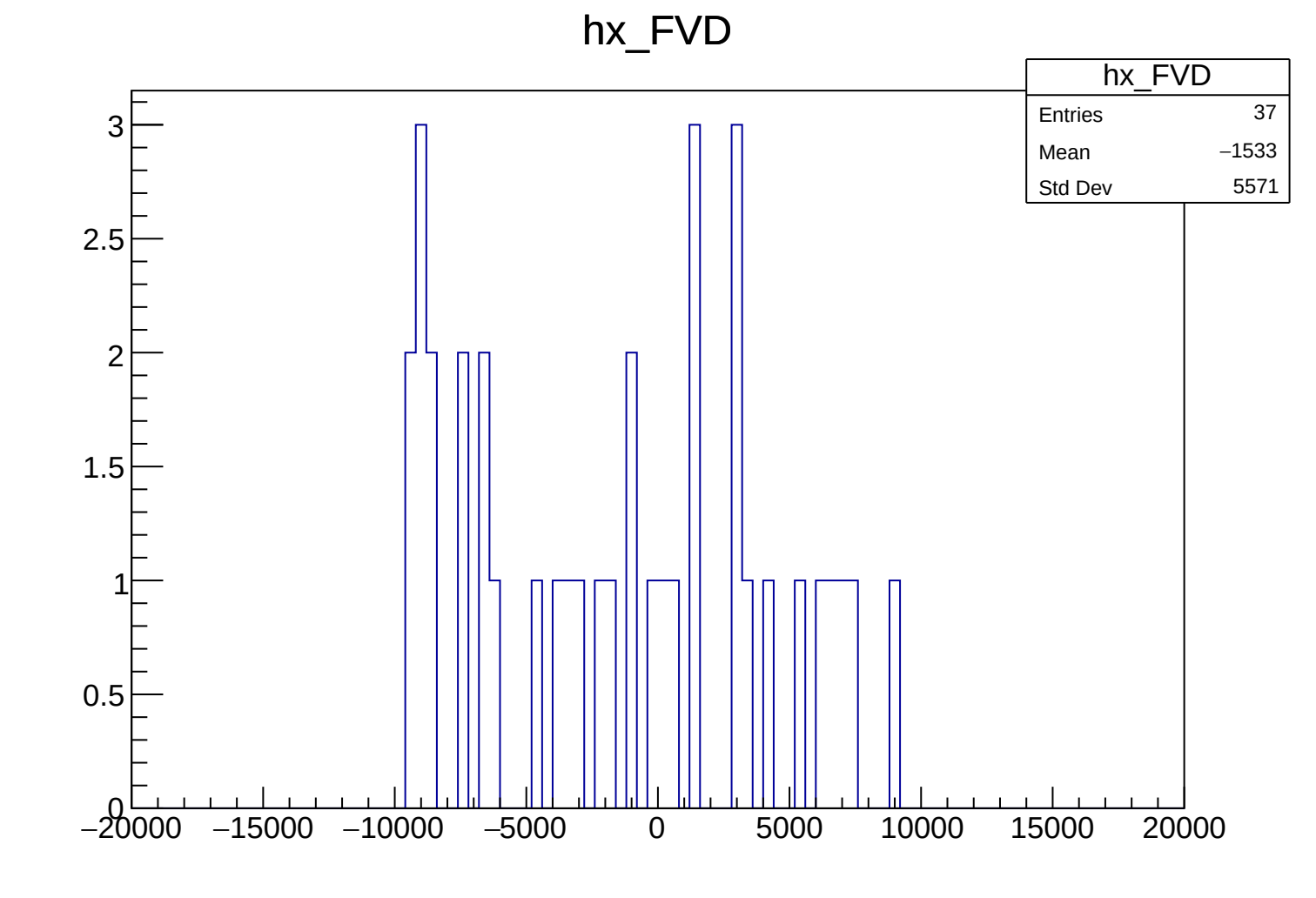

energyTimeHist_DSVD2
×10⁻⁶
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
energyTimeHist_DSVD2
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0

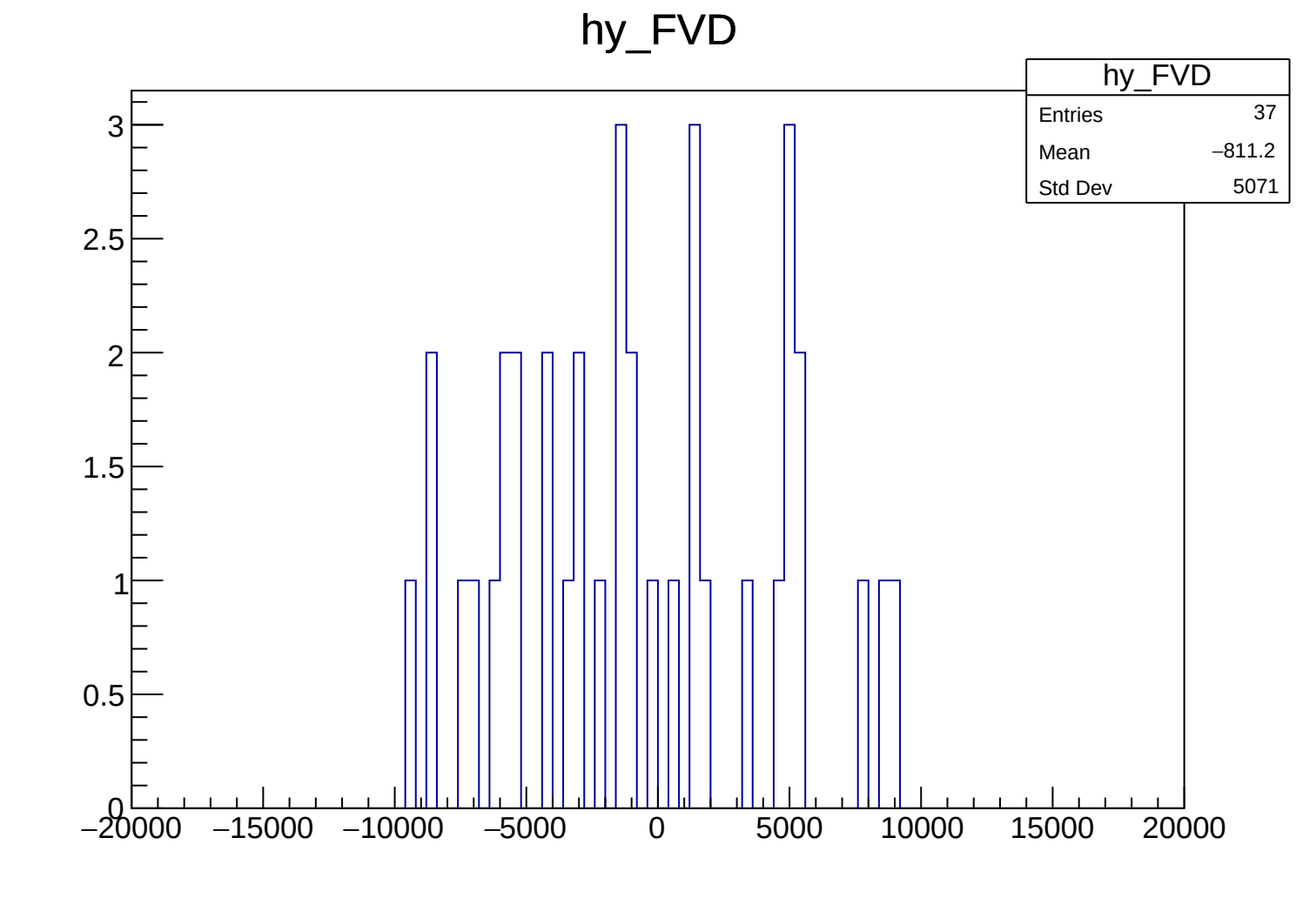

posHist_DSVD2
posHist_DSVD2
Entries 0
Mean x 0
Mean y 0
Std Dev x 0
Std Dev y 0
500
400
300
200
100
0
−100
−200
−300
−400
−500
−500
−400
−300
−200
−100
0
100
200
300
400
500

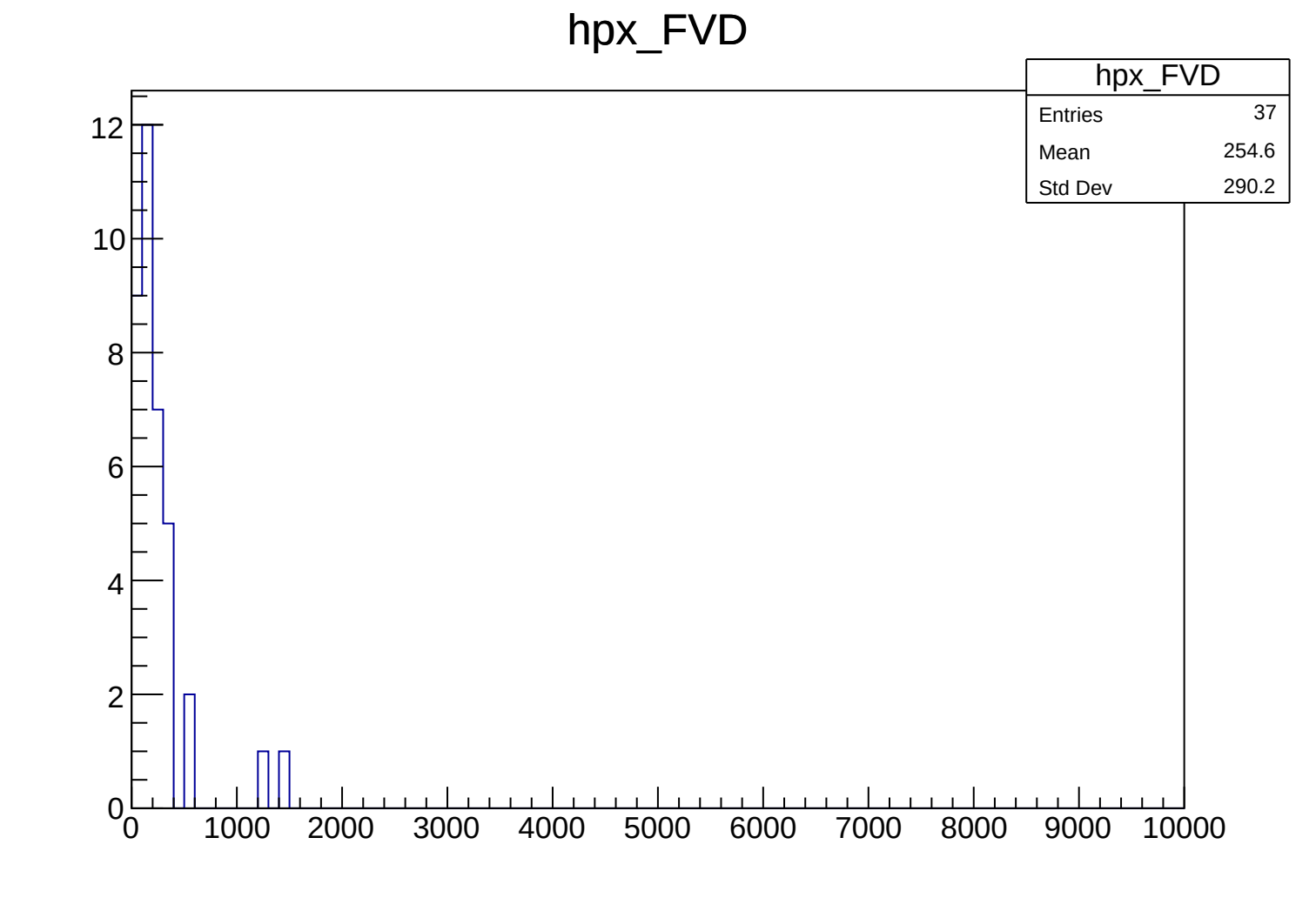

Energy_DSVD2
h e+ E
1
8484
0
e+
10^4
10^3
10^2
10
1
10^{-1}
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

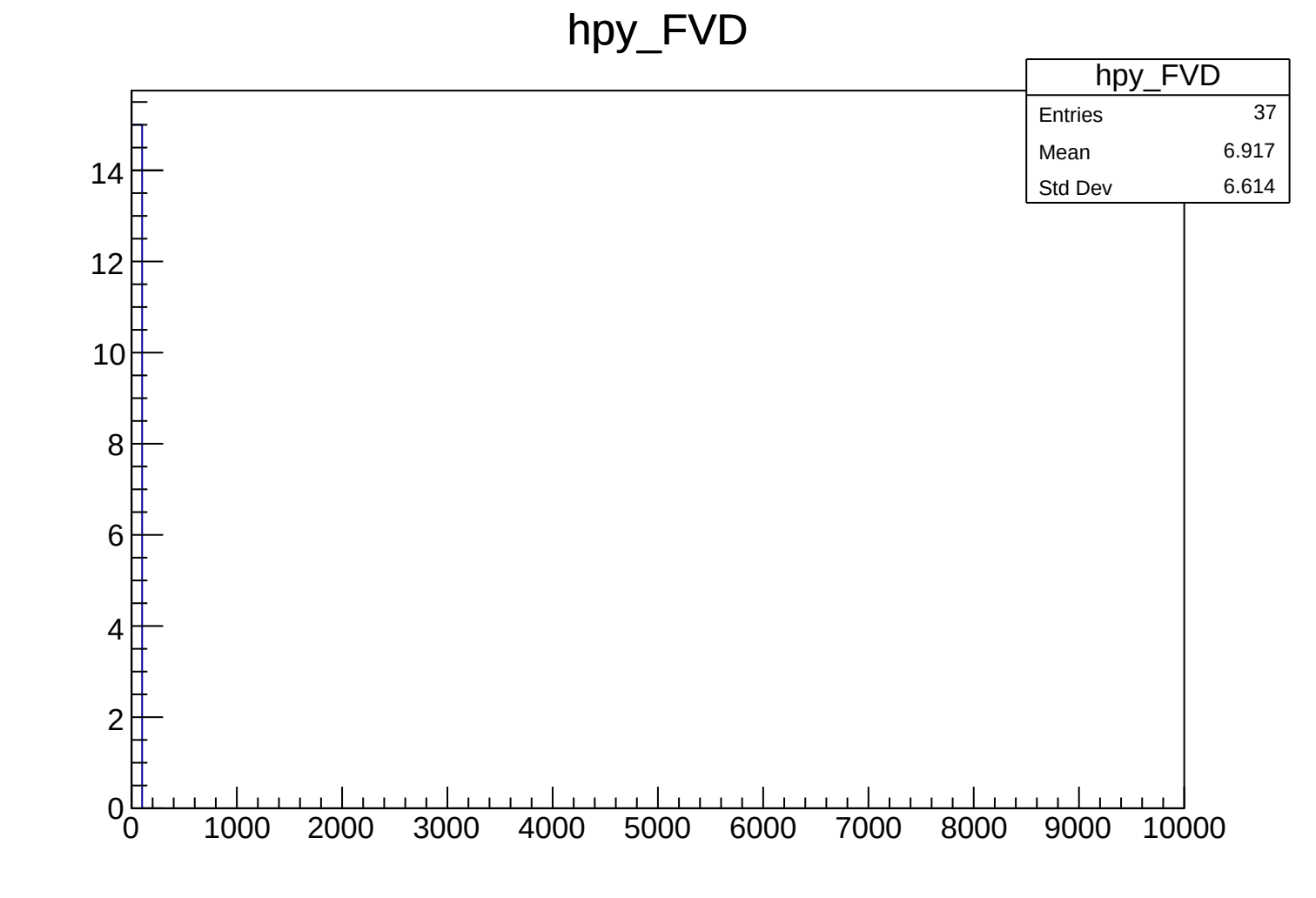

Spectrum_DSVD2
h_e+_EE
1
8484
0
e+
10^4
10^3
10^2
10
1
10^{-1}
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

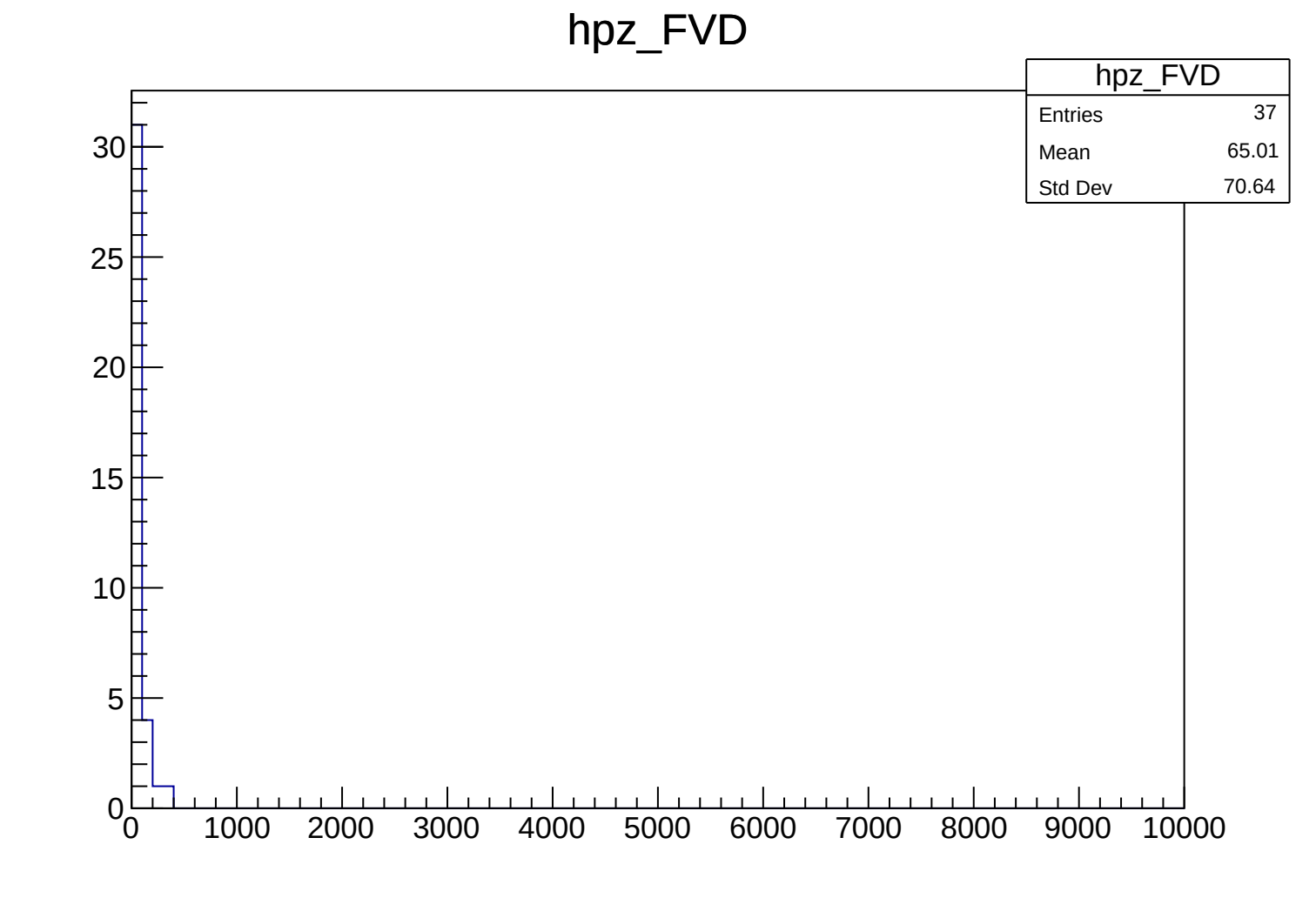

hE_FVD
hE_FVD
Entries 37
Mean 264
Std Dev 298.6
0
2
4
6
8
10
12
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

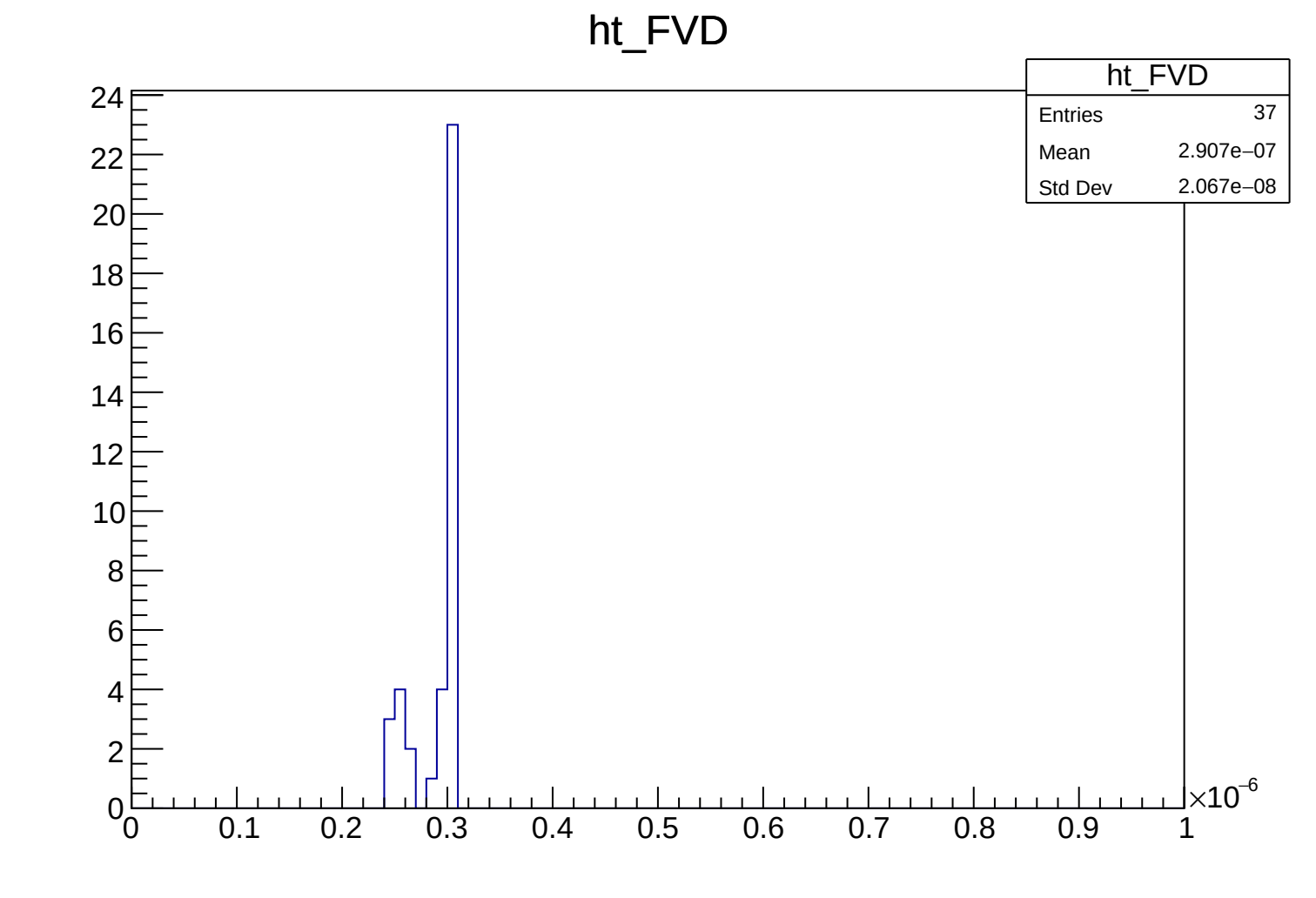

hx_FVD
hx_FVD
Entries 37
Mean −1533
Std Dev 5571
3
2.5
2
1.5
1
0.5
0
−20000
−15000
−10000
−5000
0
5000
10000
15000
20000

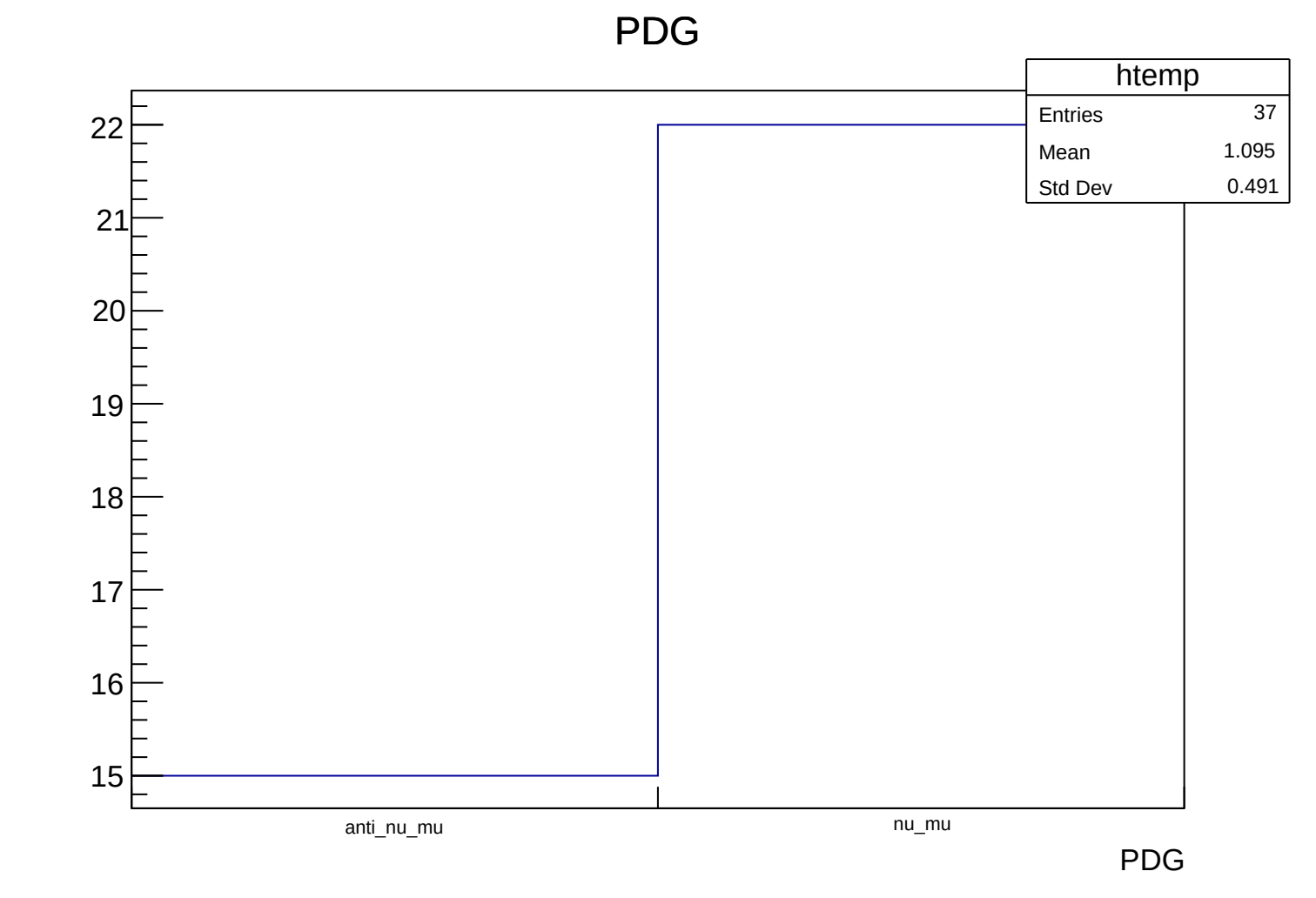

hy_FVD
hy_FVD
Entries 37
Mean –811.2
Std Dev 5071
3
2.5
2
1.5
1
0.5
0
–20000
–15000
–10000
–5000
0
5000
10000
15000
20000

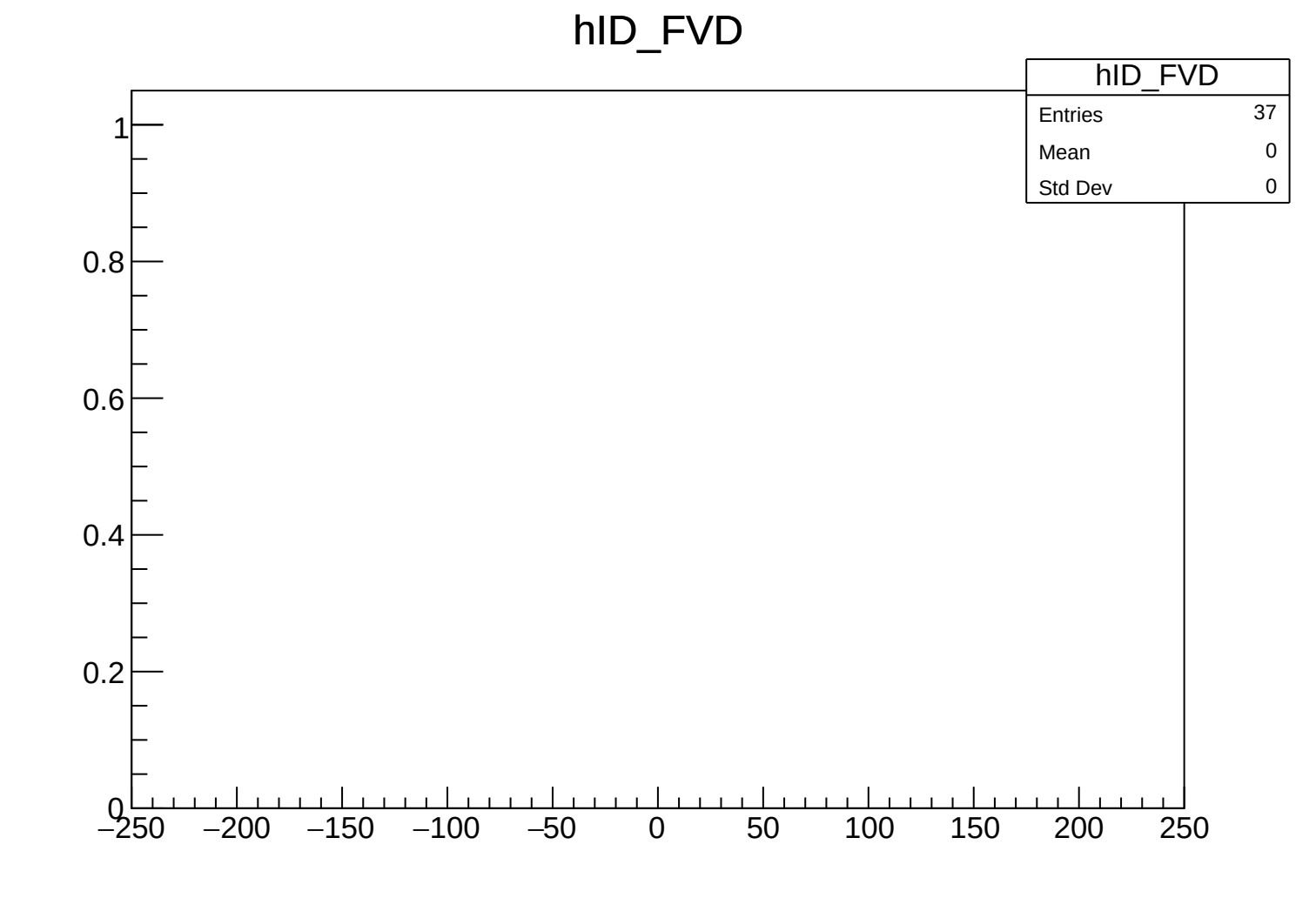

hpx_FVD
hpx_FVD
Entries 37
Mean 254.6
Std Dev 290.2
0
2
4
6
8
10
12
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

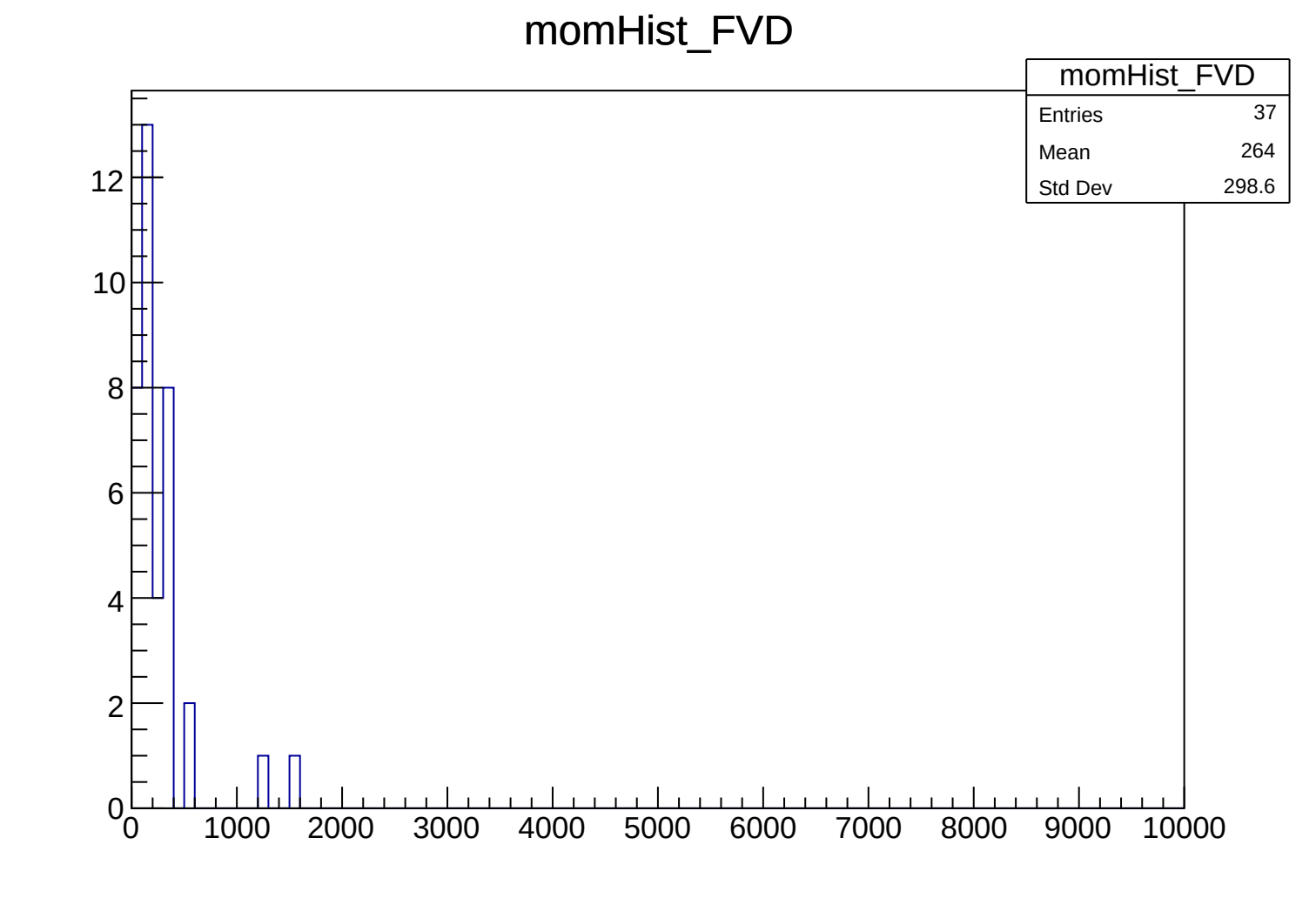

hpy_FVD
hpy_FVD
Entries 37
Mean 6.917
Std Dev 6.614
0
2
4
6
8
10
12
14
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

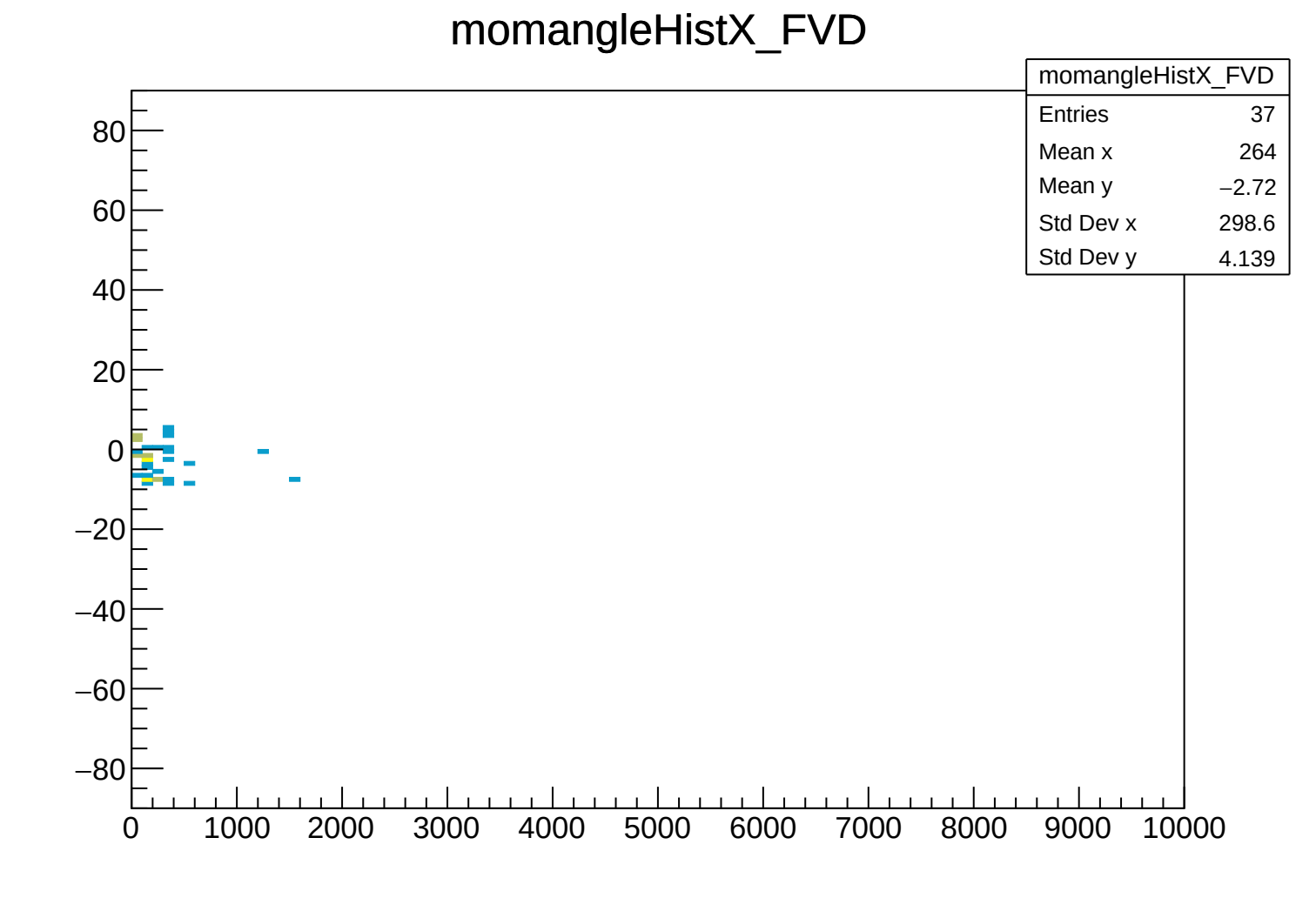

hpz_FVD
hpz_FVD
Entries 37
Mean 65.01
Std Dev 70.64
30
25
20
15
10
5
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

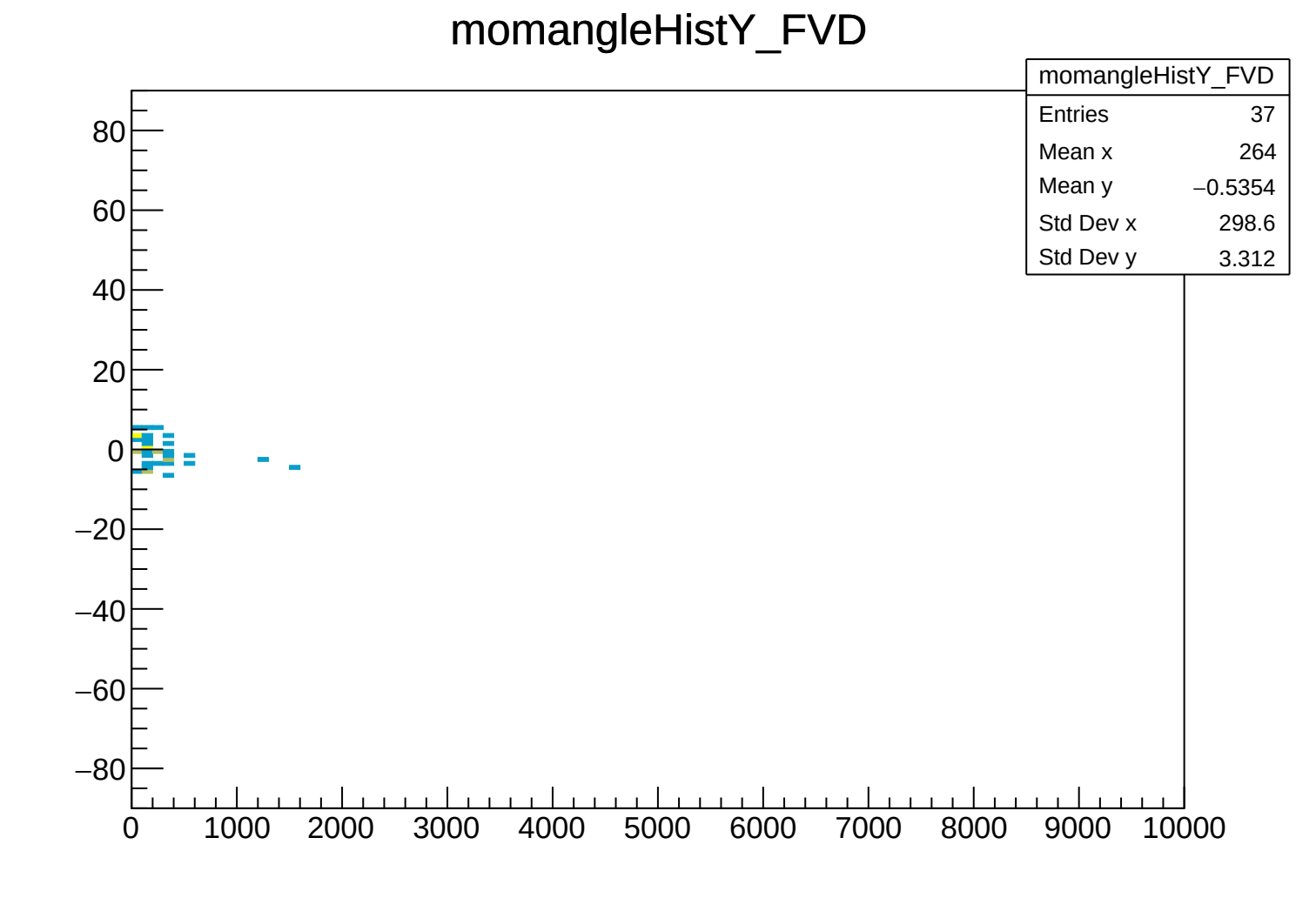

ht_FVD
ht_FVD
Entries 37
Mean 2.907e−07
Std Dev 2.067e−08
24
22
20
18
16
14
12
10
8
6
4
2
0
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
×10−6

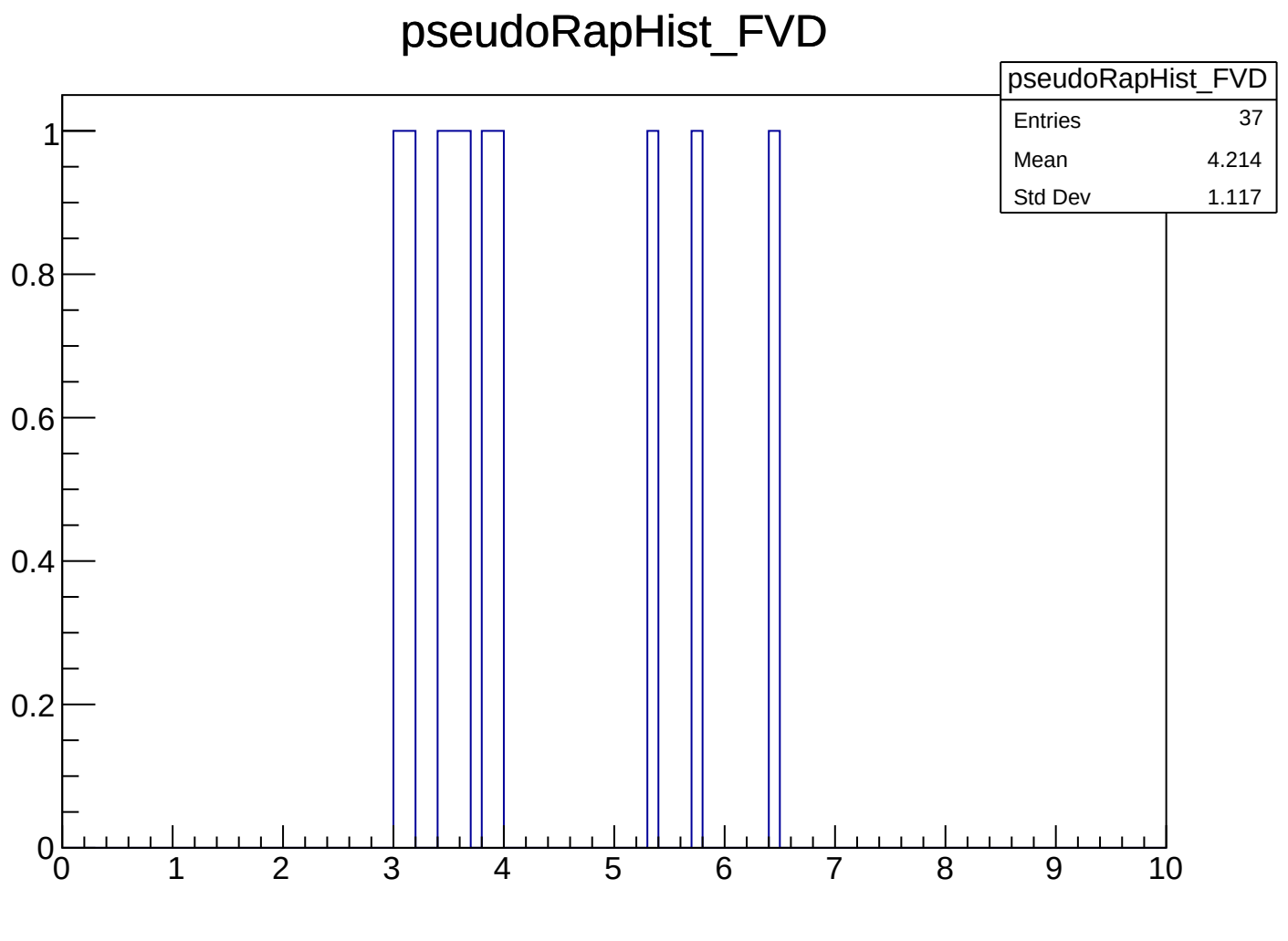

PDG
htemp
Entries 37
Mean 1.095
Std Dev 0.491
22
21
20
19
18
17
16
15
anti_nu_mu
nu_mu
PDG

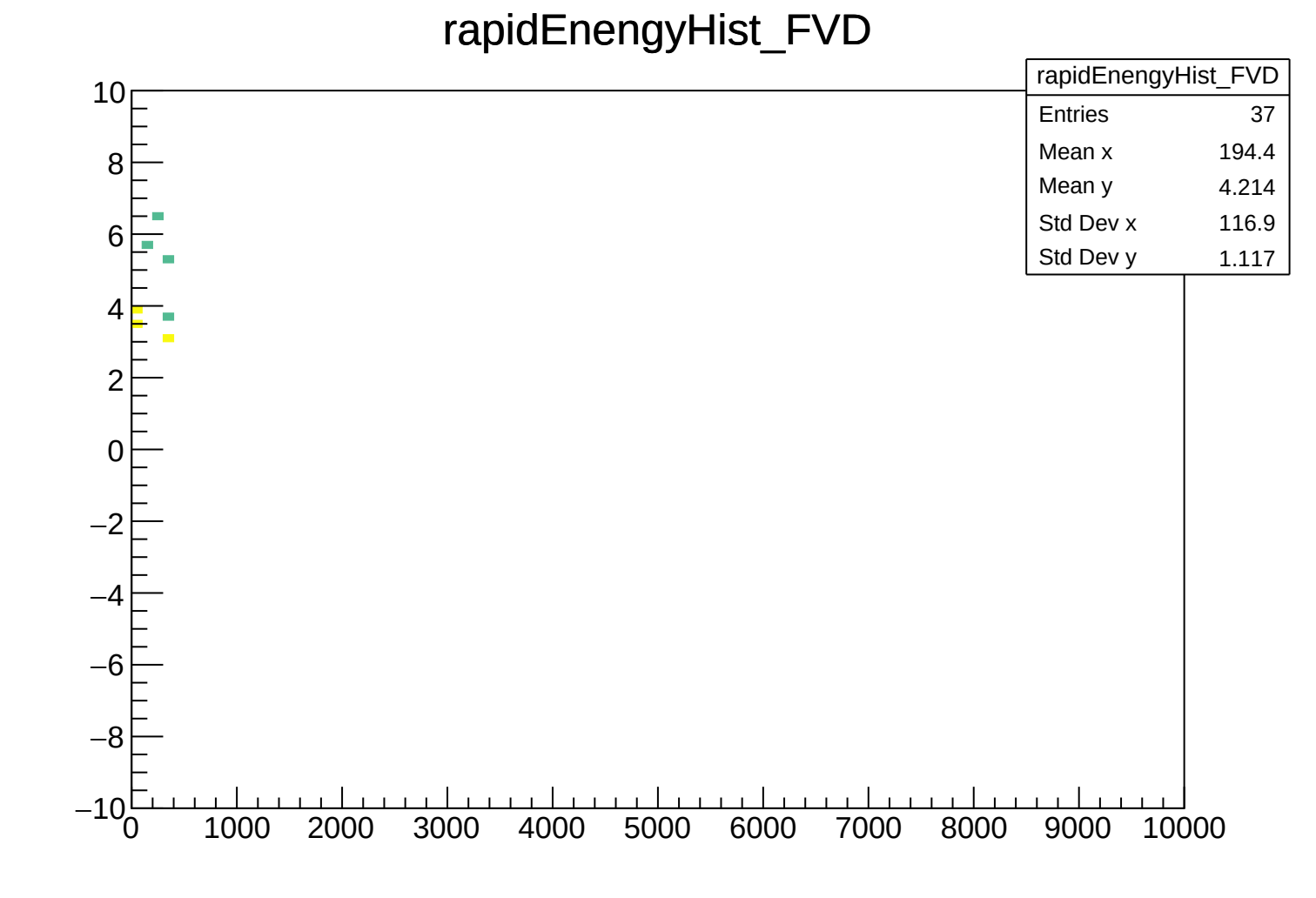

hID_FVD
hID_FVD
Entries 37
Mean 0
Std Dev 0
1
0.8
0.6
0.4
0.2
0
−250
−200
−150
−100
−50
0
50
100
150
200
250

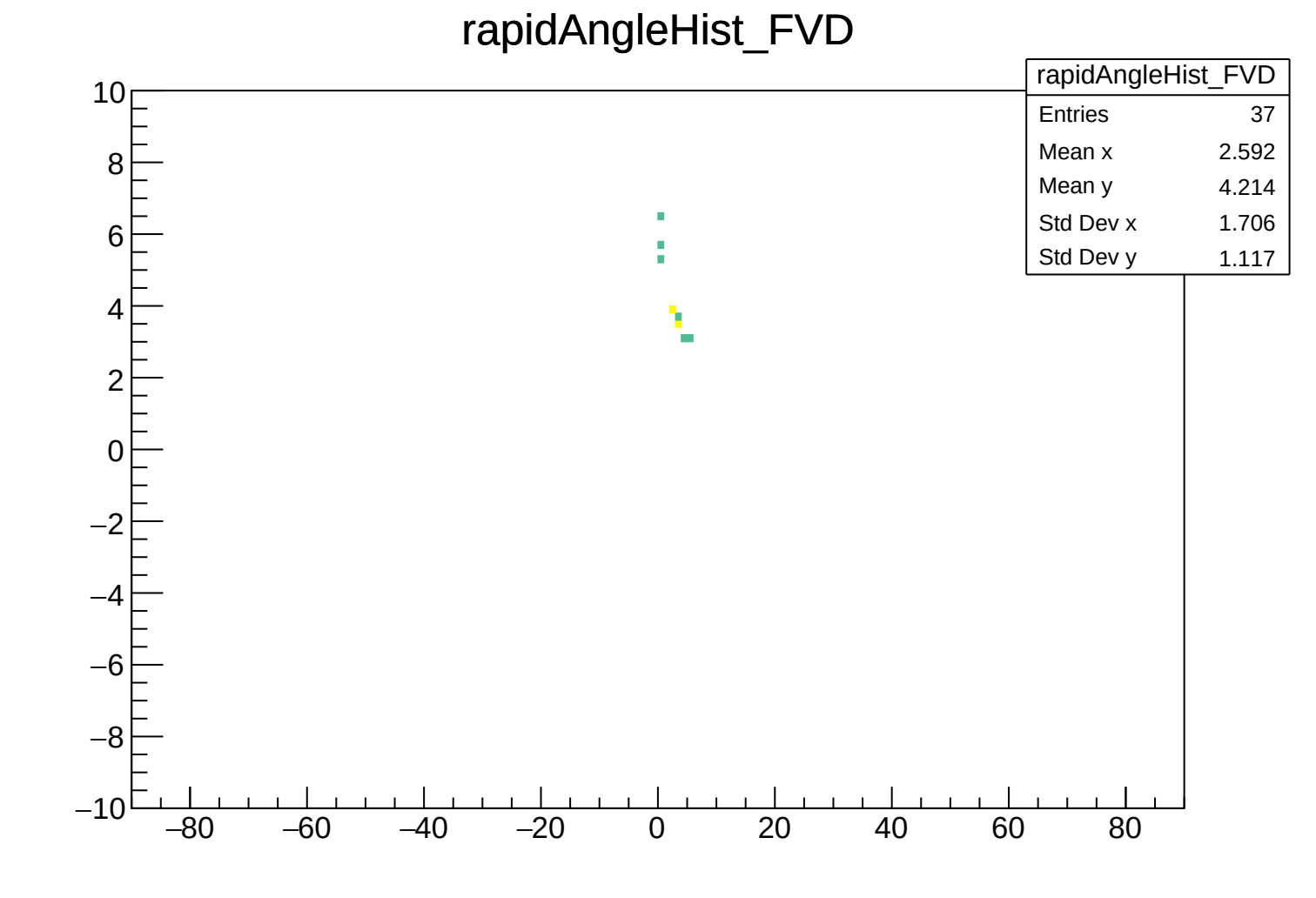

momHist_FVD
momHist_FVD
Entries 37
Mean 264
Std Dev 298.6
0
2
4
6
8
10
12
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

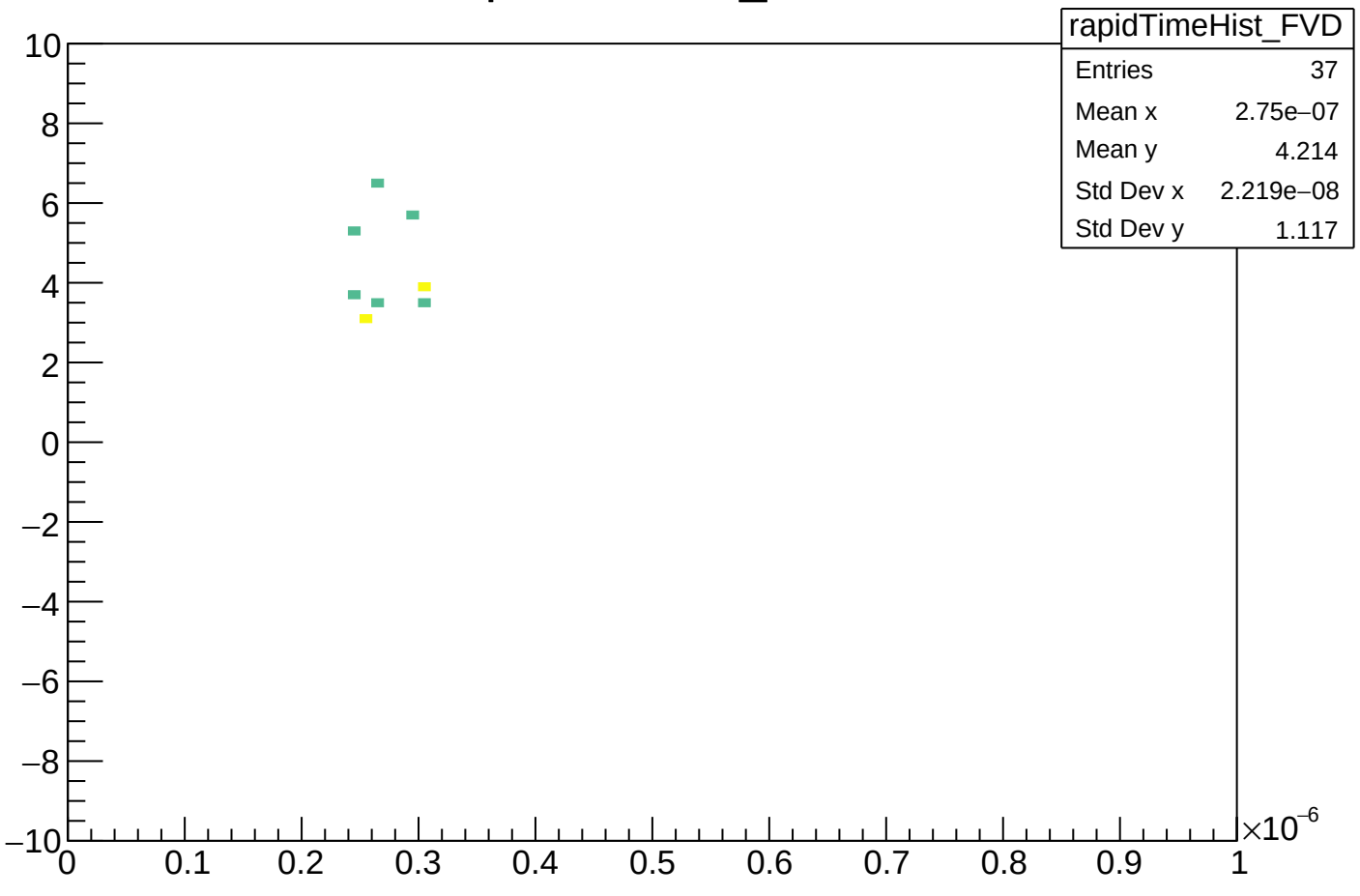

momangleHistX_FVD
momangleHistX_FVD
Entries 37
Mean x 264
Mean y −2.72
Std Dev x 298.6
Std Dev y 4.139
80
60
40
20
0
−20
−40
−60
−80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

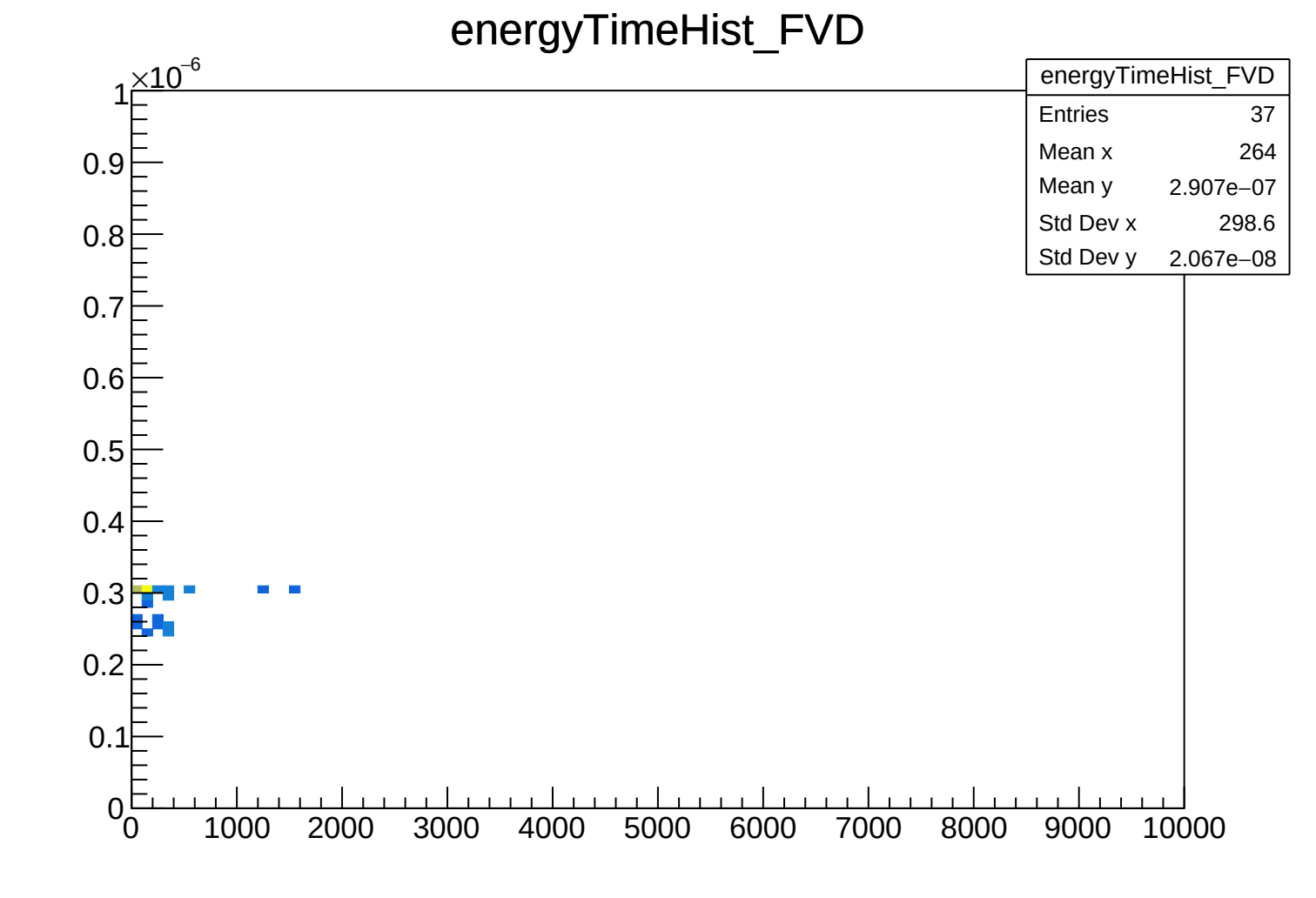

momangleHistY_FVD
momangleHistY_FVD
Entries 37
Mean x 264
Mean y −0.5354
Std Dev x 298.6
Std Dev y 3.312
80
60
40
20
0
−20
−40
−60
−80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

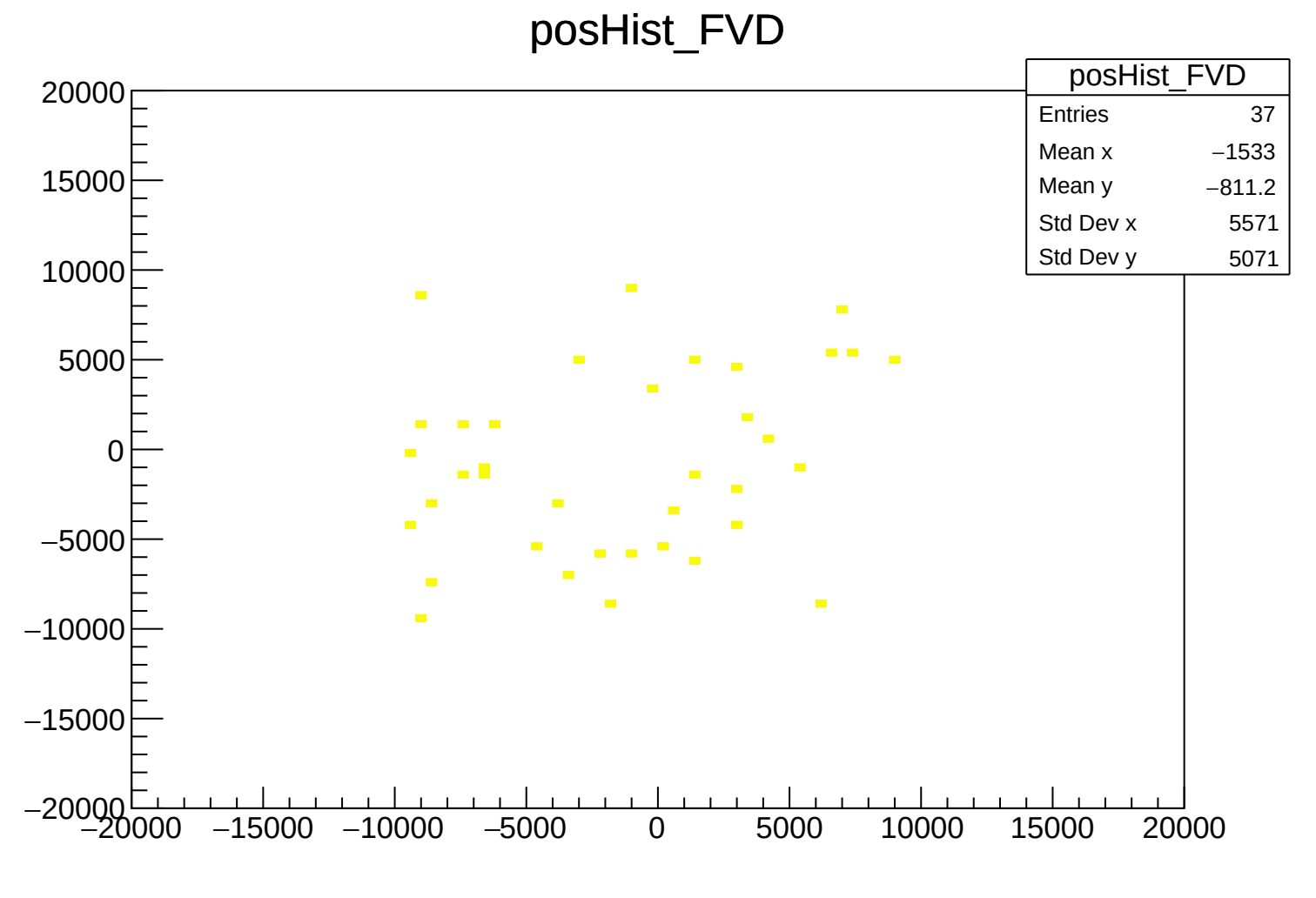

pseudoRapHist_FVD
pseudoRapHist_FVD
Entries 37
Mean 4.214
Std Dev 1.117
1
0.8
0.6
0.4
0.2
0
0 1 2 3 4 5 6 7 8 9 10

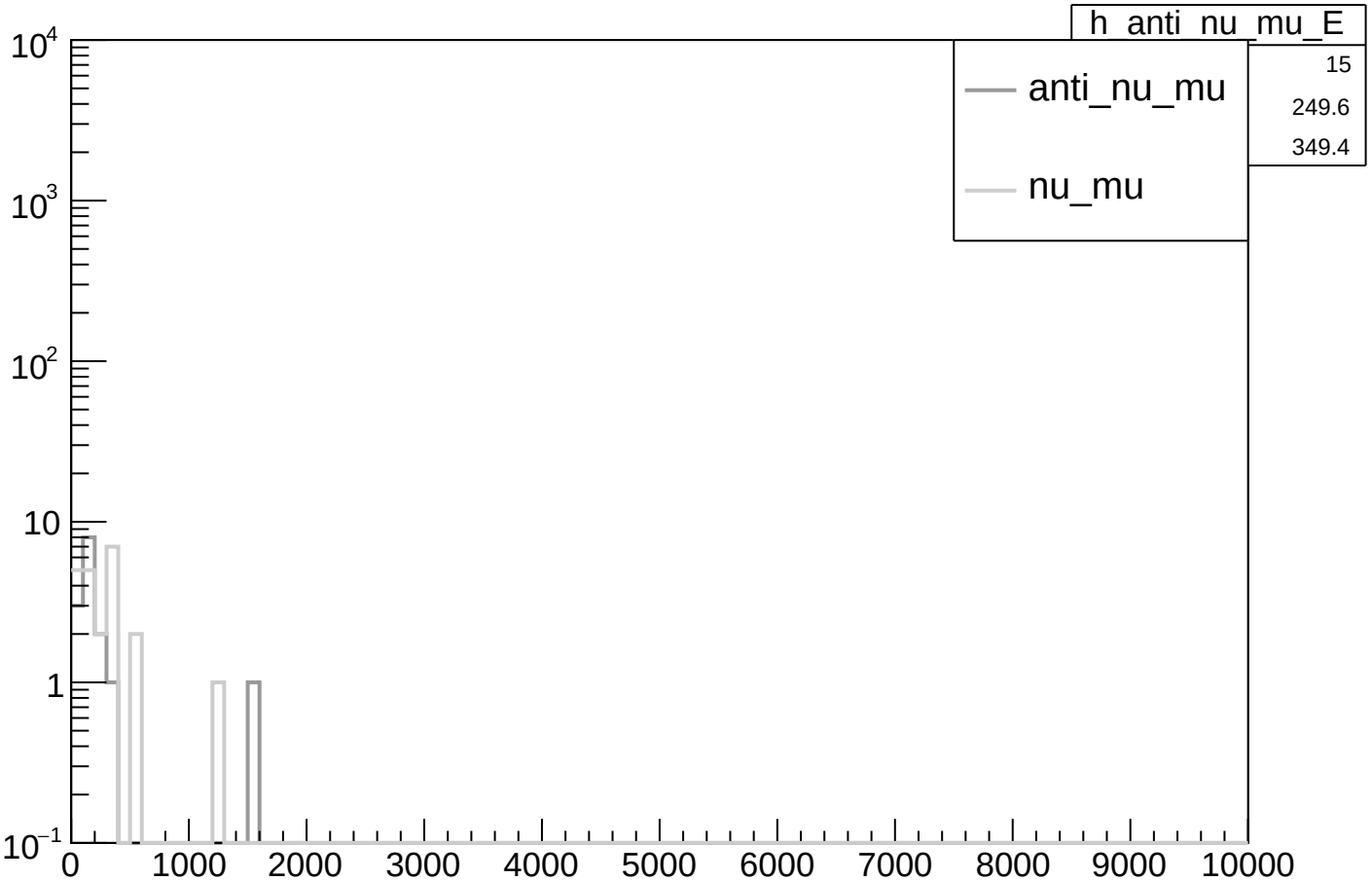

rapidEnengyHist_FVD
rapidEnengyHist_FVD
Entries 37
Mean x 194.4
Mean y 4.214
Std Dev x 116.9
Std Dev y 1.117
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000

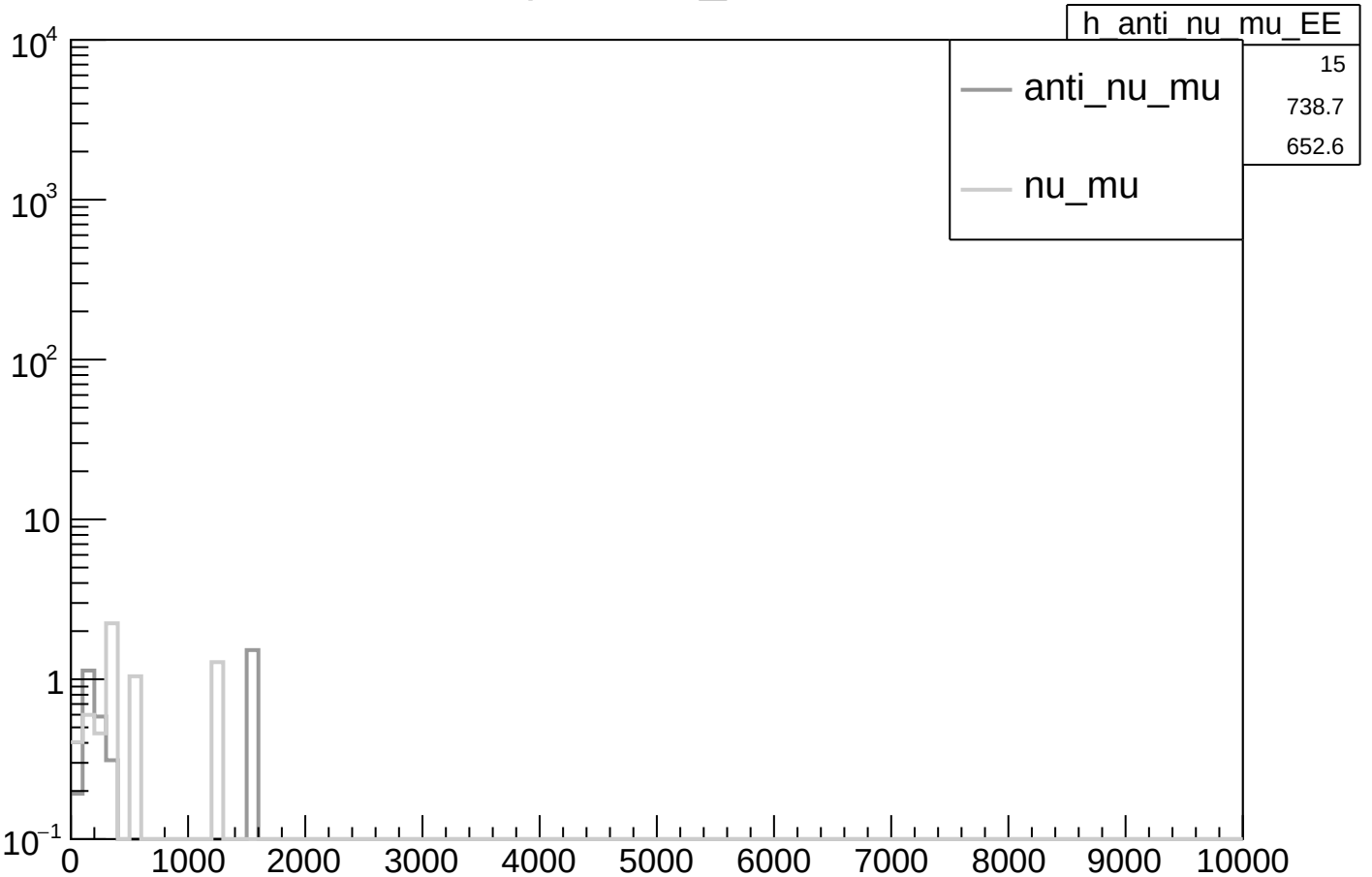

rapidAngleHist_FVD
rapidAngleHist_FVD
Entries 37
Mean x 2.592
Mean y 4.214
Std Dev x 1.706
Std Dev y 1.117
10
8
6
4
2
0
−2
−4
−6
−8
−10
−80
−60
−40
−20
0
20
40
60
80

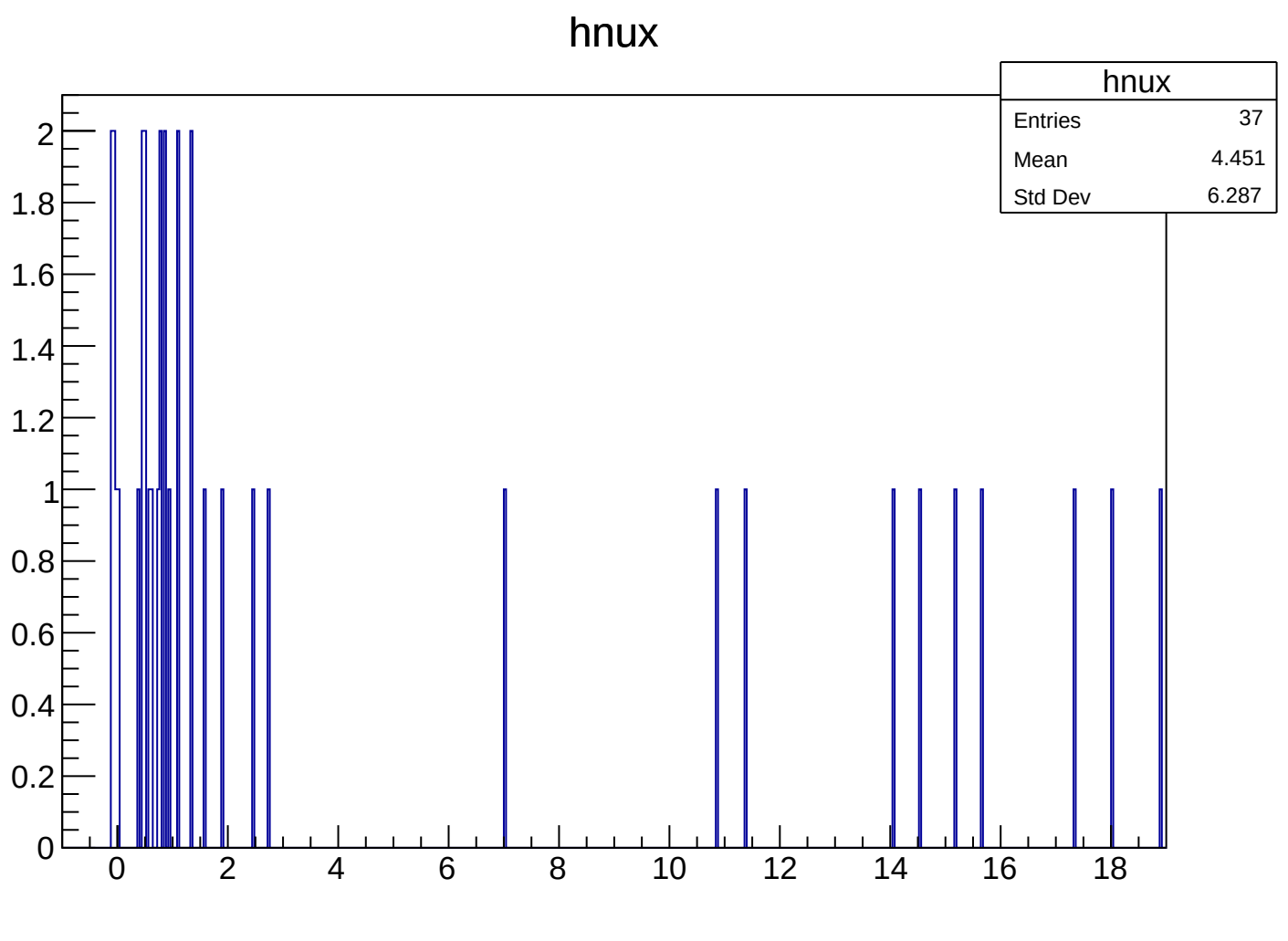

rapidTimeHist_FVD
rapidTimeHist_FVD
Entries 37
Mean x 2.75e−07
Mean y 4.214
Std Dev x 2.219e−08
Std Dev y 1.117
10
8
6
4
2
0
−2
−4
−6
−8
−10
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
×10−6

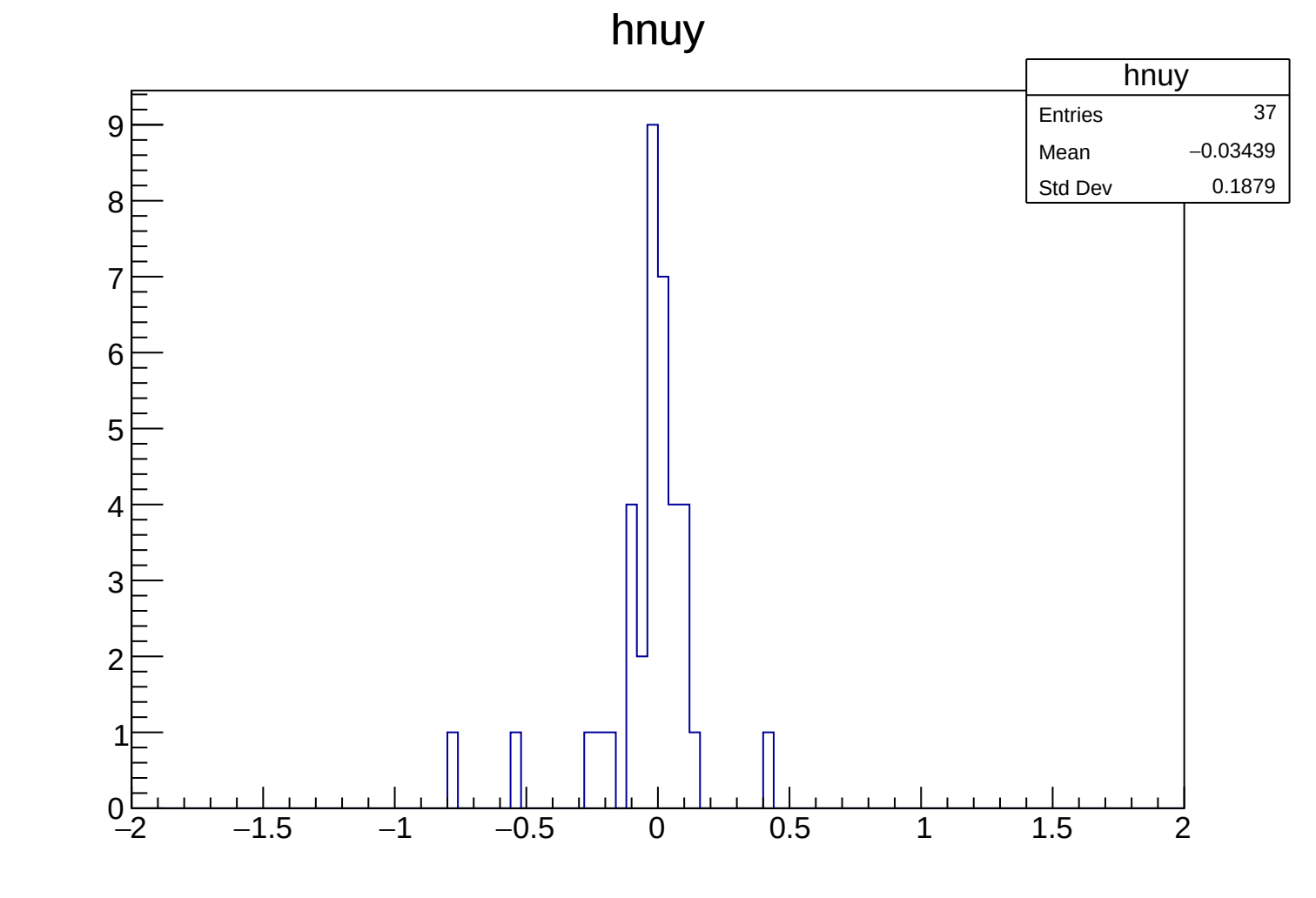

energyTimeHist_FVD
×10⁻⁶
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
energyTimeHist_FVD
Entries 37
Mean x 264
Mean y 2.907e−07
Std Dev x 298.6
Std Dev y 2.067e−08

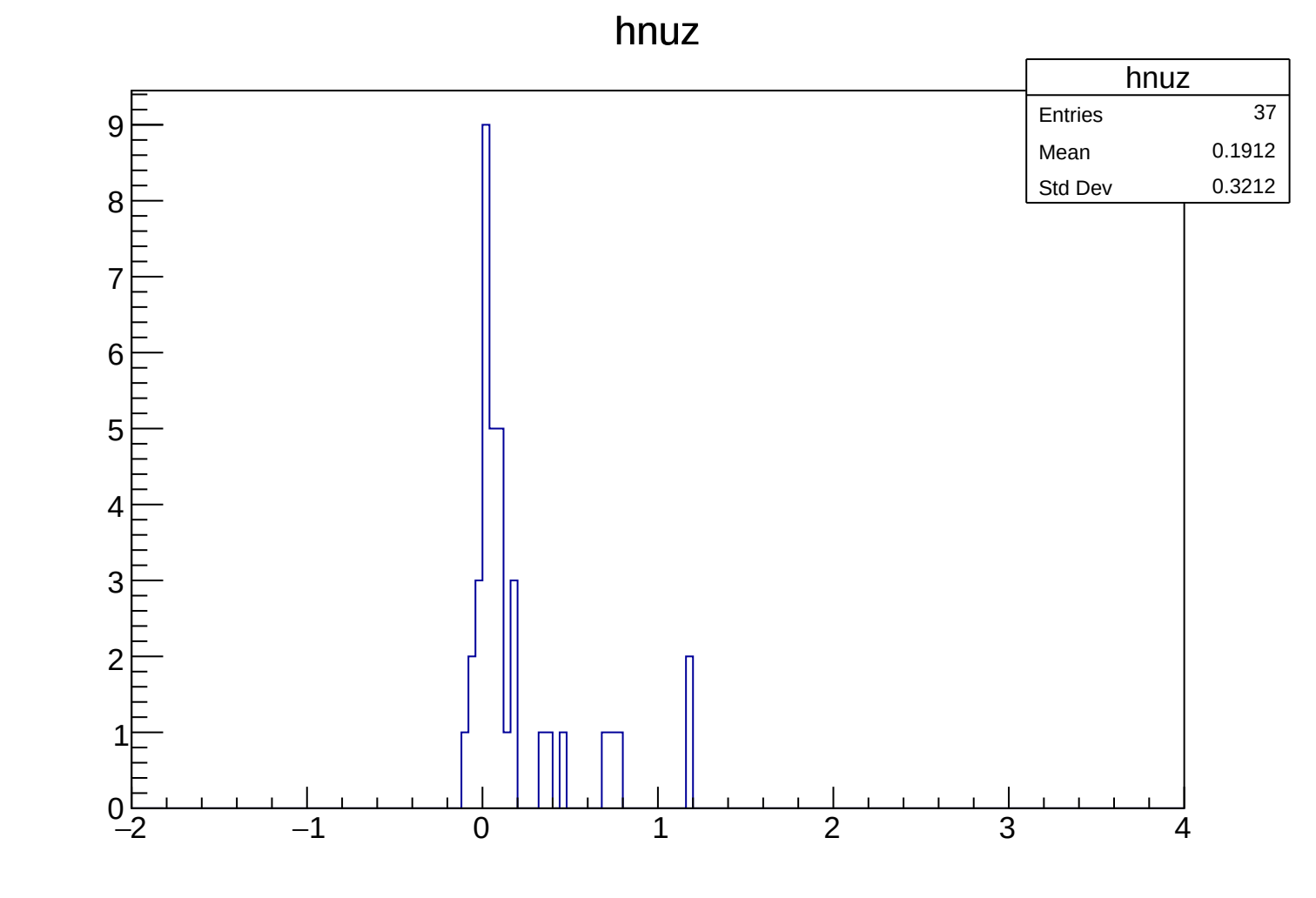

posHist_FVD
posHist_FVD
Entries 37
Mean x −1533
Mean y −811.2
Std Dev x 5571
Std Dev y 5071
20000
15000
10000
5000
0
−5000
−10000
−15000
−20000
−20000
−15000
−10000
−5000
0
5000
10000
15000
20000

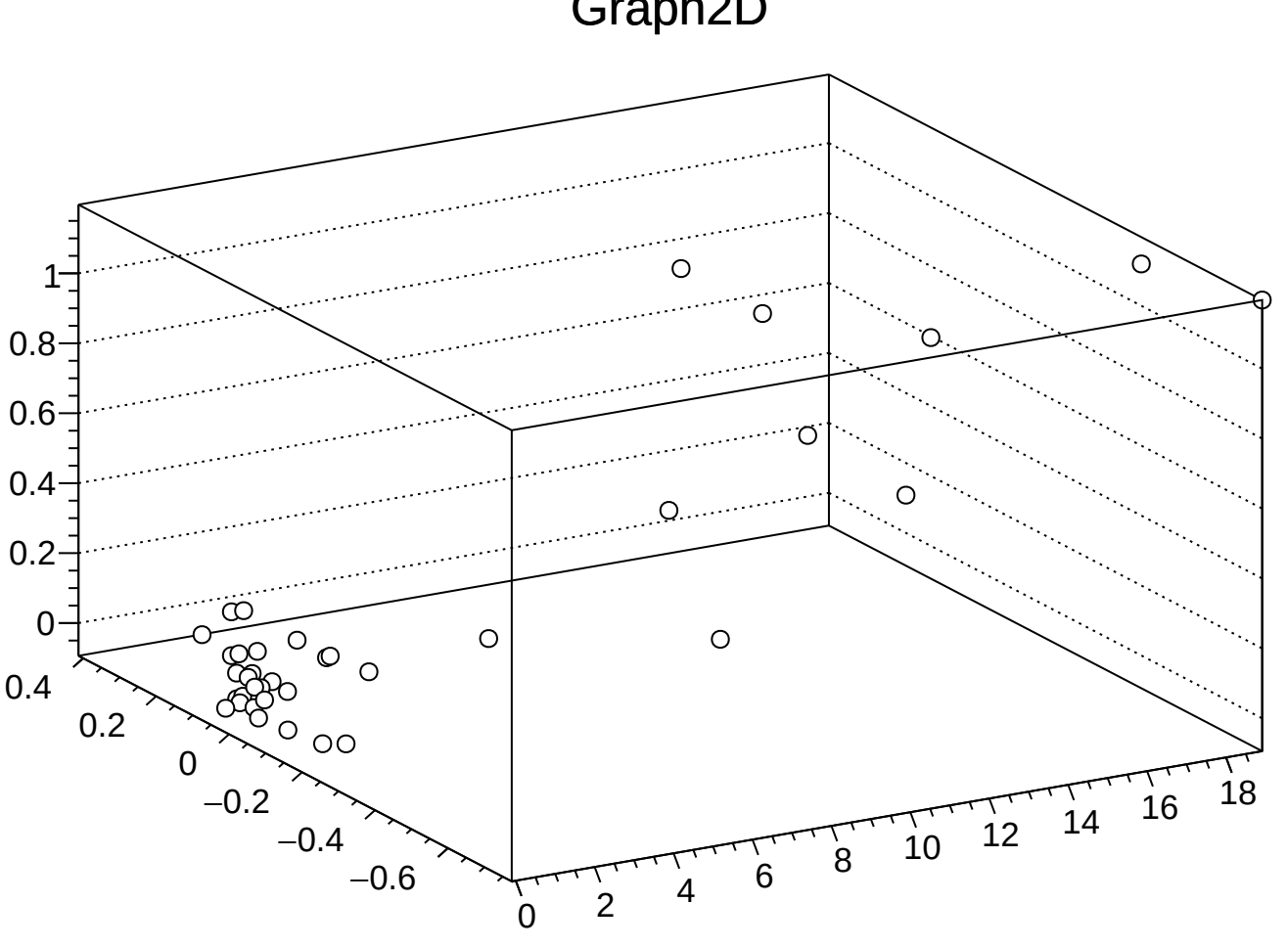

Energy_FVD
h_anti_nu_mu_E
15
249.6
349.4
anti_nu_mu
nu_mu
10^4
10^3
10^2
10
1
10^-1
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


Spectrum_FVD
h_anti_nu_mu_EE
15
738.7
652.6
anti_nu_mu
nu_mu
10^4
10^3
10^2
10
1
10^-1
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000


hnux
hnux
Entries 37
Mean 4.451
Std Dev 6.287
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
14
16
18


hnuy
hnuy
Entries 37
Mean −0.03439
Std Dev 0.1879
9
8
7
6
5
4
3
2
1
0
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2


hnuz
hnuz
Entries 37
Mean 0.1912
Std Dev 0.3212
9
8
7
6
5
4
3
2
1
0
–2
–1
0
1
2
3
4


Graph2D
1
0.8
0.6
0.4
0.2
0
0.4
0.2
0
−0.2
−0.4
−0.6
0
2
4
6
8
10
12
14
16
18